
RESPONSE TO COMMENTS

For the

PERMIT FOR

SANDIA NATIONAL LABORATORIES
HAZARDOUS AND MIXED WASTE TREATMENT AND
STORAGE UNITS AND POST-CLOSURE CARE OF THE
CORRECTIVE ACTION MANAGEMENT UNIT

and the

CORRECTIVE ACTION COMPLETE DETERMINATIONS
FOR 24 SOLID WASTE MANAGEMENT UNITS AND
AREAS OF CONCERN

prepared by the

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS WASTE BUREAU
2905 RODEO PARK DRIVE EAST, BUILDING 1
SANTA FE, NEW MEXICO 87505

January 2015

**New Mexico Environment Department's Response to Comments on the September 2012
Draft Sandia National Laboratories Permit
January 2015**

The initial comment period on the draft Sandia National Laboratories (SNL) Permit began on September 17, 2012 and was scheduled to end on November 16, 2012. The New Mexico Environment Department (NMED) granted an extension of the comment period for an additional 90 days, until February 14, 2013, for a total comment period time of 150 days. A hearing on this matter was held at the request of the public from May 5-8, 2014.

Comments received from the public and the NMED's responses thereto are presented below. Note that "Department" and "NMED" are used interchangeably throughout this document.

GENERAL COMMENTS ON PERMIT

1. **Comment:** Citizen Action commented that the Administrative Record for the Draft Permit is not complete. Documents listed in the Administrative Record index are not obtainable. Some examples are an April 3, 1987, Notice of Violation; a June 12, 1985 "generator" document for the TTU; and the 2006 file for the SNL facility. SNL/DOE have not provided the documents electronically as has been done for LANL's Draft Permit.

NMED Response: The Administrative Record (AR) is complete. The New Mexico Environment Department (NMED), not the Permittees, maintains the Administrative Record. Some old records, such as those dating back to 1985, may have to be retrieved from archives.

The Department has shared with interested parties, including Permit opponents, multiple drafts of the AR in electronic form (on DVD) as it has been developed.

Pursuant to 20.1.4.7.A(2) NMAC, "‘Administrative Record’ means all public records used by the Division in evaluating the application or petition, including the application . . . and all supporting data furnished by the applicant . . . , all materials cited in the application . . . , public comments, correspondence, and as applicable, the draft permit and statement of basis or fact sheet, and any other material used by the Division to evaluate the application. . . ." While this definition is expansive (as reflected by the size of the Administrative Record in this proceeding), it is not limitless. Not every document related to the Department’s regulation of Sandia National Laboratories (SNL) is part of the Administrative Record. The Department does not believe that any modification of the Permit was necessary based on this comment.

2. **Comment:** Citizen Action commented that the public should not be subject to the multiple, simultaneous comment periods for the draft Permit, the Class 3 Permit modification request to grant Corrective Action Complete status for 24 SWMUs/AOCs, and the Long Term Monitoring and Maintenance Plan (LTMMP) for the Mixed Waste Landfill (MWL). These multiple processes create public confusion, defeat meaningful public participation for the various proposals, and are procedurally improper. These multiple processes create inability for the public to timely and fully review the various proposals.

NMED Response: For the draft Permit and the Corrective Action Complete proposals, the regulations at 20.4.1.901.A(3) NMAC require a public comment period of 45 days. The comment periods for the draft Permit, Corrective Action Complete proposals, and the MWL LTTMP were substantially extended to allow the public adequate time, as follows:

NMED Response to Comments on 2012 Draft SNL Permit
January 2015

(1) The draft Permit was first posted on September 17, 2012, and the initial comment period was extended from November 16, 2012, to February 14, 2013, for a total of 150 days.

(2) The comment period for the Corrective Action Complete proposals for 24 SWMUs was initially to end on November 16, 2012, and was extended 90 days to February 14, 2013, for a total of 150 days.

(3) The comment period for the LTMMP was originally scheduled to end November 13, 2012. It was extended 30 days to December 13, 2012, then again for an additional 60 days until February 11, 2013, for a total of 150 days.

NMED followed the appropriate procedures for public notice of the draft Permit, the request for Corrective Action Complete, and the MWL LTMMP. There is no prohibition against simultaneously issuing for public comment multiple draft permits, proposed permit modifications, or other documents. Moreover, conducting related processes simultaneously promotes greater efficiency and public understanding of how the processes relate to each other compared to a more “piecemeal” approach. The Department does not believe that any modification of the Permit was necessary based on this comment.

3. **Comment:** Citizen Action commented that they did not receive a notice of any public meeting that was convened by the DOE/SNL before the submission of the current draft Permit to NMED, as is required by RCRA regulations.

NMED Response: The Permittees have already met the requirement to hold a public meeting for the first draft of the Permit, released by the NMED for comment in 2007. They are not required to repeat a public meeting for the revised draft permit released by

the NMED for comment in 2012. The Department does not believe that any modification of the Permit was necessary based on this comment.

4. **Comment:** Citizen Action commented that the Draft Permit is not in any finalized form at this point for consideration as a permit because changes will obviously be required if the 1993 Module IV is modified. Public confusion is created by the question of how a permit can be modified when the permit is still in a draft form.

NMED Response: The Fact Sheet/Statement of Basis states that the Permit modification requests “are subject to 20.4.1.900 NMAC, incorporating 40 CFR 270.42(c), and 20.4.1.901 NMAC. The SWMUs/AOCs are listed in the Hazardous and Solid Waste Amendments (HSWA) Corrective Action Module IV, which is part of the Permittees’ current Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Permit (NM5890110518) issued in 1992.”

Furthermore, the Fact Sheet/Statement of Basis also states “The Department is also issuing for public comment on this same date a revised draft Hazardous Waste Facility Permit (draft Permit) which, when finalized, would authorize the Permittees to manage, treat and store hazardous and mixed waste at the Facility. A fact sheet concerning the draft Permit is available separately from the Department through the contact procedures indicated in Sections D and H of this Fact Sheet/Statement of Basis. The draft Permit, when finalized, will replace in full the Hazardous Waste Facility Permit for SNL issued in 1992. Approval or disapproval of CAC status for the 24 SWMUs/AOCs will be tracked in the new Hazardous Waste Facility Permit (specifically, in Attachment K of that permit).”

This clearly explained the relationship between the existing (1992) permit and the draft permit. NMED has replaced the 1992 Permit completely with the renewal Permit, and all SWMUs/AOCs are tracked in Attachment K of the renewal Permit.

The Department does not believe that any modification of the Permit was necessary based on this comment.

5. **Comment:** Citizen Action commented that the Draft Permit should cite the regulatory permit requirements that are required to be included in the permit under RCRA.

Comparing the Los Alamos National Laboratory draft Hazardous Waste Permit with the SNL Draft Permit is instructive for demonstrating how few issues the SNL Draft Permit addresses that need to be addressed. An entire discussion should be made for comparison of provisions and additions to the SNL Draft Permit.

NMED Response: To NMED's knowledge, all regulatory requirements that must be included in a RCRA permit are included in the Permit. See the Consent Order, in addition to Permit Part 8, for regulatory requirements for corrective action.

There are some differences between the Los Alamos National Laboratory (LANL) permit and the SNL Permit because the two facilities are different and their operators are different entities. LANL may have agreed to provisions in their permit that concern circumstances for their facility which specific regulations do not adequately address. The Permittees, in this case, have done the same with respect to the circumstances at SNL.

While NMED possesses the authority to set conditions that are not specifically addressed or adequately addressed in the regulations for protection of human health and the environment, such use of omnibus authority must be justified on a case by case basis, and

is subject to a hearing and appeal. The Department does not believe that any modification of the Permit was necessary based on this comment.

6. **Comment:** Citizen Action commented that the Permit should identify any interim status units at SNL and the effect of the permit on such units.

NMED Response: All HWMUs that the Permittees have requested be permitted are covered under the Permit. Several former interim status units at SNL are now permitted, which are the Manzano Storage Bunkers, Auxiliary Hot Cell Unit, and the Radioactive and Mixed Waste Management Unit. All other interim status HWMUs will be closed, if not already closed, by actions separate from these proceedings. Information on the remaining interim status units, which are all inactive, is available from the Department. The Department does not believe that any modification of the Permit was necessary based on this comment.

7. **Comment:** Citizen Action commented that the number of tank systems that contain RCRA waste at SNL must be set forth by the RCRA permit. SNL plans to continue using RCRA non-compliant tanks and ancillary service lines and equipment. The Draft Permit must provide information about each tank. Apparently, all of the functioning tanks are not listed in the Draft Permit. DOE must stipulate the ASME design life and age for each of the tanks at SNL along with the anticipated years of future operational use. Many of the tanks date back many decades, long beyond their design life. Additional tanks may lack "certification stamps." Compliance or non-compliance with RCRA secondary containment requirement in tank vaults must be set forward. Tanks that have corroded in the ground with releases must be described as landfills and are subject to corrective action.

NMED Response: Hazardous wastes are not stored or treated in tanks at SNL.

Therefore, the regulations that apply to the management of hazardous waste in tanks at 20.4.1.500 NMAC incorporating 40 CFR Part 264 Subpart J, do not apply to SNL.

Storage or treatment of hazardous *materials* that are not wastes is not subject to regulation under RCRA.

However, a leaking tank containing hazardous material could become a SWMU or AOC, and thus the release could become subject to corrective action requirements under RCRA Subtitle C. Alternatively, the release may be subject to other State environmental regulations, such as those found under 20.6.2 NMAC, Ground and Surface Water Protection. The Department does not believe that any modification of the Permit was necessary based on this comment.

8. **Comment:** Citizen Action commented that the “Yardholes” must be included in the Permit. Citizen Action obtained information from a FOIA request that the waste from numerous experiments with the reactor fuels had been disposed of in various areas known as Yardholes at SNL. Yardholes were over 30 primitive holes dug in the ground; some were lined and some were unlined. One of the Yardholes was a water filled hole under the Hot Cell Facility monorail at SNL and contained a spent fuel element from the Savannah River Site. SNL has kept secret from the public the types and amounts of the contents of the various Yardholes. The Yardholes contain nuclear materials and/or hazardous wastes that should be disposed of or regulated under the Resources Conservation and Recovery Act (RCRA), the Atomic Energy Act, Nuclear Regulatory Commission (NRC) regulations, or Department of Energy (DOE) Orders.

A “SNL Site Team Report on Spent Fuel,” October 1993 (“Yardholes Report”), assessed vulnerabilities of the DOE storage of irradiated reactor fuel and other irradiated nuclear materials (RINM). The 1993 Yardholes report stated: “The vulnerability identified was the lack of approved Safety Analysis Reports.” The report identified the existence of the Yardholes at the location of the Sandia Pulse Reactors (19 Yardholes) and the Hot Cell Facility (13 Yardholes under the HCF Monorail) associated with the Annular Core Research Reactor (ACCR).

NMED Response: The Permittees did not request that the “Yardholes” be permitted as HWMUs. The Permittees represent that materials stored in the “Yardholes” are not waste. The Department does not believe that any modification of the Permit was necessary based on this comment. If the Department determines that the material in the Yardholes is in fact hazardous waste, appropriate enforcement actions may be taken.

9. **Comment:** Citizen Action commented that, in or about November 2002, they learned about experiments simulating nuclear meltdowns that involved oxide nuclear reactor fuels that had been shipped in canisters to Sandia National Laboratories (SNL or Sandia) during the mid-1980s “from reactors around the world.” (Citizen Action Press Release November 18, 2002). An unknown number of these canisters were disposed of in the Mixed Waste Landfill at SNL. Citizen Action requested the New Mexico Environment Department (NMED) demand a full accounting of the oxide reactor fuels from Sandia to further characterize the contents of the landfill.

NMED Response: The waste contents of the MWL are not relevant to this Permit renewal. The MWL is not being permitted and is not being petitioned for CAC status under these proceedings. Additionally, NMED addressed this issue in its August 2005

response to comments on the Mixed Waste Landfill permit modification for corrective measures. Citizen Action was informed of this response. The Department does not believe that any modification of the Permit was necessary based on this comment.

10. **Comment:** Citizen Action commented that issues related to the Mixed Waste Landfill (MWL) and Chemical Waste Landfill (CWL) must be resolved:

- a. Citizen comments on the CWL post-closure permit have not received a response. The well monitoring network for the CWL has problems of corroded well screens that prevent detection of contaminants beneath the CWL.
- b. Citizen comments on the Soil Vapor Sampling and Analysis Plan (SV SAP) for the MWL have not received response.

Issues related to the 11/2006 Notice of Disapproval for the MWL soil cover have not been resolved.

NMED Response: Neither the status of the MWL as a SWMU subject to corrective action, nor the CWL as regulated unit subject to separate post-closure care permit, are affected by the Permit renewal.

- a. NMED responded to public comments on the CWL Post-Closure Care Permit on October 15, 2009.
- b. Comments on the MWL SV SAP are not relevant to the Permit. NMED responded to public comments on the MWL SV SAP on February 14, 2008.
- c. NMED approved the MWL cover through approval of the Corrective Measures Implementation Report on October 14, 2011.

The Department does not believe that any modification of the Permit was necessary based on this comment.

11. **Comment:** Citizen Action commented that Los Alamos National Laboratory provided an informational meeting for their permit to the Northern New Mexico Citizen Advisory Board, and that a similar meeting should be held for interested organizations, including Citizen Action, in the Albuquerque area by SNL previous to close of any comment period. NMED should ensure that the DOE apply equivalent treatment for public participation for the review of the Sandia RCRA permit.

NMED Response: The Permittees held a public meeting for the renewal of the permit issued in draft in 2007. The regulations do not require them to hold another public meeting for the 2012 draft permit. The Department does not believe that any modification of the Permit was necessary based on this comment.

12. **Comment:** Citizen Action commented that the Draft Permit should be denied due to the refusal of DOE/SNL for over a year to provide answers to the following questions relevant to air emissions submitted on a Freedom of Information Act Request (the commenter supplies 29 examples of information requests allegedly not fulfilled by the Permittees).

NMED Response: Requests to DOE/SNL under the federal Freedom of Information Act are not relevant to NMED's decision to issue a RCRA permit, and there is no basis in law to deny a permit to SNL based on DOE/SNL's alleged lack of responsiveness. Moreover, a refusal to renew the permit would not remedy Citizen Action's complaint against DOE/SNL. The Department does not believe that any modification of the Permit was necessary based on this comment.

13. **Comment:** Citizen Action, the Permittees, and others requested a public hearing on the draft permit. Further, and prior to any notice of public hearing, pursuant to 20.4.1.901.

A.4 NMAC, NMED, the Permittees, and other parties need to conduct negotiations to attempt to resolve issues related to the draft permit.

NMED Response: In accordance with 20.4.1.901.A (4) NMAC, NMED, in conjunction with the Permittees, negotiated with the parties in an effort to resolve concerns and reach consensus. Because opposition could not be resolved on all issues, a hearing was scheduled and held May 5-8, 2014. The Department does not believe that any modification of the Permit was necessary based on this comment.

14. **Comment:** Citizens for Alternatives to Radioactive Dumping (CARD), Agua es Vida Action Team, and Our Endangered Aquifer Working Group commented that the volume and complexity of and the changes made to both the revised and reissued SNL draft Permit and the Mixed Waste Landfill Long Term Monitoring and Maintenance Plan (LTMMP) compound difficulties for review. The addition of the Class 3 modification to the Kirtland Air Force Base (KAFB) permit imposes an additional burden. We consider these issues a reason for extension of time.

NMED Response: The Class 3 modification request for the KAFB permit is not relevant to the SNL Permit or the proposal to grant Corrective Action Complete for 24 SWMUs/AOCs. See also Response to Comment 2. The Department does not believe that any modification of the Permit was necessary based on this comment.

15. **Comment:** CARD commented that the full documentation necessary for review of the Permit and the CAC petitions have not been posted on the NMED and SNL web sites.

NMED Response: There is no regulatory requirement that the NMED or the Permittees make documents related to the draft Permit or CAC petitions available in electronic format on a web site. Furthermore, the NMED does not have the resources to place all of

the voluminous documentation relevant to this matter in electronic form on its web site.

The Department does not believe that any modification of the Permit was necessary based on this comment.

16. **Comment:** A citizen commented that numerous sites at SNL are regulated units because they received hazardous waste after July 26, 1982. Many of the sites are listed only as SWMUs and must instead be monitored and closed as regulated units.

NMED Response: None of the sites being petitioned for CAC status and none of the units that were permitted as a HWMU is a regulated unit. Thus, they are not subject to the closure and groundwater monitoring requirement for regulated units. This issue was addressed in more detail in NMED's Closing Argument and Proposed Findings of Fact and Conclusions of Law. The Department does not believe that any modification of the Permit was necessary based on this comment.

17. **Comment:** A citizen commented that the MWL is a regulated unit and requires a closure plan and post-closure care permit. Groundwater monitoring must be done in a manner required for a regulated unit. The groundwater is contaminated and the dump should be excavated. Plutonium is present. Other releases of hazardous wastes have occurred.

NMED Response: The status of the MWL is not at issue in this proceeding. The MWL is not a regulated unit; it is a SWMU. Because it is not a regulated unit, the MWL is not subject to the closure and groundwater monitoring requirements for regulated units. However, groundwater is being monitored at the MWL under the MWL Long-Term Monitoring and Maintenance Plan. Additionally, there is no conclusive evidence that groundwater beneath the MWL is contaminated. Known releases of contaminants from the landfill to the vadose zone occur at low concentrations that are unlikely to cause

groundwater contamination in excess of a regulatory standard or that poses a threat to human health. Furthermore, there is no evidence that the remedy selected for the landfill (installation of a cover and monitoring) is not performing as expected; thus excavation of the landfill is not warranted. Re-evaluation of the feasibility of excavation will be conducted in the review due five-years after the approval of the LTMMP.

Although plutonium occurs in small quantities in the landfill, the amount is believed to be small based on the landfill's inventory. It is unlikely that such a small source of plutonium would be able to cause groundwater contamination, especially under the geologic and climatic conditions that exist at the landfill. Plutonium was not found in the subsurface below the landfill. In summary, releases from the landfill do not pose unacceptable risk to human health or the environment. The Department does not believe that any modification of the Permit was necessary based on this comment.

18. **Comment:** A citizen commented that the draft permit fails to include a definition for regulated units. Collectively, these units, incorrectly classified as SWMUs, disposed of billions of gallons of contaminated water that have contaminated groundwater. The releases have not been adequately monitored and remediated.

NMED Response: It is not necessary for the permit to provide a definition for a regulated unit. That term is defined in the regulations at 40 CFR § 264.90(a)(2). None of the HWMUs is a regulated unit. The SWMUs and AOCs are properly classified as SWMUs/AOCs, and they are not regulated units. None of the SWMUs/AOCs that discharged wastewater required remediation based on the results of the risk assessment for each site. Few required any monitoring, and the monitoring that was conducted at the SWMUs/AOCs where it was needed did not detect groundwater contamination, except at

SWMU 46 (near Technical Area 4) and SWMUs 4, 5, 52, and 196 (at Technical Area 5). Groundwater contamination at SWMU 46 is being addressed separately under the Tijeras Area Ground-Water (TAG) Investigation and that at SWMUs 4, 5, 52, and 196 is being addressed separately under the TA-V Area Ground-Water Investigation. The Tijeras Area Ground-Water and TA-V Area Ground-Water Investigations are listed in Permit Attachment K, Table K-1, as AOCs requiring corrective action under the Consent Order. The Department does not believe that any modification of the Permit was necessary based on this comment.

19. **Comment:** A citizen commented that the permit must contain the requirement that the Secretary review the permit five years after the date of issuance and modify it as necessary pursuant to 40 CFR § 270.50.

NMED Response: The Permit sets forth requirements applicable to the Permittees, not to the NMED. Additionally, the cited regulation (40 CFR § 270.50 (d)) applies to land disposal units. There are no land disposal units at the Facility subject to the Permit. The Department does not believe that any modification of the Permit was necessary based on this comment.

20. **Comment:** A citizen commented that the NMED must enforce the 5-year re-evaluation of the MWL remedy and excavation of the landfill. The review is 2 ½ years overdue and NMED does not have the legal grounds to delay it for another 5 years.

NMED Response: The 5-year re-evaluation provision is found in paragraph 5 of the May 26, 2005 Final Order for the MWL. The implementation of corrective action at the MWL is not at issue in this proceeding. The NMED's interpretation of the 5 year review provision is at issue in a case presently before the New Mexico Court of Appeals (Citizen

Action v. NMED, No. 33,517). The Department does not believe that any modification of the Permit was necessary based on this comment.

21. **Comment:** A citizen commented that the change in the 5 year review requirement for the MWL is a revision of the 2005 Final Order for the MWL. The Final order must be modified before the NMED can delay the 5 year review. Five year reviews are required by law at 40 CFR § 270.50.

NMED Response: See Response to Comment 20.

22. **Comment:** A citizen expressed concern that the five year review was added to Module IV of the SNL permit in 2005 as a Class 3 permit modification. However, the 5 year review is omitted from the draft permit. The omission is a violation of RCRA requirements for public notice.

NMED Response: The Permit was public noticed as the draft permit issued in September 2012. Thus, requirements for public notice of the draft permit were met by the Department. The five year review is not included in the Permit because the MWL, being a SWMU, is subject to corrective action under the Consent Order and the May 2005 Final Order, not the Permit. The Department does not believe that any modification of the Permit was necessary based on this comment.

23. **Comment:** A citizen expressed concern that the Consent Order is inadequate to be an enforceable document for corrective action. The Consent Order must be public noticed for modification.

NMED Response: The Consent Order is an enforceable document. See Response to Comment 87. The Consent Order is not being modified. The Department does not believe that any modification of the Permit was necessary based on this comment.

PERMIT PART 1

24. **Comment:** The Permittees request that item #6 of Permit Section 1.17 be revised to read: “6. Each report submitted pursuant to Section 1.9.9 of this Permit if such report is required to be submitted in writing.

“The Permittees shall establish the IR within 180 days of the effective date of this Permit or within 90 days of the Department’s approval of the location, whichever is later.”

The intent is that the requirement be separated into two paragraphs to clarify the time requirement for establishing an information repository.

NMED response: NMED has separated the requirement into two paragraphs to clarify the time requirement for establishing an information repository.

Permit Section 1.17 is revised to read:

“6. Each report submitted pursuant to Section 1.9.9 of this Permit if such report is required to be submitted in writing.

“The Permittees shall establish the IR within 180 days of the effective date of this Permit or within 90 days of the Department’s approval of the location, whichever is later.”

25. **Comment:** Citizen Action commented that the duration of the permit for ten years needs to be set forward.

NMED Response: The duration of the Permit is specified as being 10 years in Permit Section 1.8.1 (except as provided in Permit Section 5.1). The Permit does not need to be modified based on this comment.

26. **Comment:** Citizen Action commented that reporting of planned changes to the Facility needs to be required under 40 CFR 270.30(1)(1).

NMED Response: Provisions concerning reporting of planned changes are included in the Permit at Permit Section 1.9.9.1. The Permit does not need to be modified based on this comment.

27. **Comment:** Citizen Action commented that new or modified permits must be provided for so that the Permittees may not treat or store hazardous wastes at a new permitted unit or in a modified portion of an existing permitted unit except as provided for in 40 CFR § 270.42 and until there is compliance with 40 CFR §§ 270.30(1)(2)(i) and (ii).

NMED Response: Permit modification is covered in Permit Section 1.8.2, which states that the Permit may be modified for both routine and significant changes as specified in 40 CFR §§ 270.41 through 270.43.

Any anticipated noncompliance issues are addressed in Permit Section 1.9.9.2, which also provides “For a new facility, the Permittees may not treat, store, or dispose of hazardous waste; and for a facility being modified, the Permittees may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in § 270.42 until the provision of § 270.30(1)(2)(i) and (ii) are satisfied.” The Permit does not need to be modified based on this comment.

28. **Comment:** Citizen Action commented that the Information Repository provisions must require the Permittees to post all existing and future documents for the Facility into a searchable electronic reading room.

NMED Response: Permit Section 1.17, in part, states: “The Permittees shall establish and maintain a physical Information Repository (IR) in accordance with the requirements

of 40 CFR §§124.33(c) through (f), which are incorporated herein by reference.” This applies to the documents: Part A and Part B Permit Applications, permit modification requests, and associated NMED responses, Waste Minimization Report, requests for extensions of time, and corrective action documents. These are the most common types of documents that pertain to Facility operations and corrective actions.

There is no regulatory requirement to establish an electronic reading file. Furthermore, it is unreasonable to expect the Permittees to post all existing documents in an electronic, searchable form due to the enormous volume of documents. Additionally, NMED does not have the regulatory authority to require the latter. The Permit does not need to be modified based on this comment.

29. **Comment:** Citizen Action commented that Conflict Language (1.5) section is unacceptable because it allows the provisions of the Draft Permit to differ from the provisions in the Permit Attachments. The Draft Permit and the Attachments must all be presented as true and correct especially since the bulk of the details lie in the Attachments.

The document issued for public review should not have internal conflict and should not require the public to ferret out such conflict. The Draft Permit admits possible conflict between the parts of the Draft Permit and attachments. That is an additional reason for denial. If there is existing conflict between the Draft Permit and the attachments, the duty of NMED is to set forth the nature of those conflicts and resolve them before issuance of the Draft Permit.

The effect of inaccuracies in the permit application and attachments should be that “Any inaccuracies found in the Draft Permit Application and its Attachments may be

grounds for the termination, revocation and re-issuance, or modification of the permit in accordance with 40 CFR § 270.41-43 to be incorporated by reference and for enforcement action.”

NMED Response: The conflict language was removed from the 2012 version of the draft and final Permits. It was intended to provide resolution for the circumstance of conflicting language between a Permit Part and Permit Attachment, should any have existed.

As in the 2007 version of the draft Permit, NMED has made every effort to ensure that there is no conflicting language between the Permit Parts and the Permit Attachments. The Permittees have assisted in this effort.

The effect of inaccuracies in the Permit Application, should any exist, is addressed in Permit Section 1.7. If there is any inaccurate information or conflicting requirement present in a Permit Attachment, the inaccurate information or conflicting requirement can be revised through a Permit modification initiated by either the Permittees or the NMED. See Permit Section 1.8.2 and 20.4.1.900 NMAC incorporating 40 CFR §§ 270.41-42.

The Permit does not need to be modified based on this comment.

30. **Comment:** Citizen Action commented that definitions contained in the Draft Permit are not in keeping with the requirements for a RCRA permit. For example, neither the definitions of the terms “Permit,” nor “Permitted Unit” refer to RCRA requirements. These definitions constitute modifications of definitions contained in the 1993 Module IV of the RCRA permit. Under that document, “Permit means the conditions embodied in these special conditions pursuant to the 1984 Hazardous and Solid Waste Amendments to RCRA.”

Citizen Action objects to the use of SNL's non-RCRA definition for "permitted unit" that excludes the numerous other locations at SNL that must be identified and included in the RCRA Draft Permit as a generator, treatment, storage or disposal unit at SNL. SNL cannot define its way out of the applicability of RCRA requirements to avoid the necessary inclusion of units that are regulated units, operable units, interim status units, or SWMUs. The status of numerous other Solid Waste Management Units (SWMUs), the Yardholes, and Areas of Concern (AOC) are ignored and would allow SNL to abandon and leave discarded wastes in place for these numerous facilities without requiring closure plans, post-closure care, post-closure permits or long term monitoring plans for the wastes buried at these locations. Additional facilities that may be producing RCRA waste would include at a minimum all facilities that are shown as operating in the SNL SWEIS (1999) and the Final Supplement Analysis for the SWEIS (2006). SNL has approximately 670 buildings in the 5 technical areas and the structures in the Coyote Test Field. The status of all facilities at SNL must be set forward as to which of these facilities generate, transport, store or dispose of RCRA hazardous or mixed hazardous wastes for inclusion on the draft permit. It is not credible that only 11 locations out of approximately 670 buildings located at SNL are the only areas involving RCRA wastes. All SNL facilities described in Table 2.2-1 of Final Supplement Analysis for the SWEIS (2006) must be included in the RCRA permit. To mention a few: the Advanced Manufacturing Processes Lab (AMPL) (TA-1), Explosive Components Facility (ECF) (TA-II), Integrated Materials Research Laboratory (IMRL) (TA-II), Microelectronics Development Laboratory (MDL) TA-II), Neutron Generator Production Facility (NGPF) (TA-I), Centrifuge Complex (TA-III), and all other facilities that produce, store or treat

RCRA wastes. Section 1.7 must include language that includes closure and post-closure care at these numerous other areas.

NMED response: The definitions in the Permit are the Department's definitions. The Permittees are not trying to avoid compliance with the New Mexico Hazardous Waste Management Regulations.

Operable Units are simply groups of SWMUs that are related in some manner, often by geographic area or by the type of SWMU (for example, septic systems can be grouped together to form an Operable Unit). The tables in Attachment K of the Permit contain listings of SWMUs grouped together as Operable Units. There is no requirement in the regulations to group SMWUs into Operable Units. Each SWMU/AOC goes through the corrective action process individually whether grouped in an Operable Unit or not.

The SWMUs and AOCs considered for CAC status are not permitted hazardous waste management units, regulated units or units under interim status. They do not require permits and are not subject to closure and post-closure care. All known SWMUs and AOCs are accounted for in the Permit.

Although there are numerous locations at SNL where hazardous wastes are generated, the generation of hazard waste does not necessitate a permit. The generation of hazardous waste also does not subject the place of generation to the requirements for closure and post-closure care. However, for a Permitted Facility, a release of generated hazardous waste could cause the location of the release to become a SWMU or AOC requiring corrective action. The term "Permitted Unit" is employed to reflect that the fact that each of the HWMUs would comprise a Permitted Facility if it were not included as a

“unit” in this facility-wide permit, encompassing all of the Facility (i.e., Sandia National Laboratories).

Storage of hazardous waste for less than 90 days does not require a permit. All facilities at SNL that treat or store hazardous waste in a manner requiring a permit are included in the Permit. SNL is not a transporter of hazardous waste because it does not move hazardous waste outside the Facility boundary. There is no disposal of hazardous waste at SNL. The Permit does not need to be modified based on this comment.

31. **Comment:** At hearing, the Permittees commented that in the definition of Permitted Units, Table J-1.2 should have been included as a listing of where authorized treatment at Permitted Units takes place.

NMED Response: The Department agrees that a reference to the table was inadvertently omitted. The definition of Permitted Unit in Permit Section 1.6 is revised to read:

“Permitted Unit” means a Hazardous Waste Management Unit authorized for operations or for which post-closure care is required by this Permit. The Permitted Units authorized by this Permit are listed in Attachment J (Hazardous and Mixed Waste Management Units), Table J-1.1 (Units Permitted for Storage in Containers (Process Code SO1)), Table J-1.2 (Units Permitted for Treatment (Process Codes TO4 and X01) and Table J-2 (Permitted Units Undergoing Post-Closure Care (Process Code S99)). The locations of the Permitted Units are shown in Figure 2, Permit Attachment L (Figures).

32. **Comment:** Citizen Action commented that Section 1.21 for Corrective Action required pursuant to 40 CFR § 264.101 Subpart F is inadequate as it stands. It must set forth language that would include the provisions of 40 CFR §§ 264.90-100 for all the areas that can be brought under corrective action.

NMED response: The regulations at 20.4.1.500 NMAC incorporating 40 CFR §§ 264.90-100 cover only regulated units. There are no regulated units subject to the Permit

(the Chemical Waste Landfill, which is a regulated unit, is subject to a separate post-closure care permit). All other corrective action under RCRA is covered under 20.4.1.500 NMAC incorporating 40 CFR § 264.101. The Permit is correct as drafted with respect to the corrective action requirements at issue. The Permit does not need to be modified based on this comment.

33. **Comment:** Citizen Action supports inclusion in the Sandia permit of a Public E-Mail Notification List, as has been included in the WIPP Permit, Module I.H. That provision was agreed to by DOE, numerous organizations, and NMED, and should be included in the Sandia permit. Sandia should provide a link on its Home Page whereby members of the public may review the actions requiring e-mail notification. Specific provisions of the Sandia permit should include the notice requirement to inform those on the e-mail notification list.

NMED Response: Permit Section 1.17.2.1 requires the Permittees to maintain an “Interested Persons List” for any person that wishes to be notified of updates to the Information Repository (IR). Within 30 days of submission to the NMED of any document required to be included in the IR, the Permittees are to send an email notification to the list. The IR is not required to be maintained on a web page (the regulations do not require an IR be provided on a web page); however, the index for the IR must be maintained on a web page. The Permit does not need to be modified based on this comment.

34. **Comment:** Citing Executive Order (EO) 13045, Citizen Action commented that NMED had not determined whether there are any environmental justice (EJ) communities affected by SNL activities, that such information is an important part of the Community

Relations Plan, that the Community Relations Plan should be set out for review, comment, and public hearing, and that the permit process should be stayed until after identification of the EJ communities. Additionally, CARD commented with respect to the Thermal Treatment Unit that SNL and NMED are responsible for reviewing the status of communities and neighborhoods in close proximity to SNL in order to determine if EJ neighborhoods and or communities could be impacted by emissions, and that there is no evidence in the permit or in testimony presented at the hearing that such a review was made.

Response: Executive Order 13045 is applicable to federal agencies and by its express terms does not create any substantive or procedural rights, benefits or responsibilities enforceable by a party (including NMED) against the United States. The Permittees at hearing provided testimony that they comply with EO 13045, but in any case the failure to comply with an EO would not be grounds to deny the permit under NMSA 1978, § 74-4-4.2 (D). However, the Secretary's Final Order did require that the Bureau provide a notice and comment opportunity (but not a public hearing) on the Community Relations Plan once it is received from the Permittees.

Furthermore, NMED considered the impact of air emissions from the TTU and determined that they do not pose unacceptable risk to the health of any communities. The Permit does not need to be modified based on this comment.

35. **Comment:** Referring to the issue of transfer of property, CARD commented that during negotiations four years ago, the Permittees had no plan for keeping people (especially children) in the areas designated for residential use out of the areas designated for

industrial use. We do not see this lack of planning corrected in the current permit. We consider this an incompleteness issue.

NMED Response: SNL has stringent internal procedures in place throughout the Facility to provide for security and site controls. No matter whether a site is granted Corrective Action Complete status on a residential or industrial land-use scenario, unauthorized people will not be able to easily gain access to the sites. Anyone that does gain access to a site, either legally or through criminal trespass will not be significantly exposed to residual contamination during the limited amount of time they may likely spend at a site. The Permit does not need to be modified based on this comment.

PERMIT PART 2

36. **Comment:** The Permittees request that the abbreviation for the Chemical Waste Landfill (CWL) be spelled out in the last sentence of Permit Section 2.2.1.

NMED Response: NMED agrees to the suggested revision to spell out “Chemical Waste Landfill” for clarity. The last sentence of Permit Section 2.2.1 is revised to read: “No wastes shall be managed at the CAMU except waste generated by post-closure care activities conducted at the CAMU and the Chemical Waste Landfill.”

37. **Comment:** The Permittees request that the first item listed in the bullets under Permit Section 2.10 be revised to read: “Generation of extreme heat, pressure, fire, explosions (except as a result of normal treatment operations at the TTU), or violent reactions.” The basis of their request is that normal treatment operations at the TTU, in addition to generating explosions, also generate extreme heat, pressure, and fire.

NMED Response: NMED agrees that normal treatment operations at the TTU, in addition to generating explosions, will also generate extreme heat, pressure, and fire. The first item listed in the bullets under Permit Section 2.10 is revised to read:

“Generation of extreme heat, pressure, fire, explosions (except as a result of normal treatment operations at the TTU), or violent reactions.”

38. **Comment:** The Permittees request that the first two sentences of Permit Section 2.12.6 be revised to read: “The Permittees shall maintain Coordination Agreements with the police, fire department, State and local emergency response teams, and one or more local hospitals that would respond to emergencies at the Permitted Units. The Coordination Agreements shall be in writing executed by Permittees and the local authorities, and shall include the requirements provided in 40 CFR § 264.37(a). Agreements are listed in the Attachment D (Contingency Plan).” The Permittees state that the requirement should reflect the regulations rather than listing the agreements. The current agreements and the type of services provided under each agreement are listed in Table D-1 in Attachment D. The Permittees also state that Table D-1 should be revised as needed to keep it current. Additionally, the Permittees state that the U.S. Forest Service and Kirtland Air Force Base maintain a cooperative firefighting arrangement (listed in Table D-1) which meets the requirements of 40 CFR § 264.37(a)(2), but the Permittees are not a direct party to this arrangement.

NMED Response: NMED agrees to revise the text to correspond closely to the regulations and to cite Attachment D, which indicates the specific agreements in place. The first two sentences of Permit Section 2.12.6 are revised as requested to read: “The Permittees shall maintain Coordination Agreements with the police, fire department,

State and local emergency response teams, and one or more local hospitals that would respond to emergencies at the Permitted Units. The Coordination Agreements shall be in writing executed by Permittees and the local authorities, and shall include the requirements provided in 40 CFR § 264.37(a). Agreements are listed in the Attachment D (Contingency Plan).”

39. **Comment:** The Permittees request that the second and third items listed in the bullets under Section 2.13.1 be revised to read as follows.

“2) An explosion occurs (other than normal operations at the TTU); or
3) A fire occurs (other than normal operations at the TTU).”

The basis of their request is that fire and explosions can be part of normal operations at the TTU, and when so, are not conditions that constitute an emergency.

NMED Response: NMED agrees that the text should be clarified that explosion and fire can be a normal part of the treatment operations conducted at the Thermal Treatment Unit (TTU). The second and third items listed in the bullets under Section 2.13.1 are revised to read as follows:

“2) An explosion occurs (other than normal operations at the TTU); or
3) A fire occurs (other than normal operations at the TTU).”

40. **Comment:** The Permittees request that Item #1 of the second listing of bullets under Permit Section 2.14.2 be revised to provide consistency with Item 6 in the preceding list in Permit Section 2.14.2; and Section E.2 in Permit Attachment E.

NMED Response: NMED agrees that consistency is needed between the two lists in Permit Section 2.14.2 and Permit Attachment E. Inspection records for the current calendar year may be kept at the HWMUs. The regulations at 20.4.1.501.A (5) NMAC

require that records be kept until closure for records referenced in 40 CFR § 264.73(b), with the exception that records required under 40 CFR § 264.73(b)(7) and (9) are to be kept for no less than three years.

Thus, Item #6 of the first listing of bullets under Section 2.14.2 is revised to read:

“6. Records and results of inspections for each Unit as required in Permit Attachment E (Inspection Plan) and 20.4.1.501.A.(5) NMAC;”

Also, Item #1 of the second listing of bullets under Section 2.14.2 is revised to read:

“ 1. Inspection Schedule and all completed inspection records for that Unit for the current calendar year as set forth in Attachment E (Inspection Plan), as required by 40 CFR § 264.15(b) and this Permit,”

41. **Comment:** With respect to the second listing of items in Permit Part 2.14.2, the Permittees requested that the training records requirement be revised to provide consistency with Item 14 in the preceding list of items Section 2.14.2, as well as with Section F.4 in Permit Attachment F, and to conform to the requirements of 40 CFR § 264.16.

Additionally, to improve clarity the Permittees requested that NMED separate the language regarding Contingency Plan location from that regarding the training records location, and revise the text to refer to the Unit-specific Contingency Plans.

During discussions held in July 2013, the Permittees further noted that records for former employees are also addressed in Permit Attachment F (last paragraph of Section F.4).

That paragraph includes a reference to the “Facility Records Center” that the Permittees note should be changed to “Facility Operating Record,” for consistency with the other Permit Parts and Attachments. The Permittees also indicated that the Facility Operating

Record encompasses electronic and physical records at the Facility. The Permittees also stated that the requirement for former employees could be further clarified by moving the last sentence of Section F.4 into its own paragraph, referring to the Operating Record, and adding a reference to 40 CFR § 264.16(e).

NMED Response: NMED agrees that consistency is needed between Part 2 and Attachment F. The text is revised as requested, with an additional revision to Permit Section 2.14.2. While training records for only the current calendar year are to be kept at the HWMUs, the duration that the training records of former employees are kept must comply with 40 CFR § 264.16(e) (i.e., three years).

Therefore, the second listing of bullets under Section 2.14.2 is revised to contain items 2 and 3 as follows: “2. Records for the current year of all training required by this Permit for current personnel at that Unit, except personnel training records for the MSB shall be maintained at the RMWUMU.” “3. The Contingency Plan for the Unit (consisting of the general Facility requirements and the applicable Unit-specific requirements in Permit Attachment D).”

Permit Section 2.14.2(14), under the first listing of bullets, is also revised to read: “14. Personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain each Permitted Unit in compliance with 40 CFR § 264.16(d) and (e), and Permit Attachment F (Personnel Training Plan);”

In addition, the first sentence of the last paragraph of Section F.4 of Permit Attachment F is revised to read: “Current-year training records shall be kept at the Unit

to which employees are or were assigned and training records for previous years shall be maintained in electronic or physical form in the Facility Operating Record.”

Finally, the last sentence of Section F.4 is now a separate paragraph, and a reference to 40 CFR § 264.16(e) is added. The sentence now reads: “For former employees, training records shall be maintained in the Facility Operating Record for a minimum of three years from the date the employee last worked at a Permitted Unit, in accordance with 40 CFR § 264.16(e).”

42. **Comment:** Citizen Action commented that:

- a. A clear prohibition on land disposal should be provided in the Permit.
- b. Waste characterization for compliance with RCRA air provisions should be provided especially for characterization of hazardous wastes managed in containers and tanks for volatile organic compound concentrations.
- c. Provisions for receiving hazardous wastes from off-facility locations do not seem to limit where the hazardous wastes can be received and stored at SNL.

NMED Response: NMED responds to these comments as follows.

- a. The Permit does not authorize land disposal of hazardous wastes. Because the Permit does not authorize land disposal at the facility, any land disposal of hazardous waste would be in violation of RCRA.
- b. Provisions concerning compliance with air emissions requirements under 40 CFR 264 Subpart CC are found in Permit Section 3.8. However, hazardous wastes are not managed in tanks at the Facility.
- c. Off-site hazardous wastes are addressed in Permit Section 2.2.3, which describes the wastes that can be received: (1) Treatment-derived waste or residues from wastes

generated at the Facility, sent off site for treatment at off-site facilities, and subsequently returned to the Facility prior to final disposition off-site may be managed at the Facility, subject to certain conditions specified in the Permit; (2) Waste generated by the Permittees as a result of investigation or remediation of a solid waste management unit (SWMU) or area of concern (AOC) listed in Attachment K (Listing of SWMUs and AOCs) and Table K-1 (SWMUs and AOCs Requiring Corrective Action); (3) Wastes from SNL operations located within the metropolitan Albuquerque area.

The wastes can be received at any HWMU at the Facility for storage and treatment, provided the wastes are authorized by the Permit and the regulations. The Department does not believe that any modification of the Permit was necessary based on this comment.

43. **Comment:** Citizen Action states that the maps required under 40 CFR § 270.14 are not provided with sufficient detail to locate all tanks, bunkers, solid waste management units, known past solid or hazardous waste treatment, storage and disposal areas or units regardless of whether they were active on November 19, 1980; surrounding land uses (residential, commercial, agricultural, recreational); and the location of all production and groundwater monitoring wells.

NMED Response: The regulations at 40 CFR § 270.14 pertain to permit applications, not permits. In this case, the Application contains maps for SWMUs/AOCs (Part 4, Figure 1), bunkers (Part 2, Module VI-MSB, Figures 1-14) proposed for the storage of hazardous and mixed waste, surrounding land use (Part 2, Appendix A, Figure A-8) and

the location of production and groundwater monitoring wells (Part 1, Appendix B, Figure B-1 and Part 2, Appendix A, Figure A-2).

There are no tanks at SNL used to store hazardous waste. There is no disposal of hazardous waste at the Facility. The regulations under RCRA Subtitle C do not require that the locations of nonhazardous waste facilities be included in a permit to store, treat, and/or dispose of hazardous waste.

Maps have been included in Attachments G, L, and M of the Permit. NMED wrote the Permit and included maps to depict information generally for the sake of clarity. The Permit contains maps and figures for the HWMUs to be permitted for the storage and treatment of hazardous and mixed waste (Figure 2) and include: the Hazardous Waste Handling Unit (HWHU-Figures 3-8), the Thermal Treatment Unit (TTU-Figures 9-14), the Radioactive and Mixed Waste Management Unit (RMWMU-Figures 15-20), the Auxiliary Hot Cell Unit (AHCU-Figures 21-24), and the Manzano Storage Bunkers (MSB-Figures 25-30). It also includes maps for the Corrective Action Management Unit (CAMU-Figures 31-41), which is subject to post-closure care. However, a map showing the locations of the SWMUs/AOCs was inadvertently excluded from the draft permit that was public noticed in September 2012. The NMED agrees that such a map needs to be a part of a Permit. NMED has added a location map of SWMUs/AOCs to the Permit. Additionally, NMED has added a sentence to Permit Section 8.2.1 that reads: “A map showing the locations of SWMUs and AOCs at the Facility is presented in Figure 52.”

Other than as specified above, the Department does not believe that any modification of the Permit was necessary based on this comment.

44. **Comment:** Citizen Action states that the draft Permit fails to address the effects of airplane crashes or terrorist attacks at SNL for numerous facilities, including, but not limited to Bldg. 6715 that contains explosive, reactive and incompatible wastes.

NMED Response: Any emergency that results in a fire, explosion, or release of hazardous wastes would be covered under Permit Section 2.13.5 and the Contingency Plan in Permit Attachment D. The Department does not believe that any modification of the Permit was necessary based on this comment.

45. **Comment:** Citizen Action states that the section on drainage control claims that figures for drainage features exist for each unit-specific attachment. Furthermore, none of the figures contain information related to the direction of surface water flow for the specific units.

NMED Response: See Figures 8, 12, 24, 30 and 36 in Permit Attachment L for drainage control features at each individual HWMU. However, the NMED has determined that a similar figure for the Radioactive and Mixed Waste Handling Unit was inadvertently left out of the draft Permit. Figure 10 of Module III of the Applicant's Part B Permit Application is inserted into the Permit to correct this oversight. Other than as specified above, the Department does not believe that any modification of the Permit was necessary based on this comment.

46. **Comment:** Citizen Action states that the Draft Permit proposes to allow hazardous wastes from off-site facilities to be accepted. Citizen Action is concerned that the Permit would allow large amounts of off-site waste to come to SNL from numerous facilities. Furthermore, a list of off-site facilities from which hazardous waste will be accepted should be provided.

Additionally, no amounts are set forth for the types, amounts or disposal pathways of the wastes that will be accepted from other facilities, and no risk assessment is made for potential releases of these offsite wastes during transport to and from SNL or for the potential releases of the wastes during storage at SNL.

NMED Response: Permit Section 2.4.5 provides for acceptance of offsite waste (see Response to Comment 42(c) for the permissible sources of off-site wastes). Table 5-1 of Permit Part 5 (for the Thermal Treatment Unit) and Tables J-1.1 and J-1.2 of Permit Attachment J (for the other HWMUs) set forth the quantities for each waste type that can be treated or stored at any one time at each of the HWMUs.

It is not necessary to specify a disposal pathway in the Permit because there are no disposal units for hazardous waste at the Facility. For disposal of hazardous waste, the Permittees may choose at their discretion any offsite facility, provided that facility is permitted for disposal of hazardous wastes.

Risk assessments are not required for evaluating potential releases of offsite wastes that could occur during transport to and from SNL. Such assessments could only be made on a shipment by shipment basis and are impracticable. There is also no requirement to conduct risk assessments in advance for potential releases of wastes during storage. Such a requirement would also be impracticable and of questionable value as such an assessment would have to be based on assumptions of essentially all key data to estimate the risk. Should a release occur at a HWMU at the Facility that constitutes an emergency, the Permittees would have to implement the Contingency Plan found in Permit Attachment D. The Department does not believe that any modification of the Permit was necessary based on this comment.

47. **Comment:** Citizen Action objects to the treatment, management and storage of hazardous wastes at the HWMU, RMWMU, AHCU, and MSB and other SNL facilities without proper characterization and presentation of the types and amounts of the wastes to be present. Providing a list of EPA Hazardous Waste numbers without associating those numbers with the actual named constituents is of little value to the public. The types and quantities of wastes for each unit need to be described along with the controls that will be used to limit emissions.

There is a lack of any reliable air monitoring systems at these locations. Recovery systems for vapors and compliance with RCRA air regulations are not described. Treatment systems for the wastes at each location are not adequately described.

NMED Response: The Permittees have adequately identified the wastes that will be managed, treated, and stored at the Facility in their Part A Permit Application. Authorized wastes for each HWMU are listed in Permit Attachment B, which is based on the Permittees' Part A Permit Application. Treatment of wastes is also covered under Permit Attachment B and more details related to treatment are provided in Permit Attachment A for the specific HWMUs where treatment will take place (in a manner requiring a permit). Characterization of wastes is comprehensively addressed under Permit Sections 2.4 through 2.4.9 and Permit Attachment C (*Waste Analysis Plan*). EPA Hazardous Waste Numbers are correlated with the waste types they represent (see 40 CFR §§ 261.20-33) and are important to reference in hazardous waste permits. These waste numbers take into account that hazardous wastes may be made up of more than one hazardous substance, may contain more than one hazardous constituent even if made up

of only one hazardous substance, and may exhibit one or more hazardous characteristics. The identification, tracking, and management of hazardous wastes is accomplished from a regulatory perspective using these EPA Hazardous Waste Numbers (for example, meeting treatment requirements under 40 CFR Part 268, completing manifests, and completing the Part A Permit Application).

The Permittees are required to control air emissions from hazardous waste containers in accordance with the applicable regulations in 40 CFR Part 264 Subpart CC (Air Emission Standards for Tanks, Surface Impoundments, and Containers), and especially the requirements at 40 CFR § 264.1086, which concern the control of air emissions from containers. Waste characterization requirements for air emissions are found in Permit Section 2.4.9. In general, emissions would be controlled at the Facility by maintaining closed lids on containers, which meets the Level 1 standards found at 40 CFR § 264.1086(c). Thus, air monitoring and vapor-recovery systems are not likely to be required under the regulations. However, the Permit provides in Permit Section 3.8 that the Permittees must meet all of the applicable regulations in 40 CFR Part 264 Subpart CC. If storage of waste should be conducted in a manner that air monitoring or vapor-recovery systems are required by the regulations, then the Permittees would be compelled to implement such monitoring or systems, or both. The Department does not believe that any modification of the Permit was necessary based on this comment.

48. **Comment:** The Permittees request that item 1.b under Permit Section 2.2.3 be revised to read: “for wastes with an available final disposal path, the Permittees shall manage the wastes for not more than 90 days prior to shipping the wastes off-site.” The basis for the Applicant’s request is that item 1.b should be consistent with the first sentence of Permit

Section 2.3.3, which allows storage, treatment, or other management at Permitted Units at SNL within the 90-day period. For example, hazardous or mixed wastes may undergo treatment during the 90-day period prior to shipping the wastes off-site for further management.

NMED Response: The NMED does not believe the requested revision is necessary. Nothing prohibits further treatment of a treatment-derived waste or residue returned to the Facility, provided such treatment is carried out in compliance with the Permit and the Hazardous Waste Management Regulations at 20.4.1 NMAC. The language as originally written was meant to clarify the intent that the time limitation for storage in such cases is not to exceed 90 days. Thus, the total time for storage of such offsite-generated wastes cannot be extended more than 90 days beyond one year from the time the waste first arrived at the Facility. To be even more clear about the intention of the original language, NMED has revised item 1.b under Permit Section 2.2.3 to read: “for wastes with an available final disposal path, the Permittees shall not store the wastes for more than 90 days prior to shipping the wastes off-site.”

49. **Comment:** At hearing, the Permittees requested further clarification of the above response to comment.

NMED Response: The Department responded at the hearing that once waste exists at SNL, the Permittees have one year to manage it. If waste is shipped off-site but is returned to SNL, the Permittees have 90 days from the date the waste arrives back at SNL to process it and get it back off of the Facility. The Department does not believe that any modification of the Permit was necessary based on this comment.

PERMIT PART 3

50. **Comment:** The Permittees request revision of the text in Permit Section 3.6.2 to maintain consistency with the regulations that are cited as the basis for this requirement. Specifically, the Permittees request that the clause “or other liquids” be deleted from the end of numbered paragraph 1 in Permit Section 3.6.2, because precipitation is the only liquid intended to be drained from the storage area.

NMED Response: NMED agrees to revise the text to be consistent with regulatory requirements. The text in Permit Section 3.6.2 paragraph 1, and now reads: “The containers are stored in storage areas that are sloped or otherwise designed and operated to drain and remove liquid resulting from precipitation (see 40 CFR § 264.175(c)(1)); or”

51. **Comment:** Citizen Action commented that the Manzano Storage Bunkers (MSB) do not have adequate leak detection or air monitoring for volatile liquids that could leak from containers.

The regulatory history, the complete number of bunkers, and length of time that the MSB has been in operation should be provided along with the types of wastes, releases, the volumes handled and the periods of storage of the various wastes and the manifest system for tracking the inventory of wastes.

Radioactive waste should be stored in bunkers that are separate from where mixed wastes are stored. The sparse scheduled inspections at MSB do not provide a reliable method for prevention of contamination of the environment.

The existence of ignitable wastes and storage of water reactive wastes provides opportunity for fires and explosive reactions. The presence of different types of wastes within the same bunker does not provide for safe segregation of waste types that could be

accomplished by the use of separate bunkers. The potential for fires and explosions and releases to the atmosphere of hazardous wastes is not described.

Automatic fire suppression systems should be, but are not provided for the bunkers containing the reactive, explosive wastes. Once daily inspection of liquid wastes that could cause fire or explosions is unacceptable where those wastes could be monitored by leak detection systems. The response time for the KAFB fire department is inadequate to provide protection of the public health and environment.

The description for limitation of storage of the MSB RCRA wastes should be provided.

The information for 7.6.3.2 Access to Communication or Alarm Systems is not provided as to what alarm systems exist at the MSB in Permit Attachment 2. The Alarm systems must be described for the 5 MSB bunkers as to what the alarms will provide - explosions, fire, radiation, volatile chemicals releases, etc.

NMED Response: In each Manzano Storage Bunker, containers holding liquid hazardous or mixed wastes are stored on portable spill pallets and pans that provide secondary containment. Secondary containment is also provided for in Permit Section 3.6.1.

The portable spill pallets and pans are designed for use with 55-gallon drums or other standard containers, and meet the requirements of 40 CFR §§ 270.15(a-b) and 264.175(b)(1-3). The pallets and pans are designed to be resistant and impervious to corrosives and other liquids.

Leak detection and air monitoring systems are not required under 40 CFR Part 264 for container storage at the MSB or any other container storage area at the Facility.

Inspections, required under Permit Section 2.8 and Permit Attachment E, Section E.9, are designed in part to catch any leaking containers, and to conduct the necessary corrective action if any leaking containers are discovered.

The Permittees control air emissions from each hazardous waste container at the MSB in accordance with the applicable regulations in 40 CFR Part 264 Subpart CC, and especially the requirements at 40 CFR §264.1086. Note that containers of mixed waste are exempt from the requirements under 40 CFR § 264.1080(b)(6).

The history of the MSBs prior to their regulation as hazardous waste management units is not available to NMED as they were used for classified purposes by the Department of Defense and the Department of Energy. The 5 MSBs, prior to becoming covered under the Permit, were interim status units used to store mixed waste. They were operated from 1999 to the present. Two other bunkers (37063 and 37078), previously used to store mixed waste under interim status (see Table J-3 of Permit Attachment J), were closed in 2006 and can no longer be used to store hazardous or mixed waste in a manner that requires a permit. While NMED can document historical information in a permit, in general, this is not done in order to limit the permit to a manageable size.

Table B-2 in Permit Attachment B lists the wastes, process codes, and annual quantities that the Permittees are authorized to store at the five Manzano Storage Bunkers.

There have been no releases of hazardous wastes at the MSBs.

Inventory tracking is found in Permit Sections 2.4.5 and 2.4.8. Waste manifests are used for shipment of waste to offsite treatment and disposal facilities. Manifests are not required for the shipment of wastes from and to onsite locations at the Facility.

There are no regulatory prohibitions against storing mixed waste and radioactive waste in the same area. Inspections are performed as frequently as required by regulations under 40 CFR § 264.15 (a)(2). The inspection frequency is found at Permit Attachment E (*Inspection Plan*).

Ignitable and reactive wastes are stored separately from other wastes at sufficient distances to prevent any potential reaction. This is a requirement of Permit Section 2.10. The regulations do not require that ignitable and reactive wastes be stored in completely separate hazardous waste management units, such as different bunkers. The potential for fires, explosions and releases to the atmosphere of hazardous wastes is low. Permit Section 2.10 requires procedures to minimize the risk of releases, explosions or fires. Automatic fire suppression systems are not required under 40 CFR § 264.32. There are smoke detectors inside each bunker (Table D-12). Additionally, KAFB tanker trucks at the KAFB Fire station in the Manzano administrative area are within 2.6 miles of the bunker located furthest from the station. The fire station response time should be relatively short if an emergency occurs. Any fire occurring at the MSB will be unlikely to spread due to the design of the bunkers for their original purpose (i.e. storage of weapons).

Table J-1.1 in Permit Attachment J lists the permissible storage capacity of hazardous and mixed waste that can be stored at the MSB.

Permit Section 2.11.3 provides for communication and alarm systems as required under the regulations. Permit Attachment D, Table D-12 includes a description of the alarm system at the MSB. Smoke detectors inside each bunker will activate strobe lights on the front, outside each bunker in the event of a fire. No radiological detectors are

installed at the MSB, and such detectors are not required under RCRA. All personnel reporting to the MSB carry radiation detectors with them and are to be equipped with 2-way radios for communication. The Department does not believe that any modification of the Permit was necessary based on this comment.

52. **Comment:** Citizen Action commented that

Figure 1-2 for the MSB complex shows that no RCRA monitoring wells are present at the point of compliance for the MSB boundary. The nearest monitoring wells are over 1400 feet distant from the MSB. No RCRA upgradient monitoring well exists.

NMED Response: The MSBs are not regulated units. Groundwater monitoring wells are not required unless, for purposes of conducting corrective action, there is evidence of a release that threatens groundwater. The Department does not believe that any modification of the Permit was necessary based on this comment.

53. **Comment:** Citizen Action commented that the Tijeras Fault is shown on Figure 1-2 to run directly through the center of MSB Bunker number 37045 and along the edges of 37034 and 37118 within 1000 feet of the Tijeras Fault. The seismic risks associated with the storage of hazardous and mixed hazardous wastes at the MSB are not evaluated.

NMED Response: No strand of the Tijeras Fault is known to cross through or is within 3,000 feet of the MSBs or has had displacement in Holocene time. Seismic risk is evaluated in the Permittees' Part B Application; the locations of the MSBs meet the seismic standards found at 40 CFR 264.18(a) and 270.14(b)(11). The Department does not believe that any modification of the Permit was necessary based on this comment.

54. **Comment:** Public comment was received from Citizen Action objecting to the treatment, management and storage of hazardous wastes at the HWMU, RMWMU,

AHCU, and MSB and other SNL facilities without proper characterization and presentation of the types and amounts of the wastes to be present. The types and quantities of wastes for each unit need to be described along with the controls that will be used to limit emissions. There is a lack of any reliable air monitoring systems at these locations. Recovery systems for vapors and compliance with RCRA air regulations are not described. Treatment systems for the wastes at each location are not adequately described.

NMED Response: The Permittees have adequately identified the wastes that will be managed, treated, and stored at the Facility (see Permit Attachment A). Authorized wastes for each Unit are listed in Attachment B.

The Permittees will control air emissions from hazardous waste containers in accordance with the applicable regulations in 40 CFR Part 264 Subpart CC, and especially the requirements at 40 CFR § 264.1086. Note that containers of mixed waste are exempt from the requirements under 40 CFR § 264.1080(b)(6).

The Permittees are required to characterize hazardous wastes subject to emission controls in accordance with Permit Section 2.4 (*Waste Analysis*) and Attachment C (*Waste Analysis Plan*). Treatment of hazardous waste that requires a permit will be conducted only at the Permitted Units. Treatment at the Permitted Units is described in Permit Part 4 (*Treatment of Hazardous and Mixed Wastes*) and Permit Attachment A (*Facility Description*) on a unit by unit basis. The Department does not believe that any modification of the Permit was necessary based on this comment.

55. **Comment:** Citizen Action commented that the location of the Auxiliary Hot Cell Unit (AHCU) is not shown on a map. The length of time that the unit has been in operation

and the characterization and volume of the mixed hazardous wastes that are managed must be described. The period of storage for containers must be described. Whether the unit is handling off-site waste should be described. Whether the AHCU is a generator of hazardous and mixed hazardous waste should be described. The destination for where the AHCU mixed and hazardous waste is to be treated or disposed of should be described. Mixed waste items or containers that are handled remotely are from time to time being put under a “temporary tent like room” in Building 6597, erected north of the hot cell, to accommodate the containerized mixed waste items. The frequency of the erection and the duration of the temporary tent-like room are not sufficiently set forth.

NMED Response: The location of the AHCU is shown on Permit Attachment L, Figures 21-A and 21-B. No hazardous or mixed wastes have been stored at the AHCU since it was created under interim status on March 22, 2002 pursuant to 20.4.1.900 NMAC incorporating 40 CFR § 270.70 (a)-(c). A description of the AHCU is presented in Permit Attachment A.5. A description of hazardous and mixed wastes to be treated and/or stored and methods of treatment are presented in Permit Attachment A.5.4, Table B-2 of Permit Attachment B, and Table J-1.2 of Permit Attachment J. The AHCU may handle off-site waste as allowed in Permit Part 2.2.3. The time allowed for storage is found in Permit Part 3.1.1. It is possible and even likely that hazardous and mixed wastes may be generated at the AHCU; however, the generation of hazardous or mixed waste does not necessitate a permit. At minimum, NMED would expect that hazardous waste in the form of used personal protective equipment (such as gloves) would be generated at the AHCU.

Container storage at the AHCU is described in Permit Attachment A.5.1.4, and Permit Part 3, *Storage of Hazardous and Mixed Waste*, describes general requirements for storing wastes, including container inspection.

The final destination of the treated waste may be any permitted Treatment, Storage, or Disposal Facility (TSDF). RCRA does not require a list of offsite TSDFs be included in a permit; however, the name and location of offsite TSDFs are required in shipping manifests.

The description of the “temporary tent like room’ is in Permit Attachment A.5.1.2. The main purpose of the temporary tent like room is to manage the radioactive component of the waste to prevent the spread of even small amounts of radioactive contamination. The tent like room is temporary and its frequency, design and duration will vary depending on the waste being managed. The Department does not believe that any modification of the Permit was necessary based on this comment.

56. **Comment:** Citizen Action commented that real-time air monitoring located at the vents from Building 6597 should be provided. The controls for air emissions venting out of the Building 6597 are insufficient to determine if filter systems are functioning properly. Gases that are not trapped by filtration should be described. The activities conducted in the temporary structure should be conducted in a dedicated engineered structure that is fully permitted for air emissions. The potential for leakage or existing spills from containers in the temporary area is not sufficiently described nor are operations for cleanup or emergency situations.

NMED Response: Air emissions are passed through a HEPA filter at the AHCU to capture radioactive particles; the NMED generally does not regulate radionuclides at

DOE facilities. The regulations do not require that emissions monitoring systems be deployed for hazardous or mixed waste storage in containers. The Permittees must control air emissions from each hazardous waste container in accordance with the applicable regulations in 40 CFR Part 264 Subpart CC as provided for in Permit Part 3.8. Activities in the temporary structure will be conducted under negative pressure and air emissions are controlled by normal operating procedures such as maintaining closed lids on containers. The contingency plan for an emergency-level release of a hazardous or mixed waste which could threaten human health or the environment is addressed under Permit Section 2.13, with more specific details presented in Permit Attachment D. Requirements related to spills are provided in Permit Section 2.12.3. Secondary containment and inspection requirements for container storage are provided for in Permit Sections 2.8, 3.6, and Permit Attachment Section A.5.1.4. Secondary containment for the floor is not required because containers with liquids are to be placed on portable spill pallets or pans. (See Permit Attachment Section A.5.1.4.). The Department does not believe that any modification of the Permit was necessary based on this comment.

57. **Comment:** Citizen Action commented that the storage silos are not accurately described.

There are a total of 8 of these “silos” that are actually 15 feet deep subsurface wells or sumps that are for storage of liquid wastes. There is no provision for a real-time leak detection system to monitor for releases from the storage sumps. There is no indication as to whether leaks have occurred in the past and whether monitoring for the movement of contaminants beneath the ACHU has taken place. Container storage in the High Bay south and west of the hot cell appears to have no leak detection system in place. The length of time for the storage of the containers is not set forth. The floor should provide

for double containment and real-time leak detection. Provisions must be set forth to describe venting for emissions. Provisions for handling damaged containers should be provided. The procedures for detecting liquid wastes should be provided

NMED Response: The Storage Silos are accurately described in Permit Section A.5.1.3. Permit Parts 3.6 and 3.7 discuss leak detection and inspection. The regulations do not require leak detection systems for container storage; instead, containers are inspected at the frequency indicated in Permit Attachment E (*Inspection Plan*). Leaks of hazardous or mixed waste have not occurred in the past. See Permit Attachment A.5.1.3 concerning secondary containment at the silos. See Permit Section 3.1.1 concerning the length of time for storage of containers. Air emissions are discussed in Permit Section 3.8. Provisions for handling damaged containers are provided in Permit Sections 3.2 and 3.6.1. Characterization procedures for wastes are provided for in Permit Section 2.4 and Permit Attachment C.3.

The High Bay is a closed hazardous waste management unit. Hazardous or mixed wastes can no longer be stored or otherwise managed at the High Bay in a manner that requires a permit. The Department does not believe that any modification of the Permit was necessary based on this comment.

58. **Comment:** Citizen Action commented that risk assessment for explosive hazards that can occur at the AHCU and the potential for the release of hazardous wastes should be described.

NMED Response: Risks due to explosive hazards and potential releases are minimized by proper management, storage, and treatment of wastes. Special requirements for ignitable, reactive, or incompatible wastes are described in Permit Part 2.10.

Implementation of the contingency plan due to an explosion is described in Permit Attachment D.6.2. Permit Attachment Section D.6.3 requires additional measures in the event of uncontrolled releases, and additional contingency plan information specific to the AHCU is described in Permit Attachment Section D.13. The Department does not believe that any modification of the Permit was necessary based on this comment.

PERMIT PART 4

59. **Comment:** The Permittees requested revision of Permit Section 4.5 for consistency and to note that it is often (but not always) necessary to add void-filling materials to maximize treatment effectiveness and container properties, and to meet the requirements of the off-site disposal facility.

NMED Response: NMED agrees to make the change. The revisions clarify the various methods often used by the Permittees to accomplish macroencapsulation. The revised text is in Permit Section 4.5 paragraphs 3 and 4, and now reads:

_____“3. Placing the waste along with inert void-filling materials as appropriate inside a commercially available container made of inert or non-corroding materials such as polyethylene or stainless steel and sealing the container to encapsulate the waste. This method may not be used to treat D008 radioactive lead solids.

“4. Placing the waste in a container consisting of an outer shell with a liner of inert or noncorroding material such as polyethylene or stainless steel, along with inert void-filling material as appropriate, and then sealing the liner to encapsulate the wastes.”

PERMIT PART 5

60. **Comment:** In its pre-hearing filings, the Department proposed to add a provision to Permit Section 5.1 requiring the Permittees to submit, within one year of the effective

date of the Permit, a work plan to conduct air sampling coincident with treatment operations in order to verify emissions from the TTU. The Permittees objected to this provision on several grounds: a) that the Department lacked jurisdiction over air emissions from the TTU; b) that the City of Albuquerque was better suited to assessing risks from air emissions, c) and that the Department had failed to demonstrate the necessity of air quality monitoring at the TTU. The Permittees raised these objections at the hearing and in their post-hearing filings. The Department presented evidence and arguments in support of the provisions at the hearing and in its post-hearing filings.

Response: In his final order, the Secretary explained his reasons for finding that the Department had satisfied the burden of proof to justify the air monitoring requirements of Permit Section 5.1. The Secretary found that the requirement was authorized by the provisions of 40 CFR §§ 264.601 and 264.602, which are applicable to the TTU as "Miscellaneous Unit." These provisions authorize requirements including but not limited to detection and monitoring for releases that may involve migration of waste constituents in air. The Secretary further found that the Department had demonstrated that the provision was necessary to protect human health and the environment because it will help determine the accuracy of the data relied upon in the risk assessment, especially for cyanide compounds, and will therefore help ensure the health and safety of onsite workers.

61. **Comment:** The Permittees request that the language in Permit Section 5.5.2.1 be revised to delete "reuse" as it is not clear in this context. The Permittees also requested NMED to revise Permit Section 5.5.2.1 "to allow less than the stated four hours between burn events that occur in the same day." The Permittees added that, "In order to maintain

product quality, SASN is formulated in batches; this process may generate some excess SASN that requires treatment on the same day. The time between completing treatment of the wastes generated during SASN formulation and starting treatment of excess SASN may be less than four hours.”

The Permittees went on to explain that “If burn events occur less than four hours apart, Unit personnel will not be able to perform an inspection between the events, but will perform a pre-treatment inspection before the events and a post-treatment inspection after the events are completed.”

NMED Response: The text is revised as requested. This is because the original text imposed an unreasonable time frame to wait between burn events, making it difficult to accomplish multiple treatment events each day. It is not necessary to conduct pre-treatment inspections between every burn event, especially if only a short time elapses between burn events.

Permit Section 5.5.2.1 is revised to read as follows: “A minimum of four hours shall elapse between burn events before inspection of the burn pan except in cases of multiple burn events on the same day. In the case of multiple burn events on the same day, a pretreatment inspection will be performed if at least four hours elapse between burn events. If less than four hours elapse between burn events, a pretreatment inspection will not be performed. The Permittees shall not conduct more than three burn events on a single day.”

62. **Comment:** The Permittees request that NMED revise the language in Permit Section 5.5.3 (on page 51 of the draft Permit) to be consistent with the requirements set forth in Permit Section 5.5.2.1, with regards to the time required between burn events.

NMED Response: The Department proposed to add the clause “unless a subsequent burn event starts within the four hour cool down period to the first sentence of the second paragraph of Section 5.5.3, so that it would read:

“After the cool-down period of at least four hours, but within one business day, the Permittees shall perform a post-treatment inspection to check for any untreated waste in the burn pan and any contamination or untreated waste ejected from the burn pan during a burn event (“kick-out”), unless a subsequent burn event starts within the four hour cool down period.” However, at hearing the Applicant commented that the additional language was confusing, so it has not been incorporated into the final Permit.

63. **Comment:** In its comment on the Hearing Officer's report the Permittees requested additional clarification of the sentence at issue in the previous response above, so that the clause "ejected from the burn pan during a burn event ("kick out") during the preceding burn event(s)" is modified to read "ejected from the burn pan ("kick out") during the preceding burn event(s)."

NMED Response: Pursuant to the Secretary's Final Order, paragraph 4, the requested change has been made.

64. **Comment:** At hearing, Citizen Action requested that the Department add a provision prohibiting post-burn inspections after sunset.

NMED Response: The following has been added as the second sentence of the second paragraph of Section 5.5.3: “If the cool down period ends after sunset, the Permittees shall wait until after sunrise on the following morning to perform the inspection required by this section.”

65. **Comment:** With reference to Permit Section 5.5.4 (on page 52 of the draft Permit) regarding the handling of treatment residues at the TTU, the Permittees request that the Department clarify that the treatment residues are in the burn pan, and that the Permittees do not use other waste containment devices. They also state that the lid does not contain treatment residues.

NMED Response: The text is revised as requested to more accurately describe the process and to improve organization of the Permit. Treatment residues are contained in the burn pan. Treatment residues are expected to be found deposited on the lid after a burn takes place.

The first sentence of Section 5.5.4, which is now found in the third paragraph of Permit Section 5.5.3 under “Post-Treatment Operations”, is revised to read:

The Permittees shall remove treatment residues from the burn pan using plastic scoops or a vacuum cleaner equipped with a high-efficiency particulate air filter. The Permittees shall close the lid on the TTU burn pan to prevent dispersal of any residue which could not be removed by the plastic scoop or vacuum cleaner. The Permittees shall remove treatment residues from the burn pan and clean treatment residues deposited on the top exterior of the lid with wet paper or cloth wipes within one working day of a burn event unless another burn event is to take place within one day, or one or more adverse weather conditions as defined in Section 5.5.2.2 is present. Residues that are removed from the burn pan and wipes used in cleaning the top exterior of the lid shall be containerized and managed in accordance with Section 5.5.4.

66. **Comment:** The Permittees requested that Permit Section 5.8 (on page 53 of the draft Permit) regarding the inspection of the TTU be revised so that this requirement is

consistent with the pre-burn inspection requirements in 5.5.1 and the Inspection Plan in Attachment E, and to clarify that multiple pre-burn inspections are not required.

NMED Response: The text is revised for consistency with the contents of Permit Attachment E, and to indicate that multiple pre-burn inspections are not required. The revision is somewhat different than requested, in order to make it clear that inspections are to be conducted prior to the first burn event conducted for any given day of treatment operations.

Permit Section 5.8 is revised to read: “The Permittees shall inspect monthly and prior to the first burn event that is conducted for any given day of treatment operations, and shall maintain as necessary, the surface water run-on and run-off control features (e.g., all associated retention structures, retaining walls, covers, berms, ditches) associated with the TTU in accordance with Permit Attachment E (Inspection Plan).”

67. **Comment:** In its pre-hearing filings, the Department proposed to add a provision to Permit Section 5.9.1 to require that, at the time the first surface soil samples are collected in accordance with that section (i.e. no later than August, 2015), the Permittees must also collect soil samples at a depth of 2 feet at the locations specified in Table 5-2 and analyzed for the same parameters as the surface samples. The Permittees objected to this condition on the basis that, according to the Permittees, the Department had not established that it was necessary to protect human health and the environment and that sampling beyond the operational fence of the TTU would not be indicative of subsurface conditions in the area. The Permittees raised this objection at the hearing and in their post-hearing filings. The Department presented evidence and arguments in support of the provision at the hearing and in its post-hearing filings.

Response: The intent of Permit Section 5.9.1 is to ensure that migration of hazardous constituents through soil to groundwater is not occurring. Moreover, in his final order, the Secretary explained his reasons for finding that the Department had met the burden of establishing that the provision is necessary to protect human health and the environment. The Secretary found that, based on evidence presented by the Department and its consultant, AQS, the subsurface sampling requirement provided a reasonable method to ensure that migration of hazardous constituents through soil or groundwater do not result in an adverse effect on human health or the environment.

68. **Comment:** Citizen Action objects to the continued use of the TTU for open air burning of explosives and explosives contaminated waste without pollution controls near the major metropolis of Albuquerque, the lack of any reliable air monitoring systems at the TTU, and the lack of notification to the public as to when the wastes will be burned. Citizen Action argues that the TTU threatens human health and the environment by its emissions during burn operations and thus fails to meet the applicable requirements of 40 CFR 264 Subpart X. (See 40 CFR § 264.600 et seq.).

NMED Response: Treatment events at the Thermal Treatment Unit (TTU) will release, through air emissions, ash (carbon produced from burned wood and paper items) and gases (i.e., nitrogen, water vapor, carbon dioxide, carbon monoxide, diatomic oxygen, and traces of nitrous oxides produced by the decomposition of SASN, PETN, acetone, and acetonitrile). Silver is present in the ash when SASN is treated at the TTU. The Permittees and the NMED have modeled air emissions from the TTU. Modeling results predict no significant adverse effect to the environment, to the public, or to onsite workers. There is no regulatory provision that requires Permittees to notify the public

when wastes will be treated at the TTU. However, the Permit at Section 5.5.1 (1) does require Permittees to notify the KAFB Fire Department before each treatment event as a precaution.

NMED does not have the authority or jurisdiction to regulate air quality in Bernalillo County. The City of Albuquerque and Bernalillo County have air quality jurisdiction including over federal lands and facilities, pursuant to 42 USCA 7401(a) (3), 42 USCA 7418 (a), and Executive Order No. 12088 (1978), as amended by Executive Order No. 12580 (1987). The City of Albuquerque Environmental Health Department has authority—via the City of Albuquerque, the County of Bernalillo, and the Albuquerque/Bernalillo County Air Quality Control Board—to regulate air emissions from open burn activities at the TTU, pursuant to the Federal Clean Air Act, 42 U.S.C. §§7401 to 7642 (1992); the New Mexico Air Quality Control Act, Article 2, NMSA 1978, and the Albuquerque/Bernalillo County Joint Air Quality Control Regulations. An administrative unit within the Environmental Health Department, the Air Quality Division, issued to Permittees an air quality permit for the TTU. The City of Albuquerque “Open Burn Permit #14-0013” does not require the Permittees to install air monitoring systems at the TTU or pollution controls. The Air Permit does not require the Permittees to notify the public prior to any open burn activities. The Air Permit requires only that the Permittees notify local fire authorities before igniting each burn.

Furthermore, NMED has collected and analyzed soil samples at the TTU which show that the concentrations of the hazardous waste constituents in the soil do not threaten human health or the environment. The Department has added to the Permit (see Permit Section 5.1) an air sampling requirement to confirm conservative assumptions of

the air modeling. Soil samples will be periodically collected under the requirements of Permit Part 5, Section 5.9 (Soil Monitoring Requirements).

The Department does not believe that adding pre-burn public notices to the Permit is reasonable or necessary based on this comment.

69. **Comment:** Citizen Action states that the regulatory history of the TTU is unclear and is not set forward in the Draft Permit. It also adds that the TTU cannot properly be included as part of the Permit because it was not part of earlier Part B applications.

NMED Response: The TTU is subject to the regulations set forth in 40 CFR Part 264 Subpart X. The Permit renews the original TTU permit issued November 4, 1994. It is not necessary or reasonable to report in the body of Permit the regulatory history of the TTU. However, the current TTU operating permit states, in permit attachment 9, Section 1.4, that the TTU was constructed in 1969 and began operations in 1970. The Part B Permit Application includes the request to renew the TTU operating Permit. Including all historical data in the Permit obfuscates requirements with unnecessary content; and it would only lengthen the Permit and make it more time consuming to read and understand. The Department does not believe that any modification of the Permit was warranted based on this comment.

70. **Comment:** Citizen Action states that a groundwater investigation is necessary at the TTU under 40 CFR §§ 264.90-100 for corrective action under § 264.101 that provides where the “Owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which

waste was placed in such unit.” Citizen Action adds that the corrective action provisions of 40 CFR §§ 264.90-100 must be included in the Permit for the TTU as well as the other units to be permitted at SNL.

NMED Response: There is no evidence of any significant release of contaminants at the TTU which would require corrective action, and especially not a groundwater investigation. However, with respect to Permit Section 5.9.1, the Department has required one-time subsurface soil sampling in order to confirm that no possible threat to groundwater exists. Additionally, the TTU is not a regulated unit, and thus, is not subject to the groundwater monitoring requirements under 20.4.1.500 NMAC, which incorporates 40 CFR §§ 264.90-100. The Permit provides for corrective action, should any become necessary, in Permit Sections 6.8 and 8.1.1. The Department does not believe that any modification of the Permit was necessary based on this comment.

71. **Comment:** Citizen Action commented that the TTU should not be permitted, and should undergo closure. Citizen Action adds that the current closure scheme is not appropriate for the TTU. They state that the closure methods for the TTU are based on the assumption that releases of hazardous waste and/or hazardous waste constituents to the environment did not occur. Furthermore Citizen Action states that there is potential for release of hazardous waste or constituents from the TTU to air, soil and groundwater and uptake through the food chain and air pathway for incidental ingestion, dermal contact and inhalation. Citizen Action also stated that routine environmental monitoring at the TTU is not conducted, and that there is potential for explosions from the reactive wastes treated in the TTU.

NMED Response: NMED believes that the TTU is safe to operate and that the Permittees can continue to operate it safely and in a manner that protects human health and the environment. NMED also believes that when the TTU is no longer needed for treatment of hazardous waste, the TTU can be closed in a manner that meets the performance standards set forth in Permit Section 5.5. The regulations require that any releases that occur are controlled, minimized, or eliminated to protect human health and the environment. Permittees thermally treat reactive and ignitable waste at the TTU; and these wastes are especially sensitive and can explode, which is why it is safer to thermally treat those wastes at the TTU rather than to transport them to any other location for treatment.

Closure requirements in Permit Part 6 and Permit Attachment G are stringent in order to protect human health and the environment. Permittees are required to conduct environmental sampling for TTU closure, pursuant to Permit Sections 6.3.7 and 6.3.8. The TTU design prevents potential releases of hazardous waste or constituents from run-off. The TTU design diverts run-off to a catch tank where it is collected and stored (see Permit Attachment Section A.3.4). Liquid waste evaporation is almost nonexistent, because the burn pan lid is closed except when adding waste, treating waste, and cleaning and maintaining the pan.

Although releases of contaminants will occur during operations of the TTU, such releases are not expected to adversely impact human health and the environment based on modeling studies. Little, if any, contamination will be released from the TTU during times the unit is not active, as the unit is sealed (the lid on the burn unit is to be closed) during such times and wastes are not stored at the unit. Additionally, sampling and

analysis has demonstrated that the levels of contaminants released at the TTU during its operating life to date (more than 40 years) do not pose a threat to human health or the environment. The Department has added to the Permit (see Permit Section 5.1) an air sampling requirement to confirm conservative assumptions of the air modeling.

Permittees are required to monitor surface soil (Permit Section 5.9) during the active life of the unit to ensure that human health and the environment are protected.

Groundwater contamination is not expected to occur from operation of the TTU because the amount of waste generated in Building 6715 and treated at the TTU is small and groundwater is deep (on the order of 500 feet below ground surface). As noted above in Response to Comment 67, the Department has required one-time subsurface soil sampling in order to confirm definitively that no possible threat to groundwater exists.

The Department does not believe that any modification of the Permit was warranted based on this comment.

72. **Comment:** Citizen Action states that the closure of the TTU burn pan lid does nothing to prevent the release of contaminants during loading and burning.

NMED Response: The burn pan lid must be open during burn events and during loading. Any spills during loading of the burn pan are subject to clean up under Permit Section 5.6.2. The Department does not believe that any modification of the Permit was warranted based on this comment.

73. **Comment:** Citizen Action states that SWMU 111, adjacent to the TTU, was used for disposal to the subsurface, liquid wastes from operations involving explosives wastes that contained RCRA contaminants from Building 6715 and the TTU. They assert that, although boreholes were drilled, no monitoring for the groundwater was done even

though significant silver contamination is present. Citizen Action further states that the sump at SWMU 111 was not properly addressed by the NMED and should not have been granted Corrective Action Complete status. They add that the TTU and Building 6715 site must be characterized again because of past and possibly ongoing releases and the request that the TTU be permitted.

NMED Response: SWMU 111 is tracked in Table K-4 of Permit Attachment K; and it was investigated, characterized, and found suitable for corrective action complete (CAC) without controls (the old term “No Further Action” or “NFA” has been replaced with the term “CAC”). CAC status was granted in November 2001. No new information has been provided to the NMED that indicates that SWMU 111 presents a threat to human health or the environment. The Department does not believe that any modification of the Permit was warranted based on this comment.

74. **Comment:** Citizen Action contends that characterization of the types of explosives for combustion, and “explosives contaminated wastes,” is not detailed enough, and that the characterization fails to explain whether or not other RCRA wastes are present and being burned. Citizen Action also alleges that acetone and other solvents, as well as mercury and barium that are commonly used in high explosives were not described by types and quantities. They also state that depleted uranium and other toxic metals may be present in fragments, powders and residues that are burned and will be released to the atmosphere. Citizen Action also states that combustion byproducts are not described and that dioxin-furans may be present in the air emissions or ash released from the TTU.

NMED Response: Wastes that are prohibited are found in Permit Section 5.2. Authorized wastes that can be treated in the TTU are limited to those listed in Table 5-1,

Permit Section 5.3 and Permit Attachment B.2; waste characterization is covered under Permit Attachment C (Section C.3.4.1 for characterization of wastes to be treated, Section C.3.4.4 for characterization of treated waste residues, Table C-3 for additional parameters, characterization methods, and rationale for treated wastes at the TTU).

Mercury, barium, and uranium are not present in the wastes treated at the TTU.

Combustion products are described in Section A.3.2. Small amounts of dioxin and furan compounds may be generated by the treatment operations at the TTU due to the burning of small amounts of plastic and some explosives. The air modeling included these compounds; they should not pose any significant threat to human health or the environment. Surface soil will be monitored during the active life of the unit to ensure that human health and the environment are protected. The Department does not believe that any modification of the Permit was warranted based on this comment.

75. **Comment:** Citizen Action commented that “the number of burn events that will be conducted at the TTU on an annual basis was not presented.” Citizen Action also states that “the habitat at the site is already damaged by emissions from operations that will continue to limit food chain uptake,” and that the operations “have created a dead zone”.

NMED Response: The number of burn events that will be conducted on an annual basis is not specified because it can vary significantly. Instead, Permit Section 5.3 provides the maximum quantities of waste that can be treated at the TTU on an annual basis and per burn event. Limiting food chain uptake in the habitat would also lessen intake of any contaminant and thus protect the environment.

There is no evidence of a “dead zone” at the TTU, nor is there evidence that TTU operations have damaged the environment. The immediate area surrounding the TTU is

kept clear of vegetation and other combustible materials for the purpose of fire prevention. The Department does not believe that any modification of the Permit was warranted based on this comment.

76. **Comment:** Citizen Action comments that the SNL Site-Wide Environmental Impact Statement (SWEIS) Table 5.4.2-1 indicates the capacity of the TTU on an annual basis is 7,300 lbs rather than 1,200 gallons as indicated in the Draft Permit.

NMED Response: The SWEIS likely cites an attempt to provide an average weight of hazardous waste. But because the hazardous waste treated at the TTU will vary by proportion and chemical composition, the weight (7300 pounds) of waste reported in the SWEIS cannot be easily converted to volume of waste (1200 gallons). Thus, Permit Section 5.3 limits the quantity of waste based on both volume and weight. The Department does not believe that any modification of the Permit was warranted based on this comment.

77. **Comment:** Citizen Action expresses concern over the amounts of liquid wastes and solid wastes being burned and states that wastes should be fully characterized as to types and amounts. Citizen Action further states that controls for reactive wastes are poorly described in the draft Permit, and that incinerator ashes and other wastes and their method to be disposed of are not described.

NMED Response: Authorized wastes treated in the TTU are limited to those in Permit Section 5.3 and Permit Attachment B Section B.2. Waste characterization is covered under Permit Attachment C (Section C.3.4.1 for characterization of wastes to be treated, Section C.3.4.4 for characterization of treated waste residues, Table C-3 for additional parameters, characterization methods, and rationale for wastes treated at the TTU).

Permit Section 5.3 and Attachment B.2 establish the amounts of waste the TTU may treat per burn event and per year. All wastes treated at the TTU are considered to be reactive and ignitable. Management of such wastes is covered under Permit Sections 2.1-2.4, 2.10, 2.12, and 5.4-5.7. Treatment residues are to be disposed of in accordance with the regulations (see Permit Sections 2.4.6-2.4.8 and 5.5.3). The Department does not believe that any modification of the Permit was necessary based on this comment.

78. **Comment:** Citizen Action alleged that no RCRA monitoring wells have been installed at the TTU for releases and detection of contaminants that may be in the soil or groundwater. Citizen Action also stated that no data has been collected from boreholes, groundwater monitoring wells or measurements made for the saturated and unsaturated zone at the TTU, adding that the hydrologic setting beneath the TTU and Building 6715 is not characterized. Citizen Action maintains that no monitoring, analysis, inspection, response, reporting and corrective action in compliance with 40 CFR § 264.101 has been performed at the TTU and Building 6715 as required by 40 CFR § 264.602. Citizen Action asserts that the TTU has released quantities of silver and other contaminants that constitute significant evidence of contamination for which detection monitoring is required under §§ 264.90-100.

NMED Response: The TTU is not a regulated unit, but a hazardous waste management unit, and is not subject to the groundwater monitoring requirements under 40 CFR § 264.90-100. Soil samples were collected at the TTU on November 21, 2013. See also Responses to Comments 64 and 66. The Department does not believe that any modification of the Permit was necessary based on this comment.

79. **Comment:** Citizen Action commented that the figure showing the TTU layout and drainage control features fails to indicate the direction of the flow for groundwater at the TTU.

NMED Response: As shown on base-wide water-level maps, groundwater beneath the TTU flows westerly. The Department does not believe that any modification of the Permit was necessary based on this comment.

80. **Comment:** Citizen Action commented that the location of the TTU within Technical Area III is not shown on a figure nor is the surrounding land uses such as Isleta Pueblo and the Mesa del Sol residential development. Citizen Action is also concerned that road access and public roads in relation to the TTU are not shown, as well as the TTU Evacuation Route and Emergency Access in relation to public roads and facilities.

NMED Response: Figure 9 through Figure 14 in Permit Attachment L apply to the TTU. Figure 9 (Location of the TTU at the Facility, within TA-III) shows the boundary of the Isleta Pueblo with respect to the location of the TTU. Mesa del Sol, not shown on Figure 9, is located west of the west boundary of Kirtland Air Force Base (Figure 9). Figure 12 of Permit Attachment L illustrates the drainage control features at the TTU. Figure 11 of Permit Attachment L shows the “Water runoff flow” direction into the catch tank illustrated on Figure 11. Figure 45 of Permit Attachment L shows evacuation routes and the access road and parking east of the TTU. The Department does not believe that any modification of the Permit was necessary based on this comment.

81. **Comment:** Citizen Action argues that Building 6715 should have a Permit because it is a generator of hazardous wastes that are ignitable, reactive and incompatible and creates solid and liquid wastes that are transferred to the TTU.

NMED Response: Generators are not required to obtain permits under RCRA.

Therefore, the generation of waste in Building 6715 does not require a permit. The treatment of hazardous waste at the TTU does require a permit. The Department does not believe that any modification of the Permit was necessary based on this comment.

PERMIT PART 6

82. **Comment:** The Permittees request that the last two sentences of the second requirement under Permit Section 6.2.1 (of the 2012 draft Permit) be deleted on the basis that the requirement to protect human health and the environment in accordance with the closure performance standard in 40 CFR 264.111 is sufficient and is clearly stated in the first sentence. Furthermore, the Permittees argue that specifying particular risk levels is not consistent with Department guidance *Risk Assessment Guidance for Investigation and Remediation*, February 2012, updated June 2012.

NMED Response: At the hearing, the Department opposed the requested revision of the Permit and maintained that, based on Department policy all hazardous waste management units should be closed to residential criteria, regardless of anticipated future land use. More specifically, immediately prior to the hearing, the Department withdrew alternative language for Section 6.2.1 that it had proposed in Exhibit 1 of its Notice of Intent, and proposed instead to revert to the language contained in the 2012 draft Permit. The Permittees (Applicants at the time) continued to oppose the 2012 draft language on the basis that, in accordance with EPA policy, closure based on industrial criteria satisfies the cleanup standard of 40 CFR § 264.111 when the reasonably anticipated future land use is industrial.

In his Final Order, the Secretary found that the Department did not demonstrate that closure to residential land use standards is factually or legally appropriate. The Secretary found that no federal or state law requires remediation to a residential land use scenario as part of closure and that closure based on an industrial land use scenario will satisfy the standard identified in 40 CFR § 264.111 when the reasonably foreseeable land use is industrial; that EPA guidance documents recognize that closure to non-residential levels is appropriate; and that Permit Section 1.20 provides an enforceable mechanism for restricting future land use. Accordingly, the Secretary ordered that paragraph 2 of Permit Section 6.2.1 be revised to read:

"Any release of a hazardous waste or hazardous constituent to environmental media at or from the Unit has been remediated to a concentration level that is protective of human health and the environment. Cleanup levels for environmental media may take into account non-residential exposure assumptions and future land use, provided that those assumptions are clearly stated and that any land use restrictions are maintained."

83. **Comment:** The Permittees requested that the second item under the second paragraph of Permit Section 6.6 (requiring the Permittees to identify the laboratory analytical methods detection limits for all constituents of concern) be deleted on the basis that it is redundant and unnecessary. The analytical method detection limits (MDLs) are established through the analytical methods which are specified in the sampling and analysis plan portion of the closure plan, the amendment of which is the subject of this Permit section.

Additionally, the actual MDLs and practical quantitation limits that are achieved during closure will be included with the analytical data in the closure report.

NMED Response: Method detection limits will be included in the SAP of the Closure Plan for a HWMU, whether the Closure Plan is amended or not. Thus, the original text does not materially add to the requirements in this Permit Section and can be deleted.

The second paragraph of Permit Section 6.6 is revised as requested by the Permittees to read: “If necessary, the Permittees shall amend a Permitted Unit’s closure plan at closure to correctly and completely identify all constituents of concern as specified in Permit Section 6.5(1).”

84. **Comment:** Citizen Action states that closure performance standards must include 40 CFR § 264.10 through 40 CFR § 264.16, 264.178, 264.197, 264.228, 264.310, 40 CFR Part 264 Subparts F (§§ 264.90-100), G, I, J, K, N and X, and 40 CFR § 270.32(b). Furthermore, if the Facility cannot achieve clean closure standards under those parts, the Facility must submit a Post-Closure Plan according to 40 CFR § 264.117.

NMED Response: Some of the regulations cited by Citizen Action do not apply to the HWMUs as discussed below. Closure performance standards are found at 20.4.1.500 NMAC incorporating 40 CFR § 264.111, in 40 CFR Part 264 Subpart G. The closure performance standards are included in Permit Section 6.2. The rest of Subpart G does not concern closure performance standards, but the other closure requirements, which are found in various sections of Permit Part 6 and Permit Attachment G.

The regulations at 40 CFR §§ 264.10 through 264.16 are general facility standards and do not concern closure. The regulations at 40 CFR §§ 264.197, 264.228, 264.310, in 40 CFR Part 264 Subparts J, K, and N, respectively, are closure requirements for tanks, surface impoundments, and landfills, and do not apply to any of the HWMUs at SNL addressed by the Permit. The rest of these Subparts (J, K, N) do not concern closure.

The regulations at 40 CFR § 264.178, in 40 CFR Part 264 Subpart I, apply to container storage units and are included in Permit Section 6.4 and Permit Attachment G, as discussed above. The rest of Subpart I does not concern closure.

The regulations at 40 CFR § 264.601, in 40 CFR Part 264 Subpart X, require in part that a miscellaneous unit (in this case, the TTU) close in a manner that is protective of human health and the environment. The rest of Subpart X does not concern closure, although post-closure is addressed under 40 CFR § 264.603 and Permit Part 7.

The regulations under 40 CFR Part 264 Subpart F do not apply to any of the HWMUs in the Permit (none is a regulated unit as defined at 40 CFR § 264.90(a)(2)). The regulation at 40 CFR § 270.32(b) concerns Department's omnibus authority to impose conditions as necessary to protect human health and the environment. The Permit contains the necessary provisions to carry out closure in a manner protective of human health and the environment, and contains requirements for closure as applicable for each HWMU.

All HWMUs that the Permittees have requested to be permitted are covered under the Permit. All other HWMUs at the Facility are closed or are inactive and will be closed. When the Permit was finalized and becomes effective, several interim status HWMUs at SNL will be permitted for the first time. All of the HWMUs are subject to post-closure care should it become necessary (see Permit Section 6.2.2 and Permit Part 7). Any HWMU that is not permitted and has not been closed would be subject to corrective action, if necessary, in accordance with 40 CFR § 264.101. Provisions requiring a post-closure plan and amendment of the Permit are included in Permit Sections 7.1.1 and 7.1.2.

The SWMUs and AOCs listed in the tables in Permit Attachment K are not and will not be permitted units, are not treatment, storage, or disposal facilities, and are not subject to closure and post-closure care. Instead, the SWMUs and AOCs in Table K-1

are subject to corrective action under 40 CFR § 264.101. The granting of Corrective Action Complete status for a SWMU or AOC may be predicated on the establishment and implementation of long-term controls, which is addressed under Permit Attachment M. Thus, the Department does not believe that any modification of the Permit was necessary or appropriate based on this comment.

85. **Comment:** CARD and Agua es Vida Action Team state that Permit is incomplete because it lacks a closure plan and post closure care permit for the Mixed Waste Landfill (MWL). The MWL is a regulated unit because it received waste after July 26, 1982, thus, a closure plan and a post closure permit are required.

NMED Response: The MWL is a SWMU, was not and will not be permitted as a HWMU, was not operated under interim status as a HWMU, and is not a regulated unit under 40 CFR § 264.90(a)(2). The MWL is not subject to the requirements for a closure plan and post-closure care permit for HWMUs. Instead, it is subject to corrective action for a SWMU under 40 CFR § 264.101, the Consent Order and the Final Order of May 26, 2005. The corrective action provisions under 40 CFR § 264.101 are incorporated into the SNL Consent Order (April 2004). The MWL Long-Term Monitoring and Maintenance Plan (LTMMP) will become enforceable under the Permit (under Attachment M) when the Permit is effective and corrective action at the MWL is deemed complete.

Determination of corrective action complete status for the MWL will require a Class III permit modification and will be subject to the opportunity for public comment and a public hearing. Although not a post-closure care plan, the LTMMP is essentially equivalent to such a plan with respect to technical requirements. The Department does not believe that any modification of the Permit was necessary based on this comment.

PERMIT PART 7

86. **Comment:** Regarding Permit Part 7, Citizen Action requested that post-closure provisions be provided for all “units” at SNL, in addition to permitted units, in the event clean closure cannot be achieved. They indicate that an entire section needs to be added into the Draft Permit providing for Post-Closure Care, including a Post-Closure Care Plan for the Facility, with provisions for amendment by means of permit modification.

NMED Response: The Department does not agree with the requested revision. All hazardous waste management units that the Permittees have requested be permitted are covered under the Permit. When the Permit was finalized, several interim status units at SNL became permitted. All of these units are subject to post-closure care, should it become necessary (see Permit Section 6.2.2 and Permit Part 7). Provisions requiring a post-closure plan and amendment of the Permit are included in Permit Sections 7.1.1 and 7.1.2. SWMUs and AOCs are not permitted units, and are not subject to closure and post-closure care. SWMUs and AOCs are subject to corrective action as necessary to protect human health and the environment. This includes the possibility of implementing long-term controls. The Department does not believe that any modification of the Permit was necessary based on this comment.

PERMIT PART 8

87. **Comment:** Citizen Action states that the SNL Consent Order does not meet the requirements of 40 CFR § 270.1(c)(7) for an enforceable document.

NMED Response: The Consent Order was issued under the authority of the New Mexico Hazardous Waste Act, NMSA 1978 § 74-4-10 and the New Mexico Solid Waste

Act, NMSA, 1978 § 74-9-36(D). Under 40 CFR § 271.16 (e), an enforceable document must have available the following remedies: (1) Authority to sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of the requirements of such documents, as well as authority to compel compliance with requirements for corrective action or other emergency response measures deemed necessary to protect human health and the environment; and (2) Authority to access or sue to recover in court civil penalties, including fines, for violations of requirements in such documents. New Mexico is an authorized State under RCRA and has available under its authorities the aforementioned remedies, which are listed in the Consent Order under Sections III.I.5 and III.U. Thus, the Consent Order is an enforceable document. NMED does not believe that any modification of the Permit was necessary based on this comment.

88. **Comment:** Citizen Action states that there is no regulatory authority under RCRA for the permit to now include the SWMUs as a part of the permit.

NMED Response: Contrary to the comment, the NMED has the authority (and the obligation) to include SWMUs and set forth corrective action requirements in a permit (see 40 CFR §§ 264.101(b)) and 264.100(a)) or other enforceable document, such as an order on consent. For the SNL Facility, corrective action requirements are addressed in the Consent Order, with the exception of certain conditions that are addressed under Permit Section 8.1.1. NMED does not believe that any modification of the Permit was necessary based on this comment.

89. **Comment:** The Permittees request that Permit Section 8.10.2.6 be revised to be consistent with Section 8.10.2.4.v with respect to the lamp to be used on photo-ionization

detectors. Specifically, they ask that reference to an 11.7 eV (electron volt) lamp be revised to 10.6 eV or higher.

NMED Response: NMED agrees that the language in Permit Section 8.10.2.6 should be consistent with that in Section 8.10.2.4.v, as requested. A 10.6 eV lamp is commonly used for photoionization detectors. Thus, Permit Section 8.10.2.6 is revised to read: “Organic vapors (using a photo-ionization detector with a 10.6 or higher eV (electron volt) lamp, a combustible vapor indicator or other method approved by the Department);”

90. **Comment:** The Permittees request clarification of the first sentence of the second paragraph of Permit Section 8.10.2.8.ii. The existing text, as written, erroneously implies that a less-than-90-day storage area is a container.

NMED Response: NMED proposes to revise the text to clarify that less-than-90-day storage areas are not containers. Containers are used to store waste at the areas referenced in the comment. Permit Section 8.10.2.8.ii is revised as requested by the Permittees to read: “All purged groundwater and decontamination water shall be temporarily stored at satellite accumulation areas, less-than-90-day storage areas or transfer stations in labeled 55-gallon drums, or other containers approved by the Department until proper characterization and disposal can be arranged.”

91. **Comment:** The Permittees request that Permit Section 8.10.2.8.iv be revised to clarify that trip blanks need only accompany shipping containers of VOC samples and need only be analyzed for VOCs.

NMED Response: NMED agrees that trip blanks are needed only when analyzing for volatile organic compounds (VOCs). Thus, Permit Section 8.10.2.8.iv is revised to read:

“Trip blanks shall be analyzed for VOCs at a frequency of one for each shipping container of VOC samples.”

92. **Comment:** The Permittees request that punctuation be corrected (add comma) in Permit Section 8.2.1. In addition, at hearing the Applicant commented that Permit Section 8.2.1 should include a reference to Table J-1.2 as a listing of units where authorized treatment of hazardous waste will take place.

NMED Response: NMED agrees with the comment and also notes that the citations to the Attachment J tables need correction. Therefore, Permit Section 8.2.1 is revised to read: “Attachment J, Tables J-1.1, J-1.2, J-2, and J-3, lists the hazardous waste management units at the Facility and their status (e.g., permitted, under post-closure care, closed).”

93. **Comment:** The Permittees request that Permit Section 8.11.1.2 be clarified by substituting a more applicable word that is consistent with the rest of the Permit Parts. More specifically, they request that the word “insure” be replaced with the word “ensure”.

NMED Response: NMED agrees with the comment. The sixth sentence of the first paragraph of Permit Section 8.11.1.2 is revised to read: “The filter system shall be inspected regularly to ensure that the system is functioning properly.”

94. **Comment:** The Permittees request that Permit Section 8.11.2.2.i be clarified by substituting a more applicable word that is consistent with the rest of the Permit Parts. More specifically, they request that the word “insure” be replaced with the word “ensure”.

NMED Response: NMED agrees with the comment. The third sentence of the third paragraph of Permit Section 8.11.2.2.i is revised to read: “Teflon tape can be used to wrap the threads to ensure a tight fit and minimize leakage.”

95. **Comment:** The Permittees request that Permit Section 8.11.5 be clarified by substituting a more applicable word that is consistent with the rest of the Permit Parts. More specifically, they request that the word “insure” be replaced with the word “ensure”.

NMED Response: NMED agrees with the comment. The last sentence of the second paragraph of Permit Section 8.11.5 is revised to read: “After the grout has cured, the top two ft of the borehole shall be filled with concrete ensure a secure surface seal.”

96. **Comment:** Citizen Action states that a total review of all the locations at SNL that comprise the SWMUs and AOCs has not been provided as required by RCRA. All SWMUs need to be set forth for corrective action under 40 CFR § 264.101. The permit should be denied because it does not identify all the areas at SNL that have released hazardous and mixed wastes as a result of generation, treatment, storage and disposal.

NMED Response: The Permit lists all SWMUs and AOCs known to exist at the Facility. Any newly discovered SWMUs, AOCs, or releases, should any be found in the future, are covered under Permit Sections 8.1.1, 8.2.1 and 8.3.3 and Consent Order Section V. Corrective action, whether pursuant to the Permit or the Consent Order, must conform with 40 CFR § 264.101 or other regulations, as applicable. NMED does not believe that any modification of the Permit was necessary based on this comment. NMED also notes that this comment appears to conflict with another comment from Citizen Action, asserting that there is no regulatory authority to include SWMUs in the Permit.

97. **Comment:** Citizen Action states that the public currently reviewing the draft permit for some time now has been led to believe that the SWMUs and AOCs would be subject to corrective action under the Consent Order.

NMED Response: Corrective actions for SWMUs and AOCs are subject to the requirements of the Consent Order, except as provided under Permit Section 8.1.1. Permit Section 8.1.1 states, in part that the Permittees shall conduct corrective action under the Permit (or other enforceable document) rather than the Consent Order, in the following circumstances:

- (1) New releases and newly discovered releases from HWMUs at the Facility;
- (2) At HWMUs undergoing closure and post closure care;
- (3) Implementation of the controls, including long-term monitoring;
- (4) Releases that occur or are discovered after the date on which the Consent Order terminates.

Permit Section 8.1.1 also states, in part: “Corrective action for releases from hazardous waste management units that commingle with releases originating from other sources undergoing corrective action under the Consent Order shall be conducted under the Consent Order. Any SWMU or AOC for which corrective action is required that is not subject to corrective action under the Consent Order shall be subject to corrective action under this Permit Part and 40 CFR §§ 264.100 and 264.101, which are incorporated herein by reference.”

It was intended that this integration of the Permit and Consent Order be consistently maintained throughout the permit development process. As of now, all known SWMUs and AOCs subject to corrective action are being addressed under the Consent Order.

NMED does not believe that any modification of the Permit was necessary based on this comment.

98. **Comment:** Citizen Action states that the draft permit adds a provision that is not present in the Consent Order, Section III.W.1. That provision would effectively remove the application of the Consent Order from the permit. This constitutes a modification of the Consent Order without any notice to the public that such a modification is being made to the Consent Order. This violates the Consent Order Section III.W.5, *Preservation of Procedural Rights*, for the public that provides for public participation, including public notice and comment, administrative hearings, and judicial appeals, when a modification is being made. (See Consent Order III.J.1). The permit must incorporate the Consent Order as a part of the Permit and the provision 5 must be removed from the draft permit.

NMED Response: The Consent Order is an enforceable, independent document, and as such, does not need to be and will not be incorporated into and become a part of the Permit. No rights of the public under Section III.W.5 of the Consent Order are being vacated or affected. Additionally, the Consent Order is not being modified in any way. NMED does not believe that any modification of the Permit was necessary based on this comment.

99. **Comment:** Citizen Action states that the Consent Order at Section III.W.1. provides that “operating units” at the Facility must be addressed for new releases of hazardous wastes, closure and post-closure requirements of Subpart G, including long-term monitoring. The draft permit now contrives to limit the Consent Order requirements to only “Permitted Units.”

NMED Response: The term “operating units” in the Consent Order (at Section III.W.1) is considered by the NMED to be synonymous with the term “Permitted Unit” in the Permit. The Permit does not limit or modify the Consent Order in any way. NMED does not believe that any modification of the Permit was necessary based on this comment.

100. **Comment:** Citizen Action opines that permit provisions concerning corrective action required pursuant to 40 CFR § 264.101 are inadequate. It must set forth language that would include the provisions of 40 CFR §§ 264.90-100 for all the areas that can be brought under corrective action.

NMED Response: The regulations at 40 CFR §§ 264.90-100 cover only regulated units as defined at 40 CFR 264.90(a)(2). There are no regulated units subject to this Permit (the Chemical Waste Landfill, which is a regulated unit, is subject to a separate post-closure care permit that is already in effect). All other corrective action under RCRA at the Facility is being conducted currently under the Consent Order and pursuant to 40 CFR § 264.101, as the latter is the appropriate and applicable regulation. Thus, the Permit is correct as written. NMED does not believe that any modification of the Permit was necessary based on this comment.

101. **Comment:** Citizen Action states that it opposes the lack of characterization of RCRA wastes present at the Sled Track Complex (TA-III), which must receive corrective action and monitoring. An April 9, 1987 Memorandum to Tom Clark (USEAP) from AT Kearney states “There are a number of outdoor test sites at the facility where explosive and impact testing is conducted. Residue from these experiments typically includes shrapnel, lead, beryllium, and depleted uranium; other metals and radioactive materials may also be present.”

NMED Response: The sled tracks are currently active test facilities. The Long and Short Sled Tracks are listed as SWMUs 83 and 240, respectively, on Table K-1 of Permit Attachment K (under Operable Unit 1306) as requiring corrective action.

It is possible that other outdoor test facilities could become SWMUs or AOCs in future. Many of the SWMUs listed in Table K-1 and Tables K-3 and K-4 of Permit Attachment K are outdoor testing facilities where explosives and impact testing have been conducted in the past. Thus, such testing facilities are being addressed as required by the regulations. NMED does not believe that any modification of the Permit was necessary based on this comment.

102. **Comment:** Citizen Action states that the draft permit references inclusion of the Long Term Monitoring and Maintenance Plan (LTMMP) for the Mixed Waste Landfill (MWL). The draft permit is being issued before issues surrounding the LTMMP are resolved.

NMED Response: The MWL is not being permitted. The MWL LTMMP was approved on January 8, 2014. Once the Permit becomes effective, and after corrective action is completed at the MWL, the LTMMP will become enforceable under the Permit (part of Attachment M) as it specifies the administrative and physical controls for the landfill. Issuance of the draft permit was not dependent on approval of the LTMMP. NMED does not believe that any modification of the Permit was necessary based on this comment.

103. **Comment:** Citizen Action states that RCRA requires as follows in pertinent part from 40 CFR §264.101: (a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous

waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

Therefore, §264.101 requires the following changes (in bold italics) to the statements in the draft permit to identify that the facility permit shall implement the Corrective Action Program of §264.100 and the monitoring requirements of §§264.90 through 264.101:

1. New releases of hazardous waste or hazardous waste constituents from Permitted Units, ***Regulated Units and any SWMU*** at the Facility ***require compliance with §§264.90 through 264.101 for the Proposed Permitted Units, Regulated Units, and any SWMU at the Facility.***
2. The closure and post closure care requirements of 40 C.F.R. Part 264, Subpart G, as they ***require compliance with §§264.90 through 264.101 for the Permitted Units, Regulated Units, and any SWMU at the Facility;***
3. Implementation of the controls, including long-term monitoring ***in accord with the requirements of §§264.90 through 264.101,*** for any Solid Waste Management Unit (SWMU) on this Permit's list of SWMUs for which the Department has issued a determination of "Corrective Action Complete With Controls";
4. Releases of hazardous wastes or hazardous constituents ***at any SWMU, Permitted Unit or Regulated Unit*** that occur after the date on which the Consent Order terminates; and ***require compliance with §§264.90 through 264.101 for the Permitted Units, Regulated Units, and any SWMU at the Facility***
5. For the purpose of complying with the requirements of this Permit for the Mixed Waste Landfill (MWL) ***which is recognized by RCRA as a Regulated Unit and***

therefore, must comply with the requirements of §§264.91 through 264.100 in lieu of §264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer" (§264.90).

NMED Response: Corrective action is to be conducted under the Consent Order, except as required under Permit Section 8.1.1. Permit Section 8.1 cites 40 CFR § 264.101 as one of the authorities for requiring the Permittees to conduct corrective action as necessary to protect human health and the environment. The groundwater requirements at 40 CFR §§ 264.90-100 do not apply to the HWMUs that are now under the Permit, and do not apply to any of the SWMUs or AOCs listed in the Permit, including the MWL, and none is a regulated unit. *See* 40 CFR § 264.90(a)(2), providing that 40 CFR §§ 264.90 – 100 apply at *regulated units* in lieu of the requirements of 40 CFR § 264.101. Requirements for corrective action for the MWL have been removed from the Permit, as it is subject to corrective action under the Consent Order (as the case for all other known SWMUs and AOCs at the Facility). The MWL is not being permitted. The MWL LTMMP was approved on January 8, 2014. Once the Permit becomes effective, and corrective action is completed at the MWL, the LTMMP will become enforceable under the Permit (part of Attachment M) as the LTMMP specifies the administrative and physical controls for the landfill.

The Permit is correct as written. NMED does not believe that any modification of the Permit was necessary based on this comment.

104. **Comment:** CARD, Agua es Vida Action Team, and Our Endangered Aquifer Working Group state that corrective action is required to be conducted beyond the facility boundary (42 U.S.C. 6924(v), 20.41.500 NMAC, incorporating 40 CFR §264.101) where

necessary to protect human health or the environment and yet they do not see any monitoring efforts mentioned concerning the Mountain View Neighborhood source wells, noted as containing perchlorate, a known cause of thyroid disruption and birth defects, as specified in Secretary Curry's November 26, 2008 letter to EPA. Perchlorate, a by-product of rocket fuel production, is a scourge to water resources wherever military facilities are found. SNL dismantled its community ambient air monitors when ambient air monitors on base showed alpha emissions close to regulatory standards (refer to the monitoring and assessment website, Albuquerque Peace Center grant researchers). Corrective Action begins with careful monitoring. The issue of SNL's responsibility to protect human health and the environment beyond the facility boundary is an issue to consider in hearings or negotiations.

NMED Response: Permit Section 8.3.1 and Consent Order Section III.A require corrective action beyond the facility boundaries where necessary.

However, conducting corrective action under RCRA and monitoring for releases that are *not* related to hazardous waste management are governed by different environmental laws and regulations. In general, monitoring activities that fall outside of RCRA are addressed in other permits where applicable, and are not included in hazardous waste permits.

NMED does not believe that any modification of the Permit was necessary based on this comment.

PERMIT ATTACHMENT A

105. **Comment:** The Permittees request that Permit Attachment A, Section A.4.5.5 be revised to read:

4. "Placing the waste, along with inert void-filling materials as appropriate, inside a commercially available container made of inert or non-corroding materials such as polyethylene or stainless steel and sealing the container to encapsulate the waste. This method is not used to treat D008 radioactive lead solids.
5. Placing the waste in a container consisting of an outer shell with a liner of inert or non-corroding material such as polyethylene resin or stainless steel. After the wastes and inert void-filling materials as applicable, are placed in the container, the resin is heated to seal the container and lid (e.g. using a resistance-heated wire system embedded in the container lid). Non-corroding materials such as stainless steel are also available as containers and liners; the stainless steel is welded closed to seal the container and encapsulate the wastes. The Permittees use containers of various sizes, depending on the volume and dimensions of waste items to be macroencapsulated."

The intent of the requested revision is for consistency with the requirements in Permit Part 4, Section 4.5.

NMED Response: NMED will make the modification as stated above. The revisions will clarify the various methods often used by the Permittees to accomplish macroencapsulation.

Permit Attachment A, Section A.4.5.5 will be revised to read:

4. "Placing the waste, along with inert void-filling materials as appropriate, inside a commercially available container made of inert or non-corroding materials such as polyethylene or stainless steel and sealing the container to encapsulate the waste. This method is not used to treat D008 radioactive lead solids.

5. Placing the waste in a container consisting of an outer shell with a liner of inert or non-corroding material such as polyethylene resin or stainless steel. After the wastes and inert void-filling materials as applicable, are placed in the container, the resin is heated to seal the container and lid (e.g. using a resistance-heated wire system embedded in the container lid). Non-corroding materials such as stainless steel are also available as containers and liners; the stainless steel is welded closed to seal the container and encapsulate the wastes. The Permittees use containers of various sizes, depending on the volume and dimensions of waste items to be macroencapsulated.”

106. **Comment:** The Permittees request that Permit Attachment A, Section A.4.6.1 be revised to read:

“3. Document check to determine whether treated waste is an oxidizer as defined in 40 CFR § 261.21(a)(4). “

The request for the revision is to keep the requirement current with changes to the regulatory requirements for the hazardous waste characteristic of ignitability.

NMED response: NMED agrees to make the modification as stated above to keep the language consistent with current regulatory requirements for hazardous waste characteristics, in this case, an ignitable waste which is an oxidizer under 40 CFR § 261.21(a)(4).

Permit Attachment A, Section A.4.6.1 is revised to read:

“3. Document check to determine whether treated waste is an oxidizer as defined in 40 CFR § 261.21(a)(4).”

107. **Comment:** The Permittees request that Permit Attachment A, Section A.6.5 be revised to read:

“Personnel work in pairs and maintain contact with each other.”

It is not necessary that both personnel be waste handlers. Please clarify this statement to minimize confusion with the job titles in Table F-2 in Permit Attachment F.

NMED response: NMED agrees to make the modification as stated above to clarify that under the buddy system, both personnel do not need to be handling waste to fulfill the requirement to work in pairs, so long as they maintain contact with each other.

Permit Attachment A, Section A.6.5 is revised to read:

“Personnel work in pairs and maintain contact with each other.”

108. **Comment:** The Permittees request that Permit Attachment A, Section A.7.4 be revised to read:

“The LCRS sump shall be inspected on a quarterly basis for the presence of leachate in accordance with Permit Attachment Section E.10.4.”

The citation to E.9.4 is incorrect, and should be corrected to E.10.4.

NMED response: NMED agrees to correct the reference. Additionally, a quarterly basis is adequate in this case because only small amounts of leachate are produced and captured by the LCRS at the Corrective Action Management Unit (CAMU).

Permit Attachment A, Section A.7.4 is revised to read:

“The LCRS sump shall be inspected on a quarterly basis for the presence of leachate in accordance with Permit Attachment Section E.10.4.”

PERMIT ATTACHMENT B

109. **Comment:** The Permittees request that the sentence fragment in Attachment B be deleted that reads “Waste listed in Table B-2 that must be treated using a technology specified in the table of 40 C.F.R. §”

NMED Response: The sentence fragment is deleted, as it was a typographical error.

PERMIT ATTACHMENT C

110. **Comment:** The Permittees requested that the first sentence of Permit Attachment C, Section C.2.1 be revised to add “unused” as an additional example in the description of laboratory chemical waste.

NMED Response: The Department agrees with the requested addition. Therefore, the first sentence of Permit Attachment C, Section C.2.1 is revised to read: “Laboratory chemical waste includes unused and used commercial chemical products or manufacturing chemical intermediates (in solid, liquid, or contained gas forms) declared to be waste, such as reagents, metal powders, oxidizers, reactive metals, elemental mercury, elemental sodium, spent or discarded solvents and other materials.”

PERMIT ATTACHMENT D

111. **Comment:** The Permittees requested that the first row of Permit Attachment D, Table D-1 be revised to reflect the current designation of the responsible New Mexico state emergency response agency.

NMED Response: The Department agrees with the requested revision. Therefore, the first row of Permit Attachment D, Table D-1 is revised to read: “The New Mexico Department of Homeland Security and Emergency Management” and “Mutual aid involving an actual or potential emergency, assistance in training and emergency response”.

112. **Comment:** The Permittees requested that a footnote be added to Permit Attachment D, Table D-1 to clarify that the Permittees are not a direct party to the agreement between the USFS and KAFB.

NMED Response: The Department agrees with the requested revision. Therefore, the third row, first column of Permit Attachment D, Table D-1 is revised to read: “The U.S. Forest Service³”. Additionally, a footnote has been added at the end of Table D-1 that reads: “^a The Permittees are not a direct party to the agreement between the U.S. Forest Service and Kirtland Air Force Base”.

113. **Comment:** The Permittees requested that the contact information for the emergency coordinator listed in the first row of Permit Attachment D, Table D-5, be revised to reflect an updated home phone number.

NMED Response: The Department agrees with the requested revision. Therefore, the home phone number listed in the first row, fourth column of Permit Attachment D, Table D-5 is revised to read: “(505) 899-1956”.

114. **Comment:** The Permittees requested that the contact information for the emergency coordinators for the TTU listed in the second and third rows of Permit Attachment D, Table D-7, be revised to reflect a change in the first and second alternate emergency coordinators.

NMED Response: The Department agrees with the requested revision. Therefore, the second row of Permit Attachment D, Table D-7 designating the first alternate emergency coordinator is revised to read: “Daniel Dow, Sandia National Laboratories, P.O. Box 5800, Albuquerque, NM 87185, Office phone: (505) 284-1622, (505) 951-6781 (pager), Home phone: (505) 892-0497”. The third row of Permit Attachment D, Table D-7

designating the second alternate emergency coordinator is revised to read: “Marcus Chavez, Sandia National Laboratories, P.O. Box 5800, Albuquerque, New Mexico, (505) 284-1278 (office), (505) 283-1709 (pager), Home Phone, (505) 974-8918”.

115. **Comment:** The Permittees requested that Permit Attachment D, Table D-8, Building 6921, fourth section, *Fire Extinguishers*, be revised to change the location of one of the fire extinguishers in Building 6921 to improve access for use and inspections.

NMED Response: The Department agrees with the requested revision. Therefore, Table D-8 is revised to include the following under the entries for Building 6921, column 3, row 4: “By north personnel door in electrical/mechanical room; In hallway near restrooms; By northwest personnel door of assay area; By east personnel door in southeast counting room”.

116. **Comment:** The Permittees requested that Permit Attachment D, Table D-10, Building 6597, first section, *Spill Control and Decontamination Equipment*, be revised to change the storage locations of the absorbent material and the personal protective equipment to reflect current operations.

NMED Response: The Department agrees with the requested revision. Therefore, Table D-10, Building 6597, first section, *Spill Control and Decontamination Equipment*, is revised to include the following under the entries for absorbent and personal protective equipment in the third column: “In equipment storage in Building 6597”.

117. **Comment:** The Permittees requested that Permit Attachment D, Table D-10, Building 6597, fourth section, *Fire Extinguishers*, be revised to add an additional fire extinguisher on the north wall to reflect current operations.

NMED Response: The Department agrees with the requested revision. Therefore, Table D-10, Building 6597, fourth section, *Fire Extinguishers*, is revised to include the following in the third column: “By personnel doors on north, east, south, and west walls”.

118. **Comment:** The Permittees requested that Permit Attachment D, Table D-10, Building 6597, fifth section, *Fire Suppression, Branch line from the Building 6597 sprinkler system, Temporary Room*, be revised to remove this sprinkler as fire protection is provided by the additional extinguisher near the Temporary Room (see previous comment).

NMED Response: The Department agrees with the requested revision. Therefore, Table D-10, fifth row is revised by deleting the text “Branch line from the Building 6597 sprinkler system, Temporary Room” from the second and third columns.

119. **Comment:** The Permittees requested that the contact information for the emergency coordinator listed in the first row of Permit Attachment D, Table D-11, be revised to reflect an updated pager number.

NMED Response: The Department agrees with the requested revision. Therefore, the pager number listed in the first row, third column of Permit Attachment D, Table D-11 is revised to read: “(800) 341-1137”.

120. **Comment:** The Permittees requested that a second alternate be added to the list of emergency coordinators for the Auxiliary Hot Cell Unit.

NMED Response: The Department agrees with the requested revision. Therefore, Permit Attachment D, Table D-11 is revised to add the following information: “Second

Alternate, Bryan Green, Sandia National Laboratories, P.O. Box 5800, Albuquerque,
New Mexico, (505) 284-3161 (office), (505) 280-5118 (cell), (505) 897-6366”.

121. **Comment:** The Permittees requested that the contact information for the second alternate CAMU emergency coordinator listed in the third row, second column of Permit Attachment D, Table D-15, be revised to reflect the correct name spelling.

NMED Response: The Department agrees with the requested revision. Therefore, the name of the second alternate emergency coordinator is corrected to read: “Danielle Nieto”.

122. **Comment:** Citizen Action commented that no actual contingency plan was presented in the draft Permit, and that the public is entitled to review the terms of an emergency plan during consideration of the Permit.

Response: The Contingency Plan is contained in Attachment D of the draft and final Permits, and was subject to public comment along with the rest of the draft Permit. The Permit does not need to be modified based on this comment.

PERMIT ATTACHMENT E

123. **Comment:** The Permittees requested that Permit Attachment E, Section E.2 be revised to clarify that the Unit-specific inspection records need only be maintained for the active life of the Unit.

NMED Response: The text is revised for consistency with the contents of Permit Attachment E. The first sentence of paragraph 2, Permit Attachment E, Section E-2 is revised to read: “Inspection records for each Unit shall be maintained at the Facility for the active life of the Unit, except as provided by 20.4.1.501.A (5) NMAC, Permit Section

7.2.2 and Permit Attachment H (Post-Closure Care Plans for the Corrective Action Management Unit).”

124. **Comment:** The Permittees requested that Permit Attachment E, Section E.2 be revised by deleting monitoring equipment from the inspection requirements as it is not applicable to the batch treatment operations conducted at the Permitted Units.

NMED Response: NMED agrees to make the requested revision, since monitoring equipment is not used during the batch treatment operations conducted at the Permitted Units. The second item listed under Section E.4.1 is revised to read:

2. Treatment areas that were used, including treatment equipment.

125. **Comment:** The Permittees requested that NMED also delete monitoring equipment from the monthly inspection requirements in Section E.4.3(4) as it is not applicable to the batch treatment operations conducted at the Permitted Units.

NMED Response: NMED agrees to make the requested revision, since monitoring equipment is not used during the batch treatment operations conducted at the Permitted Units. Section E.4.1 (4) is revised to read: 4. Treatment areas, including general conditions (floors, walls), and treatment equipment and tools.

126. **Comment:** The Permittees requested that NMED delete the requirement to inspect monitoring equipment listed in the second section under Table E-1 of Permit Attachment E, as monitoring is not applicable to the waste management operations at the Hazardous Waste Handling Unit (HWHU).

NMED Response: NMED agrees to make the requested revision, since monitoring equipment is not used during the batch treatment operations conducted at the Permitted Units.

The requirement to inspect monitoring equipment at the HWHU is deleted from the second section of Table E-1. The text deleted was in the 9th row, columns 1-3, of the second section of the Table:

Monitoring equipment

Instruments in good condition, operational, calibrated

Daily, when, and where wastes are handled. Monthly otherwise.

127. **Comment:** The Permittees requested that NMED revise the second section of Table E-2 to be consistent with the pre-burn operation requirements in Permit Part 5, Section 5.5.1.

NMED Response: NMED agrees to make the requested revision in the frequency of inspection in order to maintain consistency with the pre-burn requirements in Permit Part 5.

The second section of Table E-2, 2nd section, 7th row, 3rd column, reads:

Prior to treatment. Monthly otherwise.

128. **Comment:** The Permittees requested that NMED delete the requirement to inspect monitoring equipment listed in the second section under Table E-3 of Permit Attachment E, as monitoring is not applicable to the waste management operations at the Radioactive and Mixed Waste Management Unit (RMWMU).

NMED Response: The next to last row in the second Section of Table E-3, Attachment E, which requires inspection of monitoring equipment, is deleted. Such a requirement is not applicable to the batch treatment operations to be performed at the RMWMU.

Specifically, the following language is deleted which was found in the next to last row in the second section of Table E-3, Attachment E:

Monitoring equipment

Instruments in good condition, operational, calibrated

Daily when and where wastes are handled. Monthly otherwise.

129. **Comment:** The Permittees requested that NMED delete the requirement for monthly inspection and activation of the pump in the fourth section of Table E-6 for consistency with Section E.10.4 which requires quarterly inspection and activation of the pump.

NMED Response: The requirement for monthly inspection and activation of the pump is deleted for consistency with Section E.10.4, which requires quarterly inspection and activation of the pump. Quarterly activation and inspection of the LCRS pump is adequate because little leachate is being generated at the CAMU.

Therefore, Permit Attachment E, Section Table E-6, second section is revised to read:

LCRS

Leachate in sump

Quarterly^c

Manually activate pump/inspect for leachate collection Quarterly.

130. **Comment:** The Permittees requested that NMED revise the last section of Table E-6 to require repair in accordance with the requirements in Section E.3, which are comprehensive and require timely corrective action to ensure the problem does not lead to an environmental or human health hazard. Requiring corrective action as discussed in Section E.3 is more comprehensive than the 10-day requirement, and it is also consistent with requirements for the other waste management units. Furthermore, Section 2.11.2 in

Part 2 requires that “Maintenance, repair, and replacement of emergency equipment shall be performed as needed to ensure proper function and in a timely manner.”

NMED Response: The revision is made to require repair in accordance with the requirements in Permit Attachment E, Section E.3, which require timely corrective action to ensure the problem does not lead to an environmental or human health hazard. The revision is consistent with requirements for the other hazardous waste management units. The last row, fifth column, in the last section of Table E-6, Attachment E, is revised to read:

As soon as possible, in accordance with Section E.3 of this Permit Attachment.

PERMIT ATTACHMENT F

No comments were received on Attachment F that are not addressed under NMED’s responses to comments under Permit Part 2.

PERMIT ATTACHMENT G

131. **Comment:** The Permittees request that Figure G.1-1 be revised to incorporate the current office trailers as shown in Figure 4 in Permit Attachment L.

NMED Response: Figure G.1-1 is revised so that it shows the most updated information for the office trailers as requested by the Permittees.

PERMIT ATTACHMENT H

132. **Comment:** The Permittees requested the insertion of a reference to the pertinent parts of Permit Attachment E into the second paragraph of Permit Attachment H, Section H.4.1.

NMED Response: The Department agrees with the requested revision. Therefore, the second paragraph of Permit Attachment H, Section H.4.1 is revised to read: “Cover damage that exceeds the limits described in Permit Attachment E, Section E.10.2 and Table E-6, shall be repaired within 60 days to a condition that meets or exceeds the original design”.

133. **Comment:** The Permittees requested the insertion of a reference to the pertinent parts of Permit Attachment E into the first sentence of Permit Attachment H, Section H.4.2.

NMED Response: The Department agrees with the requested revision. Therefore, the first sentence of Permit Attachment H, Section H.4.2 is revised to read: “Based upon the results of the storm-water diversion structure inspections, erosion or damage that exceeds the limits described in Permit Attachment E, Section E.10.3 and Table E-6 shall be repaired within 60 days to a condition that meets or exceeds the original design”.

134. **Comment:** The Permittees requested that the first sentence of Permit Attachment H, Section H.4.4 be revised to delete the dashes and clarify that the text is complete.

NMED Response: The Department agrees with the requested revision. Therefore, the first sentence of Permit Attachment H, Section H.4.4 is revised to read: “The VZMS components shall be maintained/repared within 60 days, as needed, to maintain them in good condition, based upon inspection results”.

135. **Comment:** The Permittees requested that the first sentence of Permit Attachment H, Section H.4.5 be revised to delete the dashes and clarify that the text is complete.

NMED Response: The Department agrees with the requested revision. Therefore, the first sentence of Permit Attachment H, Section H.4.5 is revised to read: “The fence,

gates, and warning signs shall be maintained/repared within 60 days, as needed, to maintain them in good condition, as indicated by quarterly inspections”.

136. **Comment:** The Permittees requested that the first sentence of Permit Attachment H, Section H.5.1 be revised to reflect the monitoring schedule that was followed during the first year following the closure of the containment cell.

NMED Response: The Department agrees with the requested revision. Therefore, the first sentence of Permit Attachment H, Section H.5.1 is revised to read: “During the initial stages of the post-closure care period, the primary subliner (PSL), vertical sensor array (VSA), and chemical waste landfill and sanitary sewer line monitoring subsystems (CSS) of the vadose zone monitoring system (VZMS) were monitored on a monthly and annual basis for one year”.

137. **Comment:** The Permittees requested that the first sentence of Permit Attachment H, Section H.5.2.1 be revised to reflect consistency with the time-domain reflectometry used in the VSA monitoring system, which reports volumetric soil moisture data.

NMED Response: The Department agrees with the requested revision. Therefore, the first sentence of Permit Attachment H, Section H.5.2.1 is revised to read: “In the case of a soil moisture increase greater than 4 percent above baseline (expressed as gravimetric percent moisture content at CSS and PSL locations or expressed as volumetric percent moisture content at VSA locations) at any monitoring location(s), the Permittees shall immediately confirm the result by collecting and analyzing additional samples”.

138. **Comment:** The Permittees requested that the fourth sentence of the third paragraph of Permit Attachment H, Section H.6.2 be clarified by substituting the word

"ensure" for the word "insure" so that it will be more consistent with the rest of the Permit Attachments.

NMED Response: The Department agrees with the requested revision. Therefore, the fourth sentence of the third paragraph of Permit Attachment H, Section H.6.2 is revised to read: "To ensure the accuracy of the moisture measurement using the correlation formula the neutron probe must be recalibrated to account for source decay and drift of the electronic counting system."

PERMIT ATTACHMENT I

Attachment I is reserved. No comments were received on Attachment I.

PERMIT ATTACHMENT J

139. **Comment:** The Permittees requested that NMED revise the third row of Table J-1.2, which shows the daily quantity of waste to be treated at the Auxiliary Hot Cell Unit (AHCU) to reflect the volume of larger containers that may be used for macroencapsulation at the AHCF.

NMED Response: The revision is made to the operating capacity for macroencapsulation. It was not the NMED's intent to limit the treatment capacity to only 55 gallons per day. The requested treatment capacity of 840 gal/day is not an unreasonable volume and can be safely managed at the Auxiliary Hot Cell Unit (AHCU). Permit Attachment J, Section Table J-1.2, last row, third column, the capacity data for macroencapsulation is revised to read:

840 gal/day, 6,000 gal/yr.

PERMIT ATTACHMENT K

140. **Comment:** The Permittees requested that NMED delete SWMU 96 from the group of SWMUs listed in OU 1309 in Table K-3. SWMU 96 is already listed with its correct name under OU 1302 in the same table.

NMED Response: SWMU 96 is deleted from the group of SWMUs listed under OU 1309 in Table K-3, Permit Attachment K, because the SWMU does not need to be listed twice and it properly belongs listed under the table heading for OU 1302. SWMU 96 is listed under OU 1302 in the same table.\

141. **Comment:** The Permittees request that in Table K-1, under Miscellaneous Sites, the names of the Areas of Concern listed as Tijeras Area Arroyo Ground-Water (TAG) Investigation, TA-V Area Ground-Water investigation, Burn Site Area Ground-Water investigation be revised for consistency with current names which are Tijeras Arroyo Ground-Water (TAG) Investigation, TA-V Ground-Water Investigation, and Burn Site Ground-Water Investigation.

NMED Response: The names of the Areas of Concern are now corrected. The names of the AOCs in Permit Attachment K, Section Table K-1, Miscellaneous Sites, are revised as requested by the Permittees to read: “Tijeras Arroyo Ground-Water (TAG) Investigation, TA-V Ground-Water Investigation, and Burn Site Ground-Water Investigation.”

PERMIT ATTACHMENT L

142. **Comment:** The Permittees request that the titles for the following figures be revised for clarity and consistency (underlined text is that to be inserted, strike-out text is that to be deleted).

Figure 4: Hazardous Waste Handling Unit, Hazardous and Mixed Waste Management Areas

Figure 27: Views, Manzano Storage Bunker, Type B, Floor Plan, Bunker 37034

Figure 28: Views, Manzano Storage Bunker, Type C, Floor Plan, Bunker 37118

Figure 29: Views, Manzano Storage Bunker, Type D, Floor Plan, Bunkers 37045, 37055, and 37057

Figure 32: Post-Closure Perimeter Boundary – Corrective Action Management Unit

Figure 34: Corrective Action Management Unit North-South Cross-Section of Leachate Collection and Removal System Sump Containment Cell Liner Details 2

Figure 35: Corrective Action Management Unit East-West Cross-Section of Containment Cell Liner Details 1

Figure 40: Cross-Section View of Corrective Action Management Unit Containment Cell and Primary Subliner Monitoring System

Figure 51: Local Area Map of Corrective Action Management Unit Containment Cell Evacuation Routes

NMED Response: The titles in the List of Figures for Figures 4, 27, 28, 29, 32, 34, 40 and 51 are revised to improve clarity and consistency. The List of Figures is also revised so that the title of Figure 35 is correct. However, the proposed change noted in the comment is slightly incorrect. In order to correspond with the correct titles as shown on the figures, the following titles in the List of Figures read:

“Figure 4: Hazardous Waste Handling Unit, Hazardous and Mixed Waste Management Areas”

“Figure 27: Views, Manzano Storage Bunker, Type B, Bunker 37034”

“Figure 28: Views, Manzano Storage Bunker, Type C, Bunker 37118”

“Figure 29: Views, Manzano Storage Bunker, Type D, Bunkers 37045, 37055, and 37057”

“Figure 32: Post-Closure Perimeter, Corrective Action Management Unit”

“Figure 34: Corrective Action Management Unit North-South Cross- Section of Leachate Collection and Removal System Sump”

“Figure 35: Corrective Action Management Unit West-East Cross-Section of Containment Cell”

“Figure 40: Cross-Section View of Corrective Action Management Unit Containment Cell and Primary Subliner Monitoring Subsystem”

“Figure 51: Local Area Map of Corrective Action Management Unit Containment Cell Evacuation Routes”

143. **Comment:** The Permittees request that a revised Figure 4 be substituted into the Permit for the original Figure 4.

NMED Response: Figure 4 is replaced with the new figure included with the comment. The title of the new figure more accurately reflects the waste types that may be stored and managed at the Hazardous Waste Handling Unit.

144. **Comment:** The Permittees request that revised Figures 10, 17, 18, 19, and 22 be substituted into the Permit for the original corresponding Figures so that the titles are consistent with the titles listed on the List of Figures in Permit Attachment L.

NMED Response: Figures 10, 17, 18, 19, and 22 are replaced with the corresponding new figures included with the comment so that the titles of the figures will be consistent with those in the List of Figures.

145. **Comment:** The Permittees request that revised Figures 7, 8, 43, and 44 be substituted into the Permit for the original corresponding Figures. The figures need to be revised to reflect changes to the HWHU access road.

NMED Response: Figures 7, 8, 43, and 44 are replaced with the figures included with the comment to account for changes to the HWHU access road. The access road to the Unit needs to be accurately shown in the figures.

146. **Comment:** The Permittees request that revised Figure 43 be substituted into the Permit for the original corresponding Figure 43. The original figure does not indicate the future evacuation assembly point for the HWHU.

NMED Response: Figure 43 is replaced with the figure included with the comment to indicate the future evacuation assembly point for the HWHU. The assembly point should be accurately depicted on the figure because such areas are places where personnel are to muster to ensure that all personnel are accounted for in the event of an emergency.

147. **Comment:** The Permittees request that revised Figure 45 be substituted into the Permit for the original corresponding Figure 45. The original figure does not indicate the future evacuation assembly point for the TTU.

NMED Response: Figure 45 is replaced with the figure included with the comment to indicate the future evacuation assembly point for the TTU. The assembly point should be accurately depicted on the figure because such areas are places where personnel are to muster to ensure that all personnel are accounted for in the event of an emergency.

PERMIT ATTACHMENT M

148. **Comment:** The Permittees request that in the last paragraph of Permit Attachment M, Section M.1, the figure numbers be revised, from 1-7 to 1-6, for consistency with the SWMUs and AOCs listed in Table M-1.

NMED Response: The cited figure numbers are corrected to be consistent with the SWMUs and AOCs listed in Table M-1 as requested. The text, in the last paragraph of Permit Attachment M, Section M.1, is revised to read: “Except for SWMUs 96 and 187, the SWMU/AOC locations are shown in Figures 1 through 6 of this Permit Attachment. The locations of SWMUs 96 and 187 could not be shown on Figures 1-6 due to their large spatial distribution.”

149. **Comment:** The Permittees request that in the first sentence of Permit Attachment M, Section M.2.2, the reference to Table 1 be corrected to Table M-1.

NMED Response: The reference to Table 1 in the first sentence of Permit Section M.2.2 of Attachment M is corrected to read: “Table M-1”.

150. **Comment:** The Permittees request that Figures 2, 4, and 5 of Permit Attachment M be replaced with new figures provided with the comment.

NMED Response: Figures 2, 4, and 5 are replaced with the figures included with the Applicant’s comment to be consistent with Table M-1 and Table K-3. The new figures have removed the depiction of SWMUs that are not listed on the tables and that are not relevant in this situation.

151. **Comment:** The Permittees request that Figure 7 of Permit Attachment M be deleted and the page marked as reserved. Figure 7 is not consistent with Table M-1 or Table K-3.

NMED Response: Figure 7 of Permit Attachment M is deleted, as SWMUs 94-B, 94-F and 94-H, the only SWMUs depicted on Figure 7, are not listed on Table K-3 or Table M-1. It is not necessary to mark the page as “reserved”, as there are no following pages.

OTHER PUBLIC COMMENTS RECEIVED AT THE HEARING

152. **Comment:** A citizen commented that NMED should require community air monitors throughout Albuquerque due to emissions of tritium, a dangerous radionuclide that causes cancer and other adverse health effects.

NMED Response: NMED is not aware of any specific sources of tritium emissions to the atmosphere from SNL, aside from low levels of tritium emitted from the Mixed Waste Landfill. Based on risk assessment, the low levels of tritium released from the Mixed Waste Landfill do not pose unacceptable risk to human health or the environment. In any case NMED does not have jurisdiction over radioactive wastes under RCRA. The City of Albuquerque and Bernalillo County have jurisdiction over air quality issues within the city and county limits. The Department does not believe that any modification of the Permit was necessary based on this comment.

153. **Comment:** A citizen commented that the permit would give legal permission to contaminate and pollute Albuquerque’s precious water, soil, and air. She stated that the permit would allow up to 10,000 pounds per year of hazardous waste to contaminate the air from open burning. The permit should also include the Mixed Waste Landfill.

NMED should not grant permits without considering the region in its totality including cumulative effects on water, soil, and air. The total watershed should be addressed as one corrective action unit. The groundwater at Tijeras Arroyo, Technical Area 5, the Mixed Waste Landfill, and the “burn site” cannot be contained. The permit should focus on

clean-up jobs rather than limiting the amount of contamination and pollution. Clean-up means removal, not covering or dilution of contaminants. The commenter cited several environmental issues around the state, including the Kirtland fuel spill, the pit rule for the oil and gas industry, contamination at WIPP, and the uranium legacy in Western New Mexico, and asserted that the permit hearing is another pollution challenge where New Mexico is a sacrificial zone.

NMED Response: NMED agrees that clean water, air, and soil are precious resources that NMED is charged with protecting, in compliance with applicable laws. NMED disagrees that issuance of the Permit will allow contamination of these resources at levels posing unacceptable risk to human health or the environment. NMED believes that no additional clean-up actions are needed at the 24 SWMUs/AOCs that were subject to corrective action complete determinations, based on the analyses documented in the Administrative Record and explained in NMED's technical testimony. The Mixed Waste Landfill and the Kirtland fuel spill are being addressed in separate processes, which are also subject to opportunities for public participation. The issuance of a permit to SNL to govern the storage and treatment of hazardous waste and conduct post-closure care of the Corrective Action Management Unit does not eliminate or affect those processes. Additionally, the Permit sets forth clean-up requirements for situations where contamination has occurred but is not subject to the Consent Order. The MWL is tracked under the Permit as all other SWMUs/AOCs. The Kirtland fuel spill is not the responsibility of the Permittees, but instead, is being cleaned up by the Air Force as their responsibility. The risk-based analysis to determine whether corrective action is complete at a given solid waste management unit or area of concern evaluates risk for all

contaminants of concern at the site and follows the guidance issued by EPA. NMED believes that groundwater monitoring at SNL, where needed at SWMUs and AOCs, is conducted in an appropriate manner based on geology, hydrology, and other factors. With respect to open burning, the statement that 10,000 pounds per year of hazardous waste will be emitted is not accurate. The allowable mass of 9500 pounds per year represents the gross amount of waste to be combusted, which includes the weight of water, liquid wastes, and solid materials (e.g., paper, cardboard, plastic, and other debris) which contain the hazardous waste to be treated. The hazardous waste component is typically only a small proportion of this total mass. In addition, some of the hazardous constituents in the hazardous waste will not be emitted to the air, but will remain in the ash and will be further treated and disposed of as hazardous waste. The Department does not believe that any modification of the Permit was necessary based on this comment.

154. **Comment:** A citizen questioned why NMED would even consider issuing a permit that will be dangerous to the community and the state as a whole.

NMED Response: NMED does not believe that actions taken in compliance with the Permit will be dangerous to the community or the state. NMED's basis for adopting each section and subsection of the Permit was explained in detail in NMED's written and oral testimony. The Department does not believe that any modification of the Permit was necessary based on this comment.

155. **Comment:** A citizen commented that the government wants to make New Mexico a sacrifice area, that the Air Force has polluted the water, the air is totally polluted, uranium mining at Mt. Taylor causes cancer in Albuquerque; Cochiti Lake

contains radionuclides that pollute Albuquerque drinking water, that NMED, SNL, and Air Force employees do not care about the public.

NMED Response: NMED disagrees with the conclusions asserted, and further notes that issues regarding the Air Force, Mt. Taylor and Cochiti Lake are not relevant to the Permit. NMED employees are conscientious and professional and have expended enormous efforts to ensure that the Permit is protective of human health and the environment. See also Response to Comment 153. The Department does not believe that any modification of the Permit was necessary based on this comment.

156. **Comment:** A citizen offered comments on the development of a permanent war economy and asserted that what is practiced at SNL is not science but pseudo-science because it involves the destruction of life rather than the enhancement of life.

NMED Response: NMED has no authority to determine the mission or scope of work of SNL, which is determined by Congress and the DOE. As an administrative agency, NMED is limited to the authority delegated to it by the legislature, which in this case involves the implementation and enforcement of hazardous waste laws and regulation. The Department does not believe that any modification of the Permit was necessary based on this comment.

157. **Comment:** A citizen commented that there are a lot people with respiratory problems in the state and questioned why above-ground burning of hazardous wastes from old weapons is allowed when there are precautions and safety measures and others measures that could be taken.

NMED Response: For the reasons explained in NMED and SNL testimony, NMED believes that treatment by open burning at the Thermal Treatment Unit is the only

currently practical method and is a safe method of treating the explosive waste created during experiments conducted by SNL at Building 6715. (It is not used to treat waste from old weapons). The Permit imposes numerous conditions on open burning at the TTU to minimize the risk to the public and SNL workers. Conservative modeling of air emissions from the TTU and soil sampling done to date indicates that the risk to public health posed by air emissions should be negligible. In addition, NMED has required that SNL conduct air sampling to confirm the absence of unacceptable risk to the public. The Department does not believe that any modification of the Permit was necessary based on this comment.

158. **Comment:** A citizen commented that he is afraid to drink tap water and questioned what Sandia is doing to stop the infiltration of radionuclides in the drinking water.

NMED Response: NMED generally does not have jurisdiction over radionuclides under RCRA. However, NMED has no information indicating radionuclide contamination at SNL threatens the drinking water aquifer. Additionally, Albuquerque's drinking water supply is safe and is being monitored by the Albuquerque/Bernalillo County Water Utility Authority under the Safe Drinking Water Act and is under the oversight of the NMED's Drinking Water Bureau. The Department does not believe that any modification of the Permit was necessary based on this comment.

159. **Comment:** A citizen commented that: 1) that the permit should be one that emphasizes and allows dialogue with the community about clean air and clean water; 2) that air monitors should be installed throughout Albuquerque and Bernalillo County with readings that are available to the public; 3) that open burning of hazardous waste should

be stopped or controlled with covers and filtration systems; and 4) that the public should be notified about offsite releases, and about decisions that have to do with public safety.

NMED Response: With respect to point (1), dialogue with the community about clean air and clean water is covered in the Community Relations Plan at Permit Part 1, Section 1.18. That Plan is to describe how the Permittees will establish an open working relationship with communities, the Isleta Pueblo, and interested members of the public. The Plan also requires that the Permittees provide a mechanism for the timely dissemination of information in response to individual requests. Regarding points (2) and (4) about air monitoring throughout Albuquerque and notification of the public on releases and matters of public safety, NMED has no jurisdiction over air quality in Bernalillo County. Air quality in Bernalillo County is regulated by the City of Albuquerque Environmental Health Division. NMED can only regulate air quality at the TTU to the extent authorized under the Resource Conservation and Recovery Act, which for a hazardous waste management unit like the TTU basically contains only generalized requirements that prohibit adverse air impacts at levels posing an unacceptable threat to air quality. Although air modeling, based on conservative data inputs, indicates that air quality should not pose unacceptable risk to the human health or the environment, the Permit requires that air monitoring be conducted at the TTU to prove definitively this point with hard data. Should the modeling results or inputs be proven wrong, NMED can modify or revoke the Permit as appropriate to address the problem. Furthermore, the Permit's Contingency Plan (in Attachment D, Section D.8) contains provisions that require the Permittees to notify various government entities, including the City of Albuquerque and the Isleta Pueblo, should there be an emergency incident and the public

could be affected by the emergency. With respect to point (3), see Response to Comments 157 and 162. The Department does not believe that any modification of the Permit was necessary based on this comment.

160. **Comment:** A citizen commented that, with respect to open burning of hazardous waste at the TTU, it should not cost “much to go ahead and investigate a better way to dispose of the hazardous waste rather than belching it out at the unknowing population.” The commenter asserted that “cancer rates are rampant everywhere” and there are no filters or ways of disposing of waste. She urged NMED to “do something about the belching of all these radionuclides into the ocean.”

NMED Response: Permit Part 5, Section 5.5.5 requires the Permittees to submit an open burn alternative treatment assessment report to the NMED no later than the eighth anniversary of the effective date of the Permit. The report is to include an analysis of risk to human health and the environment for each alternative discussed. Permit Part 5 Section 5.2 also limits the Permittees to treating only the waste types set forth in Permit Attachment B, and Table 5-1 of Permit Part 5. The Permittees are also prohibited from treating radioactive wastes and any waste outside those listed in Table 5-1 of Permit Part 5, and Permit Attachment B. The Permittees’ testimony addressed in detail a current assessment of viable treatment options for the TTU. For now, open burning of the explosives wastes treated at the TTU is the only practical and is a safe method for treatment of these wastes, which are immediate hazard to life and safety due to their explosive components. Modeling and sampling indicate that the contaminants released by the TTU should not pose unacceptable risk to human health or the environment,

including the ocean. The Department does not believe that any modification of the Permit was necessary based on this comment.

161. **Comment:** A citizen raised concerns with the State's combined approach of Kirtland Air Force Base and Sandia National Laboratories (SNL) on KAFB's Bulk Fuels Facility Spill and SNL's MWL and TTU. He expressed frustration with the State's lack of commitment in making cleanups happen and the lack of openness regarding environmental issues at SNL.

NMED Response: The State has followed all laws and regulations in permitting and corrective actions for SNL, even in some cases exceeding public participation and comment period requirements. Although the comment on the Bulk Fuel Facility Spill is not relevant to the Hearing for SNL Permit, NMED is working with KAFB to cleanup the Bulk Fuel Facility Spill. The Department does not believe that any modification of the Permit was necessary based on this comment.

162. **Comment:** A citizen asserted that "Sandia pulled a fast one, along with collusion of NMED" by suppressing the results of the TechLaw Report that revealed the "...faultiness [and] danger of the MWL to the public." The commenter further asserted that:

- 1) Paul Hommert, SNL President, must meet with public,
- 2) The public must have more input into SNL's biannual meeting agendas,
- 3) All TTU pollutants must be identified, soil samples must be collected and burning must be conducted within a closed container with treatment of the emitted gases,

- 4) Independent toxicologist assessment of TTU impact on human health must be done, including claimed increases in still births and cancer in the South valley and NMED assurance as to toxicologist's impartiality,
- 5) No more extensions to the MWL's 5-year feasibility study for excavation of the landfill, and
- 6) Lockheed must commit to fully funding SNL's environmental cleanups.

NMED Response: With reference to point (1), the NMED has no authority to require a meeting between the President of SNL and the public; the Permittees are free to choose their representatives for the meetings required under the Permit. With respect to point (2), it is the NMED's understanding that, in biannual meetings, the Permittees typically requests agenda items for the next public meeting. Regarding point (3), gaseous emissions are identified for the TTU and have been evaluated in detail for their impact on human health and the environment. Soil samples have been collected in the past and will be collected again under Permit Part 5, Section 5.9 (Soil Monitoring Requirements). The capture of emissions has been considered in light of the modeled releases and the explosive and other characteristics of the waste as explained in detail in SNL's testimony. Regarding point (4) the NMED has no information that incidences of still births or cancer have increased in the South Valley, or information that would causally connect such incidences with operations at the TTU. The information that is available indicates that the TTU should not pose unacceptable risk to human health. Regarding point (5), although the requirement for 5-year reevaluations of the MWL is not relevant in this matter, an extension to this requirement has not been sought by the Permittees or authorized by the NMED. Finally, with respect to point (6), the NMED has no control on

the level of funding provided to the Facility by Congress. However, the Permittees have been meeting their obligations to complete corrective action under the Consent Order, including cleanup of contaminated sites that require remediation. The Department does not believe that any modification of the Permit was necessary based on this comment.

163. **Comment:** A citizen commented that SNL should follow United Nations (UN) Resolution 64292 in providing citizens with clean drinking water and to monitor the TTU and dig up the MWL. Not doing so, she claims, is about control and power.

NMED Response: NMED has no authority to require SNL to obey UN Resolutions. However, groundwater contamination at SNL sites has not impacted any drinking-water supply wells. Permit Sections 5.1 and 5.9 require sampling at the TTU to ensure protection of human health, the environment, and to definitively demonstrate that there is no potential for contaminants to migrate to groundwater. The remedy for the MWL, which includes the installation of an engineered cover (design completed and installed) and monitoring, was set forth in accordance with the Secretary's Order of May 26, 2005, in consideration of public input and public participation (including a hearing), as well as voluminous amounts of technical information submitted by the Permittees to the NMED. NMED is not aware of any credible information indicating that the remedy has failed to be protective of human health and the environment, and that excavation of the MWL is the only remedial option that remains to ensure such protection. The Department does not believe that any modification of the Permit was necessary based on this comment.

Other Comments Submitted in Post-Hearing Filings

164. **Comments:** Both the Permittees and NMED submitted minor substantive corrections to the Hearing Officer's Report, some of which applied to draft Permit

language. See U.S. Dept. of Energy and Sandia Corporations' Comments and Objections on the Hearing Officer's Report at p. 30; NMED's Comments on the Hearing Officers Report at pp. 1-6.

NMED Response: In accordance with the Secretary's Final Order at paragraph 4, the Permittees' minor corrections are accepted and have been incorporated into the Permit, and those corrections offered by NMED, which affect permit language have also been incorporated into the Permit. Specifically, the latter changes are at Permit Sections 1.20.1.(4) and 1.20.2.4, where the word "or" was inserted between "hazardous waste" and "hazardous constituents" in the following clause "The notice shall include the following . . . a description of any known or suspected presence of hazardous waste or hazardous constituents in environmental media."

165. **Comment:** Citizen Action commented that SNL's emergency response procedure involving a fire, explosion, or release of hazardous material is addressed through the contingency plan. In the event of an emergency, SNL would notify the City of Albuquerque which has the responsibility and authority to issue protection action recommendations and orders to the public including evacuation or protective sheltering. As SNL is a source of risk to the public for accidental exposure to hazardous waste, the permit should impose upon SNL greater responsibility than to only notify the City of Albuquerque Emergency Operations Center (EOC) in the event of an emergency.

NMED Response: Contrary to the comment, the Permit does require other entities to be notified if an emergency threatens human health or the environment outside of the Facility's boundary. Pursuant to Section D.6 of Permit Attachment D, the Permittees' Emergency Coordinator must notify its internal Emergency Operations Center in the

event of an emergency. Furthermore, in accordance with Permit Section 2.13.5.1, and as detailed in Section D.8 of Permit Attachment D, the Permittees must immediately inform the City of Albuquerque (not necessarily the EOC as indicated in the comment), KAFB command, and Isleta Pueblo in the event that residents of Albuquerque or Isleta Pueblo, or workers at KAFB could be affected by an emergency. The Permittees must also notify the New Mexico Department of Public Safety, the National Response Center, and the NMED if human health or the environment outside the SNL Facility is threatened. The above Permit conditions meet the notification requirements found at 40 CFR § 264.56.

Moreover, the nature of the Permittees operations does not warrant additional notification requirements. There are businesses within the Albuquerque metropolitan area where greater volumes of hazardous waste or hazardous materials are stored than are typically stored at any given time at the hazardous waste management units at SNL. In most cases, businesses are not required to have a permit to store hazardous waste (but are still subject to certain hazardous waste management regulations at 20.4.1 NMAC where hazardous wastes are generated but not stored in a manner requiring a permit). If properly managed in accordance with Permit requirements, the storage of hazardous waste at SNL should not pose any greater risk than that of other businesses with similar volumes and types of hazardous waste or hazardous materials.

No modification to the Permit was made based on this comment.

166. **Comment:** Citizen Action commented that it is the responsibility of the City of Albuquerque's Emergency Operations Center (EOC) to augment any emergency procedures for the public. SNL provides no signage itself to indicate public evacuation

routes in the event of an emergency because such signage is dictated by and within the authority of the City of Albuquerque rather than SNL or DOE. SNL is not aware of any signage of evacuation routes posted by the City of Albuquerque nor of any emergency-warning sirens or either radio or TV alternatives to alert the public in the event of any sudden emergency. Any directions for a planned and appropriate public response to an emergency would come through the City of Albuquerque's EOC. Any emergency/contingency plan of the City of Albuquerque EOC should have been included as an appendix to the draft Permit for public review.

NMED Response: The Permit sets forth requirements that the **Permittees** must meet to ensure protection of human health and the environment. The Permittees and the NMED have no control of the content of City of Albuquerque EOC emergency plans and how they may be maintained or updated. For this reason, inclusion of a City of Albuquerque EOC emergency response plan, which is likely to be highly generalized and not tailored towards hazardous waste management at SNL, would not add appreciably towards public safety.

No modification to the Permit was made based on this comment.

167. **Comment:** Citizen Action commented that SNL did not provide a telephone number or contact information for the Albuquerque Emergency Operations Center (EOC). As discovered by a phone call to the City, there is no public listing of a telephone number for the EOC. No steps that may be taken by EOC or the adequacy of any emergency response provided by the EOC could be reviewed. The Hearing Officer should impose a condition in the permit for SNL to provide such information.

NMED Response: The Permittees are required to contact the City of Albuquerque if human health or the environment outside the SNL Facility is threatened by an emergency. Presumably department heads within city government would engage the Albuquerque Emergency Operations Center if this was necessary as a response to an emergency. Additionally, the Permittees have no control on the content of emergency response plans that are adopted by the Albuquerque Emergency Operations Center, and may not even have access to such plans, or updates to such plans. As the Albuquerque Emergency Operations Center is a separate entity from the Permittees, it would be unreasonable to include in the Permit conditions that the Permittees would have to meet but would not be able to control. Additionally, as mentioned above, inclusion of a City of Albuquerque EOC emergency response plan, which is likely to be highly generalized and not tailored towards hazardous waste management at SNL, would not add appreciably towards public safety.

No modification to the Permit was made based on this comment.

168. **Comment:** Citizen Action commented that regarding emergency procedures, the Community Relations Plan (CRP) needs to require SNL's much more direct involvement regarding warning and assisting the community in the event of an emergency. Sprinklers, fire extinguishers, and phone calls do not begin to meet SNL's responsibility to the public and place the public at serious risk through negligible emergency preparedness and procedures. Under the current CRP, no provision exists for any direct notification to the public in the event of an emergency event. Provisions for direct notification of the public should be set forward as a part of the contingency plan. Citizen Action also commented that in the 2007 draft Permit, members on an e-mail stakeholder list were to be notified in

the event of an off-site release; but in the 2012 draft Permit, stakeholders would not be notified. Furthermore, documents to be included in the information repository are specified in Section 1.17 of the 2012 draft Permit. These are permit-related documents, and e-mail notification is required when new documents are added. These documents include notification of off-site releases and corrective action beyond the facility boundaries under Part 8 of the draft permit. The Hearing Officer should impose a condition in the SNL Permit to include a section for public participation in emergency planning as a part of the CRP.

NMED Response: Emergency planning is covered extensively in the Contingency Plan in Permit Attachment D. Thus, the public was already given the opportunity to participate in emergency planning to the extent it involves a hazardous waste management unit, when the draft Permit was released for public comment. Emergency preparedness for the SNL Facility is addressed extensively and adequately in Permit Section 2.13 and in the Contingency Plan in Permit Attachment D, and covers much more than just sprinklers, fire extinguishers, and phone calls.

The Permit requires local and other government entities to be notified of emergencies that threaten human health or the environment outside the Facility's boundary. Direct notification from the Permittees to citizens was judged by the Department to be infeasible. Notification and instructions to citizens during an emergency is a government function that should not be delegated to permittees.

Although the public was already given opportunity to weigh in on emergency procedures contained in the Permit, Permit Section 1.18 indicates that the CRP must describe how the Permittees will keep the public informed of permit actions of interest,

and specifically identifies implementation of the Contingency Plan, if any should occur, as being of interest to the public. Additionally, the Secretary's order of December 19, 2014, requires that the NMED Hazardous Waste Bureau provide notice and opportunity for public comment on the CRP and to consider all comments in finalizing the CRP. Nothing prevents the public from providing comment on the CRP that expresses interest in being informed of emergency procedures and providing input to the Permittees (and the Department) concerning potential improvements or additions to emergency procedures.

No modification to the Permit was made based on this comment.

169. **Comment:** Citizen Action commented that no person is currently designated as an emergency coordinator. No written contingency plan is present in the permit.

NMED Response: The Permit contains a contingency plan in Permit Attachment D. The lists of emergency coordinators for the various hazardous waste management units are found in Tables D-5, D-7, D-9, D-11, D-13, and D-15 of Permit Attachment D. No modification to the Permit was made based on this comment.

170. **Comment:** Citizen Action commented that SNL's on-site emergency preparedness for fire protection at each of the hazardous and mixed waste management units takes the form of either automatic sprinklers or fire extinguishers or both. SNL has emergency response resources and DOE agreements with KAFB Fire Department and Albuquerque hospitals to provide emergency support. No agreements were provided as evidence of such emergency preparedness.

NMED Response: Preparedness for fire protection includes either automatic sprinklers or fire extinguishers or both as indicated in the comment. However, additional fire protection resources are available: alarm systems, water hydrants at hazardous waste management units in developed areas of the Facility, engineered fire suppression systems (e.g. sprinkler systems) at some hazardous waste management units, and the ability to summon emergency assistance from the KAFB Fire Department, which is co-located with SNL.

Furthermore, the comment correctly indicates that the Permittees have emergency response resources and that the Permittees have agreements with KAFB to provide additional emergency resources should they be needed. Permit Section 2.12.6 and Section D.3.4 of Permit Attachment D require that the Permittees attempt to secure such agreements or provide written documentation that such agreements were sought but could not be obtained due to no fault of their own. Coordination agreements include the entities listed in Table D-1 of Permit Attachment D. While the Permittees are required to maintain such agreements for emergency assistance, there is no need for the agreements to be included in the Permit. Instead, they are to be maintained in the Operating Record and are subject to inspection by the Department as proof of compliance with the aforementioned Permit conditions.

No modification to the Permit was made based on this comment.

171. **Comment:** Citizen Action commented that storage facility personnel have access to communication to contact and warn other SNL personnel or to summon additional assistance; in other words, they have a phone and can make a call. Such minimal

preparedness remains wholly inadequate in relation to the serious risk posed by SNL's stored waste contents.

NMED Response: Facility personnel are to have access to communication devices as required under Permit Section 2.11.3. However, communication devices are not the full extent of emergency preparedness. In addition to the many requirements under Permit Sections 2.11 and 2.12 that are designed to prevent undue hazards and emergencies from arising, Permit Section 2.13 and the Contingency Plan in Permit Attachment D set forth many additional requirements to ensure adequate emergency preparedness, for example, general emergency procedures and special procedures for fires, explosions, and uncontrolled releases, chain of command, emergency equipment, personnel evacuation, and post emergency response procedures. Additionally, initial and repeated training of personnel concerning emergency response is provided for in Section F.6 of Permit Attachment F.

No modification to the Permit was made based on this comment.

172. **Comment:** Citizen Action commented that the scope of public participation remains limited to information sharing by SNL to public stakeholders through the Community Relations Plan, sharing that has significantly decreased. The provisions of the 2007 permit should be contained in the 2012 proposed permit. These included: The 2007 draft permit establishes that the Community Relations Plan (CRP) has to address five elements: (1) establish an open working relationship [between SNL and the stakeholder public]; (2) keep the public informed about permit actions; (3) attempt to resolve differences with communities and the interested public; (4) provide a mechanism

for a timely response to individual requests; and (5) provide a mechanism for semi-annual feedback.

NMED Response: The Permittees have provided information at regularly scheduled public meetings regarding corrective action activities for many years. NMED expects this to continue. In addition to information about corrective action, the newly issued Permit (in Section 1.18) now provides that the Permittees establish and implement a Community Relations Plan (CRP) to describe how they will keep the public informed of other Permit-related activities, including waste management, closure, and post-closure care activities.

Furthermore, the five cited elements of the CRP mentioned in the comment as being present in the 2007 draft permit are part of the final Permit and are found in the second paragraph of Permit Section 1.18.

No modification to the Permit was made based on this comment.

173. **Comment:** Citizen Action commented that semi-annual feedback for members of the public -- through workshops and briefings for corrective action -- are not in the 2012 draft permit. The 2007 draft permit specified that tours of SNL are to be offered; in the 2014 draft permit, no tours are to be offered. The 2007 community relations plan requirements in the 2007 draft permit were limited to investigation and remediation activities and results; thus, the proposed tours were limited to corrective action only. Tours of Sandia operations should be provided for the public to understand the full operations that impact public health and the environment at Sandia Labs.

NMED Response: The Permit contains a provision that the Permittees seek at least semi-annual feedback from the public (see Permit Section 1.18(5)). Whether this is conducted in the form of meetings or workshops or both will be provided for in the CRP.

The proposed requirement in the 2007 draft permit to conduct tours for the public was not acceptable to the Permittees, and NMED does not have authority to impose such requirements as they are not necessary for the protection of human health and the environment. Additionally, the regulations do not require a Permittee to conduct tours for the public. However, based on comments received from the public, NMED met with the Permittees to discuss this topic. The Permittees indicated that public tours are difficult for them to host (even if limited to just tours of hazardous waste management units and corrective action sites) due to national security concerns and limits on resources and interference with business operations. Tours must be conducted in a manner that meets DOE rules intended to ensure national security and the safety of visitors.

Although tours are clearly difficult for the Permittees to conduct for the reasons specified above, the Permittees did not rule out the possibility of conducting tours outside of a permit requirement for special circumstances and provided the resources were available to conduct the tours within the bounds of DOE rules and safety requirements.

No modification to the Permit was made based on this comment.

174. **Comment:** Citizen Action commented that an important part of the community relations planning would be the identification of the environmental justice community. Nothing in the permit identifies the concerns of the environmental justice community. At

the hearing, an NMED witness could not answer whether the NMED had identified the environmental justice community relevant to the SNL permit.

NMED Response: The Permit contains requirements that the Permittee must meet to protect the environment and human health of all citizens, regardless of their social or financial situation. Because a list of community concerns does not constitute requirements for management of hazardous waste, such a listing would not add appreciably to the content or enforceability of a hazardous waste permit. Although the NMED witness mentioned in the comment that he was not personally aware of whether the Department has identified environmental justice concerns specific to the SNL Facility, the Department does work with communities regarding environmental justice issues to ensure that all New Mexico community concerns are considered and addressed as necessary to protect human health and the environment.

The NMED witness also stated at the hearing that the CRP should contain provisions that the Permittees attempt to locate and engage communities with environmental justice concerns.

No modification to the Permit was made based on this comment.

175. **Comment:** Citizen Action commented that with regard to community relations, documents submitted to the NMED regarding off-site releases and corrective action beyond the facility boundary under the Compliance Order on Consent (concerning corrective action) are outside the scope of the permit.

NMED Response: The comment is incorrect. Community relations are covered under Permit Section 1.18. Furthermore, Permit Section 1.18(2) states that the Community

Relations Plan must describe how the Permittees will keep the public informed of permit actions of interest, which by specific example in the requirement, includes clean-up activities (corrective action). Permit Section 1.18(2) does not limit the requirement to inform the public of corrective action activities to those that take place only within the Facility boundary.

No modification to the Permit was made based on this comment.

176. **Comment:** Citizen Action commented that according to Ms. Janet Greenwald (a party to the hearing), in the 2007 draft Permit an e-mail list of stakeholders was augmented by a “snail” (written) mail list; however, in the draft 2012 Permit, no snail mail list exists. Both the 2007 and 2012 draft Permits include notification of the location for the information repository by snail mail to all persons on the facility mailing list, a list maintained by NMED. Notifications to the persons on that list are always sent by snail mail. Notices of permit modification activities would be sent only to that snail mail list. Also, according to Janet Greenwald concerning the draft 2007 Permit, permit-related activities such as waste management milestones, e.g., closure and post-closure, were conveyed to a stakeholder e-mail list. However, in the draft 2012 Permit, permit-related activities are not conveyed to a stakeholder e-mail list.

NMED Response: Permit modification requests are to be maintained in the Information Repository (see Permit Section 1.17(2)). It is correct that such requests are required to be mailed in written form to interested citizens and other entities on the mailing list.

However, in addition to mailing of a written notification, in accordance with Permit Section 1.17.2.1 the Permittees must send an email notification to everyone on the email

list maintained under the provisions of Permit Section 1.17.2.1 within 30 days of submission to the Department of any document required to be included in the IR.

No modification to the Permit was made based on this comment.

177. **Comment:** Citizen Action commented that SNL notes that permit-related activities will be conveyed to interested persons who sign up for an e-mail list as part of the information repository requirements in Section 1.17 of the draft Permit, a requirement, in fact, included in the Permit. Persons lacking email should be provided for notice of activities.

NMED Response: Regulations do not require email notifications. Certain permit actions, such as permit modification requests (including such requests concerning corrective action) will be noticed to the public via written mailings as required under the regulations at 20.4.1.500 NMAC incorporating 40 CFR 270.42.

No modification to the Permit was made based on this comment.

178. **Comment:** CARD commented that, regarding the Thermal Treatment Unit, as a good neighbor and to comply with Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR § 254.601 (c)(5), SNL should compile a comprehensive report of all air emissions from the Facility.

NMED Response: The citation to the regulation contains a typographical error and should read 40 CFR § 264.601 (c)(5). NMED believes that the Permittee complied with the cited regulation. The Permittees monitor air quality at several locations at the Facility, and produces reports of air quality. Operation of the Thermal Treatment Unit (TTU) is not expected to appreciably degrade air quality based on modeling studies done by SNL

and the NMED. A permit condition to conduct air sampling at the TTU to confirm the conservative assumptions used in the modeling studies was added to the second paragraph of Permit Section 5.1.

No modification to the Permit was made based on this comment.

179. **Comment:** CARD commented that SNL's Lurance Canyon Burn Site emits perchlorate. The Burn Site is upstream of the Tijeras Arroyo. The Tijeras Arroyo flows through the Mountain View Community, a well-known Environmental Justice Community, between the Rio Grande and the freeway, Rio Bravo, and Isleta Pueblo. We know that source wells in this community are contaminated with perchlorate, a dangerous unregulated chemical. SNL and NMED should investigate this contamination and remediate it.

NMED Response: Perchlorate contamination in groundwater, which occurs at the site at low levels, is being investigated as part of the Burn Site Ground-Water Investigation. The site is listed as a miscellaneous area of concern in Table K-1 of Permit Attachment K as subject to corrective action. No modification to the Permit was made based on this comment.

180. **Comment:** CARD commented that after Environmental Justice communities/neighborhoods are identified, announcement of the comment period should be made in the language or languages of that community. NMED, to their credit, printed comments of the hearings in both Spanish and English, but the inhabitants of the International District, directly to the north of Kirtland Air Force Base, where the SNL Facility is housed, are also Asian and Indigenous people.

NMED Response: The NMED notice of hearing met regulatory requirements. The Department does its best to include everyone through its notice of hearings, but it is not possible to publish a notice in all foreign and native languages due to limitations on resources. English and Spanish are by far the more common languages used by members of the community, which is why the Department published the notice in these languages.

No modification to the Permit was made based on this comment.

181. **Comment:** CARD commented that the International District is located over the Kirtland Aviation Spill (more commonly referred to as the “jet fuel spill” or officially the “Bulk Fuels Facility Spill”), a well-known facility violation, which contaminates groundwater under the neighborhood, and is a threat to Albuquerque's water supply.

NMED Response: The Bulk Fuels Facility Spill is a threat to Albuquerque's water supply and protecting that water supply is among NMED's highest priorities. However, cleanup of the Bulk Fuels Facility Spill is the responsibility of the U. S. Air Force. NMED is requiring corrective action for the spill under the requirements of the Air Force's RCRA permit, which is a different permit than that issued to SNL. The release was not caused by the Permittees, and did not happen on land they control.

No modification to the Permit was made based on this comment.

182. **Comment:** CARD commented that the Community Relations Plan in the draft Permit is a preliminary document pending Community input. In the preliminary document, mention of outreach to Isleta Pueblo is stated but no mention is made of outreach to the International District.

NMED Response: Permit Section 1.18 contains provisions for submitting a Community Relations Plan for NMED approval. The Permit does not contain a preliminary plan as the plan does not yet exist in any form. Permit Section 1.18(2) provides that communities, the Pueblo of Isleta, and interested members of the public are to be informed of permit actions of interest (e.g., clean-up activities, implementation of the Contingency Plan, Permit modification requests). Although the International District is not specifically mentioned by name, it is captured under the general language calling for communities to be kept informed.

No modification to the Permit was made based on this comment.

183. **Comment:** CANM commented that regarding the Thermal Treatment Unit (TTU), Subpart X at 40 CFR 264.601 (a), (b) and (c) provides for the prevention of any release to air, soil or groundwater that may have adverse effects on human health or the environment.

NMED Response: The regulation is not properly interpreted by the commenter. The regulations state that protection of human health and the environment includes prevention of any releases that may have adverse effects on human health or the environment. In other words, releases which do not have adverse effects on human health or the environment may be acceptable depending upon a consideration of all of the information required by the regulations. The NMED believes that the TTU can be operated in a manner that prevents adverse effects on human health or the environment based on a consideration of all information required by the regulations. NMED has determined that the TTU can be operated within an acceptable level of risk to human health and the environment.

No modification to the Permit was made based on this comment.

184. **Comment:** CANM commented that regarding the Thermal Treatment Unit (TTU), the effects for the TTU have not been considered in relationship to the health concerns that may affect low-income or minority communities.

NMED Response: Operation of the Thermal Treatment Unit (TTU) is not expected to appreciably degrade air quality based on modeling studies done by SNL and the NMED. Analytical results for surface soil samples indicate that little contamination is emitted by the TTU, and the TTU is located many miles from the nearest community. The NMED believes that the TTU can be operated safely under the Permit in a manner that protects all citizens in all communities, regardless of their social, ethnic, or financial status.

No modification to the Permit was made based on this comment.

185. **Comment:** CANM commented that the Thermal Treatment Unit (TTU) as an open burn unit requires SNL to demonstrate that alternate technologies are unavailable or infeasible. 40 CFR § 264.601(c) requires considering “the effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air.” Additionally, permits for regulation of Subpart X units can request analysis of alternatives. Also, SNL requests another eight-year extension for investigation of alternatives for open burning in the draft Permit.

NMED Response: The citation to the regulation is incomplete and the regulation is not correctly interpreted by the commenter. The regulation concerns what constitutes the protection of human health and the environment for a Subpart X unit, which includes, but is not limited to, prevention of any releases that may have adverse effects on human

health or the environment, in consideration of seven different factors. The listed factors are intended to assist the decision on whether there is likely to be an adverse effect on human health or the environment for a Subpart X unit. The cited regulation does not require the Permittee to demonstrate that alternate technologies are unavailable or infeasible.

SNL presented considerable information in their testimony at the hearing on the possible use of other technologies in lieu of open burning for their particular situation, including noting significant disadvantages with regard to other options they addressed. NMED found this testimony to be credible.

Nonetheless, Permit Section 5.5 provides that the Permittees submit an open burn alternative treatment assessment report to the Department no later than the eighth anniversary of the effective date of the Permit. The assessment report is to include an analysis of risk to human health and the environment for each alternative discussed. The eight year time period for submittal of the alternative assessment is intended to provide more time for potential new technologies to be developed to provide alternatives to open burning for the particular and unusual waste stream treated at the TTU.

No modification to the Permit was made based on this comment.

186. **Comment:** CANM commented that continued use of the Thermal Treatment Unit (TTU) does not comply with RCRA requirements to minimize waste.

NMED Response: The regulations at 20.4.1.500 NMAC incorporating 40 CFR § 264.73(b)(9) are the relevant requirements for waste minimization planning and form the basis of Permit Section 2.5. Permit Section 2.5 requires that the Permittees implement

and maintain a waste minimization program to reduce the volume and toxicity of hazardous and mixed wastes generated at the Facility. The waste minimization program is to include proposed, practicable methods of treatment and storage currently available to the Permittees to minimize the present and future threat to human health and the environment. Note that this requirement applies to the total volume and overall toxicity of generated waste for all of the Facility, not just that for the TTU.

The Permittees have had such a plan in place for many years, and have met the requirements at 20.4.1.500 NMAC incorporating 40 CFR § 264.73(b)(9) in the past.

No modification to the Permit was made based on this comment.

187. **Comment:** CANM commented that at the hearing, with respect to the Thermal Treatment Unit (TTU), an alternative treatment technology for turning explosives and propellants into fertilizer exists. The alternative was not considered. Also, detonation units can be used that pass gasses through filters.

NMED Response: Silver is a component of the waste stream (i.e., SASN or SASN bearing waste) treated at the TTU; the silver becomes trapped in the ash when the waste is burned at the TTU. Although some ash undoubtedly escapes the burn pan and the cage surrounding the TTU, some of the ash, and in some cases possibly most of it, remains in the burn pan and is recovered to be treated via other means prior to disposal.

The alternative proposed by CANM may not adequately treat the silver, and thus, any fertilizer produced from utilizing the method would add all of the silver that would otherwise be treated at the TTU as contamination to soil wherever the fertilizer is applied.

Depending on the concentration of silver and its leaching characteristics in the fertilizer, the fertilizer may pose unacceptable risk to human health or the environment.

Nonetheless, the method suggested as an alternative treatment method could possibly work if additional steps can be reasonably taken that could ensure that the silver is removed or rendered less toxic in the fertilizer. The Permittees could explore this further and report back to the NMED in the alternative assessment report required under Permit Section 5.5. In the meantime, the TTU does not pose unacceptable risk.

The method utilized at the TTU intentionally burns reactive and ignitable wastes to avoid large scale detonation of the wastes. To pass gases through filters to remove particulates in emissions requires a closed system to capture the gases. This in turn would require considerable modification to the TTU for little additional protection to human health and the environment, given the small amounts of ash that is produced. Nonetheless, again, the Permittees could explore this further and report back to the NMED in the alternative assessment report required under Permit Section 5.5.

Furthermore, an applicant seeking a permit to treat hazardous waste does not necessarily have to implement the best (which is usually the most expensive) technology. Instead, an applicant need only demonstrate that waste can be treated safely and adequately for the intended purpose of the treatment, and in a manner that is protective of human health and the environment.

No modification to the Permit was made based on this comment.

188. **Comment:** CANM commented that the Thermal Treatment Unit (TTU) is a hazardous waste management unit, not a solid waste management unit (SWMU), and therefore should be included within the Permit.

NMED Response: NMED agrees with the comment. The TTU is covered extensively in the draft and final Permit (see Permit Part 5 for example) as a hazardous waste management unit.

No modification to the Permit was necessary based on this comment.

189. **Comment:** Risk assessment and screening analysis for the Thermal Treatment Unit (TTU) by AQS (a contractor to the NMED) raised concerns for exposure to biphenyls, hydrogen cyanide, silver, and silver cyanide to onsite workers and nearby residents.

NMED Response: AQS concluded that operation of the TTU in compliance with the Permit would not pose unacceptable risk to human health (of onsite workers and residents) or the environment. NMED agrees with this conclusion. No modification to the Permit was made based on this comment.

190. **Comment:** CANM commented that an inhalation pathway exists for contaminants from the Thermal Treatment Unit (TTU). Airborne contamination can be spread for 10 to 50 kilometers from its source, and the model used for the TTU could not address that cumulative effect upon the community.

NMED Response: AQS, NMED's contractor, concluded that operation of the TTU in compliance with the Permit would not pose unacceptable risk to human health and the environment. NMED agrees with this conclusion. In support of this conclusion, AQS

used conservative assumptions and data to model emissions from the TTU. Additionally, the model code is state of the art, and is approved by the U. S. Environmental Protection Agency. No modification to the Permit was made based on this comment.

191. **Comment:** CANM commented that a soil pathway exists for exposure to Thermal Treatment Unit (TTU) contamination. Exceedances were found for PETN and silver that could potentially impact groundwater. Additionally, fate and transport work was not conducted by AQS (a contractor for the NMED), and there is uncertainty about what's going on in the subsurface. Pursuant to 40 CFR § 264.601 (a), the environmental performance standards to issue a permit for the Thermal Treatment Unit (TTU) have not been met for the ground water and subsurface environment.

NMED Response: In addition to air emissions, AQS and the NMED did consider fate and transport of contaminants in soil and whether groundwater was threatened. Based on experience, the small amounts of contaminants detected in soil are highly unlikely to migrate to the water table, which is approximately 500 feet below ground surface. Contrary to the comment, the Permittees did meet the regulations at 40 CFR § 264.601 (a). However, in response to public concern, and as a conservative precaution to secure additional data to ensure groundwater protection, NMED required in Permit Section 5.9.1 that subsurface soil samples be collected and analyzed for contaminants. No modification to the Permit was made based on this comment.

192. **Comment:** CANM commented that neither vegetative sampling nor animal tissue sampling have been conducted at the Thermal Treatment Unit (TTU). In fact, no animal surveys of any sort have been conducted. Thus, the actual and potential harmful effects of TTU emissions into the biotic environment have not been examined as required

for damage to domestic animals, wildlife, crops, and vegetation. The TTU has not met the environmental performance standards required by 40 CFR 264.601(a)(9).

NMED Response: NMED did not require plants or animals to be harvested for analysis of hazardous constituents. No standards are available to compare to the results of such analysis, and such analysis is not required under RCRA to meet information requirements set forth in the cited regulation. Instead, NMED and the Permittees employed standard industry and EPA- approved methods to estimate the risk of TTU operations, and found that operation of the TTU in compliance with the Permit would not pose unacceptable risk to human health and the environment. No modification to the Permit was made based on this comment.

193. **Comment:** CANM commented that it is reasonable for the Environment Department to impose sampling and monitoring requirements for the Thermal Treatment Unit (TTU) in the Permit.

NMED Response: NMED agrees with this comment as authorized under 20.4.1.900 NMAC incorporating 40 CFR § 270.32. No modification to the Permit was made based on this comment.

194. **Comment:** CANM commented that the cumulative effects of any contaminant releases upon SNL workers or nearby residents through 44 years of operation of the Thermal Treatment Unit (TTU) has not been examined by AQS's analysis (AQS is a contractor for the NMED).

NMED Response: NMED disagrees with the comment. Operations at the TTU have not significantly changed, and are not expected to change appreciably over the life of the Permit. The modeling conducted by AQS indicates that operation of the TTU in

compliance with the Permit would not pose unacceptable risk to the health of a SNL worker or the environment. AQS also found that there was no unacceptable risk to a resident, even if a resident lived immediately adjacent to the fence surrounding the TTU site (the nearest actual resident lives several miles away).

It is also reasonable to conclude from the aforementioned analysis that past operations of the TTU, which were similar to the operations analyzed, also posed no unacceptable risk to SNL workers or residents.

No modification to the Permit was made based on this comment.

195. **Comment:** CANM commented that there is a quantity limit of 55 gallons of hazardous waste that can be stored at Building 6715, but there is no 90-day time limit for storage of such hazardous waste.

NMED Response: The comment is not related to a permit. In any case, wherever hazardous waste is generated, (and SNL also generates wastes in Building 6715 that are not treated at the TTU) a generator may store up to 55 gallons of non-acute hazardous waste without a permit. There is no time limit to ship such waste offsite or move it to a less-than-or-equal-to-90-day storage area (which also does not require a permit) until the maximum of 55 gallons of waste is reached. See 20.4.1.300 NMAC incorporating 40 CFR § 262.34(c)(1).

No modification to the Permit was made based on this comment.

196. **Comment:** CANM commented that no one on the SNL panel during the hearings is a toxicologist.

NMED Response: While evaluating risks uses information generated by toxicologists, the actual procedures employed to assess risk are well-standardized and documented and do not require that the person doing an assessment be trained specifically as a toxicologist in order to properly conduct the assessment. In the environmental field, few risk assessments are actually prepared by or reviewed by a toxicologist. Instead, they are commonly prepared or reviewed by scientists in other fields that are also specifically trained to conduct risk assessments. No modification to the Permit was made based on this comment.

197. **Comment:** CANM commented that open burn operations may be taking place at the Lurance Canyon Burn Site that are not described in the Permit.

NMED Response: Open burn tests conducted at the Lurance Canyon Burn Site are not for the purpose of treating hazardous waste and therefore do not fall under the jurisdiction of RCRA. Thus, a hazardous waste management permit to conduct such tests is not required.

Any solid wastes generated as a result of open burn tests would be subject to RCRA Subtitle C or D. But being subject to RCRA does not necessarily mean a permit is required to manage a waste generated at an open burn test. No modification to the Permit was made based on this comment.

**The New Mexico Environment Department's Responses to Comments
On Class III Permit Modification Request for Granting Corrective Action Complete Status
for 24 Solid Waste Management Units/Areas of Concern
January 2015**

The initial comment period on the request to grant Corrective Action Complete (CAC) status for 24 Solid Waste Management Units (SWMUs)/Areas of Concern (AOCs) began on September 17, 2012, and was scheduled to terminate on November 16, 2012. Requests for extending the comment period were received by the New Mexico Environment Department (Department or NMED), and the Department Secretary granted an extension of an additional 90 days until February 14, 2013, for a total comment period of 150 days. Some comments were submitted during an earlier comment period from December 10, 2007 to February 8, 2008. Those that submitted earlier comments were not required to resubmit their comments.

A hearing on this matter was held at the request of the public from May 5-8, 2014.

Comments received from the public and the NMED's responses thereto are presented below. No comments were received on LTES-1 (Cable Debris Site). After consideration of all comments, each of the 24 SWMUs/AOCs was granted CAC status by the NMED.

1. **Comment:** Citizen Action requests a public hearing because the New Mexico Environment Department (NMED) and Sandia National Laboratories (SNL) asserts that this is a Class III Permit Modification request (March 2006) of the SNL Resource Conservation Recovery Act (RCRA) Part B Permit.

NMED Response: Although the Department met with Citizen Action and other interested members of the public in accordance with 20.4.1.901.A(4), opposition to the Corrective Action Complete (CAC) petitions was not resolved. Thus, a hearing was scheduled and held on May 5-8, 2014, in accordance with the public's request.

2. **Comment:** Citizen Action states that the RCRA Part B Permit must be modified to accomplish this action.

NMED Response: A RCRA permit must be modified for a facility to obtain CAC status for a SWMU or AOC. In this case, a renewal permit was being issued at the same time as the request for CAC status. Because the relevant procedures for conducting a Class 3 permit modification are essentially the same as that for a permit renewal, the Department addressed the petitions for CAC status and permit renewal simultaneously. The old permit was not modified; instead, it was replaced in its entirety by the new Permit.

3. **Comment:** Citizen Action disagrees that Module IV is a part of the SNL RCRA Part B Permit.

NMED Response: Module IV is a part of the now-expired 1992 permit which was replaced by the new Permit. Module IV contained the requirements for conducting corrective action at the Facility. Corrective action requirements are now provided in the Consent Order and Permit Part 8.

4. **Comment:** Citizen Action states that the Consent Order does not meet the requirements of 40 CFR § 270.1(c)(7) for an enforceable document.

NMED Response: The Consent Order was issued under the authority of the HWA, NMSA 1978, § 74-4-10 and the New Mexico Solid Waste Act, NMSA, 1978 § 74-9-36(D). Under 40 CFR § 271.16 (e), an enforceable document must have available the following remedies: (1) Authority to sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of the requirements of such documents, as well as authority to compel compliance with requirements for corrective action or other emergency response measures deemed necessary to protect human health and the

environment; and (2) Authority to access or sue to recover in court civil penalties, including fines, for violations of requirements in such documents. New Mexico is an authorized State under RCRA and has available under its authorities the aforementioned remedies, which are found listed in the Consent Order under Sections III.I.5 and III.U. Thus, the Consent Order is an enforceable document.

5. **Comment:** Citizen Action states that most of the SWMUs are actually “regulated units” that must be closed under the requirements of 40 CFR Part 264 Subparts F and G, with monitoring well networks in place. The SWMUs are required to immediately close by clean closure via submittal of a post-closure care plan, or a document in lieu thereof. None of this was accomplished, and the SWMUs were operated illegally. The SWMUs are still required to close under 40 CFR § 270.1.

NMED Response: Regulated Units are defined in 20.4.1.500 incorporating 40 CFR § 264.90(a)(2) as surface impoundments, waste piles, land treatment units or landfills that received hazardous wastes after July 26, 1982.

None of the SWMUs and AOCs included in this Class III modification request for CAC status is a regulated unit. Instead, they are subject to corrective action under the regulations at 20.4.1.500 NMAC incorporating 40 CFR § 264.101. Because the SWMUs/AOCs are not regulated units, they are not subject to 40 CFR Part 264 §§ 90-100 in Subpart F and 40 CFR Part 264 Subpart G. They were not operated illegally. The contention that some or all of the SWMUs are regulated units was addressed in more detail in the Department’s Closing Argument and Proposed Findings of Fact and Conclusions of Law.

6. **Comment:** Citizen Action states that there exists no technical basis for granting Corrective Action Complete status (No Further Action) for these SWMUs.

NMED Response: The technical basis for granting CAC status for any SWMU/AOC is based upon historical and current site information and/or the collection and analysis of samples. Each SWMU/AOC is characterized for the presence of releases of hazardous waste and hazardous constituents. Corrective action is required when SWMUs/AOCs exhibit or potentially exhibit concentrations of contaminants at levels that pose unacceptable risk to human health or the environment.

Criteria used to propose CAC status for each of the SWMUs/AOCs included in the Permit modification request are located in Table 1 of the Fact Sheet/Statement of Basis. In this case, each SWMU/AOC was petitioned for CAC status because each has been characterized or remediated in accordance with current applicable state and/or federal regulations, and the data indicate that detected contaminants do not pose an unacceptable level of risk under current and projected future land use.

7. **Comment:** Citizen Action states that in order to qualify for Corrective Action Complete status, it must be shown that there are no releases. This cannot be demonstrated for the SWMUs at issue.

NMED Response: CAC status can be granted for SWMUs where a release of a contaminant has occurred provided the concentration of the contaminant does not pose an unacceptable level of risk to human health or the environment (under current and projected future land use).

8. **Comment:** Citizen Action states that there is no regulatory authority under RCRA for the Permit to now include the SWMUs. Most of the SWMUs were in operation in

December 1988 after the September 1988 EPA declaration in the Federal Register that mixed waste landfills would have to comply with Part A and Part B permitting requirements once their State was authorized to regulate mixed waste.

NMED Response: The NMED has the authority to include SWMUs and set forth corrective action requirements in the Permit (see 20.4.1.500 NMAC incorporating 40 CFR § 264.101(b)). Corrective action requirements are addressed by the SNL Consent Order, an enforceable document, except as provided in Permit Section 8.1.1.

The SWMUs/AOCs are not subject to permitting requirements.

9. **Comment:** Citizen Action states that the SWMUs received both mixed waste and hazardous waste during the period July 26, 1982, to December 1988 making them “regulated units” under 40 CFR 270.1 and 40 CFR 264.90. On or about July 25, 1990, New Mexico received its authority to regulate mixed waste. SNL never submitted a RCRA Part A application or a Part B application for the SWMUs within the 12 month time period required, at the latest by July 25, 1991.

NMED Response: The SWMUs/AOCs are not regulated units (see Response to Comment 5 above). Because the SWMUs/AOCs were not and are not hazardous waste management units (HWMUs), the Permittees were not and are not obligated to submit Part A or Part B applications for the sites.

10. **Comment:** Citizen Action states that statistical knowledge of a contaminant population is not acceptable to show that a site has been fully characterized with respect to Contaminants of Concern (COCs).

NMED Response: Characterization was based upon historical and current site information and the collection and analysis of discrete samples. The determination of the horizontal and vertical

extent of contamination at each SWMU/AOC varied depending on the conceptual site model for the SWMU/AOC that was being investigated. At some large sites, such as SWMU 91, soil samples were collected from numerous locations and at various depths. In the case of small septic systems and other sites, fewer samples are needed because it is possible to specifically target locations likely to have received the most waste. If contaminant levels are sufficiently low at these specifically targeted locations, further characterization is unnecessary.

Statistical descriptors for central tendency were used in the case of some SWMUs to estimate risk. This is a common practice, especially where larger numbers of samples have been collected. However, for the majority of the SWMUs/AOCs included in the CAC proposals, risk analysis was done using the maximum levels of contaminants detected.

11. **Comment:** Citizen Action states that collectively, billions of gallons of toxic radioactive liquid waste have been discharged beneath Sandia without groundwater monitoring networks in place to investigate contamination. Absence of record keeping for the discharges demands that groundwater wells be installed at the SWMUs.

NMED Response: Site history at the most of the SWMUs/AOCs, especially those that comprise small septic systems, is poorly known. No records were kept of the volume of discharges or the types of wastes disposed of in the septic systems, which is typically the case for such SWMUs/AOCs. Groundwater was investigated at SWMUs/AOCs where needed. However, some SWMUs are co-located in areas covered under the Tijeras Arroyo and Technical Area V Groundwater Investigations. Groundwater contamination at these latter SWMUs is being investigated and will be remediated under separate corrective actions.

12. **Comment:** Citizen Action states that often CAC status relies on collection of soil and septic samples at the current time that have no bearing on the hazardous wastes released at the sites over 5 decades ago.

NMED Response: Because site history is usually poorly known, to ensure nothing of significance was missed soil samples were analyzed for a wide range of potential contaminants (chemical and radioactive). Boreholes were purposely advanced through or along the sides of seepage pits and across drainfields to target the locations where the highest levels of contaminants are most likely to occur. Contaminants were detected in soil at the SWMUs/AOCs even though these hazardous constituents were released into the environment perhaps decades ago. The data are considered to be valid and representative of what contaminants occur in the soil.

13. **Comment:** Citizen Action states that the vertical and horizontal extent of contamination must be characterized with properly installed monitoring well networks at the SWMUs.

NMED Response: The determination of the horizontal and vertical extent of contamination at each SWMU varied depending on the conceptual site model of the SWMU that was being investigated. See also Responses to Comments 10, 11, and 14.

14. **Comment:** Citizen Action states that NMED was cognizant in 1997 of the need for groundwater characterization. Unfortunately, adequate characterization of groundwater has not been achieved for most of the SWMUs. The potential for groundwater contamination from the enormous annual liquid discharges stretching over 50 years is required to be monitored by 40 CFR §§ 264.90-100 (Subpart F) for closure of these facilities because Sandia is seeking a Part B RCRA Permit. The SWMUs show

statistically significant evidence of contamination but lack both detection and compliance monitoring programs required under 40 CFR 264 Subpart F.

NMED Response: Not all sites were found to be contaminated at levels requiring the installation of groundwater monitoring wells, including SWMUs that are septic systems that are designed to release liquid wastes into the environment (wastes in solid form are captured in the septic tank). In the case of small septic systems, criteria used to decide whether wells would be required for a site are documented in *Sampling and Analysis Plan (SAP) for Characterizing and Assessing Potential Releases to the Environment from Septic and Other Miscellaneous Drain Systems at Sandia National Laboratories/New Mexico* (1999). The SAP took into account whether groundwater was shallow or deep, and whether highly permeable lithologies and fractured bedrock were likely to be present that could provide favorable flow paths to groundwater. Criteria for allowable concentrations of contaminants for subsurface soil were set at very low levels where septic systems overlie shallow groundwater. Somewhat higher levels were allowed where septic systems overlie deep groundwater, where much more natural attenuation of contamination would be expected to occur in the vadose zone.

The SWMUs/AOCs are not subject to the groundwater monitoring requirements under 20.4.1.500 NMAC incorporating 40 CFR §§ 264.90-100 (Subpart F). No significant contamination was found at any of the SWMUs/AOCs proposed for CAC status, except at SWMU 91 where unacceptable levels of lead contamination in soils were removed by excavation.

15. **Comment:** Citizen Action states that where monitoring wells do exist they are most often very distant from the SWMU that is to be monitored. In one instance, contamination from a SWMU was “watched for” by a monitoring well, TJA-6, that is upgradient from SWMU 46. Monitoring wells must be at the release sites to assess

contamination at the various SWMUs. The monitoring wells have to be close to the release for early detection. That is also required by DOE Orders.

NMED Response: NMED does not enforce compliance with DOE Orders. The regulations governing corrective action (20.4.1.500 NMAC incorporating 40 CFR § 264.101) do not specify how close wells must be to a SWMU. NMED has discretion under the corrective action rules to require groundwater monitoring wells at locations where needed.

For small septic systems, NMED selected well locations to take into account that contaminant plumes may have migrated a considerable distance from the discharge points given that the discharges occurred perhaps some 20 or more years ago and that shallow groundwater likely flows at relatively high velocities. This is why wells are not located immediately adjacent to the discharge points. In an effort to minimize the number of wells needed, wells were placed at locations believed to be in a downgradient direction from sites as based on site-wide potentiometric-surface maps and/or local topography, and thus, at locations mostly likely to detect contaminated groundwater, if it exists.

16. **Comment:** Citizen Action states that the descriptions of the SWMUs are too vague for the public to determine whether the SWMUs are safe. Generally, the Fact Sheet fails to present information such as exact types of Contaminants of Concern (COCs) and their volumes; the locations of drain fields on maps; the depth of septic tanks, seepage pits, piping, and drain systems; the positions of monitoring wells (if they exist); drilling methods; type of well construction; depth to ground water; statistical water sampling data; direction of groundwater flow; volumes of waste water, and the wastes discharged. Typical descriptions of the COCs give no breakdown for the types of radionuclides that are at the various SWMUs.

NMED Response: The Fact Sheet/Statement of Basis provides a description of the permit modification request, how the public may participate in the final decision, and a brief summary of the investigations and any remediation conducted at each site. They meet the requirements of 20.4.1.901(D) NMAC. Details, to the extent that they are known, are included in the individual RCRA Facility Investigation (RFI) Reports and related documentation for each SWMU/AOC. The RFI Reports are available for review as indicated in the Fact Sheet/Statement of Basis. Additionally, several of the parameters referenced in the comments as missing are actually provided in the Fact Sheet/Statement of Basis (for example, potential contaminants, locations of drainfields and other septic system components and their depths). However, some details, such as the types of wastes or volumes of wastewater discharged into the small septic systems are not known and will likely never be known.

17. **Comment:** Citizen Action states that, apparently, Sandia has no intention of protecting the public from radionuclide contamination. DOE Order 450.1 is ignored. The NMED should file a complaint with the NM Attorney General, the DOE IG, and the U. S. Attorney General that the DOE is failing to comply with DOE Orders 5400.5 and 450.1.

NMED Response: The NMED does not enforce DOE Orders.

18. **Comment:** Citizen Action states that SNL should furnish the regulatory history of each SWMU.

NMED Response: From an environmental standpoint, there is no regulatory history for each SWMU/AOC, aside from being subject to corrective action under 20.4.1.500 NMAC incorporating 40 CFR § 264.101.

19. **Comment:** Citizen Action states that the industrial standard leaves everyone, especially children, at higher risks of cancer, disease, and birth defects. Sandia has failed to consider Executive Order 13045 that requires federal agencies “to identify and assess environmental health risks and safety risks that may disproportionately affect children.” Remediation to industrial risk levels does not take into account the sole source drinking water aquifer.

NMED Response: Industrial land use is the designated land use for the foreseeable future for much of the Facility. Corrective Action Complete status can be granted on the basis of industrial land use subject to requirements in the Consent Order concerning land conveyance and transfer.

Contaminant concentrations in groundwater are based on residential use of the water as a drinking water source. However, none of the SWMUs/AOCs proposed for Corrective Action Complete status is a threat to groundwater, including those that have soil contamination at levels limiting land use to industrial purposes.

NMED does not enforce Executive Orders issued by the federal government.

20. **Comment:** Citizen Action states that RCRA identifies high levels of contamination measured in the boreholes of SWMUs as "Statistically Significant Evidence of Contamination." 40 CFR §264.98 requires for SWMUs with "statistically significant evidence of contamination" that a detection monitoring program be put into place.

NMED Response: The phrase “statistically significant evidence of contamination” refers to sampling results for indicator parameters in groundwater, not the results of soil samples recovered from boreholes. The regulation cited in the comment (40 CFR

§264.98) does not apply to any of the 24 SWMUs/AOCs proposed for Corrective Action Complete.

21. **Comment:** Citizen Action and Citizens for Alternatives to Radioactive Dumping (CARD) request an extension of time for the public comment period and opportunity to request a public hearing for the Granting of Corrective Action Complete Status (“CAC”) for the Solid Waste Management Units/Areas of Concern. Citizen Action requests that a 90-day extension to February 14, 2013, for submission of comments be granted.

NMED Response: For the Corrective Action Complete proposals, the regulation at 20.4.1.901.A(3) NMAC requires a public comment period of 45 days.

The initial comment period began on September 17, 2012, and was scheduled to terminate on November 16, 2012. The Secretary granted an extension of an additional 90 days until February 14, 2013, for a total comment period of 150 days.

22. **Comment:** Citizen Action and CARD state that the full documentation necessary for review of the CAC petitions has not been posted on the NMED website and the SNL website.

NMED Response: The Administrative Record is complete. NMED does not have the resources to make the full Administrative Record available online, nor is there a requirement to do so.

23. **Comment:** Citizen Action and CARD state that there are no maps with coordinates of each SWMU and pertinent monitoring wells. Without this information, the public cannot verify whether any unit is ready for a CAC status. Groundwater sampling data for individual SWMUs are not included.

NMED Response: A coordinate system (eastings and northings in NM State Plane Coordinates) is shown on the maps provided in the Fact Sheet/Statement of Basis. Thus, it is possible to accurately estimate the coordinates for the locations of the SWMUs/AOCs and any associated wells.

Details applicable to each site, including groundwater sampling data, are also included in the individual RCRA Facility Investigation (RFI) Reports and related documentation for each SWMU/AOC. The RFI Reports, a part of the Administrative Record, are available for review as indicated in the Fact Sheet/Statement of Basis.

24. **Comment:** Citizen Action and CARD state that referring to the transfer of property issue, during negotiations four years ago, the Permittees had no plan for keeping people (especially children) out of areas designated for industrial use. We do not see this lack of planning corrected in the current draft permit.

NMED Response: Due to the nature of its business operations, which includes national security matters, and its location on and within Kirtland Air Force Base, SNL has stringent internal procedures in place throughout the Facility to provide for security and site controls. No matter whether a site is granted CAC status on a residential or industrial land-use scenario, unauthorized people will not be able to easily gain access to the sites. Anyone that does gain access to a site, either legally or through criminal or unintentional trespass, will not be significantly exposed to residual contamination during the limited amount of time they would likely spend at a site.

25. **Comment:** Citizen Action resubmits its comments for the SWMUs dated February 8, 2008.

NMED Response: NMED has accepted the comments and has added them to the Administrative Record. This document constitutes the Department's response to Citizen Action's comments, as well as comments received from others on this matter.

26. **Comment:** Citizen Action states that the locations of the various SWMUs are not provided on a map. COCs that exceed water quality standards are present in the 2012 Annual Ground Water Monitoring Report but are not listed in relation to the various SWMUs.

NMED Response: See Response to Comment 23 concerning the locations of SWMUs/AOCS. Water quality standards are not being exceeded at any of the SWMUs/AOCs that were proposed for Corrective Action Complete Status where it was deemed necessary for groundwater monitoring wells to be installed. Where wells were not required at a SWMU/AOC, it is unlikely that the release at the SWMU/AOC would have caused groundwater to become contaminated. Some SWMUs are co-located in areas covered under the Tijeras Arroyo and Technical Area V Groundwater Investigations. Groundwater contamination at these latter SWMUs is being investigated and will be remediated separately from these SWMUs.

27. **Comment:** The Permittees generally object to any restrictions related to radiological constituents. The radiological concerns of any given site are the jurisdiction of the U. S. Department of Energy (DOE), not NMED.

NMED Response: NMED concedes that it generally does not possess the authority to place restrictions on SWMUs/AOCs related to the risk of radiological contaminants. However, nothing prohibits NMED from offering its opinion on whether site characterization and remediation of radioactive contaminants are adequate, whether a remedial effort is protective of

human health and environment, and whether DOE should place its own restrictions on land use to account for radiological contamination. The Department has done so, as appropriate, with respect to some of the SWMUs/AOCs.

28. **Comment:** DOE has agreed to provide information to the NMED on radiological constituents, but such information is not subject to enforcement under the Order.

NMED Response: NMED agrees that information concerning radiological constituents is not subject to enforcement under the Consent Order.

29. **Comment:** Please note that the pertinent reference value that has been agreed to between NMED and DOE regarding the discussion of radiological aspects of CAC documents is dose, not risk.

NMED Response: The U. S. EPA and the NMED assess risk. The NMED is aware that the DOE typically assesses dose for radiological contaminants and has its own procedures and standards for assessing risks from radiological contamination. For most of the SWMUs/AOCs being petitioned for CAC status, risk for radiological constituents was reported by the Permittees in addition to dose. The NMED appreciates that the Permittees provided this extra information.

SWMU 4

30. **Comment:** Citizen Action commented that coolant water that was discharged from the SERF reactor has a history of being contaminated by hexavalent chromium which was present at SWMU 4. PCBs were identified at Impoundment 2. Especially high values for beryllium were measured (4.9 mg/kg).

NMED Response: The maximum concentrations of hexavalent chromium (11.2 mg/kg) and beryllium (4.9 mg/kg) contribute little to the excess cancer risk or the hazard index (HI), respectively under both the industrial and residential land use scenarios. Thus, the

levels of both contaminants do not pose unacceptable risk, and they are not among the contaminants detected at SWMU 4 contributing most to risk.

Aroclor-1260, the only PCB detected, was found in soil at a maximum concentration of 0.071 mg/kg, which poses no significant risk to human health or the environment.

31. **Comment:** Citizen Action commented that the wastes from 1963 to 1967 were discharged to a drainfield, but it is not identified on Figure 3.

NMED Response: The drainfield is identified as SWMU 5 on Figure 3 of the document Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012) . A larger illustration of the drainfield is presented on Figure 4 of the same document.

32. **Comment:** Citizen Action commented that SWMU 4 operated illegally by receiving hazardous waste without a RCRA Permit. A post-closure care permit is needed. The surface impoundments operated from 1967 to 1992.

NMED Response: Coolant water from the SERF was discharged to SWMU 4 until 1972 when the reactor was shut down. There is no evidence that the coolant water from the SERF was a hazardous waste. SWMU 4 continued to receive waste from drains and sinks in TA-V until 1992. There is no evidence that SWMU 4 was operated illegally. Additionally, SWMU 4 is not a regulated unit, and was not subject to the requirements for a RCRA permit or post-closure care.

33. **Comment:** Citizen Action commented that there is no discussion of the direction of groundwater flow, well construction, well development information or monitoring data

for monitoring well LWDS-MW2. This well does not meet the requirements for a point of compliance.

NMED Response: Direction of groundwater flow, well construction and monitoring data for well LWDS-MW2 are included in SNL's Justification for Class III permit Modification March 2006, SWMU Operable Unit 1307 LWDS Surface Impoundments, the Current Conceptual Model of Groundwater Flow and Contaminant Transport at Sandia National Laboratories/New Mexico Technical Area V, SAND2004-1470, April 2004, and SNL's annual groundwater reports. These documents are available at the NMED Hazardous Waste Bureau offices in Santa Fe.

Nitrate has been detected in groundwater at LWDS-MW2 at concentrations of about 7 mg/L, which is less than the EPA MCL and the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 mg/L. The well is constructed using polyvinyl chloride (PVC) casing with a 304 stainless-steel screen. The groundwater flow direction is northwest.

In an email from SNL received March 26, 2009, well development was described as follows: The well was developed via SNL standard operating procedures using a submersible pump and the surge-block and bailing method. These procedures included initial bailing to remove the heavy sediment that may have accumulated in the well sump, running a surge block up and down in the screened portion of the well to draw fines out of the gravel pack into the well interior, and then cycling with bailing and surge blocking until sediments are precluded to the extent possible from moving into the well. A submersible pump was then lowered down to the screened portion of the well, and the

well was pumped until the water eventually cleared, and stabilization of field parameters was achieved.

LWDS-MW2 was installed less than 100 feet to the north of the surface impoundments and is adequately located to monitor groundwater at the SWMU and for the TA-V area in general.

34. **Comment:** Citizen Action commented that a monitoring well network compliant with 40 CFR §§ 264.90-100 is required to be installed.

NMED Response: The cited regulations do not apply. SWMU 4 is not a regulated unit. Groundwater contamination at TA-V is being addressed separately at TA-V from SWMU 4; see Table K-1 of Permit Attachment K.

35. **Comment:** Citizen Action commented that the well (LWDS-MW2) has a stainless-steel well screen that is no doubt corroded and not capable of detecting contamination.

NMED Response: The commenter provides no evidence that the well screen is corroded. Groundwater in a well with a corroded screen would be expected to contain appreciable levels of metals such as chromium and nickel. For the April 2011 groundwater sample, chromium was detected at 2.27 µg/L (J); the maximum background concentration for chromium for this area is 43 µg/L. Nickel was detected at 1.38 µg/L (J); the maximum background concentration for nickel is 28 µg/L. Thus, there is no evidence that the screen for LWDS-MW2 suffers any significant corrosion.

36. **Comment:** Citizen Action commented that human and ecological risks are not acceptable to grant this SWMU CAC status.

NMED Response: NMED disagrees. The risk to human health is acceptable under an industrial land-use scenario, which is the current and projected future land use.

Ecological risks are considered to be low as summarized in the Statement of Basis. A human health risk screening assessment was performed to evaluate the potential for adverse health effects. For the industrial land-use scenario, the hazards index (HI) and the estimated excess cancer risk are acceptable (see Table 2 of Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012)), and are 0.24 and 6E-7, respectively.

SWMU 5

37. **Comment:** Citizen Action commented that SWMU 5 has not been properly investigated for contamination.

NMED Response: SNL has collected and analyzed subsurface soil samples from four borings (depths of sampling from 25 feet to 90 feet below ground surface [bgs]) and from the borehole of well TAV-MW6 (depth of sampling from 20 to 500 feet bgs) in areas likely to have received the highest levels of contaminants. NMED believes the investigation of SWMU 5 was adequate.

Groundwater contamination at TA-V is being addressed separately at TA-V from SWMU 5; see Table K-1 of Permit attachment K.

38. **Comment:** Citizen Action commented that monitoring well TAV-MW6 exists within the boundaries of SWMU 5. The construction details of well MW6 are not provided, and no data are presented for the well. MW6 cannot be found on Figure 4.6. The flow direction of groundwater is not provided.

NMED Response: TAV-MW6 is shown on Figure 4, Site Map for SWMU 5 in the Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action

Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012)). Well construction data for TAV-MW6 can be found in Appendix A of SNL's Summary of Monitoring Well Drilling Activities TA-V Groundwater Investigation, October 2001. The well is screened from 507 feet to 527 feet with 20-slot schedule 80 PVC screen installed above a 5-feet-long sump. The primary filter pack from 502 feet to 534 feet is 10/20 silica sand. The secondary filter pack from 498 feet to 502 feet is 30/70 silica sand. The sealed interval from 492 feet to 498 feet consists of 3/8" bentonite chips. The grout/backfill interval behind the 5-inch inside diameter schedule 80 PVC riser was placed from 2 feet to 492 feet. The stickup is -0.26 feet below the concrete pad, which is located in an asphalt parking lot (the wellhead is a below-grade completion).

The flow direction of groundwater can be found in Figure 3-5, Potentiometric surface at SNL/NM TA-V, September 2003, in SNL's Current Conceptual Model of Groundwater Flow and Contaminant Transport at Sandia National Laboratories/New Mexico Technical Area V, April 2004, Sandia Report SAND2004-1470. Groundwater at TAV-MW6 is currently flowing towards the south-southeast.

As listed in the 2011 SNL Annual Groundwater Report , Table 5A-1, p. 5A-7, VOCs detected at TAV-MW6 include trichloroethene (TCE) (MCL of 5µg/L) at 15.1 µg/LL and cis-1,2-dichloroethene (MCL of 70 µg/L) at 2.3 µg/LL. Table 5A-3, p.5A-12 lists analytical results for nitrate plus nitrite (MCL 10.0 mg/L) as 9.8 and 10.2 mg/L for the sample and its duplicate. TAV-MW6 is included in the system of wells being used to characterize groundwater beneath Technical Area-V. Groundwater contamination at TA-V is being addressed separately at TA-V from SWMU 5.

39. **Comment:** Citizen Action commented that an earlier well, LWDS-MW1 installed in 1992, supposedly shows evidence of releases from the site. The trichloroethene (TCE) was detected above the EPA Maximum Contaminant Level (MCL) in water samples collected from well LWDS-MW1. LWDS-MW1 is also not identified as to its location in the Fact Sheet.

NMED Response: A discussion of LWDS-MW1 can be found in the Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012).

Trichloroethene (TCE) contamination is present in the groundwater at LWDS-MW1 exceeding the EPA Maximum Contaminant Level of 0.005 mg/L. SNL's Current Conceptual Model of Groundwater Flow and Contaminant Transport at Sandia National Laboratories/New Mexico Technical Area V, April 2004, Sandia Report SAND2004-1470 states : "The maximum May 2003 TCE concentration in water from well LWDS-MW1 was 20.9 µg/L. The peak TCE concentration at TA-V was reported as 23 to 26 µg/L from LWDS-MW1 on November 13, 2000".

The TCE concentration reported in the 2011 SNL Annual Groundwater Report for the 7/21/11 groundwater sample is 16.0 µg/L. Monitoring well LWDS-MW1 is included in the system of wells being used to characterize groundwater beneath Technical Area-V. Groundwater contamination at TA-V is being addressed separately at TA-V from SWMU 5. The location of LWDS-MW1 is shown on Figure 3-5.

40. **Comment:** Citizen Action commented that cobalt-60 and cesium-137 were found in the drainfield sampling.

NMED Response: In general, NMED does not regulate radionuclides at DOE facilities. Nonetheless, for radiological constituents (cesium-137, cobalt-60, thorium-232, radium-226, tritium and uranium-235), the TEDE is 5.5E-6 mrem/year. The excess cancer risk is 1.2E-10, which is acceptable for residential land use. In August 2003, the DOE approved unrestricted radiological release for the site, using 25 mrem/yr as the threshold guidance. See Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012)), page 12.

SWMU 46

41. **Comment:** Citizen Action commented that the depth to groundwater at this location is critical but not stated.

NMED Response: Depth to groundwater is discussed in SNL's Tijeras Arroyo Groundwater Investigation Report, November, 2005, and Table 2.4.2-1 which states the perched groundwater near the northern end of the site is at about 300 feet bgs and regional groundwater is at about 500 feet bgs.

42. **Comment:** Citizen Action commented that the total volume of wastewater released at the site and the quantity of contaminants released was not provided.

NMED Response: An estimated 130,000 gallons per day of wastewater was discharged at SWMU 46. Additionally, the 2011 Annual Groundwater Monitoring Report, p. 6-17, states "An estimated 1.3 billion gallons of wastewater from six TA-I research/office buildings (839, 840, 841, 860, 863, and 892) discharged into the three outfall ditches at the south end of SWMU 226." SWMU 46 is the outfall at the south end of SWMU 226.

The quantity of contaminants in the wastewater discharged at SWMU 46 is unknown and likely will never be known. Thus, the investigation of SWMU 46 was tailored to include the sampling and analysis of all potential contaminants that could have been released at the outfall.

The groundwater where SWMU 46 is located is being addressed separately from SWMU 46 under the Tijeras Arroyo Groundwater Investigation.

43. **Comment:** Citizen Action commented that the current condition of the ditches is not sufficiently described nor are they characterized for the wastes in each ditch.

NMED Response: Each of the three outfall ditches were unlined (earthen) ditches were approximately 3 feet deep and 5 feet wide. Nearly the entire length of each outfall ditch was backfilled with soil during TA IV construction in the mid-1980s. See Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012), page 23. Some of the original area occupied by the ditches is now under buildings.

Potential contaminants at the SWMU 46 include metals, HE, VOCs, SVOCs, PCBs, and radionuclides. A total of 327 soil samples collected from a variety of depths were used in the human health risk assessment. Figure 1.1-1 of the Voluntary Corrective Action Plan, Solid Waste Management Unit 46 – Old Acid Waste Line Outfall, August 2003, shows sample locations. NMED considers the sampling to be adequate and notes that sampling conducted in the areas at the head of the outfall and the lower reach of the ditches should reasonably represent releases that occurred at the site.

Groundwater where SWMU 46 is located is being investigated under the Tijeras Arroyo Groundwater Investigation.

44. **Comment:** Citizen Action commented that the types and amounts of RCRA wastes within the 3 ditches have only been sparsely sampled.

NMED Response: Sampling events took place in 1998, 1999, 2001, 2002, and 2003. Soil samples were collected from over 60 locations and analyzed for VOCs, SVOCs, PCBs, and metals.

NMED believes the sampling conducted was adequate. Groundwater, where SWMU 46 is located, is being addressed separately from SWMU 46 under the Tijeras Arroyo Groundwater Investigation.

45. **Comment:** Citizen Action commented that only soil-vapor sampling at two vapor wells has been conducted.

NMED Response: Soil-vapor samples were collected in 1998 at four Geoprobe™ boreholes, a passive soil-vapor survey was conducted in an area covering approximately seven acres in 1999, and soil-vapor samples were collected from two soil-vapor monitoring wells. Soil-vapor samples were also collected from 37, 97, 137, 197, 237, and 312 feet below ground surface (bgs) from the pilot borehole for TJA-3. The boreholes and groundwater monitoring sampled for soil vapor showed similar patterns, with higher TCE concentrations encountered at middle depths and much lower concentrations found above the perched groundwater.

46. **Comment:** Citizen Action commented that groundwater monitoring is required due to the significant evidence of contamination present at SWMU 46.

NMED Response: There are two groundwater monitoring wells within the boundary of SWMU 46, TJA-3(regional) and TJA-7 (perched). An additional well is located nearby (TJA-6, a regional well). Each of the wells is being monitored as part of the Tijeras Arroyo Groundwater (TAG) Investigation. SNL's Annual Groundwater Monitoring Report for Calendar Year 2011, dated June 2012, Table 1-3, indicates for the two wells within the boundary of SWMU 46 that only nitrate at TJA-7 exceeds an EPA maximum contaminant level (MCL).

Groundwater monitoring at and in the vicinity of SWMU 46 is being conducted as part of the TAG Investigation.

47. **Comment:** Citizen Action commented that there is a claim of a monitoring well TJA-6 but that well cannot be located for SWMU 46 on Figure 5. Direction of groundwater flow is not indicated either. The single groundwater monitoring well, TJA-6 is claimed for SWMU 46, but no information about the construction details, depth of the well or sampling data are provided in the fact sheet. Citizen Action also commented that no data for VOCs are presented from TJA-6.

NMED Response: The location of TJA-6 can be found on Plate 1 of SNL's Tijeras Arroyo Groundwater Continuing Investigation Report, November, 2002. The direction of groundwater flow is discussed in Section 3 of the 2002 report, and well construction data is found in Annex E of the report. The regional groundwater flow direction in the TJA-6 vicinity is westerly to northwesterly. The well was constructed with a sump of approximately 6-feet long (474.9 feet-480.7 feet), a 20-foot long section of schedule 80 PVC screen (454.9 feet – 474.9 feet), approximately 30 feet of primary filter pack consisting of 10-20 silica sand (451 feet- 480.7 feet), approximately 5 feet of secondary

filter pack comprised of 20-40 silica sand (446.5 feet – 451 feet), approximately 5 feet of 1/4" bentonite pellets (441 feet – 446.5 feet), grout/backfill Volclay Grout (0 feet-441 feet), and schedule 80 PVC pipe riser with 2.5 feet of stickup.

The 4/22/04 groundwater sample for TJA-6 reported in SNL's Tijeras Arroyo Groundwater Investigation Report, November, 2005, for example, indicates low-level detections of VOCs including acetone (5µg/LL B,J), carbon tetrachloride (0.88µg/LL B,J) and trichloroethene (1.2 µg/LL B, J). Of these, trichloroethene (TCE) is the only significant VOC of concern for the TAG area.

48. **Comment:** Citizen Action commented that TJA-6 is greater than 500 feet from SWMU 46, and thus not at the point of compliance for SWMU 46.

NMED Response: The point of compliance rule at 20.4.1.500 NMAC incorporating 40 CFR § 264.95 applies to regulated units. SWMU 46 is not a regulated unit.

TJA-6 was placed at a location downstream of the outfall. Contaminants were not detected in the regional groundwater. Nonetheless, groundwater monitoring is being conducted in the general area as part of the Tijeras Arroyo Groundwater Investigation, which is meant to investigate both perched and regional groundwater in the area.

Although it is possible that SWMU 46 may have been one of perhaps several historical sources of groundwater contamination in the TAG area, NMED believes that no significant source remains in the unsaturated zone at SWMU 46.

49. **Comment:** Citizen Action commented that groundwater flow direction is not provided on Figure 18.

NMED Response: Groundwater flow is westerly to northwesterly in the regional groundwater and southeasterly in the perched groundwater. See Figures 3.1.3-3 and 3.1.3-4 in SNL's Tijeras Arroyo Groundwater Investigation Report, November, 2005.

50. **Comment:** Citizen Action commented that RCRA requires one upgradient and three downgradient monitoring wells at the point of compliance for SWMU 46.

NMED Response: The regulations in this case do not require at least one upgradient and three downgradient wells be installed at SWMU 46. SWMU 46 is not a regulated unit under RCRA and is not subject to the groundwater regulations at 20.4.1.500 NMAC incorporating 40 CFR §§ 264.90-100. Nonetheless, groundwater monitoring is being conducted in the general area as part of the Tijeras Arroyo Groundwater Investigation.

51. **Comment:** Citizen Action commented that the locations of the septic tanks, drain fields, and the direction of groundwater flow are not provided on Figure 5.

NMED Response: There are no septic tanks or drainfields associated with SWMU 46. SWMU 46 is comprised of three outfall lines (ditches) connected to a pipeline (the pipeline is a separate SWMU under the Permit – SWMU 226).

Groundwater flow is westerly to northwesterly in the regional groundwater and southeasterly in the perched groundwater. See Figures 3.1.3-3 and 3.1.3-4 in SNL's Tijeras Arroyo Groundwater Investigation Report, November, 2005.

52. **Comment:** Citizen Action commented that TJA-6 is claimed to be part of the Tijeras Arroyo Groundwater (TAG) monitoring network, however, the location and details of the TAG network are not provided on Figure 5. Nor is there any indication that the TAG network is at the point of compliance for SWMU 46.

NMED Response: TJA-6 is a part of the well network included in the Tijeras Arroyo Groundwater Investigation. Tijeras Arroyo Groundwater information is found in SNL's Tijeras Arroyo Groundwater Continuing Investigation Report, November, 2002, SNL's Tijeras Arroyo Groundwater Investigation Report, November, 2005 and SNL's Annual Groundwater Monitoring Reports. Documents concerning Tijeras Arroyo Groundwater Investigation are available for public inspection at the HWB office in Santa Fe. The Tijeras Arroyo Groundwater Investigation encompasses a much larger area than that at SWMU 46, and is being investigated as an area of concern subject to the SNL Consent Order.

See Responses to Comments 47 and 48 above regarding the location of TJA-6 and point of compliance.

53. **Comment:** Citizen Action commented that the contaminants identified are mercury, cyanide, 17 VOCs (including high levels of TCE in soil gas 115 feet below ground surface), SVOCs, PCBs, RCRA metals, and radionuclides.

NMED Response: Although a number of contaminants were detected in soil and soil gas, the levels found do not pose unacceptable risk under an industrial land-use scenario. Groundwater was analyzed for a wide variety of contaminants, including VOCs, nitrate plus nitrite, anions, metals (plus uranium), gross alpha/beta activity, tritium and gamma spectroscopy. Groundwater contamination above a water quality standard was detected in only one of the three groundwater monitoring wells in the area (TJA-3, TJA-6, and TJA-7). Groundwater at and in the vicinity of SWMU 46 is being addressed under the Tijeras Arroyo Groundwater AOC.

54. **Comment:** Citizen Action commented that the abbreviation “VCA” is used but not listed in the Table of Abbreviations.

NMED Response: The abbreviation VCA (voluntary corrective action) was not defined in the text or the Table of Abbreviations found in Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012). NMED regrets the oversight.

55. **Comment:** Citizen Action commented that the September 1994 soil samples were collected from a storm run-off ditch and did not address the acid waste line discharges.

NMED Response: The September 1994 soil samples were taken from a storm run-off ditch that was not associated with SWMU 46. The results of this soil sampling event were not used in the assessment of soil contamination at SWMU 46. Additional soil sampling at SWMU 46 was performed in 1998, 1999, 2000, 2001 and 2003. See Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012).

56. **Comment:** Citizen Action commented that TCE levels from soil vapor sampling at 30 feet were 55 ppb by volume. According to another NMED report, Henry’s Law predicts a concentration of TCE contamination in groundwater of > 100 ppb, more than 20 times higher than the Maximum Contaminant Level (MCL) for drinking water.

NMED Response: TCE was detected in soil vapor at a depth of 30 feet in August 1998 at a concentration of 55 ppbv. By application of Henry’s Law, a concentration of 55 ppbv TCE in soil vapor is not high enough to cause groundwater contamination to exceed

the Environmental Protection Agency (EPA) maximum contaminant level (MCL) of 0.005 mg/L for TCE in groundwater. The minimum level that TCE could become of concern (assuming that the vapor was situated on the water table) is about 0.4 ppmv (400 ppbv).

57. **Comment:** Citizen Action commented that at LANL for MDA H, for a measurement of TCE at 2.6 ppb, NMED demanded a remedy of complete encapsulation.

NMED Response: The remedy of encapsulation was favored at Los Alamos National Laboratory (LANL) MDA H due to concerns about buried pyrophoric metals that could possibly ignite upon exposure to the atmosphere, not VOCs, and has since been withdrawn. VOCs at MDA H are not considered a concern at this point.

A TCE vapor concentration of 2.6 ppbv is too low to cause groundwater contamination that can exceed the Environmental Protection Agency (EPA) maximum contamination level (MCL) of 0.005 mg/L. See Response to Comment 56.

58. **Comment:** Citizen Action commented that soil vapor sampling from April 2001 through March 2002 showed enormous concentration levels of TCE at levels up to 46,000 ppbv at a depth of 115 ft. These high values are alarming and require serious investigation of contamination in groundwater.

NMED Response: Samples from both above and below 115 feet in vapor wells 46-VW-01 and 46-VW-02 exhibited notably lower concentrations of TCE. The maximum soil-vapor TCE concentration at 265 feet in 46-VW-01 was 387.3 ppbv, which is much less than that at 115 feet.

At 46-VW-01 soil vapor samples were collected over 5 periods from April 2001 to March 2002 at depths of 15, 65, 115, 165, 215, and 265 feet. The maximum TCE

concentration at each depth was 2258.9; 12,523; 48,380; 22,060; 1,141.6; and 387.3 ppbv, respectively. At 46-VW-02 samples were collected at depths of 46, 96, 146, 196, and 246 feet. The maximum TCE concentration at each depth was 378.2, 702.6, 560.9, 462.3, and 503.0 ppbv, respectively. Note that the unit of measurement is ppbv, not ppmv.

Soil Vapor TCE concentrations listed in SNL's Tijeras Arroyo Groundwater Investigation Report, November 2005, for the period of December 2004-January 2005 for 46-VW-01 are 960; 8700; 30,000; 14,000; 1,200; and 220 ppbv for the respective depths listed above. Soil Vapor TCE for 46-VW-02 are 160, 360, 79, 240, 490, and 5 ppbv for the respective depths listed above. Given these low concentrations and natural attenuation, residual VOCs in the vadose zone at SWMU 46 are unlikely to cause groundwater contamination exceeding a water quality standard.

Nonetheless, groundwater monitoring in the area is being conducted under the Tijeras Arroyo Groundwater Investigation. For example, for the six quarters (July 2003 to December 2004) reported in SNL's Tijeras Arroyo Groundwater Investigation Report, November 2005, Table 4.2.3-1, TCE had not been detected in TJA-3 and TJA-6. For those six quarters TCE has been detected on and off at TJA-7 at levels below the MCL (1.46 µg/L, ND (not detected), 0.43µg/L, ND, 0.53µg/L, and ND).

59. **Comment:** Citizen Action commented that cancer risks for residential land-use are unacceptable.

NMED Response: SWMU 46 is proposed for Corrective Action Complete under an industrial land use scenario.

60. **Comment:** Citizen Action commented that human health and ecological risks are not acceptable to release this SWMU for CAC status.

NMED Response: Under an industrial land use scenario, a HI of 0.13 and an excess cancer risk of 1E-6 were calculated for SWMU 46. These values meet the acceptable risk levels for human health under an industrial land use scenario.

Ecological risks are negligible because the ditches have been backfilled with clean soil as discussed in the summary of the risk assessment found for SWMU 46 in Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012)).

61. **Comment:** U.S. Department of Energy/Sandia Corporation commented that for SWMU 46, the individual HQ for cadmium is 1.03. NMED judges the nonradiological risk for this site to be unacceptable for residential land-use. DOE and Sandia do not object to the imposition of land use controls for SWMU 46 based on nonradiological risk.

NMED Response: SWMU 46 has been granted corrective action complete status but with an industrial land use restriction. This decision is based on the risk for nonradiological contaminants.

62. **Comment:** U.S. Department of Energy/Sandia Corporation contest the discussion of and conclusions regarding radiological risk in the Statement of Basis (SOB). The activities of the radiological COCs were used to calculate a TEDE of 55 mrem/yr which is below the 75 mrem/yr value, the threshold action level for residential land use. The radiological standards have been met for this site for residential land use.

NMED Response: The decision to grant CAC status for SWMU 46 under an industrial land use scenario (therefore with controls) was based on the risk for nonradiological contaminants. The Hazard Index for noncarcinogens is not acceptable for residential land use.

63. **Comment:** U.S. Department of Energy/Sandia Corporation commented that as a result of the cadmium HQ, SWMU 46 should be listed on the permit as CAC with Controls. However, the radiological standards have been met at this site for residential land use and should be stated as such in a correction to the Statement of Basis.

NMED Response: See Responses to Comment 62.

SWMU 52

64. **Comment:** Citizen Action commented that a specific network of monitoring wells is necessary at the location of SWMU 52. Monitoring wells cannot be claimed for SWMU 52 that exist at other location distant from the release. The monitoring wells have to be close to the release for early detection.

NMED Response: The holding tanks and associated piping which comprise SWMU 52 were connected to a drainfield (SWMU 5) and to a set of surface impoundments (SWMU 4). Note that SWMUs 4 and 5 are significantly more important SWMUs associated with the Liquid Waste Disposal System (LWDS) because they were specifically designed and utilized to discharge wastewater into the environment.

Characterization of subsurface soil surrounding the tanks was conducted, and little contamination was detected. Thus, groundwater monitoring wells are not needed for the purpose of completing site characterization at SWMU 52. However,

contaminated groundwater beneath Technical Area-V, where SWMU 52 is located, is being addressed for corrective action under the Consent Order.

65. **Comment:** Citizen Action commented that the volume of wastes discharged by the LWDS during the years 1971 to 1992 is not described.

NMED Response: The total volume of wastewater discharged into the Liquid Waste Disposal System is unknown and likely will never be known. A broad range of constituents (VOCs, SVOCs, metals, radionuclides) were analyzed in soil samples, which were collected adjacent to the tanks in the areas most likely to encounter contamination, if the tanks had leaked. As indicated above, no significant contamination was detected.

66. **Comment:** Citizen Action commented that the total years of operation for the LWDS is not described in the Fact Sheet.

NMED Response: The Liquid Waste Disposal System operated from 1962 to 1992 as reported in SNL's Results of the Liquid Waste Disposal System RCRA Facility Investigation, Sandia National Laboratories, Albuquerque, New Mexico; September 1995. Tank 1 is still in service as part of the Liquid Effluent Control System.

67. **Comment:** Citizen Action commented that the actual sources of the discharges are not described for the tanks or the surface impoundment.

NMED Response: The information requested in the comment is found on page 34 in the Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012). The LWDS was designed to receive, monitor and discharge radioactive effluent from the Sandia Experimental Reactor Facility (SERF). Since the decommissioning of the SERF in 1971, nonradioactive wastewaters from various

buildings in TA-V were drained to the holding tanks. The tanks were periodically pumped to the LWDS drainfield until its collapse in 1967. Wastewater was then pumped to the surface impoundments until October 1992.

68. **Comment:** Citizen Action commented that the tanks, drainfield and surface impoundments received RCRA wastes without logs to record nature, amounts frequency and activity.

NMED Response: The Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012) states “During this time, no logs were maintained to record the frequency of operation and activity measurements.” However, the *Results of the Liquid Waste Disposal System RCRA Facility Investigation, September 1995* report states that from 1963 until 1971, the LWDS received approximately 19 million gallons of waste water contaminated with approximately 35 curies of radionuclides.

There is no evidence that hazardous wastes were disposed of in the tanks, drainfield, or surface impoundments. Because the system did not require a RCRA permit to operate, record keeping requirements under RCRA were not imposed on the Facility to operate the Liquid Waste Disposal System.

69. **Comment:** Citizen Action commented that the age and ASME qualifications and condition of the tanks are not provided.

NMED Response: Two concrete tanks with capacities of 2,000 (Tank #1) and 6,000 gallons (Tank #2) were installed in 1963. A third steel tank with a capacity of 30,000 gallons was installed in 1968 to increase holding capacity. The tanks were not designed

for, and did not store, hazardous wastes, and thus, were not required to meet safety, leak detection, secondary containment, and other requirements under the regulations at 20.4.1.500 NMAC incorporating 40 CFR Part 264 Subpart J.

Tanks #2 and #4 have been filled with a lean cement mixture (see report Solid Waste Management (SWMU) Unit 52: Filling Tanks 2 and 4 with a Permanent Insoluble Material, September 2013). Tank #1 continues to be used as a holding tank for storm water that accumulates in the basement of Bldg. 6588 during occasional strong precipitation events, and condensate water from cooling equipment. Wastewater in the tank is regularly monitored, and when it reaches a specified level in the tank, it is pumped from the tank to the Liquid Effluent Control System (LECS) for disposal into the Albuquerque-Bernalillo County Water Utility Authority's sewer system.

70. **Comment:** Citizen Action commented that SWMU 52 must be closed as a landfill under 40 CFR 264 Subpart N along with the tanks and collapsed drainfield which constitute landfills.

NMED Response: SWMU 52 and associated SWMUs 4 and 5 are not landfills, and they are not regulated units under RCRA Subtitle C. They are SWMUs subject to corrective action under 20.4.1.500 NMAC incorporating 40 CFR § 264.101 and the SNL Consent Order.

71. **Comment:** Citizen Action commented that eight RCRA listed metals (arsenic, barium, beryllium, cadmium, total chromium, copper, nickel and vanadium) exceeded background values. No statement is provided as to the margin of exceedance.

NMED Response: The maximum concentrations for the metals referenced in the comment are found in Table 7, page 35, of the Fact Sheet/Statement of Basis, Sandia

National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012) .

Some metals exceed their approved background levels. The risk assessment indicated a HI of 0.63 using maximum concentrations, and a HI of 0.32 using the upper confidence limit (UCL) of the mean concentrations under a residential land use scenario. The risk assessment indicated an excess cancer risk of 2E-5 using maximum concentrations, and 4E-7 using concentrations expressed as the UCLs of the means under a residential land use scenario. NMED accepts the level of risk based on a residential land use scenario and the UCLs of the means.

72. **Comment:** Citizen Action commented that three VOCs and two SVOCs were detected in soil samples. The amounts detected are not provided.

NMED Response: Three VOCs (acetone, 2-butanone and methylene chloride) and 2 SVOCs (bis [2-ethylhexyl] phthalate and di-n-butyl phthalate) were detected in soil samples as indicated in Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012)).

The maximum concentrations detected are included in Table 7 of the aforementioned document. Acetone was detected at 0.15 mg/kg, an order of magnitude higher than the VOCs 2-butanone and methylene chloride. Bis(2-ethylhexyl) phthalate was detected at 1.3 mg/kg, two orders of magnitude higher than di-n-butyl phthalate at 0.051 J mg/kg. The VOCs and SVOCs do not pose a significant threat to human health or the environment.

73. **Comment:** Citizen Action commented that TCE has been detected at the site at concentrations from 12 to 16 ppb with other organic contaminants, but the extent of vertical contamination cannot be known unless monitor wells are installed at the location.

NMED Response: TCE was not detected in soil samples collected in the subsurface from borings advanced to a depth of 50 feet below ground surface. TCE has been detected in groundwater at Technical Area-V, but the investigation conducted at SWMU 52 does not definitively indicate that it was the source of the release. However, contaminated groundwater beneath Technical Area-V, where SWMU 52 is located, is being addressed for corrective action under the Consent Order.

74. **Comment:** Citizen Action commented that tritium and thorium-232 exceed background levels. All this is significant evidence of contamination requiring monitor wells compliant with the requirements of 40 CFR §§ 264.90-100.

NMED Response: NMED does not generally regulate radionuclides at DOE facilities. The maximum activity for tritium (0.041 pCi/g) and Th-232 (1.3 pCi/g) exceeded maximum background activities, which are 0.021 pCi/g for tritium and 1.01 pCi/g for Th-232. Such levels do not represent evidence of significant contamination. Furthermore, SWMU 52 is not subject to the groundwater regulations found at 20.4.1.500 NMAC incorporating 40 CFR §§ 264.90-100.

75. **Comment:** Citizen Action commented that human and ecological risks are not acceptable to release SWMU 52 for CAC status.

NMED Response: For nonradiological contaminants the excess cancer risk using the UCL of the mean for the main contributor to excess cancer risk (arsenic) is acceptable

under a residential land use scenario. For radiological constituents (thorium-232 and tritium), the TEDE is 1.7 mrem/yr, which is acceptable under a residential land use scenario according to DOE procedures and standards. See Fact Sheet/Statement of Basis, Sandia National Laboratories Proposal for Corrective Action Complete Status for 24 Solid Waste Management Units / Areas of Concern (September 17, 2012)).

As all contaminants were detected at depths greater than 5 feet below ground surface (because the tanks are below ground surface), there is no complete pathway for exposure for ecological receptors. Therefore, ecological risks are negligible.

76. **Comment:** U.S. Department of Energy/Sandia Corporation commented that the TEDE for SWMU 52 is less than the residential standard of 75mrem/yr. The radiological standards have been met at this site for residential land use.

NMED Response: SWMU 52 has been approved for Corrective Action Complete status on the basis that the levels of contaminants detected at the site do not pose significant risk to human health or the environment based on a residential land use scenario.

SWMU 196

77. **Comment.** Citizen Action commented that no records of discharges were maintained.

NMED Response: SNL's Results of the Technical Areas III and V RCRA Facility Investigation, dated June 1996, states that about 5 gallons of waste oil per week were discharged into the Cistern from 1978 until 1989, when the source of the discharges (the PROTO 1 Facility) was closed.

NMED questioned the Permittees as to why such a large cistern was constructed to hold such small discharges. Their response was that the cistern was to be used on an emergency basis to hold the bulk of the transformer oil from the PROTO I Facility.

While that may have been the intent, records of discharges were not kept, and NMED believes that more waste oil and/or waste water was actually discharged into the cistern because contamination was found to extend to a depth of several hundred feet.

SNL's response to NMED's Request for Supplemental Information of November 2004 states that from 1978 to 1989, the cistern received insulating oil and wash water from PROTO 1. The cistern also served as an emergency catch basin for the series of underground storage tanks (SWMU 37) previously connected to PROTO 1. The PROTO 1 facility used Univolt™, a petroleum-based, electrical insulating oil manufactured by the Exxon Corporation that contained no polychlorinated biphenyl (PCB), metal, or radionuclide additives.

Personnel interviews state that occasional, small quantities of insulating oil containing wash water (and possibly Freon™) were discharged into the cistern. The cistern was not connected to any surface water collection systems.

In summary, the amount of contaminants and wastewater discharge into the cistern is unknown and likely to remain unknown. However, the sampling conducted is adequate to characterize what was released.

78. **Comment:** Citizen Action commented that data from soil sampling shows that TPH was found at high levels of 60,500 mg/kg. U-235 and U-238 and tritium were detected above background levels from the bottom of the Cistern. Five VOCs were detected.

NMED Response: TPH at 60,500 mg/kg was detected in a sample from the bottom of the cistern. However, no VOCs, PCBs, or SVOCs were detected above MDLs from the grab sample collected at the bottom of the cistern. Uranium-235, tritium, and five metals with concentrations above background levels were detected during the initial

investigation of the bottom of the cistern. As a result of these detections, the Permittees were required to advance deeper borings to determine the vertical extent of the soil contamination.

For the radiological contaminants (tritium, uranium-233, uranium-235 and uranium-238), the TEDE is 1.2E-1 mrem/yr. The excess cancer risk is 1.0E-6, which is an acceptable level of risk. NMED does not generally regulate radionuclides at DOE facilities.

High concentrations of total petroleum hydrocarbons (TPH) were documented as a result of soil sampling. In 2003, a 300 foot soil boring detected TPH above 100 mg/kg at a depth of 260 feet. The analysis of TPH was used as a screening tool only.

Five VOCs (carbon disulfide, ethylbenzene, methylene chloride, toluene and xylene) were detected in 1999 from boreholes drilled in the upper 75 feet of the vadose zone. In 2003 additional VOCs (1,1,1-trichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloropropane, 2-butanone, chloromethane, tetrachloroethene, and trichloroethene) and six SVOCs (chrysene, pyrene, diethylphthalate, bis(2-Ethylhexyl) phthalate, fluoranthene and phenanthrene) were detected in soil samples from deeper boreholes, primarily in the depth range of 100-200 ft, most with J codes indicating that the concentrations of these substances were less than the laboratory reporting limits.

79. **Comment:** Citizen Action commented that a large drill rig was used to collect samples from 300 feet bgs and 20 feet west of the cistern. VOCs such as TCE, toluene, xylene, methylene chloride and six SVOCs were detected at that depth.

NMED Response: Volatile organic compounds (VOCs) such as TCE, toluene, xylene, methylene chloride and semi-volatile organic compounds (SVOCs) were not detected at

300 feet in soil. The maximum depth of detection for VOCs was 210 feet below ground surface, corresponding to a concentration for TCE at 0.66 J $\mu\text{g}/\text{kg}$. The deepest non J-coded detections for VOCs were at 150 feet below ground surface for butanone and methylene chloride. The maximum depth of detection for SVOCs (bis[2-Ethylhexyl]phthalate) was at a depth of 280 feet with a concentration of 120 J $\mu\text{g}/\text{kg}$. The deepest non J-coded detection for SVOCs was at 200 feet for diethylphthalate (390 $\mu\text{g}/\text{kg}$).

For an industrial land-use scenario the Hazard Index is 0 .03 and the excess cancer risk is 3E-6. For a residential land-use scenario the Hazard Index is 0.27 and the excess cancer risk is 6E-6. The levels of risk for both the industrial and residential land use scenarios are acceptable. However, the high concentrations of TPH in the soil preclude future use of the site without controls. Thus, SWMU 196 has been granted CAC status under an industrial land use scenario.

Of the VOCs and SVOCs, only TCE has been detected in groundwater beneath Technical Area-V, where SWMU 196 is located. However, contaminated groundwater beneath Technical Area-V is being addressed for corrective action under the Consent Order.

80. **Comment:** Citizen Action commented that the depth to groundwater was not provided.

NMED Response: The depth to groundwater is approximately 500 feet (see SNL's Supplemental Response and Proposal for No Further Action, Solid Waste Management Unit 196, Building 6597 Cistern, October 2004, page 3-1, last sentence). (Administrative Record, SNL 1169, p. 311)

81. **Comment:** Citizen Action commented that there is a release of contamination from the Cistern that requires groundwater monitoring wells to be placed at the site.

NMED Response: Residual subsurface soil contamination at SWMU 196 is not expected to cause groundwater contamination in the future. However, contaminated groundwater beneath Technical Area-V is being addressed for corrective action under the Consent Order.

82. **Comment:** Citizen Action commented that backfill of the Cistern does nothing to stop the plume of contaminants that are heading for the groundwater.

NMED Response: The maximum depth that contamination was detected was 280 feet below ground surface. Depth to groundwater is approximately 500 feet below ground surface. Backfilling the cistern will significantly restrict infiltration and percolation of water into site, retarding potential further movement of TPH contamination deeper into the vadose zone.

83. **Comment:** Citizen Action commented that there is no basis for providing CAC status for SWMU 196.

NMED Response: Characterization data indicate that the contaminants detected at the site pose an acceptable level of risk under an industrial land-use scenario. Thus, CAC status is justified.

84. **Comment:** Citizen Action commented that this is a chemically and radioactively contaminated site with the potential to contaminate the groundwater with no monitoring in place. An appropriate groundwater investigation must be provided with at least 1 upgradient and 3 downgradient monitoring well network.

NMED Response: Residual subsurface soil contamination at SWMU 196 is not expected to cause groundwater contamination in the future. However, contaminated groundwater beneath Technical Area-V is being addressed for corrective action under the Consent Order.

85. **Comment:** Citizen Action commented that Sandia provides no information as to what radionuclides were found at the 300 ft depth.

NMED Response: NMED generally does not regulate radionuclides at DOE facilities. Radionuclides were detected only at low activity levels in samples collected at the bottom of the Cistern. No radionuclide samples were collected from the 300 ft depth. In April 1995, two composite soil samples were collected from the bottom of the Cistern for radionuclide analyses. U-235 was detected at an activity level slightly above its corresponding maximum background value. Tritium exceeded its corresponding maximum background level. For radiological contaminants, the TEDE was calculated to be 1.2 E-1 millirem/year. Thus, radionuclides do not pose a significant risk.

86. **Comment:** Citizen Action commented that the SWMU needs to be remediated under post-closure mechanisms as a regulated unit.

NMED Response: SWMU 196 is not a regulated unit, and is not subject to post-closure care under RCRA.

AOC 1090

87. **Comment:** Citizen Action commented that characterization is not sufficient for this SWMU.

NMED Response: AOC 1090 has been adequately characterized via soil sampling conducted at locations most likely to contain the highest concentrations of contaminants.

Characterization data indicate that the contaminants detected at the site pose an acceptable level of risk under an industrial land-use scenario.

88. **Comment:** Citizen Action commented that the SWMU has no groundwater monitoring well and that the description of operations requires groundwater monitoring.

NMED Response: Based upon the low levels of contaminants detected, the depth to groundwater on the order of 500 feet bgs, and natural attenuation processes, groundwater monitoring wells are not needed.

89. **Comment:** Citizen Action commented that the amounts of discharges are not set forth.

NMED Response: The total amount of wastewater discharged is not known and likely never will be known.

90. **Comment:** Citizen Action commented that the SWMU operated from 1959 to the early 1990s and was thus a regulated unit that must be closed with long-term monitoring in place.

NMED Response: AOC 1090 is not a regulated unit and also is not subject to the post-closure care permit requirements. Under corrective action authority, the NMED can impose long-term monitoring for a site. However, in this case, the low levels of contaminants present at the site indicate that long-term monitoring is not needed to ensure protection of human health or the environment.

91. **Comment:** U.S. Department of Energy/Sandia Corporation commented that it is believed that the SVOC compounds detected in the samples represent residual drainfield pipe fragments and do not indicate significant or widespread SVOC contamination that could pose a threat to human health or the environment -- additional

sampling detected no SVOCs in soil samples. AOC 1090 should be designated as CAC without Controls.

NMED Response: Other than SVOCs, arsenic is only other risk driver, but the maximum concentration of arsenic (4.96 ppm) is J-coded as an estimated value. Thus, NMED is willing to grant corrective action complete status for AOC 1090, provided it is subject to an industrial land use restriction.

92. **Comment:** U.S. Department of Energy/Sandia Corporation commented that with the removal of the SVOC concentrations, arsenic is the only significant contributor to the cancer risk. The UCL of the arsenic concentration from AOC 1090 is below the background concentration; thus arsenic can be removed from consideration as a contributor to cancer risk for the residential land-use scenario.

NMED Response: See Response to Comment 91.

SWMU 49

93. **Comment:** Citizen Action commented that SWMU 49 contains RCRA constituents including VOCs, SVOCs, metals, hexavalent chromium, cyanide, High Explosive (HE) residues, and radionuclides. There is inadequate characterization of SWMU 49 and it should not be provided CAC status. Potential surface contamination from explosives testing was not included as part of the assessment activities as it should be.

NMED Response: Explosive testing was not conducted at SWMU 49; rather Building 9820 was used to synthesize high explosive compounds. NMED disagrees that the site was inadequately characterized. Sampling was conducted at areas at the site most likely to have received contaminants. Low levels of contaminants were detected in soil at an outfall connected to drains and a sink in Building 9820 and from a drain in a trailer that

was used for developing photographs. Soil borings were advanced at the trailer site and the outfall. Two soil samples were collected from each boring to characterize the releases. Additionally, groundwater monitoring was conducted in well CYN-MW5 for eight quarters.

Confirmatory soil sampling and analysis in October 1994 and May 1995 showed the presence of the organic compounds methylene chloride and toluene in a trip blank (TB) and equipment blank (EB). Bis(2-Ethylhexyl) phthalate was detected in soil samples collected at the surface discharge and outfall locations. No cyanide or HE compounds were detected in any of the samples collected from the boreholes. Mercury and silver were detected (0.077J mg/kg and 1.7 mg/kg) above their approved maximum background concentrations (0.055 mg/kg and <0.5 mg/kg) but below the upper 95th percentile for background (1.2 mg/kg and 4.0 mg/kg, respectively) and below Subpart S action levels (20 mg/kg and 400 mg/kg, respectively); all other metal concentrations were less than their corresponding maximum background concentrations.

For the radiological contaminants the TEDE is 0.23 mrem/ yr. The corresponding excess cancer risk is 2.3E-6, which is an acceptable level of risk for residential land use. Furthermore, eight quarters of groundwater monitoring at well CYN-MW5 were conducted. Acetone was the only VOC detected in groundwater sample collected in July 2002 (14.1 µg/L). However, acetone was not detected in groundwater samples collected during the other 7 sampling events, suggesting that the detection of acetone was a result of laboratory contamination.

One SVOC [bis(2-Ethylhexyl) phthalate] was detected in the groundwater sample collected in April 2004, but the concentration detected was less than the EPA MCL of 6.0

µg/L. Bis(2-Ethylhexyl) phthalate was not detected in groundwater samples collected during the other 7 sampling events. Barium slightly exceeded the approved maximum background concentration for all eight quarters of sampling, but was below the EPA MCL of 2.0 mg/L. The detected barium concentrations are considered to be representative of background conditions. Hexavalent chromium exceeded the approved maximum background concentration in the first sample collected in July 2002 at 0.015 mg/L (value was below the reporting limit and therefore was an estimate), but was less than the MCL of 0.1 mg/L. Hexavalent chromium concentrations in all other samples are at background level and do not exceed the MCL.

A risk assessment for chemical contaminants resulted in a HI of 0.0 and an excess cancer risk of $5E-8$ which is an acceptable level of risk for residential land use.

94. **Comment:** Citizen Action commented that the volumes of discharges from a former trailer used as a darkroom and Building 9820 are not described for the period of operation of the site. The period of operation was also not described.

NMED Response: The volumes of the discharges are not known and are unlikely to ever be known. As indicated in the Statement of Basis made available with the public notice, the drain outfall at SWMU 49 was in use from 1958 to 1988, and the surface discharge at the trailer occurred from the mid-1970s until 1988.

95. **Comment:** Citizen Action commented that monitoring well CYN-MW5 is located over 1,350 feet from SWMU 49. There is no compliance with the requirement under RCRA that the well be located at the point of compliance. Flow direction of the groundwater is not indicated so one cannot determine that MW5 was placed at the correct location.

NMED Response: The location of groundwater monitoring well CYN-MW5 was chosen to allow the well to serve as a monitoring point for the middle reach of Arroyo del Coyote, as well as serve to monitor groundwater near SWMU 49. The location of this SWMU in a canyon suggests that potential groundwater impacts can be assessed using one downgradient well, as the groundwater flow direction in a canyon is typically controlled by topography. If groundwater had become contaminated as a result of discharges at SWMU 49, it is the NMED's opinion that such groundwater contamination would migrate rapidly away from the site, in a direction towards the northwest (down gradient from the small drainage where the outfall is located), given that the geologic conditions (gravel overlying shallow bedrock on a steep slope) at the site would promote rapid migration. Considerable time has passed since the outfall was active. Thus, the well was purposely placed farther from SWMU 49 than normal in order to have the best chance of intercepting a contaminant plume, should one exist.

The point of compliance provisions applicable to regulated units do not apply to this SWMU.

96. **Comment:** Citizen Action commented that no background monitoring well is present.

NMED Response: A background well is not needed. No definitive evidence of groundwater contamination was found at the downgradient well, and the concentrations of contaminants in soil are low.

97. **Comment:** Citizen Action commented that even though distant from SWMU 49, CYN-MW5 detected hexavalent chromium at a level that exceeded the approved regulatory background concentration level. All barium and one hexavalent chromium concentrations exceeded approved background values. This is statistically significant

evidence of contamination, and monitoring wells should have been placed at SWMU 49 for detection monitoring at the point of compliance.

NMED Response: See NMED's Response to Comment 95 concerning the location of well CYN-MW5.

Hexavalent chromium was not detected in soil samples collected at SWMU 49. Hexavalent chromium was detected once in groundwater at a concentration of 0.015 mg/L, above the maximum background concentration of 0.010 mg/L during the first of eight quarterly sampling events. Hexavalent chromium was detected at a maximum of 0.008 mg/L, less than the background level, during the next seven quarterly events. Barium was detected at 0.176 to 0.200 mg/L, above the maximum background concentration of 0.12 mg/L during each of eight quarterly sampling events. All concentrations of barium in groundwater were below the EPA MCL of 2.0 mg/L for the eight groundwater sampling events. However, barium concentrations observed in water samples from CYN-MW5 are likely representative of background conditions, as the approved background level for this area seems unusually low for the Kirtland Air Force Base area, where the maximum concentration measured by a NMED groundwater study was found to be 0.237 mg/L.

98. **Comment:** Citizen Action commented that SWMU 49 has not been characterized or remediated in accordance with state and/or federal regulations. The required monitoring has not been performed, and there has been no remediation whatsoever.

NMED Response: SWMU 49 was investigated and characterized via soil and groundwater sampling. Only low levels of contaminants were detected in soil.

Additionally, groundwater monitoring was conducted in well CYN-MW5 for eight quarters. No definitive evidence of groundwater contamination was found.

Soil contamination at the site does not pose unacceptable risk under a residential land use scenario.

SWMU 101

99. **Comment:** Citizen Action commented that this is a RCRA regulated unit without monitoring wells. The dump received RCRA contaminants illegally without a RCRA permit.

A monitoring network compliant with the requirements of 40 CFR §§ 264.90-100 is required to be installed at SWMU 101 with at least one upgradient and three downgradient wells. SWMU 101 must have network of monitoring wells put in place because releases have been identified that include VOCs, SVOCs, cyanide, chromium and selenium.

NMED Response: SWMU 101 is not a regulated unit and is not subject to the groundwater monitoring and corrective action requirements of 20.4.1.500 incorporating 40 CFR §§ 264.90-100. NMED has no evidence that hazardous wastes were illegally discharged to the septic system. The presence of hazardous constituents does not mean that the constituents were derived from the disposal of hazardous waste.

Additionally, SWMU 101 is not subject to the groundwater monitoring and corrective action requirements of 20.4.1.500 incorporating 40 CFR §§ 264.90-100.

The organic compounds acetone, chloromethane, chrysene, methylene chloride, phenanthrene and toluene were detected in soil samples. Of the inorganic compounds, total chromium, cyanide, selenium and silver exceeded approved background levels.

Risk analysis yielded a HI of 0.00 and excess cancer risk of 1E-7 for all contaminants which is an acceptable level of risk for residential land use.

100. **Comment:** Citizen Action commented that the volume of liquid discharges to the sumps and drains from Building 9926 and the explosive room in Building 9926A need to be described or the amount of contaminants indicated.

NMED Response: The exact volume and amount of wastewater and that for the contaminants contained within the wastewater are not known and likely will not ever be known. It is not necessary to know the volume of liquid discharged in order to assess the concentrations of residual contaminants currently present at the site.

101. **Comment:** Citizen Action commented that the depth to groundwater is not described for the location. The nearest groundwater monitoring well is approximately 0.7 mi southwest of the site.

NMED Response: Groundwater at SWMU 101 is approximately 420 feet below ground surface as measured at well CTF-MW3, approximately 0.5 miles southeast of SWMU 10

102. **Comment:** Citizen Action commented that operational records are not available. Methanol, TCE, toluene, acetone and isopropyl alcohol, hydrochloric, nitric and sulfuric acid along with high explosive compounds were handled.

NMED Response: The Statement of Basis indicated that the buildings were constructed in 1960 and the septic system installed at the same time. The discharges were connected to the sewer system in 1991, and the septic system abandoned in place in 1996. As operational records for SWMU 101 were not available, the site investigation was designed to evaluate for all potential contaminants.

103. **Comment:** Citizen Action commented that high levels of PCE were identified in soil gas.

NMED Response: Tetrachloroethene (PCE) was identified in a passive soil-gas survey in 1994 using PETREX sampling tubes. The results for one sample identified PCE in soil gas above 10 E5 ion counts. However, ion counts from a passive soil-gas survey cannot be used to quantify the actual amount of a contaminant that is present. Chemical analysis of soil samples collected at SWMU 101 did not detect PCE, indicating that PCE, if still present, occurs only in trace amounts at the site.

104. **Comment:** Citizen Action commented that tritium is above background levels although the amount is not described. U-235 and U-238 are above background levels.

NMED Response: NMED does not generally regulate radionuclides at DOE facilities. Tritium, uranium-238, and uranium-235 are radionuclides. Tritium was detected at 0.0245 pCi/g, slightly above the maximum background activity level of 0.021 pCi/g. Uranium-235 and uranium-238 were not detected in soil samples collected at the site. The minimum detectable activities (MDAs) for uranium-235 and uranium-238 (0.320 pCi/g and 4.52 pCi/g) slightly exceeded the maximum background level for each radionuclide (0.16 and 1.4 pCi/g, respectively). Therefore, the MDAs for uranium-235 and uranium-238 were included in the risk analysis as a conservative measure. The cancer risk for radiological constituents is acceptable under a residential land use scenario.

105. **Comment:** Citizen Action commented that soil samples have been collected at shallow depths to no more than 26 feet. Testing has been at a sparse number of

locations. The information presented for soil sampling only says what was tested for, not the levels that were found.

NMED Response: The soil sampling that was conducted was adequate for SWMU 101. NMED and SNL personnel developed a staged approach and specific procedures for investigating and characterizing small drain and septic system (DSS) sites. The RCRA Facility Investigation Report contains information on the concentrations and activities of the chemical and radiological constituents, respectively. Maximum values are summarized in the Statement of Basis.

106. **Comment:** Citizen Action commented that the ecological risks stated for SWMU 101 are not based on field data from plants and animals. Human and ecological risks are not acceptable to release this SWMU for Corrective Action Complete status because there is insufficient data to characterize the site.

NMED Response: Benchmark toxicity values are based on lowest-observed-adverse-effect levels for plants and on no-observed-adverse-effect levels for wildlife. These values, which are based on field data for key plant and animal species, are used to model the ecological risks of site specific contaminant concentrations on the plant and wildlife receptors at the site. Radiological and nonradiological contaminants of concern were used in the ecological risk assessment.

The major route of exposure for plants and animals is the direct uptake of contaminants from soil. Field data for plants and animals were used in the calculations for ecological risk, where possible. Based upon the analysis, ecological risks are low.

Additionally, site characterization data are adequate; the investigation focused on where the highest concentrations of contaminants should be found. There are no

contaminants posing unacceptable levels of risk at SWMU 101 based on a residential land use scenario.

SWMU 116

107. **Comment:** Citizen Action commented that SWMU 116 has a groundwater monitoring well (CTF-MW1) that is 500 feet from SWMU 116. CTF-MW1 is too far from the point of compliance.

NMED Response: If groundwater had become contaminated as a result of discharges at SWMU 116, it is the NMED's opinion that such groundwater contamination would migrate rapidly away from the site, in a direction towards the west (downgradient along a small drainage adjacent to the SWMU), and given that the geologic conditions (gravel overlying shallow bedrock) at the site that would promote rapid migration. Thus, the well was purposely placed farther from SWMU 116 than normal in order to have the best chance of intercepting a contaminant plume, should one exist.

The location of this SWMU, situated at the head of a drainage and surrounded on three sides by hills, suggests that potential groundwater impacts can be evaluated using one downgradient well, as the groundwater flow direction would be expected to be controlled by topography.

108. **Comment:** Citizen Action commented that although the monitoring well is 500 feet from SWMU 116, samples show that selenium was detected in seven of eight groundwater samples exceeding background levels.

NMED Response: Definitive evidence of groundwater contamination was not found. Selenium was detected in groundwater samples in seven of the eight quarters at concentrations ranging from 0.00536 mg/L to 0.0072 mg/L, which is slightly above the

approved maximum background concentration of 0.005 mg/L. These values are likely representative of background levels and are below the EPA MCL of 0.05 mg/L.

109. **Comment:** Citizen Action commented that no background well is present for SWMU 116.

NMED Response: A background well is not needed. No definitive evidence of groundwater contamination was found at the downgradient well. SWMU 116 is not a regulated unit.

110. **Comment:** Citizen Action commented that no groundwater flow direction is indicated on Figure 13 to determine if CTF-MW1 is downgradient from SWMU 116.

NMED Response: The groundwater flow direction is most likely away from the mountain front to the west-southwest. See also Response to Comment 107.

111. **Comment:** Citizen Action commented that no RCRA monitoring network consisting of 1 upgradient and 3 downgradient wells is in place despite the significant evidence of contamination, especially given that selenium could be contaminating the groundwater beneath the SWMU.

NMED Response: A groundwater monitoring well network as referenced by the comment is not required because the SWMU is not a regulated unit and is not warranted based on the lack of evidence of groundwater contamination.

112. **Comment:** Citizen Action commented that the use of Building 9990 and the volume of waste water and quantities of contaminants that were discharged are not identified.

NMED Response: Building 9990, the Electroexplosive Research Facility, was used for explosives testing until 1986, and unspecified activities from 1986-1994. Reportedly,

there has been no significant activity at Building 9990 since 1994. One of the seepage pits received waste water from a darkroom sink and drains. No operational records are available. The total amount of wastewater or wastes discharged and the quantities of contaminants will likely never be known.

113. **Comment:** Citizen Action commented that the claim that risk is acceptable is unsupported given the lack of a RCRA well monitoring network to characterize the contamination in the groundwater at SWMU 116. Human and ecological risks are not acceptable to release this SWMU for CAC status.

NMED Response: See Responses to Comments 107 and 108. SWMU 116 was investigated and characterized via soil and groundwater sampling. A human health risk screening was performed. For the residential land use scenario, the HI was 0.01 and the excess cancer risk was 4E-8. The SWMU does not pose unacceptable risk to human health under a residential land use scenario. Because all contaminants are located at depths below 5 feet, there is no complete exposure pathway, and thus, ecological risk is negligible.

SWMU 138

114. Citizen Action commented that SWMU 138 received metals, HE compounds, VOCs, SVOCs and radionuclides from its construction in 1959 until about 1991. The SWMU has not been adequately characterized for Corrective Action Complete status. Since it received hazardous waste after July 26, 1982, a RCRA permit was required but not obtained for SWMU 138. SWMU 138 is required to close with a post-closure permit.

NMED Response: NMED disagrees that the site was inadequately characterized.

Sampling was conducted at areas at the site most likely to have received contaminants.

Low levels of contaminants were detected in soil samples collected from the septic system drainfield and from below the septic tank; however, all contaminants were detected at concentrations that meet acceptable risk levels for residential use.

SWMU 138 is not a regulated unit and was not and is not subject to the requirements for a RCRA permit or RCRA post-closure care permit. NMED has no evidence that hazardous wastes were disposed of in the septic system. The presence of hazardous constituents does not mean that the constituents were derived from the disposal of hazardous waste.

115. **Comment:** Citizen Action commented that the aqueous discharges from Building. 6630 are not described for volume or types of waste constituents.

NMED Response: Site operational history is not well known. The Statement of Basis for SWMU 138 describes potential constituents of concern as metals, HE compounds, VOCs, SVOCs and radionuclides. The exact volume and amount of liquid waste and contaminants are not known and will likely not ever be known.

116. **Comment:** Citizen Action commented that septic tank sampling detected PCBs. Soil sampling was only conducted to a depth of 16.5 feet. The soil samples detected three VOCs, three SVOCs, and three RCRA metals above approved background levels.

NMED Response: The PCB Aroclor 1254 was detected in tank sludge at 700 µg/kg in May 1994. The septic tank sludges were removed and the tank cleaned on October 10, 1995. Three VOCs (acetone, methylene chloride and toluene) were detected in the soil samples. All but toluene were also detected in the associated TB or EB samples. Three

SVOCs [bis(2-ethylhexyl) phthalate, 2-chloronaphthalene and phenol] were detected in the soil samples. No PCBs were detected in any of the samples collected from the boreholes. Barium, nickel and silver were detected above their approved maximum background levels in all three boreholes. All other metal concentrations were less than their corresponding approved maximum background concentrations. For radionuclides, no activities above background levels were detected in any of the samples analyzed. However, although not detected, the MDA for tritium analyses exceeded its respective background activity; as a result, the MDA for tritium (0.125 pCi/g) was used in the risk assessment as a conservative measure.

The risk assessment for SWMU 138 resulted in a HI of 0.20 and an excess cancer risk of $6E-8$, which is acceptable for residential land use.

117. **Comment:** Citizen Action commented that although statistically significant evidence of contamination was detected at SWMU 138, no groundwater monitoring has been conducted for the site and compliance monitoring is required under RCRA.

NMED Response: SWMU 138 is not a regulated unit and is not subject to the groundwater monitoring and corrective action requirements of 20.4.1.500 incorporating 40 CFR §§ 264.90-100. Although contamination was detected in soil at SWMU 138, the levels of contamination are not significant.

118. **Comment:** Citizen Action commented that human and ecological risks are not acceptable to release this SWMU (138) for CAC status.

NMED Response: A human health risk screening assessment was performed. For a residential land-use scenario, the HI is 0.2 and the excess cancer risk is $6E-8$. The level of risk is acceptable for residential land use. Because all contaminants are located at

depths below 5 feet, there is no complete exposure pathway, and thus, ecological risk is negligible.

SWMU 140

119. **Comment:** Citizen Action commented that the abandoned drain systems, seepage pit and drywell are not described as to depth. The volume of discharges is not described.

NMED Response: As indicated in the RCRA Facility Investigation Report (September 1999), the depth of the bottom of the septic tank is seven feet below ground surface, the drywell eight feet, and the seepage pit 11 feet below ground surface. The volume of discharge is estimated to be between 70,000 and 3,500,000 gallons (RSI Response and Proposal for CAC, Drain and Septic Systems SWMU 140, Bldg. 9965 Septic System, September 2005). However, the actual amount of wastewater or wastes discharged will likely never be known.

120. **Comment:** Citizen Action commented that the drain systems, seepage pit, and drywell received RCRA hazardous waste without obtaining a permit.

NMED Response: There are no records that hazardous wastes were disposed of in the SWMU 140 septic system. The presence of hazardous constituents does not mean that they were derived from the disposal of hazardous waste.

121. **Comment:** No monitoring well has been provided as it should because of significant evidence of contamination exists at the site. Four VOCs, cyanide, three RCRA metals, U-235 and U-238 were detected in soil samples. Septic tank sampling

identified VOCs (TCE), pesticides, cyanide, oil and grease. Upgradient and downgradient monitoring wells are needed at both the seepage pit and drywell.

NMED Response: Soil sampling results from areas most likely to have received the highest levels of contaminants demonstrate that only low levels of contaminants are present. Thus, groundwater monitoring wells are not needed. An assessment of risk demonstrates that SWMU 140 does not pose unacceptable risk to human health or the environment.

122. **Comment:** Citizen Action commented that the data to evaluate risk are not present. The five assessment investigations do not provide the necessary knowledge to characterize nature and extent for potential or existing contamination of the groundwater.

NMED Response: Samples were collected and analyzed from locations most likely to have received the highest concentrations of contaminants. These data are adequate to complete the investigation of the site and evaluate risk.

AOC 1117

123. **Comment:** Citizen Action commented that SWMU 1117 is an abandoned drywell 4 feet in diameter and 11 feet deep. The condition of the drywell is not described to know if the well is even covered.

NMED Response: NMED personnel inspected this particular drywell and it did have a cast iron cover in good condition. It was dry at the time of the inspection (1999).

124. **Comment:** Citizen Action commented that the drywell was constructed in 1980 and ceased receiving liquid wastes by August 1999. The drywell is thus a regulated unit that must close with groundwater monitoring.

NMED Response: Dry wells, or French drains, are typically connected to floor drains or air-conditioner condensate drains – not to septic systems or sinks - and were not designed to continuously receive liquids. The drywell is not a regulated unit as it was not used for the disposal of hazardous waste, is not subject to the groundwater monitoring requirements of 20.4.1.500 incorporating 40 CFR §§ 264.90-100, and is not subject to the closure requirements for hazardous waste management units.

125. **Comment:** Citizen Action commented that the SWMU is one of five shallow groundwater Drains and Septic Systems (DSS) sites that had 2-butanone soil sample concentrations above the 10 microgram/kg VOC trigger level specified in the DSS sampling and analysis plan (SAP).

NMED Response: The contaminant released, 2-butanone (methyl ethyl ketone or MEK), is a common laboratory contaminant. The compound was detected in samples from five DSS sites that were submitted together in 1999 for laboratory analysis. The MEK data for the 1999 samples are considered erroneous because of laboratory contamination and were rejected. MEK was not detected in soil samples collected in 2005.

SWMU 91

126. **Comment:** Citizen Action commented that the 20 acre site amounts to multiple landfills operating to receive waste after July 26, 1982 and should be required to have a

RCRA Part B Permit. SWMU 91 must be closed as a landfill under 40 CFR 264

Subpart N.

NMED Response: SWMU 91 originated from the Flyer Plate Test Site which was active from 1962 until the late 1980's. In 1979 steel-jacketed lead barrels weighing 1,000 to 4,000 pounds were used in the tests, which also utilized 200 to 1,000 pounds of high explosives per test. These tests resulted in the release of large amounts of lead into the environment.

According to the RCRA Facility Investigation Report (Final Investigation Report, June 2005; , after each test, an effort was made to pick up large pieces of debris between tests, but apparently not all debris was located and removed from the site. Heavy equipment used to prepare the site between tests spread debris and small particles of lead on the surface and buried them to shallow depths.

NMED does not consider SWMU 91 to be a landfill because no systematic attempt was made to bury debris in a concentrated area for the purpose of disposal. Debris and contaminated soil exhibiting unacceptable levels of lead contamination was subsequently removed through the corrective action completed at SWMU 91.

SWMU 91 is not a regulated unit under 20.4.1.500 NMAC incorporating 40 CFR § 264.90(a)(2). Instead, SWMU 91 is subject to corrective action under 20.4.1.500 NMAC incorporating § 40 CFR 264.101. SWMU 91 is also not subject to RCRA permit requirements.

127. **Comment:** Public comment was received from Citizen Action asserting that groundwater monitoring is required as part of the closure.

NMED Response: Groundwater monitoring wells are not needed at SWMU 91. Given the climatic and geologic conditions at the site, there is little potential for residual elemental lead to migrate to groundwater which occurs at a depth in excess of 485 feet below ground surface.

128. **Comment:** Citizen Action commented that the number of tests performed involving the masses and types of material are not provided. The mass of differing materials used in the tests needs to be quantified.

NMED Response: The exact quantities of materials used in the tests will likely never be known. A total of 13 documented lead barrel/flyer plate tests were conducted at SWMU 91 during the 1980's. The total amount of high explosives used in the documented tests was 7,400 pounds, while the total amount of lead that was used is 102,000 pounds. Earlier testing from 1962 to the 1980's used undetermined amounts of high explosives, aluminum, lucite, and cast iron. Characterization of SWMU 91 indicates that the only significant contaminant detected at the site is lead.

129. **Comment:** Citizen Action commented that lead, arsenic, beryllium, cadmium, selenium, silver, barium and chromium were detected "above background values." It must be presented how far above background values all RCRA metals were detected.

NMED Response: Lead is the main contaminant. The Upper Confidence Limit of the mean concentration of lead is less than the construction worker clean-up goal of 750 mg/kg and the industrial land-use scenario of 1,500 mg/kg, and thus is an acceptable level of risk.

The concentrations of metals are presented in Table 8 in the Statement of Basis, as well as in other documentation related to the RCRA Facility Investigation. The

approved maximum background concentrations are 4.4 mg/kg for arsenic; 214 mg/kg for barium; 0.65 mg/kg for beryllium; <1 mg/kg for cadmium; 15.9 mg/kg for chromium; 11.8 mg/kg for lead; <1 mg/kg for selenium; and, <1 mg/kg for silver. The maximum concentrations of arsenic (14.5 mg/kg), beryllium (3.1 mg/kg), cadmium (5 mg/kg), lead (6,800 mg/kg), selenium (55 mg/kg), silver (5.4 mg/kg), barium (250 mg/kg) and chromium (1.7 mg/kg) detected at SWMU 91 were evaluated in the risk assessment. Lead, arsenic, beryllium, cadmium, selenium, silver, barium and chromium were detected above their corresponding maximum background values, but only lead and arsenic failed acceptable risk levels for residential land use. However, arsenic concentrations likely reflect background concentrations. The risk level for residual lead contamination is acceptable for industrial land use, which for the foreseeable future is SNL's intended land use for SWMU 91.

130. **Comment:** Citizen Action commented that no subsurface testing has been performed below a depth of 5 feet although contamination with RCRA metals and radionuclides such as U-235, U-238, Cs-137 and thorium-232 has been detected in these samples. Contamination must be investigated at depths greater than 5 feet as tests were conducted in a trench 6 to 8 feet deep. Testing and monitoring at greater depths is required under RCRA to determine if groundwater contamination is present.

NMED Response: Subsurface soil samples were collected at depths of 5, 10, 15, and 20 feet during site investigations conducted in 1992 and 1995. Samples had a maximum lead concentration in soil of 17 mg/kg at 20 feet below ground surface, which is representative of background conditions. Analytical results indicate that most soil contamination occurs at shallow depths (< 2 feet). Geophysical surveys were also performed in 2004 to look

for buried debris. These surveys indicated that the depth of debris was limited to 2 to 3 feet below ground surface. In 2004, soil was excavated to remove debris and contaminated soil with levels of lead exceeding 750 mg/kg, the acceptable concentration for lead for a construction worker at an industrial location.

Surface radiological surveys were conducted in 1993 and 1994 at 6-foot centers (100% coverage). While the radionuclides U-235, U-238, Cs-137, and Th-232 were detected above background levels, radiological materials were reportedly not used in the tests conducted at SWMU 91. Radiological contamination may have originated at SWMUs 17A, 17B and 194 which are adjacent to or near SWMU 91 and which were reported to have released radiological materials and could have been deposited on the ground surface of SWMU 91. The level of risk posed by residual contamination at these SWMUs was acceptable, and they were granted Corrective Action Complete status without controls.

131. **Comment:** Citizen Action commented that the travel of the fine particles of RCRA metals and radionuclides into the air pathway should be considered.

NMED Response: The fate and transport of the fine particles of metals and radionuclides through air was evaluated. Additionally, inhalation of airborne compounds (vapor phase or particulates) of both nonradiological and radiological contaminants was one of the potential exposure routes evaluated in the risk assessment.

The level of risk for industrial purposes is acceptable for nonradiological contaminants. SWMU 91 has been released for unrestricted land use for radiological contaminants by the DOE under its self-implementing regulations.

132. **Comment:** Citizen Action commented that Figure 10 does not show the sampling locations at SWMU 91.

NMED Response: Figure 10 in the Statement of Basis illustrates the location of SWMU 91 and the area of the excavation relative to the test area. Soil sampling, surface radiological surveys, geophysical surveys, and a UXO/HE survey were conducted in 1992, 1993, 1994, 1995, 1996, 1999 and 2000. Figures 2.3.1-1, 2.3.3-1, 2.3.3-2, 2.3.3-3, 2.3.3-4, 2.3.3-5, 2.4.1-1, 2.4.2-2, 2.4.2-3, 2.4.3-1, 2.4.6-1, 5-15.1.3-1, 5.1.4-1, 5.3.2-1 illustrate individual surveys, sampling locations and excavations (Final Investigation Report for SWMU 91, June 2005). Hundreds of soil samples were collected and analyzed during the investigations conducted at the site. Detailed results are presented in the Final Investigation Report for SWMU 91, June 2005, including maps showing the locations of soil samples collected.

133. **Comment:** Citizen Action commented that Figure 10 does not show the proximity to lands that are offsite of SNL to SWMU 91. Testing of the offsite lands to the west and south should be required due to the proximity of this site and the lengthy period of explosive operations that volatilized numerous RCRA metals and radionuclides and may have resulted in off-facility deposits.

NMED Response: A map showing the location of SWMU 91 relative to Kirtland Air Force Base and surrounding areas is in the Final RCRA Facility Investigation Report and Proposal for Corrective Action Complete, June 2005. SWMU 91 is located in a remote part of the Kirtland Air Force Base. Given the large distances to the nearest off-site receptors, there is little potential that soil contamination from SWMU 91 would be

discovered at Isleta Pueblo, Albuquerque, or other populated areas located in any direction from the site.

134. **Comment:** Citizen Action commented that the ecological risks stated for SWUM 91 are not based on factual field data from plants and animals.

NMED Response: The only significant contaminant at SWMU 91 is lead. Benchmark toxicity values are based on lowest-observed-adverse-effect levels for plants and on no-observed-adverse-effect levels for wildlife. These values, which are based on field data for key plant and animal species, are used to model the ecological risks of site specific contaminant concentrations on the plant and wildlife receptors at the site. Radiological and nonradiological contaminants of concern were used in the ecological risk assessment. The major route of exposure for plants and animals is the direct uptake of contaminants from soil. Field data for plants and animals was used in the calculations for ecological risk, where possible. Based upon the analysis, ecological risks are low.

135. **Comment:** Citizen Action commented that the proximity of five other SWMUs to SWMU 91 should be examined as to the potential for enhanced migration of contaminants and cumulative risk.

NMED Response: The five SWMUs (6, 17, 56, 89 and 194) nearest to SWMU 91 have all been approved for Correction Action Complete without controls status. Like SWMU 91, they have been evaluated for human and ecological risk on an individual basis in accordance with NMED and EPA guidance.

136. **Comment:** Citizen Action commented that cancer risks for residential land-use are unacceptable and need to be quantified for all contaminants identified and remaining at the site.

NMED Response: SWMU 91 is being approved for Corrective Action Complete status based on an industrial land-use, construction worker scenario. Industrial use is the most likely use for the land in the foreseeable future; a construction worker is considered to be a more sensitive receptor compared to a typical industrial worker. The risk assessment considered all contaminants identified at the site, although only lead was significant.

SWMU 105

137. **Comment:** Citizen Action commented that Bldg. 6536 operated during the period that it would require a RCRA permit as a regulated unit.

NMED Response: SWMU 105 does not meet the definition for a regulated unit. The spill originated from a mercury bath used to measure pressure in equipment.

138. **Comment:** Citizen Action commented that the quantity of the mercury spill is not described. One cubic yard of mercury contaminated soil was removed but that gives no indication of the amount of mercury released.

NMED Response: Site history at SWMU 105 is poorly known. The mercury bath was examined and determined to contain 10 to 13 pounds less mercury than full capacity. An estimate of the volume of mercury spilled could have been made based upon the capacity of the mercury bath used in the experiments, but exact the volume lost is not known and will likely never be known. Because site history is poorly known, soil samples were analyzed for a range of potential contaminants including RCRA metals to ensure nothing of significance was overlooked. Boreholes were purposely advanced in a grid below the footprint of the building and around the perimeter of the building to locate soil contamination for removal, as needed.

139. **Comment:** Citizen Action commented that the other chemicals and metals used for high heat experiments are not described.

NMED Response: The only significant contaminant of concern is mercury. Initial sampling included the metals mercury, arsenic, barium, cadmium, chromium, lead, and selenium. Subsequent analysis showed that all metals other than mercury occur at background level concentrations, and thus, the other metals are not contaminants of concern at the site.

140. **Comment:** Citizen Action commented that the method for disposal of the liquid waste stream from this building is not set forth.

NMED Response: The mercury release was not to a septic system or drain. The spill occurred on the floor of the building. It was released to the environment via cracks in the concrete floor.

141. **Comment:** Citizen Action commented that no monitoring wells are present and a minimum of three downgradient and one upgradient monitoring wells are required.

NMED Response: SWMU 105 is not a regulated unit. One hundred forty three boreholes were advanced at the site to a maximum depth of 11 feet below ground surface, and subsurface soil was sampled at depths of 0, 2, 4, 6, 8 and 11 feet. Over 560 soil samples were collected to characterize the site. Of the samples collected, the maximum detected concentration of mercury in the soil was 318 mg/kg at the ground surface. The maximum detected concentration of mercury at 11 feet bgs was 0.0574 mg/kg. These results indicate that most of the soil contamination occurred at a shallow depth (Voluntary Corrective Action Work Plan for SWMU 105, September 2005).

Groundwater monitoring wells are not needed at SWMU 105. Limited precipitation, high evapotranspiration, fine-grained soil, a likely small source, the shallow

depth of soil contamination and the depth to groundwater (approximately 490 feet below ground surface) preclude groundwater as a viable exposure pathway.

142. **Comment:** Citizen Action commented that the cleanup of the site to only an industrial standard allows water that will be used for residential purposes to be contaminated to an industrial level.

NMED Response: The soil at SWMU 105 was cleaned up to industrial standards. The groundwater beneath SWMU 105 is unlikely to become contaminated. Regardless, groundwater standards such as EPA Maximum Contaminant Levels and New Mexico Water Quality Control Commission human health standards (20.6.2.3103 NMAC) are promulgated based on residential use of the water as a drinking water source.

SWMU 150

143. **Comment:** Citizen Action commented that the volume of liquid waste discharged is not provided.

NMED Response: The total amount of wastewater discharged is not known and likely will never be known. The system was designed with an estimated discharge rate ranging from 20 to 400 gallons per day based upon the number to people who worked at the facility.

144. **Comment:** Citizen Action commented that this was a RCRA regulated unit and needs to be closed under post-closure requirements.

NMED Response: SWMU 150 is not a regulated unit. SWMU 150 is subject to corrective action under 20.4.1.500 NMAC incorporating § 40 CFR 264.101. SWMU 150 is also not subject to the post-closure care permit requirements.

145. **Comment:** Citizen Action commented that the depth to groundwater is not provided for the location.

NMED Response: Groundwater at SWMU 150 is approximately 315 feet bgs based on the water level observed at the nearest monitoring well, CTF-MW2, which is approximately 1,950 feet northwest of the site.

146. **Comment:** Citizen Action commented that four VOCs were detected in soil samples, but no data are provided for the detection levels.

NMED Response: The four VOCs detected are acetone, MEK, methylene chloride and toluene with detection limits of 10, 10, 5 and 5 µg/kg, respectively (see Fact Sheet/Statement of Basis – Proposal for CAC Status for 24 SWMUs/AOCs, September 2012). Lists of detection limits for all VOCs are found in Tables 3-2A, 3-2B, and 3-2C (reporting limits) in Environmental Restoration Project Responses to NMED Request for Supplemental Information to No Further Action Proposals Dated 1997, September 1999.

147. **Comment:** Citizen Action commented that a deep sample was not collected from the seepage pit (maximum sample depth was only 8 feet) or the drainfield (maximum sampling depth was only 4 feet).

NMED Response: The Geoprobe met refusal at six different locations at depths ranging from 6.5 to 9 feet. Digging with a backhoe later demonstrated that caliche or cemented conglomerates prevented the collection of deeper soil samples at the seepage pits and drainfield. Soil samples were collected at the depth corresponding to the bottom of each pit or drainfield (see Proposal for No Further Action Environmental Restoration Project Site 150, Building 9939/9939A Septic System, June 1997). Caliche or cemented conglomerate would retard the migration of wastewater (and contamination) deeper into the vadose zone. Thus, the maximum levels of contaminants associated with the septic system were likely found at the depths that were sampled.

148. **Comment:** Citizen Action commented that groundwater monitoring wells need to be installed. A septic plume considered to exist was not investigated for its extent.

NMED Response: Groundwater at SWMU 150 is approximately 315 feet bgs. A layer of caliche or caliche cemented conglomerate starts 10 feet bgs as detected during drilling. The caliche or caliche cemented conglomerate and natural attenuation processes would likely preclude the minor amounts of contaminants reported from soil samples from moving into the groundwater. Thus, groundwater monitoring wells are not needed.

149. **Comment:** Citizen Action commented that the data for SWMU 150 is over a decade old.

NMED Response: The data are still valid. These samples are considered representative of any releases of hazardous wastes or hazardous waste constituents that may have occurred at any given time at the SWMU. As the septic system was abandoned prior to the collection of the soil samples, no additional releases have occurred at the site since the samples were collected.

150. **Comment:** Citizen Action commented that no information is provided for the radionuclides detected.

NMED Response: NMED generally does not regulate radionuclides at DOE facilities. Thorium-234, potassium-40, radium-226 and tritium were detected in subsurface soil samples at levels below background levels. However, for uranium-235 and uranium-238, their minimum detectable activities (MDA's) slightly exceeded their maximum background levels. To account for the latter, risk estimates assumed that uranium-235 and uranium-238 were present at their respective MDAs to be conservative. The cancer risk was estimated to be 1.6E-6, which is acceptable for residential land use.

SWMU 161

151. **Comment:** Citizen Action commented that the septic system is a regulated unit.

NMED Response: SWMU 161 is not a regulated unit.

152. **Comment:** Citizen Action commented that the volume of liquid discharges is not provided.

NMED Response: The total volume of wastewater discharges into the septic system is not known and will likely never be known.

153. **Comment:** Citizen Action commented that the depth of the septic tanks and drainfields is not provided.

NMED Response: The bottom of the septic tank was 7.5 feet below ground surface. The bottom of the drainfield was at a depth of 10 feet bgs. (Sandia National Laboratories Environmental Restoration Project, Request for Supplemental Information Responses and Proposals for Corrective Action Complete Drains and Septic Systems SWMUs 49, 101, 116, 138, 149, 154, and 161, Round 9, June 2005).

154. **Comment:** Citizen Action commented that eight RCRA metals were detected in septic sludge.

NMED Response: Seven metals were detected in a sludge sample obtained from the septic tank, and one metal was detected in the liquid fraction in the tank. The samples were collected for waste characterization purposes. The contents of the tank were removed for disposal.

155. **Comment:** Citizen Action commented that VOCs and cyanide were detected in soil samples from 1994.

NMED Response: VOC s and cyanide were detected in the soil samples collected from the soil borings. The maximum concentrations detected were evaluated in the risk assessment for SWMU 161. The human health risk is acceptable under a residential land use scenario for the contaminants detected.

156. **Comment:** Citizen Action commented that the data for SWMU 161 is more than a decade old.

NMED Response: The data are still valid. These samples are considered representative of any releases of hazardous wastes or hazardous waste constituents that may have occurred at any given time at the SWMU. As the septic system was abandoned prior to the collection of the soil samples, no additional releases have occurred at the site since the samples were collected.

157. **Comment:** Citizen Action commented that no monitoring well network exists for SWMU 161 to determine if releases to groundwater occurred.

NMED Response: Groundwater at SWMU 161 is approximately 466 feet bgs. The depth to groundwater and natural attenuation processes would likely preclude the minor amounts of contaminants reported from soil samples from migrating to groundwater. Thus, groundwater monitoring wells are not needed.

158. **Comment:** Citizen Action commented that the depth to groundwater is not provided.

NMED Response: Groundwater at SWMU 161 is approximately 466 feet below ground surface, based on the depths to groundwater in monitoring wells at the Chemical Waste Landfill located 3,500 feet southeast of SWMU 161.

159. **Comment:** Citizen Action commented that there is no basis for providing CAC status to SWMU 161.

NMED Response: Characterization data indicate that the contaminants detected at the site pose an acceptable level of risk under a residential land-use scenario. Thus, granting Corrective Action Complete status is justified.

AOC 1101

160. **Comment:** Citizen Action commented that the site is a regulated unit that is required to close under a post-closure permit.

NMED Response: AOC 1101 is not a regulated unit and is not subject to post-closure care permit requirements.

161. **Comment:** Citizen Action commented that the volume of liquid waste is not set forth for operations.

NMED Response: The volume of wastewater discharges into the septic system is not known and will likely never be known.

162. **Comment:** Citizen Action commented that the amounts of COCs are not set forth.

NMED Response: The amounts of contaminants discharged into the septic system are not known and will likely never be known.

163. **Comment:** Citizen Action commented that there are no monitor wells.

NMED Response: Given the depth to groundwater, the lack of appreciable soil contamination, and natural attenuation processes, it is unlikely that any contamination has reached the water table. Thus, groundwater monitoring wells are not needed.

164. **Comment:** Citizen Action commented that there is no evidence set forth to prove that the seepage pits or tanks were removed before the area was paved over. Where are the excavation records to make the conclusion?

NMED Response: The septic system serving Building 855 was connected to the publicly owned treatment works in 1988 (at that time the City of Albuquerque sewer system). A backhoe excavation was conducted in March 2002 to locate the septic system in the area that construction records indicated that it was located. The excavation exposed the old drain line and followed it until it reached the paved parking lot. A section of the pavement overlying where the southwest pit was presumed to lie was excavated in 2006. Again, an effort was made to find the septic system components, but this effort was also unsuccessful. The information available suggests that the components had been already removed prior to construction of the paved parking lot, but no other information is available. Soil samples were collected from both boreholes believed to be at the locations for the now-removed septic system components.

In summary, NMED believes that the Permittees made a reasonable attempt to locate the septic system components, and sampled the area most likely to have contained the septic system components based on available information.

165. **Comment:** Citizen Action commented that the site is insufficiently characterized or monitored to release it as CAC.

NMED Response: AOC 1101 has been adequately characterized. A total of six soil samples were collected from the soil excavations and boreholes. These samples were collected at locations where contaminants were most likely to be found, based on available information. Characterization data indicate that the contaminants detected pose

an acceptable level of risk under a residential land-use scenario. Thus, granting CAC status is justified.

166. **Comment:** Citizen Action commented that the risk assessment for residential use cannot be justified on the basis of the absence of data for this facility.

NMED Response: See Response to Comment 165.

SWMU 28-2

167. **Comment:** Depleted uranium was found at the entry to the mineshaft.

NMED Response: NMED generally does not have the authority to consider depleted uranium (DU), which is a radioactive substance, when making CAC determinations. DU was found in soil near and at the portal to the adit to the mine. The soil was excavated, and sampling and analysis of soil samples collected from the excavated area indicate that DU contamination was still present at a maximum activity level of 452 pCi/g. This level of remaining DU contamination was determined by the Permittees, via their own risk assessment procedures and standards, to pose no threat to human health and the environment. For the radiological contaminants the TEDE is 3.2E-1 mrem/ yr, which is significantly less than the numerical guidance of 75 mrem/yr.

168. **Comment:** Depth to groundwater is not known; therefore a minimum of two wells in a phased approach would be necessary to characterize and investigate groundwater contamination.

NMED Response: Although the depth of groundwater in the canyon near the mine is unknown, it probably occurs at a relatively shallow depth. The mine exploited an epithermal vein containing fluorite and subordinate galena. Small amounts of barite and chalcopyrite are also present. Metals, particularly lead, barium, zinc, silver, and copper

would be expected to exceed normal background conditions for the Kirtland Air Force Base-area because of the natural concentration of these metals in the vein.

The only contamination observed at the mine that is believed to be anthropogenic, aside from DU, is residual high explosives (HE). The residual HE is located in a small area at the end of the mine tunnel. Given that there is only a small amount of HE contamination, that little moisture is present where the contamination is located, and that the residual HE is surrounded by bedrock, contamination of groundwater is unlikely to occur. Thus, groundwater monitoring wells are not needed to monitor for HE contamination at SWMU 28-2. Additionally, removing the small amount of residual HE from the tunnel cannot be justified given the hazards that would be inherent to working in an abandoned mine and given the little benefit to be gained by such an undertaking.

169. **Comment:** The site is not suitable for CAC, especially for residential use and given that it is on U.S. Forest Service land.

NMED Response: HE contamination detected at SWMU 28-2 does not pose an unacceptable risk to human health or the environment, and thus, CAC status is justified. With arsenic removed from the equation, as it should be, the risk assessment for contaminants at the site resulted in a HI of 0.51 and an excess cancer risk of $1E-7$ which is an acceptable level of risk for residential land use.

170. **Comment:** Constituents of concern include HE compounds, metals, and radionuclides.

NMED Response: Potential contaminants included radionuclides, HE, and metals. The only radionuclides detected above Department-approved background levels were uranium-235, uranium-238, and thorium-232, which were detected on the surface at and

in the vicinity of the mine portal. HE was detected underground in one small area. Some of the metals found at the mine site occur at levels that exceed background conditions that are typical for the Kirtland Air Force Base-area. In this case, the concentrations detected are likely representative of natural conditions where metals have been concentrated within the vein by hydrothermal fluids.

171. **Comment:** The site requires further investigation.

NMED Response: The place in the mine where the HE contamination occurs is the only area that was found underground that warranted investigation, and the only area that showed signs of testing activity. This area was adequately investigated via soil sampling, as the area containing HE contamination was easily visible (as black sooty material covering the ribs, back, and floor of the end of the tunnel) behind a concrete mass. The area that was contaminated with DU occurs outside the mine and was also investigated by soil sampling. However, NMED generally does not have the authority to consider depleted uranium (DU) when making CAC determinations.

SWMU 147

172. **Comment:** RCRA metals, VOCs, and HE were received by this site from 1959 to the late 1980s, during the period a permit was required to operate.

NMED Response: Hazardous constituents do not necessarily originate from the disposal of hazardous wastes. A RCRA permit was not and is not required for SWMU 147 as it is not a regulated unit.

173. **Comment:** There are no monitor wells present.

NMED Response: Based upon the low levels of contaminants detected and natural attenuation processes, groundwater monitoring wells are not needed at this SWMU. For

residential land-use scenarios, the HI and excess cancer risks (ECR) are acceptable (HI = 0.07 and ECR = 5E-8).

174. **Comment:** The amount of liquid discharge is not provided.

NMED Response: The amount of wastewater discharged at SWMU 147 is not known and likely will never be known.

175. **Comment:** Collecting septic samples at this time has no bearing on the wastes that were released over several decades of use. Most of the data is over a decade old and does not include necessary groundwater monitoring data.

NMED Response: A wide suite of chemical analyses were performed on soil samples collected from SWMU 147. These samples were collected at areas in the drainfields that are expected to be the locations where the highest concentrations from releases would occur, no matter the timing of the releases.

176. **Comment:** The depth to groundwater is not stated.

NMED Response: Groundwater at SWMU 147 is approximately 56 feet below ground surface, based on the water level at well KAFB-1903, and located approximately 1,300 feet to the south of SWMU 147 (see *Compilation of Monitoring Well Construction Diagrams Contained in the SNL/ER Database*, SNL, February 2004).

177. **Comment:** Human and ecological risks are not acceptable to release this SWMU for CAC Status.

NMED Response: Sampling results provided in the Fact Sheet/Statement of Basis indicate that the contaminant levels in soil pose an acceptable level of risk under a residential land-use scenario (HI = 0.07 and ECR = 5E-8). Because of the depth being

greater than five feet below ground surface, no complete exposure pathway exists for ecological receptors. Thus human and ecological risks are acceptable.

AOC 1094

178. **Comment:** This system began discharges in 1983 and is still active. It is illegally operating without a RCRA permit.

NMED Response: The septic system was not and is not operating illegally. It does not require a RCRA permit as it is not a regulated unit.

179. **Comment:** This AOC is not sufficiently characterized for CAC status. By what rationale are SNL and the Department proposing to close this operating landfill without groundwater monitoring being conducted? Based on the description of operations, this AOC requires groundwater monitoring.

NMED Response: AOC 1094 is not a landfill and it has been adequately characterized. Based upon the low levels of contaminants detected, the depth to groundwater, and natural attenuation processes, groundwater monitoring wells are not needed.

AOC 1095

180. **Comment:** Operational history is not provided nor are the amounts of discharges.

NMED Response: Available information indicates that Building 9938 was constructed in 1971 and it is assumed that the seepage pit was constructed at the same time. Building 9938 is currently a support building at the Large Melt Facility. The facility is currently inactive and the seepage pit was removed and the excavation backfilled on August 19,

2005. The amount of wastewater discharged at AOC 1095 is not known and likely will never be known.

181. **Comment:** There are no monitor wells present. The description of operations requires groundwater monitoring.

NMED Response: Based upon the low levels of contaminants detected and natural attenuation processes, groundwater monitoring wells are not needed at this SWMU.

182. **Comment:** This AOC is not sufficiently characterized for CAC status.

NMED Response: AOC 1095 has been adequately characterized via soil sampling conducted at locations most likely to contain the highest concentrations of contaminants. Characterization data indicate that the contaminants detected at the site pose an acceptable level of risk under a residential land-use scenario (HI = 0.00 and ECR = 6E-10).

AOC 1114

183. **Comment:** No RCRA groundwater monitoring is apparent for operation from 1971 and amount and type of discharges have not been provided.

NMED Response: The amount and types of wastewater discharged at AOC 1114 are not known and likely will never be known. Based upon the low levels of contaminants detected and natural attenuation processes, groundwater monitoring wells are not needed at this SWMU.

184. **Comment:** This AOC is not sufficiently characterized for CAC status.

NMED Response: AOC 1114 has been adequately characterized via soil sampling conducted at locations most likely to contain the highest concentrations of contaminants.

Characterization data indicate that the contaminants detected at the site pose an acceptable level of risk under a residential land-use scenario (HI = 0.00 and ECR = 1E-10).

AOC 1116

185. **Comment:** This facility is illegally operating without a RCRA Part B permit. It cannot be closed as a SWMU.

NMED Response: The septic system was not and is not operating illegally. The septic system does not require a RCRA permit as it is not a regulated unit. It is still in operation, but the septic system does not receive hazardous waste.

186. **Comment:** This AOC requires an operating permit, a closure plan, post-closure permit and a long-term groundwater monitoring network.

NMED Response: Based upon the low levels of contaminants detected and natural attenuation processes, groundwater monitoring wells are not needed at this SWMU. Additionally, a RCRA operating permit, closure plan, post-closure permit, and long-term groundwater monitoring well network are not needed or required for AOC 1116 as it is not a regulated unit.