

Permit

3/19/2010



STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT



IN THE MATTER OF:)
)
APPLICATION OF THE UNITED STATES)
DEPARTMENT OF ENERGY AND)
LOS ALAMOS NATIONAL SECURITY LLC)
FOR A HAZARDOUS WASTE FACILITY)
PERMIT FOR LOS ALAMOS NATIONAL)
LABORATORY, and the)
NOTICE OF INTENT TO DENY A PERMIT)
FOR OPEN BURN UNITS TA-16-388 AND)
TA-16-399 FOR LOS ALAMOS NATIONAL)
LABORATORY.)
_____)

Nos. HWB-09-37(P)
Nos. 10-04(P)
Consolidated

WRITTEN TESTIMONY OF STEVE PULLEN

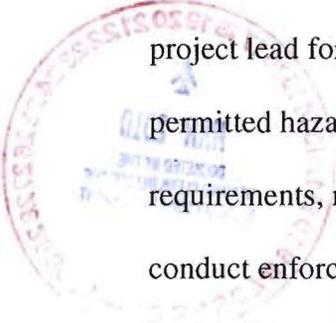
My name is Steve Pullen. I am presenting this written testimony on behalf of the Department in the hearing concerning the issuance of a renewal permit for storage and treatment of hazardous waste at Los Alamos National Laboratory (LANL), and the denial of a permit to treat hazardous waste at open burn units at LANL. The Department issued the proposed hazardous waste facility permit for LANL (NMED Ex. 1) on, February 2, 2010. This testimony is marked as **NMED Exhibit 109**.

I. QUALIFICATIONS

I am an Environmental Specialist with the Permits Management Program of the Hazardous Waste Bureau of the New Mexico Environment Department (the Department). I have a Bachelor of Science degree in Geology from the University of Texas (1983).

I have worked for the Hazardous Waste Bureau for approximately 16 years. As an Environmental Specialist with the Permits Management Program my responsibilities include being project lead for the LANL and Triassic Park Hazardous Waste Facility Permits and being





project lead for hazardous waste characterization and land disposal restriction compliance at all permitted hazardous waste facilities. As lead for specific permits, I draft new and revised permit requirements, maintain permits, conduct inspections, monitor facilities for compliance, and conduct enforcement actions pursuant to those permits. As lead for the proposed renewed LANL Permit (Proposed Permit), my responsibilities have included drafting and issuing the Proposed Permit for public comment, coordinating the response to comments on the Permit, and preparation for hearing. As lead for the existing LANL Permit, my responsibilities include maintaining the Permit through permit modifications, conducting LANL compliance inspections, and performing public outreach. These responsibilities require the ability to identify significant permit issues and to be cognizant of stakeholders issues related to the LANL Permit. As project lead for the Triassic Park Hazard Waste Facility Permit, the sole commercial hazardous waste disposal permit in New Mexico, my responsibilities include maintenance of the Permit and performing inspections to ensure hazardous wastes are not being managed at the facility.

I also act as Program lead for RCRA permit waste analysis plans. This responsibility includes ensuring consistency between New Mexico RCRA facility waste characterization permit conditions, coordinating with the Inspection and Enforcement Program regarding New Mexico facility inspections to ensure proper and consistent hazardous waste characterization, and evaluating Land Disposal Restriction (LDR) compliance. This responsibility requires thorough knowledge of hazardous waste laws, regulations, bureau policy, and guidance regarding waste characterization and the LDRs. In this roll I have worked on every federal facility hazardous waste permit in New Mexico, including the permits for Sandia National Laboratories, Kirtland Air Force Base, Cannon Air Force Base, Holloman Air Force Base, White Sands Missile Range, Fort Bliss, and White Sands Test Facility (*i.e.*, NASA).

Prior to working for Hazardous Waste Bureau, I was employed by the Department's Underground Storage Tank Bureau for approximately two years. In this capacity I performed soil and groundwater sampling, hydrocarbon characterization, aquifer testing, and design, installation and operation of remediation systems. I acted as program lead at the Baca Street Site in Santa Fe and others through oversight of remediation contractors.

Prior to working for the Department, I was employed for approximately three years by International Technology Corporation, an environmental consulting firm in Austin, Texas specializing in on-site environmental investigations. In this capacity I acted as field geologist, drilling supervisor, and remediation engineer at greater than seventy facilities throughout the country, including many RCRA facilities.

A copy of my resume is marked as **NMED Exhibit 110**. It is accurate and up-to-date.

II. BACKGROUND

My testimony will provide a general overview of the renewed hazardous waste facility permit, the Proposed Permit (NMED Ex. 1), for LANL. I will testify on general permit and facility requirements, and the specific requirements associated with hazardous waste storage and treatment. My testimony addresses recent changes to the Proposed Permit and reflected in that Permit, specifically the changes made to July 6, 2009 Revised Draft Permit (AR 31820) based on public comment. My testimony also addresses proposed new changes to the Proposed Permit.

The Proposed Permit establishes the requirements that the Applicants must comply with and in general constitute compliance with New Mexico's Hazardous Waste Act (HWA), as well as the federal counterpart law, the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 *et seq.*. In the Proposed Permit, the Applicants are appropriately called the "Permittees." The Proposed Permit includes the specific conditions necessary to ensure that the Applicants' hazardous waste management activities are in compliance with 40 CFR Parts 264

and 268, as required at Part 270. Conditions set forth in the Proposed Permit are written to perform four functions:

1. To be protective of human health and the environment,
2. To be comprehensive, *i.e.* to reflect all the applicable requirements in the regulations,
3. To be technically sound, and
4. To be enforceable, *i.e.*, clear, unambiguous, and specific.

The Proposed Permit includes many of the items proposed by the Applicants in their Parts A and B permit applications (NMED Ex. 5) to meet the applicable regulations or to protect human health and the environment. Hazardous waste requirements not included in the Proposed Permit include the 40 CFR Part 262 requirements for generators of hazardous waste, Part 265 requirements for interim status units, and (in part) Part 268 requirements restricting land disposal of hazardous waste. (*See* 40 CFR § 270.4(a))

The Proposed Permit's eleven parts include four "reserved" parts (Parts 5, 6, 7 and 8) that act as placeholders to address possible future hazardous waste activities requiring a unique part. Part 1 covers general permit conditions (*e.g.*, duration of the permit), many of which are required under the regulations. Part 2 covers general facility conditions (*e.g.*, waste analysis, site security, and personnel training). Part 3 covers storage of hazardous waste in containers, one of the specific activities for which the Applicants request a permit. Part 4 covers storage of hazardous waste in tanks and treatment of hazardous waste by stabilization, also activities for which the Applicants request a permit. Part 9 addresses final closure of the permitted units. Part 10 addresses possible post-closure activities, or "post-closure care" for any permitted units no longer in service but with wastes or contamination left in place. And Part 11 addresses the cleanup or "corrective action" activities necessary should there be a spill or release from a

permitted unit. The Proposed Permit is similar in form (*i.e.*, parts and attachments) to both the Applicants' current Hazardous Waste Facility Permit, which is marked as **NMED Exhibit 111 (AR 16226)**, and the U.S. EPA's Model RCRA Permit last updated on August 29, 2008 on the U.S. EPA's web site at <http://www.epa.gov/osw/hazard/tsd/permit/epmt/toolperm.htm>, which is marked as **NMED Exhibit 112 (AR 33151)**, and contains many of the same or similar conditions.

Many of the conditions in the Proposed Permit are based on the Applicants' current Hazardous Waste Facility Permit and the U.S. EPA's Model RCRA Permit. Many of the conditions are also based on provisions of the federal regulations at 40 CFR Parts 264 and 270. For example, 40 CFR § 270.30 sets forth several provisions that are required to be included in every permit. As another example, 40 CFR § 270.32(b)(1) authorizes the Department to incorporate applicable requirements of the regulations into the Permit. And 40 CFR § 270.32(b)(2) authorizes the Department to include permit conditions that it determines are necessary to protect human health and the environment.

The Proposed Permit's fifteen attachments (A through O) support the parts with lists, figures, and referenced plans. Two attachments are reserved as placeholders (*see* Attachments H and O). Five attachments include plans submitted in the Applicants' permit application, *i.e.*, Waste Analysis Plan, Contingency Plan, Inspection Plan, Personnel Training Plan, and Closure Plans (*see* Attachments C, D, E, F, and G respectively). The plans submitted by the Applicants were revised by the Department to replace discretionary terms with mandatory terms and to ensure consistency with Proposed Permit part conditions. The plans are referenced in their entirety in the parts and are fully enforceable by the Department. Six attachments include lists: 1) the Part A's list of wastes that may be managed at each permitted unit (Attachment B), 2) the

list of hazardous waste management units (Attachment J), 3) the list of solid waste management units (SWMUs) and areas of concern (AOCs) (Attachment K), 4) the list of off-site facilities from which the Applicants are authorized to receive wastes (Attachment L), 5) the closure cost estimates for each permitted unit (Attachment M), and 6) a list of activities and associated schedules necessary to remain in compliance with the Proposed Permit (Attachment I). There is also an attachment that describes each permitted unit's physical attributes and hazardous waste management processes (Attachment A). Finally, there is also an attachment containing all figures referenced in the Permit parts (Attachment N).

As I explain each permit condition or requirement I will summarize that condition or requirement and provide the Department's basis for it. The exact language of the condition or requirement can be found in the Proposed Permit. To the degree I am aware of any specific objection or concern regarding a permit condition or requirement I will address that concern. Occasionally in my testimony I will refer only to the federal regulation, without referencing the State regulation which incorporates it. However, it is the State regulation that is applicable and enforceable.

III. PART I: GENERAL PERMIT CONDITIONS

Part 1 of the Proposed Permit primarily contains general permit conditions. Most of these permit conditions are based on mandatory conditions set forth in 40 CFR § 270.30. Part I also contains definitions and LANL-specific requirements regarding community involvement and procedures for dispute resolution. This Part contains many provisions that follow the form in EPA's model RCRA permit (NMED Ex. 112) and provisions that are similar to those in the Applicants' current RCRA Permit (NMED Ex. 111).

A. Proposed Permit Section 1.1 – Authority

Permit Section 1.1, *Authority*, refers to the statutory authority and regulations underlying the revised draft Permit, namely the Resource Conservation and Recovery Act (RCRA), New Mexico’s Hazardous Waste Act (HWA), and New Mexico’s Hazardous Waste Management Regulations (HWMR). The Section identifies the Department’s authority to include conditions it determines necessary to protect human health and the environment, referred to as the “omnibus provision” and codified at 40 CFR § 270.32(b)(2). This Permit Section is factual and does not impose specific requirements on the Applicants.

B. Proposed Permit Section 1.2 – Permittees and Permitted Activity

Permit Section 1.2, *Permittees and Permitted Activity*, identifies the Applicants as the United States Department of Energy (DOE) and Los Alamos National Security, L.L.C. (LANS). It recites that the activities regulated are hazardous waste management, storage and treatment, and closure and post-closure care. The Permit Section is factual and the information is taken from the Applicants’ April 2006 Part A permit application (NMED Ex. 5).

C. Proposed Permit Section 1.3 – Citation

Permit Section 1.3, *Citations*, explains the Proposed Permit’s system for references to regulations. The applicable federal regulations are generally cited instead of the associated state regulations for brevity. The Permit Section is factual and does not impose specific requirements on the Applicants.

D. Proposed Permit Section 1.4 – Effect of Permit

Permit Section 1.4, *Effect of Permit*, contains a provision holding that compliance with the Permit shall constitute compliance with the RCRA and HWA as to only those activities specifically authorized or addressed by the Permit, except for requirements becoming effective

by statute after the Permit is issued. This is often referred to as the “permit-shield provision” and is consistent with 40 CFR § 270.4. The Permit Section is consistent with the U.S. EPA’s interpretation of 40 CFR § 270.4 as expressed in a November 19, 1987 Office of Solid Waste and Emergency Response Directive, which is marked as **NMED Exhibit 113 (AR 33219)**. LANL is subject to many regulatory requirements governing hazardous waste that are not subject to permitting under 40 CFR Part 270, such as the 40 CFR Part 262 generator requirements. Compliance with the hazardous waste management requirements of the Proposed Permit does not shield LANL from having to comply with those hazardous waste management regulations. Nor does it shield the Applicants from any action under federal, State, or local law requiring the Applicants to clean up or mitigate the effects of hazardous waste, hazardous constituents, or hazardous substances released into the environment, or otherwise for protection of health or the environment.

Permit Section 1.4 also states that compliance does not provide a defense to any order or action brought to enforce the HWA or RCRA and does not constitute an authorization to infringe the rights of others nor relieve the Applicants from responsibility to comply with all applicable laws. The Permit Section incorporates the provisions at 40 CFR § 270.4. The Section does not impose specific requirements on the Applicants and has not been contested. This provision is similar to a provision in the Applicants’ current RCRA Permit, Section I.A (NMED Ex. 111) and it follows the form in EPA’s model RCRA permit, Section I.A (NMED Ex. 112).

Permit Section 1.4.1, *Effect of Permit on Interim Status Units*, establishes that the Applicants must address on a specific schedule the units that will remain in interim status after the Proposed Permit becomes effective. These interim status units include the five units referenced in Attachment J, Table J-1 at TAs 14, 36, and 39, and include units that treat

hazardous wastes by open detonation. The Section recognizes that the units may either be closed or permitted to operate and requires the Applicants to submit to the Department either a notice of intent to close or a revised closure plan within 180 days of the effective date of the Proposed Permit. This requirement is reiterated at Attachment I (*Compliance Schedule*). Numerous commenters have questioned why the Department did not include the open detonation units in the Proposed Permit. The Permit Section addresses those comments and expedites the regulatory disposition of the units.

E. Proposed Permit Section 1.5 – Effect of Inaccuracies in Permit Application

Permit Section 1.5, *Effect of Inaccuracies in Permit Application*, states that the Proposed Permit is based upon information in certain of the Applicants' applications and that any inaccuracies may be grounds for termination, revocation and reissuance or modification of the Permit. The Applicants are directed to inform the Department of any deviations from or changes in the information contained in the Application. The portion identifying the grounds for termination, revocation and reissuance or modification of the Permit incorporates the provisions at 40 CFR §§ 270.41 through 270.43. The portion requiring that the Department be informed of any deviations from the information contained in an application incorporates the provisions at 40 CFR § 270.30(i)(11).

F. Proposed Permit Section 1.6 – Permit Actions

Permit Section 1.6.1, *Duration of Permit*, establishes that the Permit is effective for a fixed term of ten years. The Permit Section incorporates the provisions at 40 CFR § 270.50(a). The Permit Section follows the form in EPA’s model RCRA permit, Section I.B.3 (NMED Ex. 112).

Permit Section 1.6.2, *Permit Modification*, establishes that modifications are required to comply with the applicable regulations at 40 CFR §§ 270.41 through 270.43, which are incorporated by reference into the proposed permit as authorized by 40 CFR § 270.32(b)(1). When requesting a permit modification, the Applicants must include all proposed necessary permit language changes. The Permit Section follows the form in EPA’s model RCRA permit, Section I.B.1 (NMED Ex. 112).

Permit Section 1.6.4, *Permit Suspension, Termination and Revocation and Re-Issuance*, addresses the suspension, termination, and revocation and reissuance of the Permit, incorporating 40 CFR § 270.41 and 270.43. This provision follows the form in EPA’s model RCRA permit, Section I.B.1 (NMED Ex. 112).

Permit Section 1.6.5, *Permit Re-Application*, calls for submission of a renewal application at least 180 days before the expiration date of the Permit. This incorporates the provisions at 40 CFR § 270.10(h)(1). This provision is similar to a provision in the Applicants’ current RCRA Permit, Section I.D.2 (NMED Ex. 111).

Permit Section 1.6.6, *Continuation of Expiring Permit*, establishes that a timely renewal application maintains the expiring permit in effect until a new permit is effective, on stated conditions. This incorporates the provisions at 40 CFR § 270.51. This provision is similar to a

provision in the Applicants' current RCRA Permit, Section I.D.2 (NMED Ex. 111) and it follows the form in EPA's model RCRA permit, Section I.B.3 (NMED Ex. 112).

Permit Section 1.6.7, *Permit Review by the Department*, establishes that the Department will review the closure and post-closure requirements in the permit associated with the land disposal units (*i.e.*, closure of Material Disposal Areas (MDAs) G, H, and L) five years after the effective date of permit issuance and may seek to modify it. This Section incorporates the provisions at 40 CFR § 270.50(d).

G. Proposed Permit Section 1.7 – Permit Construction

Permit Section 1.7.1, *Severability*, establishes that, if any permit provision is found invalid, the remainder shall not be affected. This provision is similar to a provision in the Applicants' current RCRA Permit, Section I.C (NMED Ex. 111) and it follows the form in EPA's model RCRA permit, Section I.C (NMED Ex. 112).

H. Proposed Permit Section 1.8 - Definitions

Permit Section 1.8, *Definitions*, defines significant terms, including:

Active Portion – The term defines the portion of LANL where hazardous waste management activities requiring a permit are being conducted, not including post-closure care activities. See 40 CFR § 260.10, "*Active portion*." A unit is no longer active, and therefore not an "active portion" of the Facility, when the unit completes closure. The term appears in the Proposed Permit only in the title of Table J-1. That table includes a clarifying statement that the table "includes units permitted to store and treat hazardous wastes, interim status units, and the Material Disposal Areas." The other tables in Attachment J list units that are not considered "active". These include the Table J-2 units that are closed and undergoing post-closure care, and the Table J-3 units that are closed and are not required to undergo post-closure care. The

definition's reference to 40 CFR Part 261 is taken from the 40 CFR § 270.1(b) reference to entities and activities required to have a RCRA permit.

Facility – The term “Facility” (with an upper case “F”) in the permit refers to the entirety of LANL. The term “facility” (with a lower case “f”) is used generally in the regulations, and to a limited extent in the Proposed Permit, to refer to a permitted unit. The two terms are necessary to distinguish between the entirety of LANL (Facility) and the individual permitted units (facilities) because 40 CFR § 264.101 pertains to corrective action at all contiguous property under the control of the owner or operator. See 40 CFR § 260.10, “*Facility.*” The two definitions are included at 40 CFR § 260.10 and the Department has distinguished the terms using the case of the first letter.

Hazardous Constituent - The definition of ‘hazardous waste constituent’ or ‘hazardous constituent’ incorporates the 40 CFR Part 261 Appendix VIII constituents, and for purposes of closure, post-closure, and corrective action, the definition includes any constituent identified in 40 CFR Part 264 Appendix IX, perchlorate, and nitrates. The Department added the 40 CFR Part 264 Appendix IX ground water monitoring constituents for three reasons: (1) to be consistent with the Consent Order (NMED Ex. 26); (2) to be consistent with the U.S. EPA’s July 1995 model RCRA Permit, Hazardous and Solid Waste Amendment (HSWA) Module, Section A (NMED Exhibit 114, AR 33070), and the Applicants’ current Permit HSWA Module, Section A (AR 7150); and (3) to ensure that nitrates and perchlorate were included. By including Appendix IX constituents, the Department ensures that “hazardous waste constituents” in Appendix IX are included for purposes of monitoring and verification activities associated with closure, post-closure, and corrective action. The expanded definition is established to ensure protection of human health and the environment as provided in 40 CFR § 270.32(b)(2).

Hazardous Waste - The definition includes wastes that are listed in 40 CFR Part 261, Subpart D, has any characteristics identified in 40 CFR Part 261, Subpart C, or is a mixture of solid waste and one or more hazardous wastes listed in 40 CFR Part 261, Subpart D. The Proposed Permit's definition includes mixed waste, which is a mixture of hazardous wastes and radioactive waste regulated under the Atomic Energy Act of 1954. The definition is established because the hazardous waste regulations do not include a concise definition of the term. The definition incorporates the term *mixed wastes* for clarity and to limit repetition of that term numerous times in the Proposed Permit. For purposes of corrective action, the term "hazardous waste" is defined by reference to the broader definition in the Hazardous Waste Act.

Permitted Unit versus Hazardous Waste Management Unit – Permitted units are a subcategory of hazardous waste management units (HWMUs). Permitted units include units in operation, in closure, and in post-closure care. Attachment J (*Hazardous Waste Management Units*) lists permitted units and the other subcategory, interim status units, as a means of tracking all hazardous waste management activities at LANL.

Release – The definition applies the term only to hazardous waste management units at the Facility. Releases addressed under the Consent Order include all other releases at the Facility. This is consistent with Permit Section 11.2, which identifies releases addressed by the Proposed Permit as being only new releases and newly discovered releases of hazardous waste or hazardous constituents from hazardous waste management units at the Facility.

Waste Stream - The definition states that a waste stream is a waste material generated from a single process or from an activity that is similar in the materials from which it was generated, similar in physical form and hazardous constituents, and distinguishable from other wastes by EPA hazardous waste numbers and land disposal restriction (LDR) status. The

definition is necessary because the Proposed Permit distinguishes between waste categories and waste streams and has conditions that apply to both classifications.

I. Proposed Permit Section 1.9 – Duties and Requirements

Permit Section 1.9.1, *Duty to Comply*, establishes the Applicants' duty to comply with Permit terms. The Permit Section is required by 40 CFR § 270.30(a). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.1 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.1 (NMED Ex. 112).

Permit Section 1.9.2, *Enforcement*, identifies orders and sanctions available in case of the Applicants' noncompliance. The Section is factual, does not impose specific requirements on the Applicants, and has not been contested.

Permit Section 1.9.3, *Transfer of Permit*, states that the Applicants must get the Department's approval to transfer the Permit. Transfer requires permit modification or revocation and re-issuance. The transfer of a Facility permit may require filing of a disclosure statement pursuant to 74-4-4.7 NMSA 1978. The Section is required by 40 CFR § 270.30(l)(3). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.13 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.12 (NMED Ex. 112).

Permit Section 1.9.4, *Need to Halt or Reduce Activity Not a Defense*, establishes that it is no defense to an enforcement action that the Applicants would need to reduce permitted activities to comply with the Permit. The Permit Section is required by 40 CFR § 270.30(c). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.4 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.4 (NMED Ex. 112).

Permit Section 1.9.5, *Duty to Mitigate*, establishes that, in event of noncompliance, the Applicants shall take all reasonable steps to minimize releases and to prevent adverse effects on health and the environment. The Section is required by 40 CFR § 270.30(d). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.5 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.5 (NMED Ex. 112).

Permit Section 1.9.6, *Proper Operation and Maintenance*, establishes that the Applicants shall properly operate and maintain all facilities, including effective performance; adequate funding, staffing, and training, and adequate process controls. The Section incorporates the provisions at 40 CFR § 270.30(e).

Permit Section 1.9.7, *Duty to Provide Information*, establishes that the Applicants are required to furnish to the Department within a reasonable time any relevant information that the Department may request regarding compliance with or possible modification or revocation, etc., of the Permit. The Applicants are also required to furnish the Department with copies of any records required to be kept by the Permit. Access to information is subject to reasonable limitations based upon security requirements. In this context, "security" restrictions mean actual classification under existing procedures. The Department will establish what constitutes a "reasonable time" to respond to its request by considering how much information is required and any difficulties there may be in obtaining the information including the Applicants' security requirements. The Section is required by 40 CFR § 270.30(h).

Permit Section 1.9.8, *Inspection and Entry*, establishes that the Applicants are required to allow Department representatives to have access to and inspect any facilities regulated under the Permit and to provide records required under the Permit. Access to regulated facilities is subject to reasonable limitations based upon security requirements. In this context, "security"

restrictions mean actual classification under existing procedures. Photographs taken by LANL personnel and provided to the Department within a reasonable time will generally satisfy this permit section's requirement to allow the Department to take photographs. The Permit Section's use of the phrase "as soon as reasonably possible" will be interpreted by the Department at the time of its request based on the circumstances at the time. The Section is required by 40 CFR § 270.30(i). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.8 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.8 (NMED Ex. 112).

Permit Section 1.9.9.1, *Representative Sampling*, requires that all samples and measurements taken by the Applicants under the Permit shall be representative of the medium, waste, or material being sampled. Methods are specified. The Section is required by 40 CFR § 270.30(j)(1). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.9.a (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.9(a) (NMED Ex. 112).

Permit Section 1.9.10, *Reporting Planned Changes*, requires the Applicants to give written notice of planned changes to any permitted unit. The Section is required by 40 CFR § 270.30(l)(1). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.10 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.10 (NMED Ex. 112).

Permit Section 1.9.11, *Reporting Anticipated Noncompliance*, requires the Applicants to give advance written notice of any planned changes or activity that may result in noncompliance with the Permit. The Section is required by 40 CFR § 270.30(l)(2). The Section is similar to a

provision in the Applicants' current RCRA Permit, Section I.D.12 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.11 (NMED Ex. 112).

Permit Section 1.9.12, *Twenty Four Hour and Subsequent Reporting*, requires the Applicants to report to the Department, orally and in writing, any noncompliance that may endanger human health or the environment or requires implementation of the Contingency Plan. The first report is due within 24 hours. The Section incorporates 40 CFR § 270.30(l)(6). The Section follows the form in EPA's model RCRA permit, Section I.E.14 (NMED Ex. 112).

Permit Section 1.9.12.1, *24 Hour Oral Report*, requires the Applicants to make an initial report within 24 hours of becoming aware of the noncompliance or incident referred to in Permit Section 1.9.12. Elements of the report are stated. The Section is required by 40 CFR § 270.30(l)(6). The Section follows the form in EPA's model RCRA permit, Section I.E.14 (NMED Ex. 112).

Permit Section 1.9.12.2, *5 Day Written Report*, requires the Applicants to make a written report within five days after becoming aware of the noncompliance or incident under Permit Section 1.9.12. Elements of the report are stated. The Department may allow the report to be made within 15 days. The Section requires the Applicants to report information concerning a release or discharge of hazardous waste or hazardous waste constituents, or a fire or explosion at a permitted unit, which may threaten the environment or human health inside or outside the permitted unit. The Department expects the results of available air monitoring under Permit Section 2.11.6.5 to be included in this report. The Section is required by 40 CFR §270.30(l)(6)(iii). The Section in part follows the form in EPA's model RCRA permit, Section I.E.14(c) (NMED Ex. 112).

Permit Section 1.9.13, *Written Reporting of a Non-Threatening Release*, requires the report made under Permit Section 1.9.14 to include information about any release (as defined in Permit Section 1.8) not deemed to be a threat to human health or the environment. Elements of the report are stated. The Section ensures protection of human health and the environment, as provided by 40 CFR § 270.32(b)(2). It is important that the Department be informed about the volume and frequency of releases at the Facility, in part so that it might verify that a release is non-threatening.

Permit Section 1.9.14, *Other Noncompliance*, requires an annual report of all instances of noncompliance not reported under Permit Section 1.9.11. Elements of the report are stated. This report shall be incorporated into the Applicants' annual Environmental Surveillance Report, and that Report shall be posted on the Applicants' environmental web page. The Section is required by 40 CFR § 270.30(l)(10). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.15 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.17 (NMED Ex. 112).

Permit Section 1.9.15, *Omissions or Misstatements in Applications or Other Reports*, requires the Applicants to report promptly any failure to submit relevant facts or submission of incorrect information. The Section is required by 40 CFR § 270.30(l)(11). The Section is similar to a provision in the Applicants' current RCRA Permit, Section I.D.15 (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.E.18 (NMED Ex. 112).

Permit Section 1.9.16, *Signatory Requirement*, requires specific signatures and certifications of specific submissions. The Section is required by 40 CFR §§ 270.11 and 270.30(k). The Section is similar to a provision in the Applicants' current RCRA Permit,

Section I.E (NMED Ex. 111) and follows the form in EPA's model RCRA permit, Section I.F (NMED Ex. 112).

Permit Section 1.9.17, *Submissions to the New Mexico Environment Department*, contains directions for making submissions to the Department. The Section specifies procedures to ensure appropriate and timely communication between the Applicants and the Department. The Section generally follows the form in EPA's model RCRA permit, Section I.G (NMED Ex. 112).

Permit Section 1.9.18, *Approval of Submittals*, principally states that upon the Department's written approval, all submittals and associated schedules shall become enforceable as part of this Permit in accordance with the terms of the Department's written approval (74-4-10(A) NMSA 1978), and such documents, as approved, shall control over any inconsistent requirements of this Permit. This Section also states that the document approval process must be performed in accordance with 20.4.2 NMAC, the Hazardous Waste Permit and Corrective Action Fees. The approval process may involve a permit modification, which may involve the public. (*See* 40 CFR §§ 270.41 through 270.43) This Section does not pertain to documents submitted under the Consent Order. The Section is a statement of the relationship between the Permit and associated documents. The Section also confirms the applicability of hazardous waste permit fee requirements at 20.4.2 NMAC, including the submittal review process.

Permit Section 1.9.19, *Extensions of Time*, allows the Applicants to seek an extension of time to comply with a permit requirement. The Department includes this provision under its omnibus authority at 40 CFR § 270.32(b)(2) to protect health and the environment to provide needed flexibility with regard to scheduling.

Permit Section 1.9.20, *Confidential Information*, authorizes the Applicants to claim that any information submitted to the Department is confidential and should not be made public. This provision is supported by 74-4-4.3(D) and (F) NMSA 1978 and 40 CFR §§ 260.2 and 270.12.

Permit Section 1.9.21, *New or Modified Permitted Units*, prohibits treatment or storage of hazardous waste in a new or modified permitted unit except in compliance with the rules for permit modification and for certification that construction has been completed as authorized. The Section incorporates 40 CFR §§ 270.30(l)(2)(i) and 270.42.

J. Proposed Permit Section 1.10 – Information Repository

Permit Section 1.10, *Information Repository*, is addressed in testimony by Mr. James Bearzi.

Permit Section 1.10.1, *RACER*, requires the Applicants to provide environmental data collected under the Permit and incorporated into LANL databases to the RACER database on a monthly basis. RACER refers to Risk Analysis Communication Evaluation Reduction and makes LANL environmental data available to the public on the Internet. The one-month time period begins when data is added to the Applicants' databases. It may take considerably longer than one month between collecting a sample, having it analyzed, verifying that analysis, and finally placing that data in a LANL database. These data are not associated with hazardous waste characterization.

Environmental data generated under the Consent Order is required to be incorporated into RACER in accordance with a June 14, 2007 Settlement Agreement and Stipulated Final Order. (NMED Ex. 48). That Agreement and Order arose from the Applicants' failure to report releases of chromium in the groundwater at the Facility. The Permit does not alter the requirements

under this *Chromium Settlement Agreement* but adds that data generated under the Permit shall also be included in RACER. The Section is to ensure protection of human health and the environment as allowed under the Department's omnibus authority at 40 CFR § 270.32(b)(2).

K. Proposed Permit Section 1.11 – General Documents and Information to be Maintained at the Facility

Permit Section 1.11, *General Documents and Information to be Maintained at the Facility*, specifies documents to be maintained at the Facility. These are basic reference documents needed for Facility operation. The Section is based on 40 CFR §§ 270.13(l), 264.13(b), and 264.37 and includes specificity for enforcement purposes, as authorized under the Department's omnibus authority at 40 CFR § 270.32(b)(2). The Section assists the Department during inspections by ensuring that required regulatory documents are readily available. The Section follows the form in EPA's model RCRA permit, Section I.I (NMED Ex. 112) and is similar to a provision in the Applicants' current RCRA Permit, Section I.G (NMED Ex. 111).

L. Proposed Permit Section 1.12 – Community Relations Plan

Permit Sections 1.12 and 1.13, concerning community involvement, are addressed in testimony by Mr. Bearzi.

M. Proposed Permit Section 1.14 – Dispute Resolution

Permit Section 1.14, *Dispute Resolution*, provides a process for the Applicants to resolve a dispute concerning the Department's decision on a submittal, *e.g.*, reports, plans, and proposals. Within 30 days after receiving the Department's decision on a submittal, the Applicants may serve notice of disagreement, with an explanation of the reasons. The parties then have 30 days to meet to resolve the issue. In the absence of an agreement, the Department will issue its decision on the issue. Other provisions of the Permit are not affected by the

pendency of a dispute resolution process. This Section is similar to a provision in the Applicants' current RCRA Permit, Module VIII, Section E (AR 7150).

There is some concern that this process might effectively modify the Permit without complying with the public participation aspects of permit modifications. The dispute resolution process is not intended to modify the Permit but to address the Department's response to a "submittal." Disputes, should they occur, are expected to involve differences about reports, plans, proposals, and other submittals that do not call into question the terms and conditions of the Permit. The Department and the Applicants would not have the authority to modify the terms of the permit, except in accordance with the modification procedures in the regulations.

N. Proposed Permit Section 1.15 – Compliance Schedule

Permit Section 1.15, *Compliance Schedule*, establishes a list of activities and associated schedules necessary to remain in compliance with the Proposed Permit. The Section directs the Applicants to adhere to Attachment I (*Compliance Schedule*). Attachment I lists actions required after the Proposed Permit becomes effective, *e.g.*, distribution of the final *Contingency Plan* to all non-LANL emergency agencies relied upon by the Plan. Attachment I also references actions required on a regular basis, *e.g.*, the annual *Waste Minimization Report*. The Section incorporates 40 CFR § 270.33(a), and follows the form in EPA's model RCRA permit, Section I.E.13 (NMED Ex. 112). The purpose of Attachment I is to enhance Permit compliance and enforcement.

O. Proposed Permit Section 1.16 – Transfer of Land Ownership

Permit Section 1.16, *Transfer of Land Ownership*, establishes conditions that must be met before land subject to the requirements of the Permit may be transferred. The land transfer requirements apply only to properties within the permitted units, or other lands within the Facility boundary that are transferred after the Consent Order is terminated. Consent Order land transfer provisions (*see* Order § III.Y) apply to all Facility property. However, for enforcement purposes, it is the Permit that specifies the boundary of the Facility. The Section requires that the Applicants give notice 120 days before the planned transfer and that the notice include specific information, including: a description of the property, the purchaser, and a summary of remedial actions taken at the property. The Department will determine whether closure, post-closure or corrective action efforts are sufficiently protective in light of the intended use of the property and, if not, what further efforts are needed. If no further efforts are needed, DOE may transfer the property. This Section also provides for notice to the Department 120 days before any transfer of operational control to another federal agency.

If remedial actions have achieved less than a cleanup to residential-use levels, the Applicants must advise the purchaser of any future obligations attached to the property. DOE shall be required to include a deed restriction to limit future use of the land to those uses consistent with its cleanup level (*e.g.*, industrial use only).

These land transfer provisions are similar to provisions within the Consent Order. It is important that the transfer of properties addressed under the Permit and the Consent Order be addressed in a consistent manner because, unless a property remains permitted, the two types of properties, *i.e.*, those subject to the Permit and those subject to the Consent Order, are subject to similar environmental concerns. That is, they are apt to be contaminated with the same

hazardous constituents, they undergo the same investigation and remediation processes, and final remediation or closure may result in similar environmental circumstances, *e.g.*, risk based cleanup to the same exposure levels.

The Department must be aware of, and involved in, all land transfers at LANL principally for two reasons: 1) the Department must be aware of the Facility boundary so that it might enforce the fence-to-fence cleanup requirements at 40 CFR § 264.101; and 2) the Department must ensure that new owners are aware of the environmental restrictions or obligations associated with transferred property that is contaminated. These requirements are based on section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9620(h). This provision is supported by the omnibus authority at 40 CFR § 270.32(b)(2).

P. Proposed Permit Section 1.17 – Notice of Demolition Activities

Permit Section 1.17, *Notice of Demolition Activities*, is addressed in testimony by Ms. Kathryn Roberts.

IV. PART 2: GENERAL FACILITY CONDITIONS

Part 2 of the Proposed Permit contains conditions for the operation of *all* hazardous waste management units at LANL, as distinguished from Parts 3 and 4, which contain conditions specifically for container storage and tank storage units. This Permit Part is based largely on 40 CFR Part 264 Subparts B through E. Many conditions in Part 2 are similar to conditions in EPA's model RCRA permit (NMED Ex. 112) and are similar to conditions in the Applicants' current RCRA Permit (NMED Ex. 111).

A. Proposed Permit Section 2.1 – Design, Construction, Maintenance and Operation of the Facility

Permit Section 2.1, *Design, Construction, Maintenance and Operation of the Facility*, contains the general requirement to design, construct, maintain, and operate the Applicants' hazardous waste management units to minimize the possibility of fire, explosion, or unplanned release. It incorporates 40 CFR § 264.31. Fires, explosions, and unplanned releases constitute the particular threats to human health and the environment that cause implementation of the Contingency Plan. Requiring the Applicants to do everything necessary to avoid these threats and to protect human health and the environment is an appropriate permit condition. The Section follows the form in EPA's model RCRA permit, Section II.A (NMED Ex. 112), and is similar to a provision in the Applicants' current Permit, Section II.A (NMED Ex. 111).

B. Proposed Permit Section 2.2 – Authorized Wastes

Permit Section 2.2, *Authorized Wastes*, limits the Applicants to management of only those wastes listed in their Part A application (*see* Attachment B (NMED Ex. 1)). This is the purpose of the Part A application, as stated in 40 CFR § 270.13(j). The hazardous waste program addresses hundreds of different waste codes for various reasons, and hazardous waste permits are constructed to address the particular hazards associated with specific wastes being managed. It is therefore important that the Proposed Permit limit management of wastes at the LANL Facility to those specific wastes listed in the Part A application.

Permit Section 2.2.1, *Hazardous Waste from Off-Site Sources*, identifies the off-site wastes that the Applicants may manage at the Facility, including:

1. treatment-derived waste or residues from wastes generated at the Facility, which may be returned from off-site if: a) it is reported to the Department that there is no available site

for final disposal, or b) an off-site disposal facility exists, and the waste is kept at the Facility only for 60 days;

2. hazardous waste from the Fenton Hill site, Facility TA-57;
3. hazardous waste generated by the Applicants during investigation or remediation of corrective action sites located outside the Facility boundary; and
4. mixed waste in sealed sources having a defense determination and otherwise eligible for disposal at the Waste Isolation Pilot Plant (WIPP), subject to volume limits.

Treatment-derived wastes are LANL wastes sent off-site for treatment, such as stabilization of liquid wastes to a solid form. Often the off-site treatment facility has no option but to return the waste to LANL because of their radioactive component and because no disposal path exists.

Fenton Hill is a noncontiguous LANL-operated facility doing geothermal energy experiments within the Jemez Caldera.

Certain LANL corrective action sites are located outside the Facility boundaries. Thus, waste generated at such sites is, by definition, off-site waste. Waste generated in Applicants' corrective action programs under this Permit and the related Consent Order would be allowed to be accepted at permitted units for storage.

Sealed-source waste is generally a small metal capsule that is permanently sealed and contains a specific amount of radioactive material used in various defense-related processes for measurement or calibration. Pursuant to the Atomic Energy Act, the Low Level Waste Policy Act, and the Low Level Policy Act Amendments, LANL has implemented an off-site source recovery program to recover and manage radioactive sealed sources from sites within and outside the country. Under the Proposed Permit, such wastes with a hazardous component may be received at the LANL Facility only if they: (a) have a valid defense determination establishing

that they can be disposed of at the Waste Isolation Pilot Plant (WIPP) (*see* September 9, 1996 DOE “Nordhaus Memo” regarding interpretation of the term “atomic energy defense activities,” (NMED Exhibit 115, AR 33287); and (b) meet the WIPP Waste Acceptance Criteria. Thus, sealed sources without a disposal path are not acceptable at the Facility. Further, sealed sources are subject to volume limits, namely: two 55-gallon drums of waste may be accepted in one of the first three years of the Permit, and one 55-gallon drum per year at other times. The initial increased volume is to accommodate a backlog of sealed source mixed waste currently stored at a commercial treatment, storage, or disposal facility (TSDF). Sealed-source waste is subject to a one-year storage limitation.

The Department includes this Permit Section to limit the receipt of any new waste at the Facility in light of the anticipated shortage of waste storage capacity as Area G moves toward closure, the limitations on the Facility’s waste characterization capacity, and the overarching need for LANL to reduce its waste inventory rather than bringing more to the facility.

LANL in fact receives very little off-site wastes. Most off-site wastes received at LANL are those generated in cleanup activities at sites not contiguous to the Facility.

It is appropriate to allow LANL wastes to return from off-site, when they were sent off-site for treatment to render them less hazardous, and finding an appropriate disposal facility is difficult. Treatment-derived wastes or residues are allowed to be returned to the Facility, but the terms encourage the Applicants to arrange for disposal of these wastes rather than accepting their return for continued storage at the Facility.

Regarding wastes from Fenton Hill and LANL corrective action sites, it is more protective and efficient to allow the Applicants to bring these wastes on site to a permitted unit rather than manage them at disparate properties.

Regarding sealed-source waste, considering the quantity limits and limits on the storage duration, there should be no concern that sealed-source mixed wastes will overwhelm or interfere with the Applicants' hazardous waste operations. Further, considering the associated national security concerns, allowing the Applicants to secure, consolidate, and properly package these wastes does not lessen the protective nature of the Permit.

Permit Section 2.2.2, *Hazardous Waste from Foreign Sources*, prohibits the Applicants from accepting or managing waste from foreign sources. This provision is based upon the Department's omnibus authority at 40 CFR § 270.32(b)(2). Wastes generated outside the United States may not be accurately characterized as the regulations require. Mischaracterized waste could be mishandled and lead to a dangerous situation. Further, the State of New Mexico and possibly the federal government might not have the authority to require that the waste be returned, if necessary, to its country of origin, and the waste could become orphan wastes with no path forward. Finally, the Applicants' permit application does not propose to receive wastes from a foreign source.

Permit Section 2.2.3, *PCB-Contaminated Waste*, prohibits storage of liquid hazardous wastes containing polychlorinated biphenyls (PCBs) in excess of 50 parts per billion, except for storage in compliance with 40 CFR § 268.50(f). This section incorporates 40 CFR § 268.50(f). Title 40 CFR § 268.50(f) references 40 CFR § 761.65(b), which addresses structural design of buildings storing PCBs. The Applicants have not proposed the storage of PCB-contaminated hazardous wastes, and the Department has not evaluated the Applicants' compliance with § 761.65(b). It is therefore appropriate to prohibit the storage of such wastes.

C. Proposed Permit Section 2.3 – Land Disposal Restrictions

Permit Section 2.3 includes permit conditions based on the Land Disposal Restrictions, a series of regulations in 40 CFR Part 268. The Land Disposal Restriction program and associated regulations consists of three main components: 1) a disposal prohibition that requires waste-specific treatment standards be met before a waste can be land disposed; 2) a dilution prohibition meant to ensure that wastes are properly treated and not simply diluted to mask the concentration of hazardous wastes; and 3) a long-term storage prohibition the prevent s the indefinite storage of hazardous wastes instead of treating the waste promptly. Aspects of the Land Disposal Restrictions are addressed in many sections of the Proposed Permit.

Permit Section 2.3.1, *Hazardous Waste Storage*, limits storage of hazardous waste at a permitted unit to one year, with certain exceptions. Those exceptions are (1) storage to accumulate a quantity necessary for proper recovery, treatment, or disposal, (2) waste meeting all treatment standards under the Land Disposal Restrictions, and (3) mixed waste documented on the Site Treatment Plan data base under the October 4, 1995 Federal Facility Compliance Order between the Department and the Applicants (**AR 1759**). The Section includes labeling requirements for containers and tanks.

This Permit Section is based on the Land Disposal Restrictions provisions at 40 CFR § 268.50. The first two exception 1 are derived from the regulations at 40 CFR § 268.50(a)(1) and (2), and 40 CFR § 268.50(e). The third exception is based upon the Federal Facility Compliance Act, 42 USC § 6961, which states that the waiver of sovereign immunity shall not apply with respect to mixed waste storage by DOE, so long as a plan and an order pursuant to 42 USC § 6939c(b) are approved and in effect. Such an order is in effect, referenced above. The Department interprets the storage time limits at 40 CFR § 262.34 (a) and (c), for less than 90-days storage areas and satellite accumulation areas respectively, to be separate and not

cumulative with the one year limit for the permitted units. The requirement to date the beginning of storage is based on 40 CFR § 270.32(b)(2).

Permit Section 2.3.2, *Prohibition on Dilution*, prohibits the dilution of waste that is subject to the land disposal restrictions, or its residue, as a substitute for treatment. In addition, the permit term prohibits dilution by addition of a solid waste and ineffective treatment that fails to destroy, remove, or immobilize hazardous constituents. It also states that aggregating or mixing wastes in a legitimate treatment process is not prohibited. The Permit Section incorporates the LDR dilution prohibition provision at 40 CFR § 268.3.

Permit Section 2.3.3, *Documentation of Exclusion or Exemption*, requires that the Applicants place a one-time notice in the Operating Record for any LDR-prohibited wastes that the Applicants determine are excluded from the definition of hazardous or solid waste or exempted under 40 CFR §§ 261.2 through 261.6 after generation. Potential exemptions requiring recordation include (a) addition of adsorbents in containers, (b) wastewater treatment unit, (c) elementary neutralization unit, (d) emergency response, (e) closed recycling unit, and (f) evaporator bottoms, among others. The notice must be specific to the waste stream involved and explain the circumstances said to give rise to an exclusion or exemption.

The Permit Section incorporates the provisions at 40 CFR § 268.7(a)(7). It is included to ensure that the Applicants are using RCRA exemptions and exclusions appropriately, that they are accurately documenting those exemptions, and their use is transparent to the Department.

The Department is required by 40 CFR § 270.4(a) to include all applicable subtitle C requirements in a permit. The Applicants are waste generators, subject to § 268(a)(7), and obligated to make the one-time notice called for. Further, since the exemption may arise from

events well after generation, it is appropriate to impose the requirement upon the Applicants under their storage and treatment permit.

D. Proposed Permit Section 2.4 – Waste Analysis

Permit Section 2.4.1, *General Waste Characterization Requirements*, requires that the Applicants' hazardous waste characterization follow 40 CFR § 264.13, Part 2 of the Permit, Attachment C (the Waste Analysis Plan), and the requirements of 40 CFR Parts 264 and 268, as to information needed to treat, store, or otherwise manage a hazardous waste stream. Specific elements of characterization include:

1. EPA waste numbers;
2. characterization needed to determine LDR status;
3. characterization needed to comply with compatibility rules, to prevent impairment of containers, tanks, and secondary containment systems for tanks by incompatible wastes;
4. characterization needed to prevent ignition or reaction of wastes;
5. whether the waste is a mixed waste; and
6. waste containing free liquids.

This Permit Section requires characterization by individual hazardous waste streams, including identification of the waste stream, its generation location, and a detailed description of its generation process. The “detailed description” does not require that this information be entered in full on the Waste Profile Form; it is enough that the information be kept in the Operating Record.

This Permit Section also requires use of Department-approved sampling and analysis methods and acceptable knowledge. The methods include those described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (U.S. EPA Publication SW-846 (**AR 7141**)). Use of acceptable knowledge is conditioned upon the Applicants' determination that such

information provides the data called for by items (1) through (6) above. If such information is insufficient, sampling and analysis must be used to complete characterization.

This Permit Section requires that all waste characterization information be kept in the Operating Record or available by means of a traceable identifier.

This Permit Section incorporates or refers to 40 CFR §§ 264.13, 264.17, 264.172, 264.175(a) and (b), 264.177, 264.193(c)(1), 264.198, 264.199, 264.1080(b)(6), and 268.7. The requirement of 40 CFR § 264.13 is supported by the regulation itself. The information called for by Parts 264 and 268 are required by the regulations in those respective Parts. Specifically,

1. EPA hazardous waste numbers are required to determine whether the waste is authorized under the Permit, which specifies wastes to be managed at Attachment B.
2. Characterization to determine LDR status is required by 40 CFR § 268.7 as to generators and treatment facilities, which LANL is, and records kept for purposes of storage. Characterization for LDR purposes must identify any underlying hazardous constituents and must identify whether the waste is prohibited from land disposal.
3. Characterization for compatibility purposes is necessary to comply with rules applicable to storage of incompatible wastes, such as 40 CFR §§ 264.17, 264.172, 264.177, 264.193(c)(1), and 264.199.
4. Characterization to prevent ignition and reaction is necessary to comply with rules applicable to storage of ignitable and reactive wastes, such as 40 CFR §§ 264.17, 264.177, and 264.198.
5. Characterization for whether a waste is a mixed waste is necessary to comply with rules applicable to storage of mixed waste, including the air emission exemption for mixed wastes at 40 CFR § 264.1080(b)(6).

6. Characterization for free liquids is necessary to comply with rules applicable to storage of wastes containing free liquids, such as 40 CFR § 264.175(a) and (b).

This Permit Section is consistent with the far more detailed *Waste Analysis Plan* (WAP) at Attachment C. It calls for adherence to a characterization system, making the regulatory characterization requirement enforceable. It is supported by 40 CFR § 264.13(b), which calls for adherence to a waste analysis plan.

The requirement to establish waste stream descriptive information (*e.g.*, waste stream name, unique waste stream identifier, location of generation, and generation description) is necessary to distinguish between the approximately 330 different types of hazardous wastes or “waste streams” at LANL (*see* 2007 LANL Biennial Report (**AR 31397**) and for enforcement purposes.

The requirement to use of Department-approved sampling and analysis methods references EPA’s *Test Methods for Evaluating Solid Wastes* (SW-846), a standard EPA reference document which contains characterization methods approved through a public process. SW-846 is incorporated by reference into the regulations 40 CFR 261.24(a). Numerous regulations call for application of methods contained in SW-846. *See* 40 CFR §§ 260.11(c)(3), 261.22, 261.24, and 268.7. The use of acceptable knowledge is supported by the U.S. EPA’s April 1994 *Waste Analysis At Facilities That Generate, Treat, Store, And Dispose of Hazardous Waste* (Waste Analysis Guidance), which is (**AR 31385**). The requirement that all waste characterization information be kept in the Operating Record or available by means of a traceable identifier ensures that the information is available for waste management. Such information must be kept when waste is sent off-site to support off-site facilities in their waste management. The requirement to follow procedures specified in the *Waste Analysis Plan* (Proposed Permit

Attachment C) is based on the Applicants' current permit, Section II.C.1 (NMED Ex. 111) and EPA's model RCRA permit, Section II.B (NMED Ex. 112).

Permit Section 2.4.2, *Sampling and Analysis for Hazardous Wastes*, requires specific sampling and analysis procedures and quality assurance requirements for those procedures. It requires that sampling and analysis follow Department-approved procedures, including those in SW-846 and those specified in Attachment C, Tables C-16, C-17, and C-18. It requires that samples be representative of the waste stream and that sampling preserve the original physical form and composition and prevents contamination and changes in concentration. It requires a quality assurance/quality control (QA/QC) program, including specific procedures of method blanks, duplicates, and control samples, and requires that records of these procedures be retained.

This Permit Section also requires that any independent contract laboratory operate in accordance with the Permit waste analysis requirements and that the Applicants document their agreement to do so.

This Permit Section directs the Applicants to request permission to use a characterization method other than a Department-approved method 90 days before the proposed use. A change in methods to conform to new agency guidance shall require a Class 1 permit modification request.

The Permit Section is based upon the directions at 40 CFR § 264.13(a)(1) and (3) to "obtain a detailed chemical and physical analysis of ... the wastes" and "to ensure that [the waste analysis] is accurate" as allowed by 40 CFR § 270.32(b)(2). In referring to "Department-approved procedures, including methods contained in SW-846 and those specified in Attachment C, Tables C-16, C-17, and C-18," the Department is following the 40 CFR §§ 264.13(b)(2) and (3) requirements to identify the waste analysis and sampling procedures to be used. The Department approved the proposed methodologies because they are appropriate, have been

approved by EPA, and have been used by the Applicants in waste characterization under the existing permit and found adequate.

The requirement that samples be representative, and that sampling procedures preserve the original physical form and composition and ensure prevention of contamination and changes in concentration, express basic principles of sampling as stated in the U.S. EPA's April 1994 *Waste Analysis Guidance* at Section 2.3 (**AR 31385**).

The requirement for a quality assurance/quality control (QA/QC) program in accordance with SW-846 imposes another safeguard called for in the U.S. EPA's *Waste Analysis Guidance* at Section 2.3.5, and the U.S. EPA Publication SW-846.

The requirement that any independent contract laboratory operate in accordance with the Permit seeks to ensure compliance with the methods in the Permit. The requirement that the Applicants document an agreement with contract laboratories to do so is to ensure that the contract laboratory is following the waste analysis conditions in the Proposed Permit. The Applicants' current Permit, Section II.C.2 (NMED Ex. 111) requires the following: "The Permittee will notify any contract laboratory of the requirements of this section and permit." EPA's model RCRA permit has a similar requirement at Permit Condition II.B (NMED Ex. 112).

The limits upon alternative characterization methods give the Department time to analyze the proposal and to compare its effectiveness with those already approved. The specific information required for an alternative characterization method is based on 40 CFR § 260.21.

Permit Section 2.4.3, *Acceptable Knowledge*, authorizes the Applicants to use acceptable knowledge for waste characterization in addition to, or in place of, sampling and analysis. "Acceptable knowledge, sometimes simply "AK," is defined in the *Waste Analysis Plan* (Attachment C to the Proposed Permit) as information about the process used to generate the

waste, material inputs to the process, and the time period during which the waste was generated, and may also include characterization data. (*Waste Analysis Plan* § 3.1.1). Permit Section 2.4.3 requires the inclusion in acceptable knowledge documentation of all background information assembled and used in the characterization process relevant to the decision to use AK, including any contradictory information, and resolution of any and all discrepancies. Thus, no background information may be discarded without explanation. Further, the acceptable knowledge record is to be maintained in a form suitable for audit. The Permit Section is supported by the U.S. EPA's *Waste Analysis Guidance* at Section 1.5.2 and the Department's omnibus authority at 40 CFR § 270.32(b)(2). If rigorously maintained, acceptable knowledge records contain pertinent and adequate information as to the content of the waste stream. In addition, some waste streams (e.g., heterogeneous debris) are not amenable to characterization by representative sampling and are best characterized by acceptable knowledge.

Permit Section 2.4.4, *Waste Received from Off-Site*, requires that the Applicants obtain from any off-site facility that sends treatment-derived waste or sealed source waste to LANL a detailed characterization of a representative sample of the waste following Permit Section 2.4. The characterization information shall include any AK documentation. If AK is used for characterization, the Applicants must require the off-site facility to provide all AK documentation used to characterize the waste. This will ensure consistency with the requirements for on-site wastes in Permit Section 2.4.3. The Section also requires the Applicants to ensure that the waste matches the identity of the waste described in accompanying shipping documents and, if not, to follow 40 CFR § 264.72.

This Permit Section is based on 40 CFR §§ 264.13(a)(1), (a)(4), (b)(5), and (c), and the U.S. EPA's *Waste Analysis Guidance* at Section 2.6.1 (**AR 31385**). It is also taken from the

Applicants' August 2003 General Part B permit application at Section B.4 (NMED Ex. 5). The Department requires the Applicants to obtain complete characterization documentation for off-site wastes to ensure adherence to the 40 CFR § 264.13(a)(1) requirement to obtain "all information" necessary to properly manage wastes. The requirement to ensure that the waste matches the identity of the waste described in accompanying shipping documents is supported by 40 CFR §§ 264.13(a)(4) and 264.72, and the Applicants' application.

Permit Section 2.4.5, *Treatment-Derived Waste*, requires the Applicants to characterize treatment-derived waste to determine whether the applicable land disposal restrictions treatment standards have been met, if such was the purpose of treatment. Further, the notification and recordkeeping requirements of 40 CFR § 268.7(b)(3)(ii) and the general characterization requirements of Permit Section 2.4.1 continue to apply. The Applicants are treating mixed transuranic hazardous waste at TA-55 by cementation to form a non-corrosive solid matrix for storage. This waste stream, its treatment process, and its characterization procedures are described in the *Waste Analysis Plan* (Attachment C to the Proposed Permit) at Section C.3.2.4.

This Permit Section incorporates 40 CFR § 268.7(b). Treatment-derived wastes are considered newly generated wastes, requiring new characterization. The requirement to determine compliance with the applicable treatment standards of the Land Disposal Restrictions conforms to 40 CFR §§ 268.7(b)(1) and (2). Even if these wastes may be destined for WIPP, at which the Land Disposal Restrictions do not apply, the Applicants remain subject to the applicable Land Disposal Restrictions treatment standards because "restricted wastes," or wastes that do not meet the applicable treatment standards, are subject to the 40 CFR § 268.3 dilution prohibition and the 40 CFR § 268.50 long-term storage prohibition at LANL. That treatment-

derived waste should be characterized for attainment of the LDR standard is supported in the U.S. EPA's *Waste Analysis Guidance*, Sample WAP #3 on pages 4-31 through 4-35 (**AR 31385**).

The requirement to characterize treatment-derived waste generated off-site is based in part on the fact that most of the off-site waste that LANL receives are generated at LANL, sent off-site for treatment, and returned to LANL. These wastes require complete characterization, including determination of compliance with 40 CFR Part 268 (*i.e.*, Land Disposal Restrictions).

Permit Section 2.4.7, *Waste Characterization Review*, requires the review and repetition of characterization of waste streams to verify that the characterization is accurate and up-to-date, including:

1. Annual reevaluation of all waste streams generated in a given year to verify characterization.
2. Recharacterization of waste streams where a change in the process or analytical results indicate a change in the waste stream. In effect, a new waste stream is generated when the chemistry of the waste changes significantly, which would include a change to the list of associated underlying hazardous constituents or a change to the applicable treatment standards of the Land Disposal Restrictions.
3. Annual verification by quantitative chemical analysis of one percent of the waste streams managed at TA-54 in a given year that are characterized by acceptable knowledge.

Mixed transuranic waste is excluded because the WIPP characterization process is considered to contain its own safeguards. Debris is excluded because it is not amenable to characterization by analysis of a representative sample. Part 261 Subpart D wastes are excluded because they are manufactured products subject to listing.

4. Recharacterization when the Applicants are told by a receiving off-site facility that the waste received does not match the manifest or waste analysis. The Applicants are required to notify the Department within three days of the receipt of a notice of a discrepancy.

The Permit Section is based on 40 CFR § 264.13(a)(3), requiring characterization to be repeated as necessary to ensure that it is accurate and up to date. The requirements of this Section add specificity to the regulatory requirement and make it more certain and more readily enforceable. Accuracy of characterization is of prime importance to safe waste management and compliance with waste management regulations and permit conditions, as stated in the U.S. EPA *Waste Analysis Guidance*, page Introduction-2 (**AR 31385**). EPA's Guidance at Section 2.5 suggests it is necessary "to make an individual assessment of how often the waste analysis is necessary to ensure compliance ..."

Annual reevaluation simply repeats the process to assure appropriate characterization. The Applicants' current Permit at Sections II.C.4, A.5.2, A.2.3.1, and A.3.3.1 (NMED Ex. 111) requires annual waste characterization verification. EPA's model RCRA permit at Section II.B (NMED Ex. 112) suggests annual waste characterization verification for each waste stream. This requirement is fulfilled by the Applicants' adherence to LANL's guidance, *Waste Generator Instruction for Completing the Waste Profile Form (WPF)* (**NMED Exhibit 116, AR 33149**), at Section 3.6, which states "when the WPF has been activated, it is active for one year" and "at the end of that year, a *Waste Profile Extension Questionnaire* will be obtainable for the generator to renew or void the profile."

The requirement to recharacterize waste streams when there is a change in the process or analytical results indicate a change in the waste stream is supported by 40 CFR § 264.13(a)(3)(i).

The requirement to verify annually by quantitative chemical analysis one percent of the waste streams characterized by acceptable knowledge is an AK quality assurance procedure. It is based on the Applicants' current Permit at Sections A.2.5 and A.3.5 (NMED Ex. 111).

The requirement to recharacterize a waste when the Applicants are told by a receiving facility that the waste received does not match the manifest or waste analysis is based on 40 CFR § 264.13(a)(3)(ii). The requirement to notify the Department within three days of any notice of discrepancy helps the Department oversee the Applicants' waste characterization. The three day notification period is appropriate because it would allow the Department to be involved in the waste's re-characterization and to ensure that similar wastes are being appropriately managed at the Facility. Furthermore, the Department will want to know the cause of the mischaracterization. Waiting 15 days to learn of a mischaracterization is unnecessarily long. Finally, this requirement is similar to Permit Section B7-2 of the Department's *Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit*.

Permit Section 2.4.8, *Waste Characterization for Compliance with RCRA Air Emission Requirements*, requires characterization of wastes managed in containers and tanks to include a determination of average volatile organic compound (VOC) concentration at the point of waste origination. Regulations on emission controls exempt a tank or container for which all waste entering the unit has an average VOC concentration of less than 500 ppm/w (500 parts per million by weight) at the point of origination (40 CFR § 264.1082(c)(1)), a value that must be determined anew every 12 months. Determination procedures are specified in 40 CFR § 264.1083(a). The Proposed Permit requires annual redetermination and allows use of 40 CFR § 264.1083(a) procedures or acceptable knowledge. Use of acceptable knowledge to determine

VOC concentrations is supported by the Department's omnibus authority, 40 CFR § 270.32(b)(2), because many containers are known to come from processes that have no VOCs.

Further, the Permit Section states several exceptions to the requirement to characterize waste for VOC concentration, as provided in regulations:

1. Containers that store mixed waste. (40 CFR § 264.1080(b)(6)).
2. Containers storing wastes with a total capacity of less than 0.1 cubic meters. (40 CFR § 264.1080(b)(2)).
3. Containers that have stopped receiving hazardous waste and are undergoing closure. (40 CFR § 264.1080(b)(3)).
4. The Applicants are not required to determine average VOC concentration if pollution control is achieved using container construction specifications and operating requirements of 40 CFR § 264.1086(b).

The Permit Section incorporates 40 CFR Part 264 Subpart CC. This Section seeks to reduce the escape of toxic organic compounds and ozone precursors. It is partially taken from the Applicants' August 2003 *General Part B* permit application at Section B.5.4 (NMED Ex. 5).

Permit Section 2.4.9, *Waste Characterization for Compliance with Land Disposal Restrictions*, requires that the Applicants characterize wastes for their land disposal restriction (LDR) status before the wastes are managed at permitted units. It specifically includes wastes at permitted units destined to be transported to WIPP but limits characterization for compliance with the Land Disposal Restrictions to a "prohibited" or "restricted" determination rather than identification of all underlying hazardous constituents.

The Permit Section states that, when using laboratory analysis for waste characterization, the Applicants must require the laboratory to report concentrations of all hazardous constituents

listed at 40 CFR § 268.48, the *Table of Universal Treatment Standards*, that the analytical test method can measure, as specified in the most recent version of the U.S. EPA's publication SW-846. The Department has added language to clarify that the requirement only applies to analyses performed when acceptable knowledge is considered insufficient (*see* reference to Attachment C, *Waste Analysis Plan* at Section C.3.1.2). It does not require analytical methods or sample preparation techniques other than those the Applicants would routinely perform and does not limit the Applicants' ability to use acceptable knowledge.

The Permit Section requires that, when analyzing a waste for compliance with concentrations in 40 CFR § 268.40, the Applicants shall ensure that quantification limits do not exceed the regulatory standard. It also requires characterization of treatment-derived wastes to determine whether they are hazardous, whether their treatment has met the applicable standard, and to meet the notification and recordkeeping requirements of 40 CFR § 268.7(b)(3)(ii).

The Permit Section is based on 40 CFR § 268.7, adding specificity for thoroughness and protection as allowed under 40 CFR § 270.32(b)(2). The Section is also based in part on the Applicants' August 2003 *General Part B* permit application at Section B.5.3 (NMED Ex. 5). Waste characterization in part seeks to identify any underlying hazardous constituents that would trigger the one-year storage prohibition at 40 CFR § 268.50 and the waste dilution prohibition at 40 CFR § 268.3. The requirement to make a land disposal prohibition status determination applies to the generator, as per 40 CFR § 268.7(a). The Department interprets the regulation to require that a prohibition status determination be made early, so that the waste is not managed in violation of the prohibitions. The Department therefore requires that the LDR prohibition status be determined before wastes arrive at a permitted unit.

Regarding WIPP-bound wastes, the *WIPP Land Withdrawal Amendment Act*, Pub. L. 104-201 (1996), limits the applicability of the Land Disposal Restrictions at WIPP. That Act does not limit the applicability of the Land Disposal Restrictions at LANL, however, and the Department requires a LDR status determination for these wastes because the 40 CFR § 268.50 long-term storage prohibition applies to wastes restricted from land disposal. Furthermore, the Applicants' *Federal Facility Compliance Order* (FFCO) (AR 1759), requiring timely disposition of mixed transuranic wastes, *i.e.*, wastes generally destined for WIPP, references the applicability of 40 CFR § 268.50.

As for the requirement to report concentrations of all hazardous constituents the analytical test method can measure, the Department relies on its omnibus authority at 40 CFR § 270.32(b)(2). The condition requires more complete characterization and adds specificity to compliance with the 40 CFR § 264.13(a)(1) requirement to obtain a detailed chemical analysis of wastes and the §§ 264.13(b)(6) and 268.7 requirement to characterize wastes for their land disposal restriction status. The Applicants' August 2003 *General Part B* permit application at Section B.3.1.2 (NMED Ex. 5) states:

“For waste streams that can be representatively sampled ... sampling and analysis is performed when a waste lacks sufficient information to adequately characterize the waste based on [acceptable knowledge].”

The Permit Section requires that when performing laboratory analysis the Applicants should not limit the constituents reported. Section B.2.2 of the application states that an LDR status determination is usually based on laboratory analysis:

“In most cases, [the LDR status] can be completed after laboratory analysis of the waste.”

Department staff have noted that LANL will often limit laboratory chemical analysis to a particular constituent or a limited number of constituents. Adherence to Permit Section 2.4.9 would obtain as much information as the test can provide, verify the Applicants' claim of acceptable knowledge, possibly identify additional underlying hazardous constituents in conformance with 40 CFR § 268.9, and possibly prevent unlawful waste disposal. The Section does not require analysis for all hazardous constituents listed at 40 CFR § 268.48, instead only requires reporting of the constituents the analytical method is capable of measuring.

As for the requirement that quantification limits not exceed the regulatory standard, the purpose is to identify all exceedances and to comply with 40 CFR §264.13(b)(6). The requirements to characterize treatment-derived waste to determine whether they are hazardous, to determine whether their treatment has met the applicable standard, and to meet the notification and recordkeeping requirements come directly from 40 CFR §§ 262.11, 268.7, and 268.7(b)(3)(ii).

E. Proposed Permit Section 2.5 – Security

Permit Section 2.5, *Security*, contains requirements to prevent unknowing entry and minimize the possibility of unauthorized entry of persons or livestock. It requires a 24-hour surveillance system, controlled access gates, and security fences. It is based on 40 CFR § 264.14 and adds specificity for protection and enforceability under 40 CFR § 270.32(b)(2).

Permit Section 2.5.1, *Warning Signs*, requires warning signs at the boundaries of the permitted units in English, Spanish, and in Tewa at the boundaries with San Ildefonso Pueblo. It also requires warning signs as requested by Santa Clara Pueblo. This Permit Section is based on 40 CFR § 264.14(c) and adds specificity for protection and enforceability under 40 CFR § 270.32(b)(2).

F. Proposed Permit Section 2.6 – General Inspection Requirements

Permit Section 2.6, *General Inspection Requirements*, contains general inspection requirements. It requires inspections to be performed in accordance with Attachment E (*Inspection Plan*). It requires that the *Inspection Plan* always be available to the persons responsible for performing inspections. Possession of an electronic copy is deemed compliance.

This Permit Section is based on 40 CFR § 264.15 and adds specificity for protection and enforceability under 40 CFR § 270.32(b)(2). RCRA's inspection requirements contribute to safe management and effective regulation of hazardous waste, because they monitor malfunctions, equipment deterioration, operator errors, and discharges that may lead to releases of hazardous constituents. The Section follows EPA's model RCRA permit at Section II.D (NMED Ex. 112) and is similar to the Applicants' current RCRA Permit at Section II.E (NMED Ex. 111).

Permit Section 2.6.1, *Inspection Schedule*, requires the Applicants to conduct inspections often enough to correct problems before they become a threat. It requires inspections to be performed in accordance with the schedules in Attachment E (*Inspection Plan*). Areas subject to spills are inspected daily when in use.

The Permit Section incorporates a portion of 40 CFR § 264.15. The requirement to inspect permitted units and associated structures and equipment paraphrases § 264.15(b)(1). The requirement to inspect areas subject to spills daily comes from § 264.15(b)(4). Many of the requirements of 40 CFR § 264.15 are addressed in the application, have been incorporated into Attachment E (*Inspection Plan*), and are therefore not repeated at this Permit Section.

Permit Section 2.6.2, *Repair of Equipment and Structures*, requires the Applicants to remedy any deterioration or malfunction that may cause a hazard, to mitigate it within 24 hours of discovery, and to remedy a hazard immediately when it is imminent or already exists.

The Permit Section incorporates provisions at 40 CFR § 264.15(c), as allowed at 40 CFR § 270.32(b)(1). The reference to 24 hours is included for clarity and enforceability.

Permit Section 2.6.3, *Inspection Logs and Records*, requires inspection logs and records of actions taken in response to those inspections. It requires that the results of inspections be recorded on the *Hazardous and Mixed Waste Facility Inspection Record Form* in Attachment E (*Inspection Plan*), which specifies the critical environmental and human safety criteria that will be inspected. Any change to the *Form* must be done through the 40 CFR § 270.40 permit modification process. It requires that records be legible and that corrections to them be attributed to a specific person. It also requires that preventive maintenance activities, malfunctions, errors affecting waste containment or Permit compliance, cracks or gaps in base material, discharges of hazardous wastes, hazardous constituents or fire suppression water, and any occurrences causing or exacerbating contamination be recorded in the Operating Record.

The Permit Section partly incorporates 40 CFR § 264.15(d). The Department relies heavily on the inspection logs during facility inspections to ensure safe waste management practices. To increase confidence in the log's accuracy, procedures for altering the log or record are specified. This Section is generally taken from the Applicants' August 2003 *General Part B* permit application at Section C.1 (NMED Ex. 5).

The Department has incorporated additional terms into the Proposed Permit under its omnibus authority under 40 CFR § 270.32(b)(2) for specificity and to protect human health and the environment. The other recordation requirements bear upon the investigations and decontamination to be carried out upon closure.

G. Proposed Permit Section 2.7 – Personnel Training

Permit Section 2.7, *Personnel Training*, requires the Applicants to train staff at permitted units in accordance with the hazardous waste regulations and Attachment F (*Personnel Training*

Plan), which address the training necessary to attain compliance and to effectively respond to emergencies. Enforceability is ensured by requiring a training schedule and documentation.

The Permit Section incorporates 40 CFR § 264.16. It is based on EPA's model RCRA permit, Section II.G (NMED Ex. 112), the Applicants' current Permit at Section II.F (NMED Ex. 111). It is also partially taken from the Applicants' August 2003 *General Part B* permit application, Appendix D (NMED Ex. 5).

H. Proposed Permit Section 2.8 – Requirements for Ignitable, Reactive, or Incompatible Waste

Permit Section 2.8, *Special Requirements for Ignitable, Reactive, or Incompatible Waste*, specifies safety precautions for ignitable, reactive, and incompatible wastes, including consideration of fires, explosions, and toxic gas releases. It requires that containers holding ignitable or reactive wastes be located at least 15 meters from the TA boundary.

The Permit Section generally incorporates provisions at 40 CFR §§ 264.17, 264.176, 264.177, 264.198, and 264.199. It is generally based on EPA's model RCRA permit at Section II.I (NMED Ex. 112), the Applicants' current Permit at Section II.G (NMED Ex. 111). It is also taken from the Applicants' August 2003 *General Part B* permit application at Section 2.1.4 (NMED Ex. 5). It adds specificity regarding the location of ignitable and reactive wastes for protection and enforceability, as allowed under 40 CFR § 270.32(b)(2).

The requirement that containers with ignitable or reactive wastes be located 15 meters from the facility (*i.e.*, TA-specific) boundary reflects the requirement in 40 CFR § 264.176, except that the boundary is defined as that of the TA. The intent of 40 CFR § 264.176 is to ensure that persons unaware of the proximity of ignitable or reactive wastes are kept a safe distance away. The TA boundaries indicate limits beyond which personnel may be present,

including LANL personnel not employed at the TA in question, who may not know about the risks presented by wastes in storage in the adjoining TA.

Permit Section 2.8.1, *Ignitable and Reactive Waste Precautions*, requires that appropriate lightning protection be provided for all storage and treatment units, that containers holding ignitable or reactive wastes not be stacked more than two drums high, and that the Applicants assume that all unvented mixed transuranic waste containers of a particular volume contain hydrogen gas and are subject to all the precautions of this Permit Section.

The Permit Section incorporates 40 CFR § 264.17, and is based on the 40 CFR § 264.17(a) precautions, adding specificity for protection and enforceability under 40 CFR § 270.32(b)(2). Requirements in paragraphs (1), (2), (4), and (7) reiterate those at 40 CFR § 264.17(a). The other requirements are clearly protective of human health and the environment and are supported by the Department's omnibus authority at 40 CFR § 270.32(b)(2).

The requirement of lightning protection is based in part upon precautions included in the *Documented Safety Analysis (DSA) for LANL's Waste Characterization, Reduction, and Repackaging Facility (NMED Exhibit 117, AR 31037)*. Subsection 1.5.5.3 (*Lightning Strikes*) states:

“Lightning in Los Alamos can be frequent and intense during thunderstorms. Lightning strike data based on the informal communication with LANL personnel ... and information obtained from the National Oceanic and Atmospheric Administration (NOAA) ... indicate a local lightning strike density/frequency of approximately six strikes/km²/yr. This frequency is among the highest in the United States.”

The requirement to manage non-vented containers of mixed transuranic wastes in accordance with this Permit Section is based on the likelihood that the containers will generate

enough hydrogen gas to be ignitable. DOE requires these waste containers to be vented for this reason. The Department understands that non-vented containers of mixed transuranic wastes present in a permitted storage unit are containers recently removed from the subsurface at TA-54 Area G awaiting being vented. The limit of container volumes is based on the allowable range of mixed transuranic wastes containers.

Permit Section 2.8.2, *Incompatible Waste Precautions*, contains rules for maintaining separation of incompatible wastes. It requires that incompatible wastes not be stored within or on the same secondary containment so that they might commingle in a fire suppression water containment system. It adopts the Department of Transportation's (DOT's) compatibility groupings (*see* 49 CFR § 177.848) as rules for segregation and storage.

The Permit Section generally incorporates 40 CFR § 264.177. The Permit Section includes more specificity regarding types of structures to promote clarity, and to protect human health and the environment under 40 CFR § 270.32(b)(2). It is generally based on EPA's model RCRA permit at Section V.K (NMED Ex. 112). It is partially taken from the Applicants' June 2003 *TA-54 Part B* permit renewal application at Section 2.8 (NMED Ex. 5). The reference to the DOT classification system is based upon the Applicants' June 2003 *TA-54 Part B* permit renewal application at Section 2.8 and the Department's omnibus authority at 40 CFR § 270.32(b)(2).

I. Proposed Permit Section 2.9 – Waste Minimization Program

Permit Section 2.9, *Waste Minimization Program*, requires the Applicants to implement and maintain a waste minimization program to reduce the volume and toxicity of hazardous wastes generated. It includes numerous specific methods to minimize wastes and an annual reporting requirement.

The Permit Section is based generally on 40 CFR § 264.73(b)(9) and adds specificity for protection and enforceability, as allowed under 40 CFR § 270.32(b)(2). It reflects a basic tenet and goal of RCRA, *i.e.*, to minimize the amount of wastes generated and to conserve resources. It is consistent with the waste minimization conditions in EPA's model HSWA permit, Section B.1 (NMED Ex. 114) and the Applicants' current Permit Module VIII, Section B.1 (AR 7150).

J. Proposed Permit Section 2.10 – Preparedness and Prevention

Permit Section 2.10, *Preparedness and Prevention*, requires that the Applicants maintain and operate the permitted units in a manner that minimizes the possibility of a fire, explosion, or release of hazardous constituent to the environment or that otherwise might threaten human health. This Permit Section also renders enforceable the preparedness and prevention requirements and emergency equipment lists contained in Attachment A (*Technical Area Unit Descriptions*) and Attachment D (*Contingency Plan*).

The Permit Section is supported by 40 CFR § 264.31 and incorporates by reference the preparedness requirements in Attachments A and D to the Proposed Permit, making the general regulatory requirement specific to this Facility. 40 CFR § 270.32(b)(1). The Department understands the requirement to minimize the possibility of threats to mean that the Applicants must satisfy the preparedness and prevention requirements of this Proposed Permit. In other words, the Applicants must comply with the regulatory and permit precautions to prevent a threat from occurring. This interpretation is based on the Applicants' current Permit at Section II.H (NMED Ex. 111).

Permit Section 2.10.1, *Required Equipment*, requires the Applicants to maintain the emergency equipment listed in the *Technical Area Unit Descriptions* (Attachment A to the Proposed Permit) and the *Contingency Plan* (Attachment D to the Proposed Permit). This

equipment includes communication devices, alarm devices, fire control equipment, spill control equipment, and decontamination equipment. The Section requires each permitted unit to have fire water at an adequate pressure and volume and requires equipment to mitigate impacts of a power outage.

The Permit Section also requires maintenance of an environmental monitoring network to detect releases, as detailed in Section D.7.3 of the *Contingency Plan* (Attachment D to the Proposed Permit). Regional monitoring stations located within five counties surrounding Los Alamos County are placed within 80 kilometers (50 miles) from LANL. These stations determine background conditions. Perimeter stations, located within approximately 4 kilometers (2.5 miles) of the LANL boundary, measure conditions in residential areas surrounding LANL. On-site stations are within the LANL boundary. Routine surveillance from them includes measuring radiation and collecting samples of air particulates, surface waters, groundwater, soil, sediment, and foodstuffs for subsequent analysis. Additional samples provide information about specific events, such as major runoff events and nonroutine releases.

The Permit Section partly incorporates 40 CFR § 264.32, and it adds specificity for clarity, and protection of health and the environment under 40 CFR § 270.32(b)(2). The requirement to maintain equipment to mitigate impacts of a power outage is based on 40 CFR § 270.14(b)(8)(iv) and adds specificity for protection and enforceability as allowed under the Department's omnibus authority at 40 CFR § 270.32(b)(2). The requirement is based on the Applicants' description of procedures and equipment used to mitigate impacts of a power outage in Section G.1.4.4 of the most recent Part B permit applications (NMED Ex. 5), including the September 1999 *TA-3-29 Part B*, the August 2002 *TA-50 Part B*, the June 2003 *TA-54 Part B*, and the September 2003 *TA-55 Part B*.

The requirement to maintain an environmental monitoring network is taken from the Applicants' August 2003 *General Part B* permit application at Section E.7.3 (NMED Ex. 5) to monitor non-sudden releases to all environmental media, including the atmosphere. Results of this monitoring may be too general to apply directly to a specific hazardous waste management unit.

Permit Section 2.10.2, *Testing and Maintenance of Equipment*, requires testing and maintenance of emergency response equipment. Equipment listed in the *Inspection Plan* (Attachment E to the Proposed Permit) at Section E.1.1, must be tested "to ensure its functionality in event of an emergency." If equipment malfunctions it must immediately be repaired or replaced. The Permit Section requires that malfunctioning equipment be labeled "out of use" and employees be trained in the use of substitute equipment. Equipment testing, replacement, and training must be documented in the Operating Record.

The Permit Section incorporates 40 CFR § 264.32, with added specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The requirement to test and maintain emergency equipment is generally taken from the Applicants' August 2003 *General Part B* permit application at Section 2.1.2.2 (NMED Ex. 5). The *Inspection Plan* (Attachment E to the Proposed Permit) is taken from the permit application almost verbatim.

The Department has encountered malfunctioning emergency equipment during LANL inspections, albeit at a 90-day storage area rather than a permitted unit (*see* February 13, 2004 *NMED Administrative Compliance Order (AR 16788)*). The requirement to repair or replace missing or nonfunctioning equipment promptly is authorized at 40 CFR § 264.15(c). The requirement to train employees in the use of substitute emergency equipment is based on the 40 CFR § 264.16(a)(3) requirement to train personnel to respond effectively to emergencies. The

requirement to label malfunctioning equipment as “out of use” is based on the 40 CFR § 264.31 requirement to operate the facility to minimize threats, the assumption that nonfunctioning equipment not so labeled could exacerbate a threat, and the need for added protection, as allowed under 40 CFR § 270.32(b)(2).

Permit Section 2.10.3, *Access to Communications or Alarm System*, requires that during hazardous waste management activities all personnel have access to an internal and external alarm or emergency communication device without entering another building.

The Permit Section incorporates 40 CFR § 264.34. That regulation requires “immediate access” to emergency communication devices. The Department interprets “immediate access” as access without entering another building and includes this specificity to ensure clarity, and for protection of human health and the environment under 40 CFR § 270.32(b)(2). The requirement regarding access to emergency communications and alarms is generally taken from the Applicants’ August 2003 *General Part B* permit application at Section 2.1.2.3 (NMED Ex. 5).

Permit Section 2.10.4, *Spill Response*, specifies steps to be taken in a response to a spill, including isolation of the spill area, containment of the spill, defining the nature and extent of the spilled waste, packaging the spilled waste and contaminated materials in containers, and decontaminating the area, equipment, and personnel. It is intended to list, in no necessary order, the elements of a spill response.

The Permit Section is based on 40 CFR § 264.31, requiring the Applicants to minimize the possibility of sudden releases threatening human health or the environment. It adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Compliance would ensure that minor releases are cleaned up in a manner protective of health and safety. The response actions specified are taken almost verbatim from

the Applicants' August 2003 *General Part B* permit application at Section E.4 (NMED Ex. 5). Permit Section 2.10.4 addresses the more probable small spill and the associated response.

Permit Section 2.10.5, *Arrangements with Local Authorities*, directs the Applicants to maintain agreements with local emergency response authorities, including the Los Alamos County Emergency Management and Response Office, the Los Alamos Fire Department, the Los Alamos County Police Department, and the Los Alamos Medical Center.

The Permit Section incorporates 40 CFR § 264.37, which requires certain agreements with local emergency authorities, as allowed at 40 CFR § 270.32(b)(1), and recognizes that those agreements have been made, and requires maintenance of those agreements, pursuant to 40 CFR § 270.32(b)(2). The organizations are listed in the *Contingency Plan* (Attachment D to the Proposed Permit), Sections D.1.5.3 and D.1.7, and are taken almost verbatim from the Applicants' August 2003 *General Part B* permit application at Sections E.1.5.3 and E.1.7 (NMED Ex. 5).

K. Proposed Permit Section 2.11 – Implementation of the Contingency Plan

Permit Section 2.11.1, *Implementation of Contingency Plan*, directs the Applicants to implement the *Contingency Plan* (Attachment D to the Proposed Permit) upon the occurrence of an incident at a permitted unit that threatens human health or the environment. The *Contingency Plan* is also to be implemented immediately, regardless whether there is a potential threat, on the occurrence of particularly dangerous releases, explosions, and fires. Such events include releases that cannot be contained with secondary containment or the application of sorbents, releases of inflammable material creating a fire or explosion hazard, and releases that result in toxic fumes; an unplanned explosion involving hazardous waste or imminent danger of explosion involving hazardous waste; or a fire involving hazardous waste or existence of a fire that threatens to

volatilize, react, or ignite hazardous waste. This Permit Section also requires that the Applicants have an adequate number of trained emergency response personnel available at all times.

The Permit Section incorporates 40 CFR § 264.51(b). It is also partially taken from the Applicants' August 2003 *General Part B* permit application at Section E.3.1 (NMED Ex. 5). The listing of seven circumstances where waste management personnel must initiate an emergency response removes the ambiguity as to the required response and provides protection as allowed under 40 CFR § 270.32(b)(2). The requirement to implement the *Contingency Plan* regardless whether there is a potential threat under particular circumstances is taken from the Applicants' *General Part B* permit application at Section E.3.1.

Regarding the requirement to have an adequate number of trained emergency response personnel available at all times, the Department expects that to show compliance with this requirement, the Applicants would present information such as an expert analysis, supporting the size of an emergency response staff.

Permit Section 2.11.2, *Content of the Contingency Plan*, specifies the plan content for each permitted unit, namely: (1) a description of actions to be taken in emergencies, (2) a description of arrangements with non-LANL emergency responders, (3) a description of contracts or Memoranda of Understanding with emergency response contractors, (4) names and phone numbers of primary and alternate emergency managers, (5) a list of all on-site emergency equipment at each permitted unit, and (6) an evacuation plan, based on 40 CFR § 264.52(f). The Section requires that the referenced information be accurate at all times. Proposed Permit Attachment D (*Contingency Plan*) is consistent with this Permit Section.

The Permit Section incorporates 40 CFR § 264.52. It is also based on 40 CFR § 264.37(a)(3) regarding agreements with emergency contractors and adds specificity for clarity,

and protection of health and the environment under 40 CFR § 270.32(b)(2). That the Proposed Permit requires the establishment and documentation of emergency response is clearly protective of human health and the environment. The Permit Section is partially taken from the Applicants' August 2003 *General Part B* permit application, Appendix E (*Contingency Plan*).

Permit Section 2.11.3, *Distribution*, requires that copies of the *Contingency Plan* be kept at each permitted unit, the Emergency Management and Response Office, and in the Facility Operating Record. It must also be distributed to all entities with which the Applicants have mutual assistance agreements and to the State of New Mexico's Department of Homeland Security and Emergency Management (DHSEM) Area 3 Emergency Coordinator. Distribution must be made within ten days of the effective date of the revised draft Permit and within ten days of receipt of any Department approval to a modification of the *Contingency Plan*. Distribution outside the Facility will be by certified mail with a return receipt. This Permit Section also requires evacuation routes for a permitted unit to be prominently posted.

The Permit Section incorporates 40 CFR § 264.53 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The Department requires that complete and up-to-date versions of the *Contingency Plan* be kept at each of the referenced locations to ensure that each party reliant upon the *Plan* has the same version. The requirement to use certified mail with a return receipt ensures that there will be a record of compliance with this requirement.

Inclusion of the DHSEM Area 3 Emergency Coordinator as a party to receive a current copy of the *Contingency Plan* is based on a May 21, 2009 communication between the Department's Steve Connolly and the DHSEM's Area 3 Emergency Coordinator, Mr. Donald

Mathiasen (**AR 31637**), during which Mr. Mathiasen agreed to be the central point of information gathering and distribution.

The requirement that the evacuation routes be prominently posted is included to improve protection of human health and to establish a readily enforceable and compliant condition.

Permit Section 2.11.4, *Amendments to Plan*, requires that the *Contingency Plan* be reviewed annually and in response to particular events and be amended when necessary. The particular events include: a change to another, associated LANL emergency response plan; any change to a permitted unit; failure of the *Plan* in a drill or an emergency at a permitted unit; a change in the list of emergency equipment or the emergency managers; and any instance where during implementation the *Plan* it is found to be deficient or when a review reveals a deficiency in LANL emergency response resources and capabilities.

The Permit Section requires that Emergency Managers review the *Contingency Plan* annually and log each review in the Facility Operating Record.

The Permit Section principally incorporates 40 CFR § 264.54. However, the Department has added specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). A requirement to keep the *Contingency Plan* current and to correct any deficiencies is clearly valid for protection of human health and the environment.

Recent reports by agencies qualified to evaluate the Applicants' emergency preparedness suggest that the Applicants should take additional precautions to address emergency response during a fire. The most recent of those reports, the U.S. Department of Energy, Office of Inspector General's September 2009 *Inspection Report*, which is marked as **NMED Exhibit 118 (AR 32042)**, states that "fire suppression and related services had not been assured through contractual arrangements with the County" and "a number of issues and concerns were

previously identified ... without resolution.” The Report does not indicate that any of the deficiencies apply specifically to the Applicants’ waste management units.

The Permit Section’s reference to the *Emergency Management Plan* and the *Building Emergency Plan* refers to LANL-wide and building-specific emergency response plans that must operate consistently with the *Contingency Plan* (Attachment D to the Proposed Permit). These provisions ensure protection as authorized at 40 CFR § 270.32(b)(2).

The requirement that the *Contingency Plan* be reviewed and amended if necessary is included for protectiveness as authorized at 40 CFR § 270.32(b)(2). The Applicants must request a permit modification if a change to the *Contingency Plan* is necessary.

Permit Section 2.11.5, *Emergency Manager*, requires the designation of an emergency manager or incident commander, equivalent to an emergency coordinator under 40 CFR § 264.55, who is responsible for all emergency response measures relating to hazardous waste. The Department must be informed of any change to this designation by a Class 1 permit modification.

The Permit Section incorporates 40 CFR § 264.55. Informing the Department of a change in designation is required by 40 CFR § 264.52(d), which states that the *Contingency Plan* must include a list of persons qualified to act as emergency coordinator, “and this list must be kept up to date.” The Department believes that the seven-day notification requirement for a Class 1 permit modification will not impair communication if an emergency arises.

Permit Section 2.11.6.1, *Immediate Actions*, requires building or area personnel on site to activate the internal alarm immediately and requires the Emergency Manager to notify all appropriate response agencies and to implement the *Contingency Plan* (Attachment D). The Permit Section also requires creation of a chain of command to address the emergency.

This Permit Section incorporates 40 CFR § 264.56, and requires response actions as specified in the *Contingency Plan*. Building or area personnel are designated to activate the alarm, because they are likely to be the first persons aware of the emergency and because the Emergency Manager is located at the Emergency Operations Support Center. Notice to local first responders follows 40 CFR § 264.56(a)(2). The Permit Section also provides that one individual is identified as Incident Commander to ensure clear authority.

Permit Section 2.11.6.2, *Release, Fire or Explosion*, requires in case of a fire, explosion or release that the Emergency Manager quickly determine the type and quantity of chemicals released and how far they may have spread and assess specific threats to human health and the environment.

This Permit Section incorporates 40 CFR §§ 264.56(b) and (c). These requirements are taken from the Applicants' August 2003 *General Part B* permit application's Appendix D (NMED Ex. 5).

Permit Section 2.11.6.3, *Reporting Findings*, establishes the Emergency Manager's reporting requirements, following 40 CFR §§ 264.56(d)(1) and (2). The Permit Section incorporates 40 CFR §§ 264.56(d), (d)(1), and (d)(2). The requirements of this Permit Section are taken from the Applicants' August 2003 *General Part B* permit application's Appendix D.

Permit Section 2.11.6.4, *Mitigative Measures*, requires the Emergency Manager to take all reasonable precautions to mitigate, limit, or lessen the effects of a threatening fire, explosion, or release. The Permit Section incorporates 40 CFR § 264.56(e).

Permit Section 2.11.6.5, *Monitoring*, requires that during an emergency the Emergency Manager use available air monitoring resources to measure and characterize any air emissions caused by a fire, explosion or release. It also requires that, if the facility stops operations during

an emergency, the Emergency Manager monitor for problems with pipes, valves or other equipment. Piping systems carry hazardous materials at the TA-55 Room 401 tank storage and treatment unit.

The paragraph regarding air monitoring during emergencies is included to improve protection and is supported by the Department's omnibus authority at 40 CFR § 270.32(b). The paragraph regarding monitoring pipes, valves and other equipment incorporates 40 CFR § 264.56(f).

Permit Section 2.11.7, *Post-Emergency Procedures*, requires that, immediately after an emergency in which the *Contingency Plan* was implemented, the Emergency Manager shall ensure that all wastes, contaminated environmental media, or material generated as a result of that emergency be properly managed and that all emergency equipment be cleaned and fit for its intended use before operations resume. The Permit Section incorporates 40 CFR §§ 264.56(g) and (h).

Permit Section 2.11.8, *Need for Further Corrective Action*, states the Department's authority, after implementation of the *Contingency Plan* in response to a release, to determine that the spill has not been entirely remediated and that corrective action may be required, pursuant to Permit Part 11. The Permit Section is based on the Applicants' corrective action obligations under §§ 74-4-4(a)(5)(h) and (i) and 74-4-4.2(b) of the Hazardous Waste Act and 40 CFR § 264.101 and adds specificity for protection and enforceability, as allowed under 40 CFR § 270.32(b)(2).

Permit Section 2.11.9, *Notification and Record Keeping*, states that the Applicants must notify the Department of implementation of the *Contingency Plan*, referring to Permit Section

1.9.12, which requires a report within 24 hours and a written report within five days. Title 40 CFR § 264.56(i) calls for a written report within 15 days of the incident.

A further notice to the Department, local authorities, and tribal governments is required before operations resume in the areas affected. This requirement is based upon the Department's judgment that health and safety will be advanced by it, as allowed by 40 CFR § 270.32(b)(2). As another provision, the Department requires a record of all instances when a fire suppressant was activated and contacted a waste pad. The purpose of this last provision is to record contact between the fire suppressant and the waste pad, for assistance during closure.

L. Proposed Permit Section 2.12 – Record Keeping and Reporting

Permit Section 2.12, *Record Keeping and Reporting*, requires compliance with all record keeping and reporting requirements contained in the Permit and in 40 CFR § 264.73(a), which contains a list of items to be placed in the Facility Operating Record. The Permit Section incorporates 40 CFR § 264.73(a).

Permit Section 2.12.1, *Manifest Systems*, incorporates by reference the manifest recordkeeping requirements of 40 CFR §§ 264.71, 264.72, and 264.76. The Permit Section is supported by 40 CFR §§ 264.71, 264.72, and 264.76.

Permit Section 2.12.2, *Facility Operating Record*, requires maintenance of a Facility Operating Record for each permitted unit until the conclusion of closure or post-closure care. The Department assumes that any permitted unit containing a solid waste management unit (SWMU) or area of concern (AOC) subject to corrective action, which action is completed with controls, will not be closed, nor will post-closure care be completed during the pendency of such controls. For documents that address the entire Facility (*e.g.*, certifications of a Facility program to reduce the volume and toxicity of hazardous waste), the Applicants must maintain such

documents throughout the active life of the LANL Facility including the post-closure care period. These retention periods are based on the Department's omnibus authority at 40 CFR § 270.32(b)(2). The Department will allow electronic records to substitute but will specify the format. Any alterations to the electronic record must be documented and dated.

Permit Section 2.12.2 lists 18 items that the Applicants must maintain in the LANL Facility Operating Record. The first 13 items largely follow the regulations at 40 CFR § 264.73(b). The last 5 items (14 through 18) are records that the Department has required to be made and maintained to enable enforcement of Permit requirements. They are necessary to protect health and the environment under CFR § 270.32(b)(2). Permit Section 2.12.2(11) requires the Operating Record to include applicable Land Disposal Restrictions information for disposed wastes. The relevant Land Disposal Restriction provision, 40 CFR § 268.7, was adopted in 1986, and this requirement would not apply to waste disposed of before the regulation was issued. The required information is specified in the Treatment Facility Paperwork Requirements Table in 40 CFR § 268.7(b) and includes applicable EPA hazardous waste numbers, constituents of concern for particular F-listed wastes, underlying hazardous constituents of characteristic wastes, applicable wastewater/nonwastewater categories, and available waste analysis data. *See* 40 CFR § 268.7(c)(1).

Items (1) through (13) of the Permit Section are supported by 40 CFR § 264.73(b). Items (14) through (18) refer to documentation of actions required under the Permit, which are necessary to protect health and the environment.

Permit Section 2.12.3, *Availability of Facility Operating Record*, requires that the Operating Record and other required Permit records be reasonably available for inspection by the Department. It is understood that security constraints may delay disclosure but not for an

extended period. The Permit Section is based on 40 CFR § 264.74(a), which requires that all records be available for inspection by the regulator.

Permit Section 2.12.4, *Record Retention*, requires retention of all records during the pendency of any enforcement action. This Permit Section is based upon 40 CFR § 264.74(b), which imposes the same requirement.

Permit Section 2.12.5, *Biennial Report*, requires the submission of a biennial report pursuant to 40 CFR § 264.75, which is incorporated by reference and imposes the same requirement.

The remaining Part 2 permit conditions are addressed in testimony by Mr. James Bearzi.

V. PART 3: STORAGE IN CONTAINERS

Part 3 of the Proposed Permit contains permit conditions for the storage of hazardous waste in container storage areas. It incorporates the requirements for managing hazardous waste in containers in 40 CFR Part 264, Subpart I. Many of the conditions in Part 3 are similar to conditions in EPA's model RCRA permit, Module V (NMED Ex. 112) and the Applicants' current RCRA Permit, Module III (NMED Ex. 111). Furthermore, many of the conditions incorporate the waste management descriptions from the Applicants' permit applications.

A. Proposed Permit Section 3.1 – General Conditions

Permit Section 3.1, *General Conditions*, states general requirements for hazardous wastes stored in containers. The Permit Section requires adherence to 40 CFR Part 264, Subpart I and the container storage provisions included at Permit Attachment A (*Technical Area Unit Descriptions*).

This Permit Section limits long-term storage of hazardous waste in containers to the permitted units listed in Attachment J (*Hazardous Waste Management Units*) in Table J-1

(Active Portion of the Facility)). It also limits the wastes stored in the permitted units to those with the waste codes identified in Attachment B (*Part A Application*) and limits the volume of stored wastes at the permitted units to the capacity identified in Table J-1.

This Permit Section clarifies that, for the purpose of compliance with the secondary containment requirements, the holding of a hazardous waste container for a period not to exceed 24 hours, and for the purpose of moving, treating, characterizing, or repackaging the waste, shall not be considered storage.

This Permit Section also addresses the configuration of buildings and other structures at the permitted units. It requires that all figures in the Proposed Permit accurately reflect the location of the buildings and structures at the permitted units, regardless of whether the building or structure manages hazardous waste. It specifies the type of permit modification necessary to change the configuration of these structures, which depends upon whether hazardous wastes are managed in the structure. Moving structures that manage hazardous wastes requires the Department's prior approval, but moving structures that do not manage hazardous waste only requires notification to the Department.

The requirements of Permit Section 3.1 are based on numerous authorities. The requirement to adhere to all container storage regulations at 40 CFR Part 264, Subpart I incorporates by reference the provisions of those regulations, in accordance with 40 CFR § 270.32(b)(1). The Department includes this provision for completeness and has drafted the specific conditions of Part 3 to be consistent with Subpart I.

The requirement to adhere to the container storage provisions of Attachment A (*Technical Area Unit Descriptions*) compels the Applicants to manage stored wastes in

containers as described in their permit applications. The Department has proposed to permit these activities based on adherence to procedures described in those applications.

These requirements are based on the Applicants' current Permit Sections III.A and III.B (NMED Ex. 111) and are generally based on the U.S. EPA's model RCRA permit at Section V.B (NMED Ex. 112).

The Permit Section's clarification regarding activities constituting storage is necessary to clarify what activities ancillary to storage the Applicants can perform with waste containers (*e.g.*, waste characterization and repackaging) without violating the requirement to store waste containing free liquids on secondary containment. Wastes undergoing the ancillary activities may contain free liquids. These waste containers are staged prior to the activity. Secondary containment is unnecessary considering the short staging time and the nearly continual presence of personnel at the staging area.

The requirement that figures in the Proposed Permit accurately reflect the location of the buildings and structures at the permitted units has two purposes. First, Department inspectors require accurate figures to identify all applicable structures. Second, the Department uses the figures to track the movement of structures when permitted units are closed to identify sampling locations.

Many of the container storage units resemble a parking lot. Large trailers (the type seen on highways and considered a "structure" under the Permit) are often moved within, or added to, these permitted units. A portion of these trailers store hazardous waste containers under the Permit. The Department must be informed of the location of these structures.

Because structures managing hazardous waste must comply with all applicable permit requirements, the Proposed Permit specifies that changes to the location of these structures, or

the addition of a new structure, must be addressed through a permit modification that has the Department's prior approval. The Department must approve a location change of a hazardous waste structure to ensure that the structure can be readily inspected, and for protection of health and the environment under 40 CFR § 270.32(b)(2).

B. Proposed Permit Section 3.2 – Condition of Container

Permit Section 3.2, *Condition of Containers*, requires that hazardous waste containers be in good condition and that waste be transferred from a container in bad condition to a sound container within 24 hours of discovery.

The Permit Section incorporates the condition of container provisions at 40 CFR § 264.171, . The 24-hour limit to transfer waste to a sound container is included to add specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). These requirements are based on the Applicants' current Permit at Section III.C.4 (NMED Ex. 111) and the EPA's model RCRA permit at Section V.C (NMED Ex. 112).

C. Proposed Permit Section 3.3 – Acceptable Storage Containers

Permit Section 3.3, *Acceptable Storage Containers*, limits the Applicants to storage containers that comply with 40 CFR Part 264, Subpart I. The most common container is the 55-gallon drum. The Permit Section requires that prior to off-site shipment, waste containers comply with the U.S. Department of Transportation (DOT) hazardous material shipping regulations.

The Permit Section requires that solid, oversize wastes that are hazardous but do not readily fit into a standard container be wrapped in plastic with a minimum to two layers of plastic to prevent the dispersion of contaminated material. The Applicants advise in a March 16, 2009 transmittal (**AR 30610**) that these items consist of gloveboxes or glovebox parts, vacuum

pumps, tanks, and oversize facility equipment (*e.g.*, stationary tools, duct work, piping, and HEPA filters) which have been deemed waste and are awaiting dismantlement and size reduction or the procurement of suitable containers. In allowing this practice, the Department assumes that it will be used for items too large or odd-shaped for normally available containers and that, once wrapped in plastic, items will not be moved until either a container is available or the waste item will be taken directly to size reduction. Further, storage of such items shall be subject to the usual requirements of container storage.

The Permit Section is based on the 40 CFR § 264.31 provision to operate a facility to minimize the possibility of a threatening release. It adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2).

The Applicants' June 2003 TA-54 Part B permit application at Sections 2.1.1.2, 2.1.2.2, 2.1.3.2, Table 2-2, and Table 2-4 (NMED Ex. 5) describes using only containers that comply with U.S. Department of Transportation (DOT) regulations. Use of containers that comply with DOT requirements will also comply with the air emission requirements of the hazardous waste regulations. The Applicants' current Permit at Section F.1.1 (NMED Ex. 111) requires the use of containers meeting DOT requirements. Finally, that DOT containers are crash and drop tested is a factor in the Department's decision to allow stacking of containers three high.

The requirement to wrap solid, oversize wastes in two layers of plastic is based on the 40 CFR § 264.31 provision to operate a facility to minimize the possibility of a threatening release, the Applicants' March 16, 2009 (AR 30610) proposal to do so, and the Department's omnibus authority at 40 CFR § 270.32(b)(2) to add specificity for clarity, and for protection of health and the environment.

D. Proposed Permit Section 3.4 – Compatibility of Waste with Containers

Permit Section 3.4, *Compatibility of Waste with Containers*, requires use of containers or liners that are compatible with the contained wastes. The Permit Section incorporates the provisions at 40 CFR § 264.172, . Requiring the container be compatible with the waste ensures that waste does not damage the container and cause a leak or spill. The requirements of this Section are based on the Applicants' current Permit at Section III.C.5 (NMED Ex. 111), and the U.S. EPA's model RCRA permit at Section V.D (NMED Ex. 112).

E. Proposed Permit Section 3.5 – Management of Containers

Permit Section 3.5(1) requires that containers be kept closed except during waste addition, removal, or repackaging. It also requires that containers be managed so that they are not ruptured or caused to leak. The Section incorporates the closed container provisions at 40 CFR § 264.173(a), . The requirement to keep containers closed prevents a release of liquid, solid, and gaseous wastes. The requirements of this Section are based on the U.S. EPA's model RCRA permit at Section V.E (NMED Ex. 112). The Section also incorporates the provisions at 40 CFR § 264.173(b).

Permit Section 3.5(2) requires demarcation of the boundaries of permitted container storage units. Demarcation may use paint, tape, or other permanent visible marking. A fence or other permanent structure marking the boundary suffices as demarcation. The requirement to mark boundaries improves the clarity of the Permit terms, and supports the Department's enforcement efforts. Many hazardous waste management units (HWMU) consist of a portion of a floor or a parking lot. Without proper demarcation it is difficult to identify the HWMU. HWMU boundary demarcation assists waste management personnel, assists Department inspectors, and identifies what areas require evaluation at closure. On February 12, 2009 and

May 28, 2008 site inspections, Department personnel identified several instances where it was not possible to determine the boundaries of particular hazardous waste management units (HWMUs), particularly TA-54 Pads 1, 3, 9, and 10, *see* Steve Pullen's April 23, 2009 Memo to file, which is marked as **NMED Exhibit 119 (AR 31510)**.

Permit Section 3.5(3) requires that waste drums stored in portable buildings that do not have grated floors be elevated using dollies or pallets. It incorporates 40 CFR § 264.175(b)(2). The purpose of this provision is to protect containers from contact with accumulated liquids that might cause corrosion. This requirement is based on the Applicants' current Permit at Section III.A.5.c (NMED Ex. 111).

Permit Section 3.5(4) requires that the Applicants document the location of each hazardous waste container and revise the documentation when containers are moved. The combination of an electronic database, containers marked with a bar code, and the use of bar code readers connected to the database, constitute an appropriate method of establishing the documentation. The Permit Section incorporates 40 CFR § 264.73(b)(2). This requirement enables the Applicants and the Department to monitor compliance with Permit terms addressing capacity limits, storage duration, secondary containment, and compatibility of wastes. Further, the adherence to the requirement allows prompt location of a particular waste container.

Permit Section 3.5.1(1) requires adequate aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment within the permitted units. It also requires emergency egress aisles two feet wide at personnel doors.

The Section incorporates 40 CFR § 264.35. Adequate aisle space in the storage areas enables the Applicants and the Department to monitor compliance with Permit, to inspect

containers and provides access for emergency personnel. It is consistent with the Applicants' June 2003 *TA-54 Part B* permit application at Sections 2.1.1.3, 2.1.2.3, and 2.1.3.3 (NMED Ex. 5).

Permit Section 3.5.1(2) prohibits stacking containers greater than or equal to 30 gallons of hazardous waste more than three containers high. Stacked containers must be palletized and each layer bound together. That is, where a pallet contains multiple layers of containers, those containers must be wrapped with plastic or the equivalent to create a rigid structural unit, adding stability to the stack.

The Permit Section is based on 40 CFR §§ 264.31 and 264.173(b) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The Proposed Permit limits container stacking to protect personnel working amongst the containers and to minimize the possibility of a release caused by a container falling and rupturing. This requirement is also imposed as a precaution in an area of known seismic activity.

Permit Section 3.5.1(3) requires that containers stored outdoors be stored no closer than five feet from the perimeter fence, any permanent structure, or a roadway. The Permit Section is based on 40 CFR §§ 264.31, 264.35, and 264.173(b) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Containers may not be placed close to a wall that could topple or to roadways with vehicles that could cause impact, to minimize the possibility of a release caused by a rupture. Further, the requirement is based on the 40 CFR § 264.35 requirement to maintain sufficient space to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area within a permitted unit. It also facilitates container inspection. Finally, the

requirement is partially taken from the Applicants' current Permit at Section III.A.1.C (NMED Ex. 111).

Permit Section 3.5.1(4), *Gas Cylinders*, requires that gas cylinders containing hazardous waste be stored in racks, baskets, or special pallets that provide support and restraint. The Permit Section is based on 40 CFR §§ 264.31 and 264.173(b) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The Department requires that hazardous waste gas cylinders be securely stored to minimize the possibility of a release caused by a cylinder toppling and rupturing. The requirement is taken from the Applicants' June 2003 *TA-54 Part B* permit application at Section 2.1.1.3 (NMED Ex. 5).

Permit Section 3.5.1(5) requires that containers stored outdoors that are not being actively managed be protected from precipitation. The Department interprets the term "active management" here to mean waste in transit within an outdoor permitted unit.

This requirement ensures protection of human health and the environment under 40 CFR § 270.32(b)(2). Mixed waste containers generally have vents on top of the container. Precipitation may enter a container through this vent if it is not protected. It is important to prevent water from altering the characteristics of the waste, mobilizing the waste, or corroding the container. Weather protection also protects container labels from detaching or becoming illegible.

F. Proposed Permit Section 3.6 – Waste Container Labeling

Permit Section 3.6(1), *Container Labeling*, requires that containers storing hazardous waste be labeled "hazardous waste," and the label identify the following: generator's name, address, and EPA identification number; all applicable EPA hazardous waste numbers; and the

date when the container was placed in storage. The Permit Section requires containers holding mixed waste be labeled “radioactive.”

The Permit Section is based on 40 CFR §§ 262.34(a)(2-3), 268.50(a)(2)(i), and 264.177(c), and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). This requirement enables the Applicants and the Department to monitor compliance with Permit terms addressing the length of time waste is stored, waste compatibility, and volatile organic air emissions

Title 40 CFR § 268.50(a)(2)(i) requires that “each container is clearly marked to identify its contents and the date each period of accumulation begins.” A similar requirement is at 40 CFR §§ 262.34(a)(2) and (3). Generator information assists in enforcing Permit limitations upon permissible waste sources. (*See* Permit Section 2.2.1) The date a container is placed in storage is necessary to enforce storage duration limits. (*See* Permit Section 2.3.1) EPA hazardous waste numbers assist in enforcing compatibility requirements.

Marking of mixed waste containers as “radioactive” is important during an emergency, enables compliance with RCRA air emission standards, and is partially taken from the Applicants’ application. Knowing the hazards associated with a container is clearly important during an emergency. The Applicants use the mixed waste air emission exemption at 40 CFR § 1080(b)(6), for which a “radioactive” label is necessary. Finally, the Applicants’ September 2003 *TA-55 Part B* permit application at Section 2.1.6.2 (NMED Ex. 5) commits to including this information on labels.

The requirement is partially taken from the Applicants’ September 2003 *TA-55 Part B* permit application at Section 2.1.6.2 (NMED Ex. 5) and the Applicants’ current Permit at

Section F.1.2 (NMED Ex. 111). The EPA suggests that states may require additional labeling information to ensure good container management. (47 Fed. Reg. 1249, (January 11, 1982)).

Permit Section 3.6(2) requires that containers holding free liquids have a “free liquids” label. The Permit Section clarifies that a separate label specifying free liquids is not necessary so long as this information is on a label.

The Permit Section is based on 40 CFR §§ 262.34(a)(2) and (3), 268.50(a)(2)(i), and 264.175(b)(3), and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). This requirement enables enforcement of Permit terms addressing free liquids. (See Permit Section 3.7 and Attachment J, Table J-1) Title 40 CFR § 268.50(a)(2)(i) requires “each container is clearly marked to identify its contents...” See also 40 CFR §§ 262.34(a)(2) and (3). Title 40 CFR § 264.175(b)(3) specifies different requirements for containers with and without free liquids.

G. Proposed Permit Section 3.7 – Containment Systems

Permit Section 3.7, *Containment Systems*, requires that containers be stored so as to prevent contact with accumulated liquids. The Section incorporates 40 CFR §§ 264.175(b)(2) and 264.175(c). Preventing contact with accumulated liquids limits the corrosion of metal containers; allows for the identification of a container leak; and prevents hazards during container management. The requirement is based on the Applicants’ current Permit at Section III.D(NMED Ex. 111).

Permit Section 3.7.1(1) requires secondary containment systems and engineered controls to prevent precipitation run-on to the unit. The Permit Section incorporates 40 CFR § 264.175(a). The U.S. EPA explains the necessity of secondary containment:

“Containers are relatively thin-walled, can be punctured by fork –lift trucks, and are prone to break open when dropped or knocked over. They tend to corrode or otherwise deteriorate relatively rapidly both from the inside as a result of reaction with the waste, and from the outside as a result of exposure to the environment. The agency believes, therefore, that it is prudent to require a secondary containment system under container storage areas.” (46 Fed. Reg. 2829 (January 12, 1981))

Run-on controls are required at 40 CFR § 264.175(b)(4), unless a collection system has sufficient excess capacity to “contain any run-on which might enter the system” in addition to required containment capacity. “Run-on” is defined as “any rainwater, leachate, or other liquid that drains over land onto any part of a facility.” (*See* 40 CFR § 260.10) Because the calculation of containment capacity and the amount of any run-on have several uncertain elements, the Department requires that run-on be prevented. The requirements of this Permit Section are taken from the Applicants’ current Permit at Section III.D (NMED Ex. 111) and the U.S. EPA’s model RCRA permit at Section V.F (NMED Ex. 112).

Permit Section 3.7.1(2) requires removal of spilled or leaked waste and accumulated precipitation from sumps or secondary containment systems either: (a) within 24 hours of detection if the waste or precipitation is in liquid form and the sump or secondary containment is the sole means of secondary containment, or (b) in as timely a manner as necessary to prevent overflow of the containment system. Thus, if there is a redundant secondary containment system or the foreign material is in a solid form, *e.g.*, frozen precipitation, immediate removal is less imperative. The Permit Section requires that should secondary containment system’s capacity be diminished, the Applicants must measure the remaining capacity of the system to ensure it

retains the prescribed volume of 10% of the volume of all containers or the volume of the largest associated container, whichever is greater.

The Permit Section is based on 40 CFR § 264.175(b)(5) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). It is poor waste management practice to allow fluids to stand long-term in a secondary containment system. The time limit of 24 hours to remove liquids does five things: 1) it clarifies the condition, removing the ambiguous regulatory phrase “in as timely a manner as is necessary,” thus making it easier to comply with, to inspect, and to enforce; 2) it disallows LANL’s historical practice of allowing liquids to remain in secondary containment for long periods; 3) it addresses the inherent difficulty of knowing when secondary containment will be necessary; 4) it prevents potentially large volumes of accumulated liquids in secondary containment basins from escaping to the environment; and 5) it allows determination whether there has been a leak from a waste container.

Containers holding liquid hazardous wastes are required at 40 CFR § 264.175(a) to use secondary containment as the primary engineering control, after the waste containers themselves, to prevent releases to the environment. The Proposed Permit specifies the types of secondary containment at the Applicants’ permitted units (*see* Permit Attachment A). Those types include:

1. pallets designed to hold four 55-gallon drums, constructed of polyethylene or metal, painted with a chemical-resistant coating, and with a liquid-tight sump;
2. “clam shell” containers designed to hold four 55-gallon drums outdoors with a lid protecting them from the weather, constructed of polyethylene, and with a liquid-tight sump;

3. a curbed concrete floor capable of holding many containers, treated with a chemical-resistant coating, and with or without a recessed sump;
4. a concrete containment pad or basin located away from the waste storage area and coated with a chemical-resistant coating or lined with high density polyethylene (HDPE); and
5. steel sheds constructed with a liquid-tight sump.

The specific time frame of 24 hours eliminates the ambiguity associated with the regulation. To allow liquids to be removed from a secondary containment system “in as timely a manner as is necessary” (*see* 40 CFR § 264.175(b)(5)) is difficult for the Department to enforce.

Requiring 24 hours to remove liquids disallows LANL’s historical practice of allowing liquids to remain in secondary containment for long periods. In February 2005 Dome 224 at TA-54 Area G had fluid standing on the HDPE liner (functioning as secondary containment), *see* Memo from Steve Pullen to file dated April 27, 2009, which is marked as **NMED Exhibit 120 (AR 31511)**. I am aware that that liquid existed in this secondary containment system for a long time. I also participated in Department inspections where I witnessed water in the form of ice standing in the secondary containment system at Dome 230 at TA-54 Area G. Conversations between the Applicants and the Department regarding these incidents could not resolve what constitutes necessary and timely removal of the material.

The limit of 24 hours to remove liquids addresses the inherent difficulty of knowing when secondary containment will be necessary, or when or how a containment system’s excess capacity will be sufficient to prevent overflow. This is principally because of the various liquids that can enter a containment system. Sources of liquids include, but are not limited to, the waste containers, precipitation that enters the systems through holes in the fabric domes, or breaks in

fire suppression systems. I believe liquids in Domes 230 and 224, mentioned above, came from precipitation entering through holes in fabric domes.

I am aware of numerous breaks in fire suppression systems at LANL caused by freezing pipes inside unheated waste storage areas, including the break inside TA-54 Area L Dome 215 on December 2, 2006. In this instance the tank designed to contain the fire suppression water (not a secondary containment system required by the regulations) overflowed and tritium-contaminated water was released to the environment.

The requirement could potentially limit the escape of fluids from a containment system to the subsurface. The Applicants' secondary containment basins are not intended to hold hazardous fluids for long periods, principally because they cannot detect leaks to the subsurface. If secondary containment basins hold hazardous liquids for long periods they are acting as tanks, for which the regulations require leak detection systems and a permit (*see* 40 CFR § 264.193(c)(3)). Leak detection is particularly necessary when a containment basin holds large volumes of liquid, which generate significant hydraulic pressures, for an extended period of time. Further, the expansion potential of frozen fluid threatens the integrity of a containment system.

Finally, the requirement to remove liquids within 24 hours enhances the ability of secondary containment to determine whether there has been a leak from a waste container. A release of liquids from a container to an empty secondary containment system is much more noticeable than a release to a system already holding liquids.

The Applicants principally object to the condition because it does not conform to 40 CFR § 264.175(b)(5), which states that "spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system." (*See Applicants' September 3, 2009 Comments on the Draft*

Los Alamos National Laboratory Hazardous Waste Facility Permit (AR 31981) at Comment Number 16). The Applicants' comment implies that as long as the containment system has the minimum required capacity, they should not be required to remove any accumulated fluids within 24 hours. The Applicants do not offer criteria for what constitutes "in as timely a manner as is necessary."

It is true that all secondary containment systems referenced in the Permit are designed to have the regulatorily required minimum capacity. However, neither LANL personnel nor Department inspectors can readily know when a containment system holding fluids has lost the minimum required capacity, because none of these systems are marked to indicate the required capacity. The Applicants have never been able to demonstrate that a system, containing liquids, retained the minimum capacity. The amount of liquid wastes relying on a particular containment system is continuously changing. Further, there are several sources of liquids that can enter a containment system, and the Applicants cannot anticipate when or how a containment systems capacity will be sufficient to prevent overflow.

The Applicants also assert that the removal requirement would not allow them to sample and analyze accumulated liquids to determine the appropriate removal method and related safety procedures. But accumulated liquids can be promptly transferred to a container or larger containment vessel and later sampled. It is surely safer to do so than to allow them to be held in an open secondary containment system. The Permit's *Contingency Plan* has numerous provisions for quickly repackaging spilled liquids into sound containers. The Applicants' June 2003 *TA-54 Part B* application at Section 2.6 (NMED Ex. 5) states:

[A]ny accumulated liquids are removed with a vacuum truck, a high-efficiency particulate air vacuum, a portable pump, or by other means, as appropriate and depending

on the waste type and volume. The collected liquids are then transferred to appropriate containers and characterized.

The Applicants also complain of the difficulty of removing frozen liquid. The Department recognizes this difficulty, believes that frozen liquids pose less threat of release, and has written the Permit Section to provide additional time for materials “in any form.”

Permit Section 3.7.1(3) requires that the Applicants maintain the base of secondary containment systems so that they are impervious to leaks, spills, and precipitation. The Permit Section incorporate the provisions at 40 CFR § 264.175(b)(1). The purpose is to prevent migration of hazardous wastes through defective containment systems to the environment.

Permit Section 3.7.1(4) requires documentation that any coating or sealant used as a secondary containment system was applied and maintained in accordance with the manufacturer’s specifications. The Applicants are also to certify conformance with these procedures. The Permit Section also requires installation and maintenance of chemically resistant water stops embedded in the concrete floor of secondary containment systems.

The Permit Section is based on 40 CFR § 264.175(b)(1) and adds specificity for protection and enforceability, as allowed under the Department’s omnibus authority at 40 CFR § 270.32(b)(2). Adherence to sealant manufacturer’s specification is critical to ensuring the proper function of secondary containment systems. The certification requirement provides the Department with a means of ensuring compliance.

Secondary containment is required by RCRA for hazardous waste storage containers holding liquid wastes. The forms of containment systems the Applicants use includes:

1. a curbed concrete floor capable of holding many containers, treated with a chemical-resistant coating, and with or without a recessed sump;

2. steel sheds constructed with a liquid-tight sump; and
3. a concrete containment pad or basin located away from the waste storage area and coated with a chemical-resistant coating.

Permit Sections 3.12.3.1 through 3.12.3.6 require treatment of particular concrete sumps, pads, berms, curbs, floors, and interiors with an epoxy sealant to contain potential leaks, spills, or precipitation. The Applicants proposed the use of sealants in the June 2002 *TA-54 Part B* permit application at Sections G.3.4.2 and G.3.4.5 (NMED Ex. 5).

The requirement improves adherence to the impermeability requirement at 40 CFR § 264.175(b)(1) in the absence of suitable methods to determine whether a secondary containment system leaks, particularly a below-grade system as are many of the Applicants' (*see* examples 1 and 3 above). This is particularly problematic when the structures hold large volumes of liquids, generating hydraulic pressures that may penetrate the structure. Requiring a certification that a process is properly performed is used elsewhere in the regulations to ensure compliance. *See, e.g.,* requirements regarding certifications of tank system integrity, 40 CFR §§ 264.191(b)(5)(ii) and 264.192(a).

If the Applicants cannot certify that secondary containment system sealants have been applied and maintained as recommended by the manufacturer, the Applicants must properly replace the existing coating sealant.

The requirement to install and maintain chemically resistant water stops embedded in the concrete floor of secondary containment systems is based on the Applicants' description in the September 2003 *TA-55 Part B* permit application at Section 2.2.2 (NMED Ex. 5).

Permit Section 3.7.1(5) requires the Applicants to maintain documentation in the Facility Operating Record that a flexible liner that constitutes a portion of a secondary containment

system was installed and maintained in accordance with the manufacturer's recommendations. This requirement does not become effective until July 1, 2014.

The Permit Section is based on 40 CFR § 264.175(b)(1), regarding an impervious base. It adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Adherence to the manufacturer's specification is critical to ensuring the proper function of secondary containment systems using a flexible liner. A certification of proper installation and maintenance provides a means of ensuring compliance.

The Applicants utilize a flexible liner as a portion of a secondary containment system at one permitted unit, TA-54 Area G, Pad 9, Dome 230. The Applicants describe the Dome and the flexible liners in the June 2003 *TA-54 Part B* permit application at Section G.3.4.1:

“The floor of Dome 230 is designed for secondary containment of liquids. The asphaltic-concrete floor is sloped (1%) towards a concrete sump at the east end of the dome... The asphaltic-concrete floor and curbs in Dome 230 are lined with a double layer of 40 mil high-density polyethylene (HDPE), and the sump is lined with a single layer of 40 mil HDPE, creating an impervious layer to contain any liquids that might accumulate (see Supplement G-1 for details on HDPE liners). The secondary containment capacity for Dome 230, which includes the sump and curbed area, is approximately 48,255 gallons... Any liquid that might accumulate within these storage domes (*e.g.*, precipitation, liquids resulting from fire-suppression activities) is contained within the secondary containment pallets or curbed area or, at Dome 230, in the sump and curbed area.”

The Department's postponement of the requirement until July 1, 2014 is based on numerous factors, including: 1) recognition that failure to have the documentation might cause a difficult replacement procedure for liners buried below the asphalt pad, 2) that in places there is a

double layer of liners, 3) that there has been no indication that the HDPE liner has failed to perform its function, and 4) that Dome 230 must discontinue hazardous waste operations by 2014 to comply with cleanup schedules in the Consent Order.

Permit Section 3.7.1(6) requires repair of a damaged secondary containment system within 15 days of identification of the problem. The Permit Section also requires a record of the damage and its associated repair. The Section is based on 40 CFR §§ 264.15(c) and 264.175.(b)(1), and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Title 40 CFR § 264.175(b)(1) requires an impervious base and 40 CFR § 264.15(c) requires the following:

“The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.”

The Permit Section states the substance of these regulations, establishes an enforceable time period, and thus is an appropriate application of the regulation. The duty to record damage and repairs supports development of closure plan confirmatory sampling requirements. (*See* Permit Section 9.4.6.2)

Permit Section 3.7.1(7) requires that the number of waste drums on a secondary containment pallet not exceed the design capacity of the pallet. The Permit Section is based on the 40 CFR § 264.31 provision to operate a facility to minimize the possibility of a threatening release and the § 264.175(b)(3) provision that secondary containment systems have sufficient holding capacity. It adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Exceeding the capacity of a secondary containment pallet is poor

waste management practice, because a waste container could fall off the pallet and cause a spill, or leaks might exceed the pallet's holding capacity. The Applicants' use of secondary containment pallets is described in the June 2003 *TA-54 Part B* permit application at Section G.2.4.1 (NMED Ex. 5) and the design capacity of these pallets is described in a manufacturers' specification sheet in Supplement G-1 of that application.

Permit Section 3.7.1(8) requires that metal secondary containment pallets be treated with "chemically-resistant urethane" and that coating be maintained according to manufacturers' specifications. It is based on the 40 CFR § 264.31 provision to operate a facility to minimize the possibility of a release and the 40 CFR § 264.175(b)(1) provision to ensure that secondary containment structures have an impervious base. The Section adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Adherence to the manufacturer's specifications is critical to ensuring the proper function of secondary containment pallet systems. The Applicants' use of secondary containment pallets is described in the June 2003 *TA-54 Part B* permit application at Section G.2.4.1 (NMED Ex. 5) and the chemicals that are incompatible with the coating, *e.g.*, acids, are referenced in a manufacturers' specification sheet in Supplement G-1 of that application.

Permit Section 3.7.2(1) concerns storage areas where waste containers without free liquids will be stored and requires that the areas be sloped or otherwise designed to drain liquids and that containers be elevated to protect them from contact with liquids. The Permit Section incorporates 40 CFR §§ 264.175(c)(1) and (2). Preventing containers from contacting accumulated liquids limits the corrosion of metal containers, allows for the identification of a container leak, and prevents hazards during container management. The requirement is partially

taken from the Applicants' description of waste management practices in the June 2003 *TA-54 Part B* permit application at Section 2.1.3.2 (NMED Ex. 5).

Permit Section 3.7.2(2) requires secondary containment for hazardous waste containers having particular waste codes, specifically codes associated with chlorinated compounds. The Permit Section incorporates 40 CFR § 264.175(d), as allowed at 40 CFR § 270.32(b)(1).

Permit Section 3.7.2(3) requires that non-liquid waste only be managed at units so identified in Attachment J (*Hazardous Waste Management Units*), Table J-1 (*Active Portion of the Facility*). The Permit Section is based on 40 CFR § 264.175(c) associated with wastes not containing free liquids and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The Section reflects the Applicants' descriptions of permitted units or portions of permitted units not managing wastes with free liquids and therefore not having secondary containment, and facilitates Department inspection of the units. (*See the June 2003 TA-54 Part B* permit application and the September 2003 *TA-55 Part B* permit application (NMED Ex. 5).

H. Proposed Permit Section 3.8 – Inspection Schedules and Procedures

Permit Section 3.8(1) requires weekly inspection of container storage units for evidence of leaks or deterioration. A container storage unit that is not in use, *i.e.*, where no waste is stored, need not be inspected. The Permit Section incorporates a portion of the provisions at 40 CFR § 264.174, as allowed at 40 CFR § 270.32(b)(1). RCRA's inspection requirements are an important component of safe waste management because they monitor malfunctions, equipment deterioration, operator errors, and discharges that may lead to releases of hazardous constituents and/or threats to human health. The Section is consistent with Permit Section 2.6.1 (*Inspection Schedule*) and the schedules in Attachment E (*Inspection Plan*) and is consistent with the U.S. EPA's model RCRA permit at Section V.G (NMED Ex. 112).

Permit Section 3.8(2), *Container Inspection*, requires that containers be stored so that they can be inspected for leaks, corrosion, and deterioration, and so that labels may be read without moving the container. The Permit Section is based on 40 CFR § 264.174 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Adherence to the aisle space requirement at Permit Section 3.5.1(1) satisfies the requirement to allow for inspections of leaks, corrosion, and deterioration.

The requirement to store containers so that labels may be read without moving the container is based in part on 40 CFR § 262.34(a)(2), which requires that the date when each period of accumulation begins is clearly marked and visible for inspection on each container. This requirement closely follows that regulation and adds specificity for protection and enforceability, as allowed by the Department's omnibus authority under 40 CFR § 270.32(b)(2).

I. Proposed Permit Section 3.9 – Volatile Organic Air Emissions

Permit Section 3.9(1) directs that air emissions, specifically volatile organic emissions, from containers be controlled pursuant to 40 CFR Subpart CC. One method of compliance is to manage the waste in a unit that is closed so that emissions cannot escape or are captured. The Permit Section also requires compliance with the specific air emission control requirements in the *Inspection Plan* (Attachment E to the Proposed Permit).

The Permit Section incorporates by reference 40 CFR Part 264 Subpart CC. In accordance with 40 CFR § 1080(c), air emission control requirements are incorporated in the Permit when reissued. Attachment E, Section E.8 addresses inspection requirements for units subject to Subpart CC requirements.

Permit Section 3.9(2) contains the exemptions from air emission controls stated in 40 CFR §§ 1080(b)(1) through (8). The Permit Section incorporates by reference the referenced regulations, as allowed at 40 CFR § 270.32(b)(1). The Department includes the exemptions in the Proposed Permit to facilitate Department inspections.

Permit Section 3.9(3) requires mixed waste containers be labeled as such in accordance with Permit Section 3.6, which states that the claim of an exemption from the RCRA air emission controls is the basis for this labeling requirement.

The Permit Section is based on 40 CFR §§ 1080(b)(6) and 268.50(a)(2)(i), and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The requirement is justified by the need to apply the exemption and to facilitate Department inspections. The requirement cross references another section of the Proposed Permit to assist in compliance and enforcement.

Permit Section 3.9(4) provides that container air emissions may be controlled by adherence to container construction and operation requirements, including specific sizes, DOT approval of containers, containers remaining sealed, and specific inspection requirements. The Permit Section states that all containers not otherwise exempted under Subpart CC are subject to Container Level 1 requirements, except that the Applicants shall maintain a list of containers using Container Level 2 controls. The Section also recognizes that there may be circumstances where it is appropriate to open containers holding wastes subject to emission controls.

The Permit Section incorporates the provisions at 40 CFR §§ 1086(b)(i)(1), (c)(i)(1), (c)(3) and (c)(4) as allowed at 40 CFR § 270.32(b)(1). The Section's listing of four requirements is intended to identify the most common compliance procedures. The RCRA air emission control standards for containers consider three factors; 1) the size of the container, 2) the volatility of the waste, and 3) whether waste treatment is occurring within the container. The Permit Section simplifies enforcement by recognizing that the Applicants generally manage wastes in 55-gallon containers, the containers are generally not in "light-material service," *i.e.*, the associated wastes are not highly volatile, and treatment is not generally occurring in the containers.

The requirement to maintain a list of containers using Container Level 2 controls adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The Applicants' applications, reflected at Attachment E (*Inspection Plan*) at Section E.8, reference the use of Container Levels 1 and 2 controls. The Applicants' infrequent use of Container Level 2 controls and the Department's need to ensure compliance through inspecting requires the Applicants to be capable of readily identifying the use of those controls.

Permit Section 3.9(5) references other characterization requirements associated with the RCRA air emission controls as means to ensure compliance. The cross references are included because the RCRA air emission requirements are relatively new, and the Applicants' and Department's personnel may be unaware of these associated requirements.

J. Proposed Permit Section 3.10 – TA-3 Container Storage Requirements

Permit Section 3.10.1, *TA-3 General Operating Conditions*, requires that permitted storage of hazardous waste in TA-3 occur in particular rooms and that the storage conform to the unit description in Attachment A (*Technical Area Unit Descriptions*) and Attachment J (*Hazardous Waste Management Units*). It reflects the Department's obligation at 40 CFR § 270.32(b)(1) to include permit conditions necessary to achieve compliance with the regulations. The references (a) establish in what rooms permitted container storage of hazardous waste may occur at TA-3, (b) that the Applicants must comply with the specific container storage procedures taken from their permit applications and incorporated into Attachment A, and (c) that the Applicants must comply with the specific requirements of Attachment J, such as whether the permitted unit is authorized to manage liquid wastes.

Permit Section 3.10.2, *TA-3 Secondary Containment*, requires that the floors in Rooms 9010, 9020, and 9030 be painted with epoxy sealant and that sealant be properly maintained. It incorporates the provisions regarding an impervious base at 40 CFR § 264.175(b)(1), as allowed at 40 CFR § 270.32(b)(1). The requirement is partially based on the Applicants' September 1999 *TA-3-29 Part B* permit application at Sections G.1.1, G.1.2, and G.1.3 (NMED Ex. 5). The Department understands that the floors are currently painted in accordance with this Permit Section. Therefore, they need not be repainted unless it is necessary to ensure an impervious base or if suggested by the manufacture's specifications.

K. Proposed Permit Section 3.11 – TA-50 Container Storage Requirements

Permit Section 3.11.1(1), *TA-50 Storage Locations*, requires that permitted storage of hazardous waste at TA-50 occur in particular areas and that the storage conform to the unit description in Attachment A (*Technical Area Unit Descriptions*) and Attachment J (*Hazardous Waste Management Units*). It reflects the Department's obligation at 40 CFR § 270.32(b)(1) to include permit conditions necessary to achieve compliance with the regulations. The references establish; (a) where permitted container storage of hazardous waste may occur at TA-50, (b) that the Applicants must comply with the specific container storage procedures taken from their permit applications and incorporated into Attachment A, and (c) that the Applicants must comply with the specific requirements of Attachment J, *e.g.*, whether the permitted unit is authorized to manage liquid wastes. The locations referenced are taken from the Applicants' August 2002 *TA-50 Part B* permit application at Sections 2.1 and G.1 (NMED Ex. 5).

Permit Section 3.11.1(2) prohibits storage of ignitable waste inside the glovebox in the TA-50 indoor permitted unit. The Permit Section is based on the 40 CFR § 264.31 provision to operate a facility to minimize the possibility of a release. The Section adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). It is based upon the serious safety issue raised by the presence of ignitable waste inside a glovebox, namely, that it is very difficult to control or extinguish a fire in a glovebox. Further, the requirement is a commitment in the Applicants' August 2002 *TA-50 Part B* permit application at Section 2.1.10 (NMED Ex. 5).

Permit Section 3.11.1(3) requires maintenance of a fire access lane between the TA-50-69 Outdoor and Indoor permitted units, giving access to a fire hydrant and the TA-perimeter fire access gate on the northwest boundary of the unit. The Section is included to ensure protection

of human health and the environment, as allowed under the Department's omnibus authority at 40 CFR § 270.32(b)(2). The purpose is to ensure proper ingress and egress of personnel and equipment in the event of fire or other emergency. This fire access lane is located between two permitted units. This area is used as a staging zone and to transport waste containers between the two units. The Applicants will be in compliance with this permit section if waste management personnel are present at all times that waste containers are in the fire access lane. This is an appropriate use of the Department's omnibus authority at 40 CFR § 270.32(b)(2).

Permit Section 3.11.2, *Preventing Hazards in Loading/Unloading*, forbids loading and unloading waste at the TA-50 permitted units during precipitation. The Permit Section is included to ensure protection of human health and the environment, as allowed under the Department's omnibus authority at 40 CFR § 270.32(b)(2). The requirement is consistent with the Applicants' August 2002 *TA-50 Part B* permit application at Section G.2.4.1 (NMED Ex. 5).

Permit Section 3.11.3, *Preventing Run-on*, requires the prevention of run-on to the TA-50 permitted units. The Permit Section specifically requires the Applicants to inspect and maintain drainage swales so that run-on is diverted away from the units.

The Permit Section is included to ensure protection of human health and the environment as authorized under the Department's omnibus authority at 40 CFR § 270.32(b)(2). Preventing run-on to a permitted container storage unit is good waste management practice, primarily because it is important to preventing waste containers from being washed away, corroded, or otherwise damaged. Run-on may also limit access to the containers. I refer to my previous discussion of Permit Section 3.7.1(1). The Section is taken from the Applicants' August 2002 *TA-50 Part B* permit application at Section G.2.4.2 (NMED Ex. 5). The Department does not consider precipitation run-on to the TA-50 indoor and outdoor units from the asphalt loading

zone between these units to be preventable or a threat to hazardous wastes stored in these units, and is therefore not subject to this Permit Section.

The Permit Section does not address runoff. To monitor stormwater runoff at these units, the Department relies on LANL's Multisector General Stormwater Permit administered by the U.S. EPA and the associated TA-50 monitoring station in Ten-Site Canyon.

L. Proposed Permit Section 3.12 – TA-54 Container Storage Requirements

Permit Section 3.12.1, *TA-54 General Operating Conditions*, requires that permitted storage of hazardous waste at TA-54 occur in particular areas and that the storage conforms to the unit description in Attachment A (*Technical Area Unit Descriptions*) and Attachment J (*Hazardous Waste Management Units*). It reflects the Department's obligation at 40 CFR § 270.32(b)(1) to include permit conditions necessary to achieve compliance with the regulations. The references establish; (a) where permitted container storage of hazardous waste may occur at TA-54, (b) that the Applicants must comply with the specific container storage processes taken from their permit applications and incorporated into Attachment A, and (c) that the Applicants must comply with the specific requirements of Attachment J, *e.g.*, whether the permitted unit is authorized to manage liquid wastes. The locations referenced are consistent with the Applicants' Applicants' June 2003 *TA-54 Part B* permit application (NMED Ex. 5).

Permit Section 3.12.1(Area G)(1) requires evacuation of all fluids above the high-density polyethylene (HDPE) liner at TA-54 Area G, Dome 224 within 24 hours of detection. The Permit Section is based on 40 CFR § 264.31 regarding minimizing the potential for a release and 40 CFR § 264.175(b)(5) regarding removing accumulated liquids and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). As explained previously regarding Permit Section 3.7.1(2), the Department considers it poor waste

management to allow fluids to stand long-term in a secondary containment system. The requirement's limit of 24 hours to remove liquid does two things: 1) disallows LANL's historical practice of allowing liquids to remain in this secondary containment for long periods; and 2) prevents potentially large volumes of accumulated liquids in a secondary containment basin from escaping to the environment. Department inspection of the dome in February 2005 revealed the existence of standing fluid in the sump reaching the top of the liner (*see* Memo from Steve Pullen to file dated April 27, 2009 (NMED Ex. 120)).

The Proposed Permit would require the Applicants to use secondary containment pallets in Dome 224 instead of the engineered secondary containment system (*see* Permit Section 3.12.3.7). The high-density polyethylene (HDPE) liner is a part of that engineered system. That the engineered system has been used to provide secondary containment in the past is evidenced by the Applicants' June 2002 *TA-54 Part B* Application at Section G.3.4.5 (NMED Ex. 5). The Department does not have evidence that a release has occurred from the system and the Department expects a thorough investigation of the system during closure. However, it is imperative that liquids in the substrate below stored hazardous wastes and above the HDPE liner be removed. The Department anticipates that there will be no fluids above the HDPE liner at TA-54 Area G, Dome 224 when the Proposed Permit becomes effective and that the Applicants will continue to remove fluids identified in the future in accordance with the Permit Section. The Department includes this requirement to ensure protection of human health and the environment and the requirement is supported by the Department's omnibus authority at 40 CFR § 270.32(b)(2).

Permit Section 3.12.1(Area G)(2) requires that all containers storing hazardous waste with free liquids at TA-54 Area G be placed on containment pallets, except within Domes 230,

Sheds 144, 145, 146, 177, 1027, 1028, 1029, 1041, and Building TA-54-412. The Permit Section is based on the provisions at 40 CFR § 264.175 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The enumerated structures all have engineered secondary containment systems, as described in Attachment A (*Technical Area Unit Descriptions*). The remaining container storage areas at Area G require secondary containment by other means, *e.g.*, containment pallets. The explicit statement of the requirement does not add to the Applicants' obligations and better enables the Applicants and the Department to monitor compliance with Permit terms.

Permit Section 3.12.1(Area L)(1) directs that the Area L, Dome 215 fire suppression system firewater holding tank be inspected monthly and that any detected fluids be characterized and removed within three days. The Permit Section requires that detailed records of these inspections and any encountered fluids be kept.

The Permit Section is based on the 40 CFR § 264.31 provision to operate a facility to minimize the possibility of a release. The Section also adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2).

On December 2, 2006 a Dome 215 fire suppression line froze and ruptured, releasing 43,000 gallons of water that flowed the length of the Dome, entered a drain line, and flowed into a 13,000 gallon holding tank, *see* Dec. 5, 2006 HWB Incident Report (**AR 31490**). At the time the tank held approximately 3000 gallons of water contaminated with tritium. The tank overflowed, releasing 33,000 gallons of water to the environment. The Applicants have not explained the source of the tritium in the water. The floors of hazardous waste storage areas have numerous potential sources of contamination, and any water contacting those floors is a potential source of contamination. It is clearly protective to inspect for and remove accumulated

liquids from the Dome 215 holding tank and is supported by the Department's omnibus authority at 40 CFR § 270.32(b)(2).

Permit Section 3.12.1(Area L)(2) requires that all containers storing hazardous waste with free liquids at Area L be placed on containment pallets, except within the following: Sheds 31, 68, 69, 70; concrete pad with canopy at TA-54-32; concrete pads TA-54-35 and TA-54-36; building TA-54-39 (Room 101 and South Containment Pad); and modular unit TA-54-58. The Permit Section is based on the provisions at 40 CFR § 264.175 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The enumerated structures all have engineered secondary containment systems, as described in Attachment A (*Technical Area Unit Descriptions*). The remaining container storage areas at Area L require secondary containment by other means, *e.g.*, containment pallets. The explicit statement of the requirement does not add to the Applicants' obligations and better enables the Applicants and the Department to monitor compliance with Permit terms.

Permit Section 3.12.1(TA-54 West) authorizes storage of mixed transuranic wastes in sealed NRC certified Type B shipping containers at the TA-54-West Outdoor permitted unit without secondary containment and weather protection. The Permit Section clarifies the type of waste containers that may be used at TA-54 West and conditions associated with those containers. It does not add to the Applicants' obligations and better enables the Applicants and the Department to monitor compliance with Permit terms. The containers referred to are "TRUPACT-II" shipping containers that have been loaded to ship transuranic waste to WIPP. This type of container has sufficient integrity to make secondary containment unnecessary. Waste prepared for transportation to WIPP is, in any event, determined to contain no more than 1

percent free liquids, which is well within the capacity of the TRUPACT-II container. In addition, weather protection is not necessary in light of the integrity of the sealed container.

Permit Sections 3.12.2, 3.12.2.1, 3.12.2.2, and 3.12.2.3, *Preventing Run-on and Runoff*, require repair and maintenance of the curbs used to prevent run-on and runoff into and from the permitted units at TA-54 West, Domes 153 and 283, Storage Shed 8, and TA-54-33. The Permit Sections also require the maintenance of specific concrete pads to prevent either run-on or runoff.

These Permit Sections are based on the containment system provisions at 40 CFR § 264.175(b)(4) and add specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). These Sections are taken from the Applicants' June 2003 *TA-54 Part B* permit application at Section 2.10 (NMED Ex. 5).

Permit Sections 3.12.3.1 through 3.12.3.6, *Secondary Containment*, require treatment of specific types of secondary containment systems at specific structures with epoxy sealant. The Permit Sections also require maintenance of the treatments or coatings in accordance with Permit Section 3.7.1, *i.e.*, in accordance with manufacturer's specifications.

The Permit Sections are based on the secondary containment provisions at 40 CFR § 264.175 and add specificity for protection and enforceability, as allowed under the Department's omnibus authority at 40 CFR § 270.32(b)(2). The treatment requirements are consistent with the description of these units in the Applicants' June 2003 *TA-54 Part B* permit application at Sections G.2.4.1 and G.3.4.5 (NMED Ex. 5). The Department is not requiring additional treatment unless it is necessary to comply with Permit Section 3.7.1(3) or is called for by the manufacturer's specifications.

Permit Section 3.12.3.7, *Dome 224*, requires the Applicants to store all waste containers in Dome 224 holding free liquids on secondary containment pallets. The Permit Section states that the high-density polyethylene (HDPE) liner below the Dome is not to be relied upon as a secondary containment system. It is based on the secondary containment provisions at 40 CFR § 264.175 and adds specificity for protection and enforceability, as allowed under the Department's omnibus authority at 40 CFR § 270.32(b)(2). That the HDPE liner has been found ineffective is explained in testimony at Permit Section 3.12.1(Area G)(1).

M. Proposed Permit Section 3.13 – TA-55 Container Storage Requirements

Permit Section 3.13.1, *TA-55 General Operating Conditions*, requires that permitted storage of hazardous waste at TA-55 occur in particular areas and that the storage conform to the unit description in Attachment A (*Technical Area Unit Descriptions*) and Attachment J (*Hazardous Waste Management Units*). The Permit Section reflects the Department's obligation at 40 CFR § 270.32(b)(1) to include permit conditions necessary to achieve compliance with the regulations. The references establish; (a) where permitted container storage of hazardous waste may occur at TA-55, (b) that the Applicants must comply with the specific container storage procedures taken from their permit applications and incorporated into Attachment A, and (c) that the Applicants must comply with the limited specific requirements of Attachment J, *e.g.*, whether the permitted unit is authorized to manage liquid wastes. The locations referenced are consistent with the Applicants' September 2003 *TA-55 Part B* permit application (NMED Ex. 5).

VI. PART 4: TA-55 STORAGE IN TANKS AND TREATMENT BY STABILIZATION

Part 4 of the Proposed Permit contains permit conditions for storage of hazardous waste in tanks and treatment of hazardous waste by stabilization in TA-55, Room 401. The requirements in Part 4 ensure compliance with 40 CFR Part 264, Subparts J and X, Part 268, and

Part 270. Many of the conditions in Part 4 incorporate the Applicants' permit application waste management procedures.

Hazardous waste treatment by stabilization, *i.e.*, cementation, is a process not specifically covered by the regulations and, therefore, comes under 40 CFR Part 264, Subpart X, the "miscellaneous unit" provisions. Miscellaneous units are units not otherwise covered by the regulations; see 40 CFR § 260.10. Permit terms and provisions for miscellaneous units must both meet the environmental performance standards specified at 40 CFR § 264.601 and include the appropriate Part 264 requirements for other unit types. (*See* 40 CFR § 264.601, introductory paragraph) Part 4 imposes many of the Part 264 Subpart J, *i.e.*, tank standards, requirements on the stabilization unit.

The cementation unit stabilizes mixed waste solutions that contain radionuclides and toxic metals in a cement matrix so that the waste is no longer in a liquid form and no longer hazardous, *i.e.*, no longer leachable for the metals. This highly engineered unit consists of, among other things, a glovebox, various piping systems, motor driven mixers, and space for two 55-gallon drums in which the solutions are stabilized. Associated with the stabilization unit and located in the same room are numerous tanks used to store the hazardous waste prior to treatment.

A. Proposed Permit Section 4.1 – General Conditions

Permit Section 4.1(1), *General Conditions*, incorporates by reference the tank system provisions at 40 CFR Part 264, Subpart J and the miscellaneous unit provisions at 40 CFR Part 264, Subpart X.

Permit Section 4.1(2) requires the tank storage and stabilization units be maintained and operated as specified in Attachment A (*Technical Area Specific Unit Descriptions*). Attachment

A, Sections A.5.8 and A.5.9 contains information from the Applicants' application regarding the design, construction, materials, and operation of the units. (See September 2003 *TA-55 Part B* permit application, Sections H.1 and I.1, (NMED Ex. 5).

Permit Section 4.1(3) limits hazardous waste storage and treatment to those units identified with the applicable hazardous waste process codes and identified in Attachment J (*Hazardous Waste Management Units*), Table J-1 (*Active Portion of the Facility*). The Section also limits hazardous waste management to the operating capacities referenced at Table J-1. The Section is consistent with the Applicants' April 2006 *General Part A* permit application (NMED Ex. 5).

Permit Section 4.1(4) limits hazardous waste storage and treatment to only those waste codes (*i.e.*, EPA Hazardous Waste Numbers) referenced in the Applicants' *Part A Application* (Attachment B to the Proposed Permit). The Section is taken from the Applicants' April 2006 *General Part A* permit application (NMED Ex. 5).

Permit Section 4.1(5) requires that mixed wastes or treatment reagents not be placed in the storage tank or stabilization units if they could cause the units, their ancillary equipment, or the associated containment system to rupture, leak, corrode, or otherwise fail. It incorporates the provisions at 40 CFR § 264.194(a) as allowed at 40 CFR § 270.32(b)(1). Title 40 CFR § 264.601 supports applying these compatibility requirements to the stabilization unit because the unit is made of similar materials and therefore has similar compatibility issues.

B. Proposed Permit Section 4.2 – Existing Tank Systems Integrity

Permit Section 4.2, *Existing Tank System Integrity*, requires the written integrity assessments of all tank unit systems to be maintained in the Facility Operating Record. These integrity assessments are included in the Applicants' September 2005 *TA-55 Part B* permit

application, Supplements H.1, H.2A, H.2B, H.2C, and H.3 (NMED Ex. 5), and contain detailed descriptions of the tank system components, their materials, and the testing and evaluation that was performed on each component. This requirement is based on the tank integrity provisions at 40 CFR § 264.191 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Requiring maintenance of these documents in the Operating Record ensures their availability during enforcement actions.

C. **Proposed Permit Section 4.3 – Replacement Tank System and Stabilization Unit Components**

Permit Section 4.3(1) requires that storage tank or stabilization system repairs be performed in accordance with 40 CFR §§ 264.196(e)(2) through (4), or that the system be closed in accordance with the conditions of the Proposed Permit and 40 CFR § 264.197. The Section incorporates by reference the provisions of the cited regulations. Title 40 CFR § 264.601 supports applying these repair requirements to the stabilization unit because the unit is similarly apt to leak.

Permit Section 4.3(2) requires that during the replacement of tank unit systems and stabilization unit ancillary equipment that proper handling procedures are adhered to prevent damage to the units, their components, or any ancillary equipment. This requirement is based on the tank installation precautions at 40 CFR § 264.192(b) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Title 40 CFR § 264.601 supports applying these precaution to the stabilization unit, which is constructed of similar materials. Requiring replacement equipment be made of the same or similar materials as those described in Attachment A (*General Facility and TA-Specific Description*) is based on the

Applicants commitment to use those materials in their September 2003 *TA-55 Part B* permit application, Sections H.1 and I.1 (NMED Ex. 5).

Permit Section 4.3(3) requires that, prior to replacing a portion of the tank or stabilization unit systems, a registered engineer trained and experienced in the proper installation of tank systems or components inspect the system. This requirement is based on tank installation precautions at 40 CFR § 264.192(b) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Title 40 CFR § 264.601 supports applying these inspection requirements to the stabilization unit, which is constructed of similar materials.

Permit Section 4.3(4) requires that, if the storage tank unit or the stabilization unit systems are repaired, the Applicants shall certify that the system can handle mixed wastes without a release for the intended life of the system. The Section incorporates by reference 40 CFR § 264.196(f), as allowed at 40 CFR § 270.32(b)(1). Title 40 CFR § 264.601 supports applying these certification requirements to the stabilization unit, which is constructed of similar materials.

Permit Section 4.3(5) requires that replacement tanks, their ancillary equipment, and stabilization unit ancillary equipment shall be tested for tightness prior to being placed into use, and if such tank or equipment is found not to be tight, all repairs necessary to remedy the leak(s) in the system(s) shall be performed before being placed into use. The Section incorporates by reference 40 CFR § 264.192(d), as allowed at 40 CFR § 270.32(b)(1). Title 40 CFR § 264.601 supports applying these tightness testing requirements to the stabilization unit ancillary equipment, which is constructed of similar materials and also subject to leaks.

Permit Section 4.3(6) requires the Applicants obtain and keep in the Facility Operating Record the written statements required at 40 CFR § 264.192. The Section incorporates by reference 40 CFR § 264.192(g) as allowed at 40 CFR § 270.32(b)(1).

D. Proposed Permit Section 4.4 – Tank Systems and Stabilization Unit Containment

Permit Section 4.4(1) requires that tank and stabilization units have an associated secondary containment system that conforms to 40 CFR § 264.193. The Section incorporates by reference 40 CFR § 264.193, as allowed at 40 CFR § 270.32(b)(1). Title 40 CFR § 264.601 supports requiring the stabilization unit have secondary containment because it is constructed of similar materials and also subject to leaks. The Permit Section also requires that the walls and floor of Room 401 be considered secondary containment for the storage tank and the stabilization units. The Applicants make such commitment in their September 2003 *TA-55 Part B* permit application, Sections H.3 and I.3.1 (NMED Ex. 5).

Permit Section 4.4(2) requires the use of appropriate controls and practices to prevent spills and overflows from the storage tank unit, the stabilization unit, or their associated containment system. The Section incorporates by reference 40 CFR § 264.194(b). Title 40 CFR § 264.601 supports requiring similar spill prevention procedures for the stabilization unit, which is also subject to spill.

Permit Section 4.4(3) requires that spilled, leaked, or otherwise accumulated liquids be removed from the secondary containment system within 24 hours of detection. It allows for an extension of time if the Applicants show, within the 24 hours, that removal of the released waste or accumulated liquids cannot be accomplished within 24 hours. The provision establishes a

specific and enforceable application of the 40 CFR § 264.193(c)(4) allowance to seek an extension to remove accumulated liquids.

This Permit Section also requires the Applicants to notify the Department of any accumulated liquids within the secondary containment system within five days of detection of such liquids. This allows the Department to ensure compliance with permit requirements, such as the Permit Section 4.3(1) requirement to perform proper repairs, the Permit Section 4.3(3) requirement to have an engineer review repairs, and the Permit Section 4.4(7) requirement to remove a leaking unit from service. This requirement is necessary to protect health and the environment, and is thus supported by the Department's omnibus authority, 40 CFR § 270.32(b).

Permit Section 4.4(4) requires that the Room 401 secondary containment system, comprised of floor, wall, or joint sealants, be installed and maintained in accordance with the sealant manufacturer's recommendations, and that the Applicants maintain documentation of this in the Facility Operating Record. The Section requires this documentation to include a copy of the manufacturer's recommendations and a certification from a registered engineer, stating that the Applicants' installation and maintenance procedures were performed in accordance with the recommendations. The Permit Section is based on the secondary containment provisions at 40 CFR § 264.193 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The joint sealants utilized in Room 401 are described in the Applicants' September 2003 *TA-55 Part B* permit application, Section H.3 (NMED Ex. 5).

Permit Section 4.4(5) requires that secondary containment systems utilizing sealants existing at the time of this Permit's issuance but not having associated sealant manufacturer's recommendations or an associated certification statement shall be re-sealed within 90 days of the effective date of the Permit. It is based on the secondary containment provisions at 40 CFR §

264.193 and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2).

Permit Section 4.4(6) requires that all tank and stabilization unit ancillary equipment have secondary containment and that above ground waste piping, including welded flanges, joints, and connections, shall be inspected for leaks each operating day. It is based on ancillary equipment inspection provisions at 40 CFR § 264.193(f) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). Title 40 CFR § 264.601 supports requiring similar ancillary equipment inspections for the stabilization unit, which is similar to a tank.

The Section defines “operating day” as being “each day that waste is present in a tank or stabilization unit.” This definition establishes a specific and enforceable application of 40 CFR § 264.193(f), and provides for ongoing observation of potential releases from tanks when waste is present. Further, the definition follows the U.S. EPA’s guidance regarding tanks inspection frequency. EPA’s September 2005 *Introduction to Tanks*, which is marked as **NMED Exhibit 121 (AR 32337)**, clarifies that “each operating day” should be interpreted to mean “every day the tank is in operation (*i.e.*, storing or treating hazardous waste)...” (*See footnote at Introduction to Tanks, Table 1*)

Permit Section 4.4(7) requires that a storage tank unit, stabilization unit, secondary containment system, or a portion of these units or systems, from which there has been a leak or spill, or which is unfit for use, be removed from service immediately and otherwise comply with the requirements of 40 CFR § 264.196. This Section incorporates by reference 40 CFR § 264.196. Title 40 CFR § 264.601 supports similar requirements for the stabilization unit, which is also subject to leak or spill.

Permit Section 4.4(8) requires that any release of mixed waste from a storage tank or stabilization unit to the environment, *e.g.*, soil, surface water, groundwater, or atmosphere, be reported to the Department within 24 hours of its detection. Within 30 days the Applicants must submit a written report containing the information at 40 CFR § 264.196(d)(3). The Permit Section is based on reporting provisions at 40 CFR § 264.196(d) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2). The Section does not adopt the reporting exemption at 40 CFR § 264.196(d)(2), because of the significance of any release that migrates through two ten-inch thick concrete floors, such as the floor of Room 401 and the basement floor. Title 40 CFR § 264.601 supports reporting requirements for the stabilization unit, which is also subject to leak or spill.

E. Proposed Permit Section 4.5 – Ignitable, Reactive, or Incompatible Wastes

Permit Section 4.5, *Ignitable, Reactive, or Incompatible Wastes*, requires that the storage tank and stabilization units not manage ignitable or reactive waste. The Applicants commit to not managing these wastes at their September 2003 TA-55 Part B permit application, Section 2.2.4 and 2.3.4 (NMED Ex. 5). It also requires that incompatible wastes, or wastes and other materials that are incompatible are not placed in the same tank system or stabilization unit. The Section incorporates the incompatibility provisions at 40 CFR § 264.199, as allowed at 40 CFR § 270.32(b)(1). Title 40 CFR § 264.601 supports incompatibility requirements for the stabilization unit, which is subject to similar failures.

F. Proposed Permit Section 4.6 – TA-50 Radioactive Liquid Waste Treatment Facility

Permit Section 4.6, *TA-50 Radioactive Liquid Waste Treatment Facility*, is addressed in testimony by Mr. James Bearzi.

Permit Parts 5, 6, 7, 8, and 9

Permit Parts 5, 6, 7, and 8 are reserved.

Permit Part 9, Closure, is addressed in the testimony of Ms. Rebecca Cram.

VII. PART 10: POST-CLOSURE CARE

Part 10 contains permit conditions for the post-closure care of a permitted hazardous waste management unit. Mr. Bearzi provides testimony regarding the Applicants' obligation to perform post-closure care, i.e., the regulatory basis and what triggers the requirement, and the Department's involvement in the decision to initiate post-closure care. The Proposed Permit includes post-closure care provisions in anticipation that the Applicants may in the future be unable to attain clean closure at a unit. Currently there are no units at LANL in post-closure care.

Post-closure is the period of time during which units where wastes or waste residues left in place are monitored for 30 years (or a different time), and if necessary re-stabilized. Post-closure care is most often associated with landfills where buried waste is seldom removed from the ground. The Proposed Permit contemplates post-closure care for any unit unable to attain clean closure, e.g., landfills, surface impoundments, container storage areas, and miscellaneous units.

Permit Attachment H is reserved for post-closure care plans. The content of such plans is specified at Permit Section 10.1.1.

Part 10 principally follows the substance of the regulations at 40 CFR §§ 264.117 through 264.120. Part 10 is generally consistent with the U.S. EPA's January 1987 *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards*, which is marked as

NMED Exhibit 122 (AR 33152), and EPA's model RCRA permit, Module III (NMED Ex. 112).

A. Proposed Permit Section 10.1 – Post Closure Care

Permit Section 10.1, *Post-Closure Care*, incorporates by reference the terms of CFR §§ 264.117 through 264.120. It specifies that post-closure care begins after closure is complete and continues for 30 years after that date. The Section requires that post-closure care include: (1) monitoring and reporting in accordance with 40 CFR Part 264 Subparts F, N, and X; and (2) maintenance and monitoring of waste containment systems in accordance with Subparts F, N, and X.

The Permit Section states that at any time before closure or during the post-closure care period, the Department may shorten or lengthen the post-closure care period. It directs the Applicants to carry out post-closure care activities in accordance with an approved post-closure care plan. Finally, the Section requires the Applicants submit a permit modification request to conduct post-closure care within 90 days of the date when the Applicants or the Department determine that the permitted unit shall be closed with waste in place. The modification request shall include a post-closure care plan.

The regulations at 40 CFR §§ 264.117 through 264.120 are incorporated by reference. The requirement that post-closure care include monitoring, maintenance, and reporting in accordance with 40 CFR Part 264 Subparts F, N, and X incorporates 40 CFR § 264.117(a)(1). Subpart F monitoring and reporting will be satisfied by compliance with Permit Sections 11.3.1 through 11.3.8. Monitoring, maintenance, and reporting under Subpart X, at 40 CFR § 264.602, refers to compliance with 40 CFR Part 264 requirements as to environmental performance standards, inspections, testing and maintenance of equipment, and various reporting

requirements. Maintenance and monitoring under Subpart N is set forth in 40 CFR § 264.310(b), which requires: (1) maintenance of the integrity of the cover, (2) monitoring of ground water, (3) preventing run-on and run-off from damaging the cover, and (4) maintaining benchmarks used in surveying.

Authority to shorten or lengthen the post-closure care period is contained in 40 CFR § 264.117(a)(2). The requirement to carry out post-closure care activities in accordance with an approved post-closure care plan incorporates 40 CFR § 264.117(d) as allowed at 40 CFR § 270.32(b)(1). The requirement to submit a permit modification request to conduct post-closure care within 90 days of determining that the permitted unit shall be closed with waste employs by analogy a provision of 40 CFR § 264.118(a).

Permit Section 10.1.1, *Post-Closure Care Plan*, specifies the content of the post-closure care plan. The plan is required to state the nature and frequency of: (1) monitoring; (2) maintenance of containment systems and monitoring equipment; (3) identification of contact person; (4) sampling and analysis needs and procedures; (5) security requirements; (6) inspection requirements; (7) applicable alternative requirements; and (8) the duration of post-closure care. The Section incorporates the provisions of 40 CFR § 264.118(b). The Department requires the plan to address sampling and analysis needs, security, inspection, and duration for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2).

Permit Section 10.1.2, *Amendment of Post-Closure Care Plan*, requires the submittal of a request to amend a post-closure care plan if there are: (1) changes in operating plans or design affecting the post-closure care plan; (2) a change in the closure date; (3) events affecting the approved post-closure care plan; or (4) the Applicants request application of alternative requirements. This requirement incorporates the provisions at 40 CFR § 264.118(d)(2).

B. Proposed Permit Section 10.2 – Notices and Certifications

Permit Section 10.2.1, *Notification Requirements*, requires submittal to both the Department and a local land use authority of a record of type, quantity, and location of hazardous wastes and hazardous constituents remaining at a permitted unit. For waste disposed of before January 12, 1981, this record is to be based on any available information. This record shall also be included in the Applicants' Operating Record. These requirements incorporate the provisions at 40 CFR § 264.119(a).

Permit Section 10.2.2, *Record Requirements*, requires the Applicants to maintain documentation of certification of closure of any hazardous waste management unit that undergoes post-closure care. The Section also requires, for any such unit, recordation of a deed notation that will normally be examined during a title search, notifying potential purchasers that the land has been used for hazardous waste management, that its use is restricted under RCRA regulations, and the survey plat of disposal locations has been filed with the Department. The Permit Section is based on 40 CFR § 264.119(b) and adds specificity for clarity, and for protection of health and the environment under 40 CFR § 270.32(b)(2).

Permit Section 10.2.3, *Completion of Post-Closure Requirements*, requires submittal to the Department, no more than 60 days after completion of post-closure care, of a certification that post-closure care was performed in accordance with the post-closure care plan. Supporting documentation is required. The Section incorporates the provisions at 40 CFR § 264.120.

VIII. TA-SPECIFIC UNIT DESCRIPTIONS

Attachment A contains technical area (TA)-specific hazardous waste management unit (unit) descriptions. LANL property is divided into approximately 50 TAs, and permitted units are located at four of them, *i.e.*, TAs 3, 50, 54 and 55. Attachment A is organized by TA.

The Applicants' permit applications include descriptions of each unit, including physical dimensions, materials of construction, security procedures, and emergency equipment. The Department consolidated the pertinent information from these applications into Attachment A, converting discretionary language to mandatory language and ensuring consistency with the requirements of the permit parts. Permit Sections 2.10, 3.1, 4.1, and 4.3 reference Attachment A, requiring adherence to container operation and management procedures, tank and stabilization unit operation and management procedures, preparedness and prevention requirements, and equipment construction and maintenance.

IX. AUTHORIZED WASTES

Attachment B, *Authorized Wastes*, is the Applicants' June 2009 Part A permit application (NMED Ex. 5). Part A applications submitted in accordance with 40 CFR § 270.13 identify, among other things, the U.S. EPA Hazardous Waste Numbers (waste codes) managed at each hazardous waste management unit. Attachment B is referenced at Permit Sections 2.2, 3.1 and 4.1. The Applicants are limited to managing specific waste codes at specific units in accordance with the Part A. The Department has not altered the Applicants' Part A permit application.

X. WASTE ANALYSIS PLAN

Attachment C, *Waste Analysis Plan*, describes the procedures necessary to characterize waste for storage and treatment in compliance with standards for hazardous waste treatment, storage, and disposal facilities at 40 CFR Part 264 and for land disposal at 40 CFR Part 268. The Waste Analysis Plan (WAP) was submitted by the Applicants in the August 2003 *General Part B* permit application (NMED Ex. 5) in compliance with 40 CFR §§ 270.14(b)(3) and 264.13(b). The Department altered the Applicants' WAP, converting discretionary language to mandatory

language, ensuring consistency with the requirements of the permit parts, particularly Permit Section 2.4, and removing references to high explosive wastes treated by open burning.

The cornerstone of the RCRA program is the ability of facility personnel to determine, through waste analysis or other information, whether a waste is hazardous and other information necessary for proper hazardous waste treatment, storage, and disposal. Waste analysis involves identifying or verifying the chemical and physical characteristics of a waste by performing a detailed chemical and physical analysis of a representative sample of the waste or, in certain circumstances, by applying information about the process that generated the waste, referred to as acceptable knowledge.

The Department replaced the Applicants' description of characterization of mixed transuranic waste, which described the process of characterizing waste for shipment to WIPP, with a description of the Applicants' "pre-screening" process, obtained from Applicants, which describes the characterization process that the Applicants apply as the basis for waste storage. The Department takes the view that the waste analysis plan must describe the process undertaken *before* an owner or operator treats, stores, or disposes of waste.

The WAP includes a description of the categories or wastes stored and treated, the parameters for which each waste category is analyzed, the specific sampling and laboratory analytical methods for each waste, and other special procedures. The WAP is generally consistent with the U.S. EPA's April 1994 *Waste Analysis Guidance* (AR 31385), and the Applicants' current Permit, Attachments A.1, A.2, and A.3 (NMED Ex. 111). The Department is satisfied that the WAP at Attachment C meets the requirements of 40 CFR § 264.13.

XI. CONTINGENCY PLAN

Attachment D, *Contingency Plan*, describes the procedures necessary to minimize hazards from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to the environment. The *Contingency Plan* was submitted by the Applicants in the August 2003 *General Part B* permit application (NMED Ex. 5) in compliance with 40 CFR §§ 270.14(b)(7) and 264.51(a). The Department altered the Applicants' *Contingency Plan*, converting discretionary language to mandatory language where necessary, ensuring consistency with the requirements of the permit parts, particularly Permit Sections 2.10 and 2.11, and removing references to the open burn units at TA-16.

Permit Sections 1.9.12, 2.10, 2.11 reference the *Contingency Plan*, requiring adherence to the associated reporting, implementation, and equipment maintenance provisions. Changes to the *Contingency Plan* identified in the January 2010 Proposed Permit reflect the Applicants' September 30, 2009 permit modification request (**AR 32058**) and the Applicants' September 3, 2009 *Comments of the Draft Hazardous Waste Facility Permit* (**AR 31981**). These documents propose changes in organizational names to their current name or a functional designation. The *Contingency Plan* is generally consistent with the Applicants' current Permit, Attachment D (NMED Ex. 111). The Department is satisfied that the *Contingency Plan* at Attachment D meets the requirements of 40 CFR § 264.52.

XII. INSPECTION PLAN

Attachment E, *Inspection Plan*, describes the procedures necessary to inspect for malfunctions, deterioration, operator error, and discharges associated with hazardous waste management. These inspections evaluate equipment for preventing, detecting, and responding to all potential threats. The *Inspection Plan* was submitted by the Applicants in the August 2003

General Part B permit application (NMED Ex. 6) in compliance with 40 CFR §§ 270.14(b)(5) and 264.15(b). The Department altered the Applicants' *Inspection Plan*, converting discretionary to mandatory language where necessary, ensuring consistency with the requirements of the permit parts, particularly Permit Section 2.6, and removing references to inspection performed the open burn unit at TA-16.

Permit Sections 2.6 and 2.10 reference the *Inspection Plan*, requiring adherence to procedures including the inspection schedule, recordkeeping, response action, and the inspection and testing of emergency equipment. The *Inspection Plan* generally conforms with the Applicants' current Permit, Attachment B (NMED Ex. 111). The Department is satisfied that the *Inspection Plan* at Attachment E meets the requirements of 40 CFR § 264.15.

XIII. PERSONNEL TRAINING PLAN

Attachment F, *Personnel Training Plan*, describes the training necessary to prepare persons to operate or maintain hazardous waste management units in a safe and compliant manner and to respond effectively to emergencies. The *Personnel Training Plan* was submitted by the Applicants in the August 2003 *General Part B* permit application (NMED Ex. 5) in compliance with 40 CFR §§ 270.14(b)(12) and 264.16. The Department altered the *Personnel Training Plan*, converting discretionary to mandatory language where necessary and ensuring consistency with the requirements of the permit parts, particularly Permit Section 2.7. Changes to the *Personnel Training Plan* identified in the January 2010 Proposed Permit reflect the Applicants' September 3, 2009 *Comments of the Draft Hazardous Waste Facility Permit* (AR 31981). The changes appropriately reflect the personnel trained to perform mixed transuranic waste characterization. The changes also appropriately reflect that the *Personnel Training Plan* applies to personnel at the permit units, not LANL's hazardous waste generators. The *Personnel*

Training Plan is generally consistent with the Applicants' current Permit, Attachment C (NMED Ex. 111). The Department is satisfied that the *Personnel Training Plan* at Attachment F meets the requirements of 40 CFR § 264.16.

XIV. POST-CLOSURE CARE PLANS

Attachment H is reserved for post-closure care plans. Post-closure is the period after closure during which hazardous waste management units where wastes or waste residues left in place are monitored for 30 years (or another time) and if necessary re-stabilized. Permit Part 10 contains permit conditions for the post-closure care and Section 10.1.1 specifies the content of post-closure care plans. Post-closure care and post-closure care plans are discussed further in my testimony regarding Permit Part 10.

XV. COMPLIANCE SCHEDULE

Attachment I, *Compliance Schedule*, is authorized at 40 CFR § 270.33. The *Compliance Schedule* is a compilation of Permit-required submittals, including those required once and those required on a periodic basis. This *Schedule* is organized chronologically. The Department includes the *Compliance Schedule* to enable the Applicants and the Department to monitor compliance with Permit terms.

Changes to the *Compliance Schedule* identified in the January 2010 Proposed Permit reflect the following:

- The Department's receipt of figures for TA-54;
- The Department's decision regarding the Information Repository at Permit Section 1.10;
- Specification of when the Applicants are to address the interim status units;

- Recognition that the schedule for submission of the cost estimates at Permit Section 2.13.1 is appropriate for inclusion;
- Removal of conditions regarding the TA-16 open burn units; and
- Recognition that the schedule for submission of the demolition activities at Permit Section 1.17 is appropriate for inclusion.

XVI. HAZARDOUS WASTE MANAGEMENT UNITS

Attachment J, *Hazardous Waste Management Units*, lists all such units at the Facility.

The Attachment includes three tables: 1) Table J-1 shows the active portion of the Facility, listing active units including those permitted to treat and store hazardous wastes, those permitted units in closure, and those units in interim status; 2) Table J-2 shows permitted units that are not active, have completed closure, and are in post-closure care; 3) Table J-3 shows the closed portion of the Facility, listing unit that are not active, have completed closure, and are not in post-closure care because their clean closure certification has been approved by the Department. Attachment J is used throughout the Proposed Permit as a listing of applicable hazardous waste management units.

The Department includes non-permitted units in Attachment J, including interim status units in Table J-1 and units that are considered to be clean closed in Table J-3, only so that the Permit may identify all hazardous waste management units that have existed or continue to exist at the Facility. The Proposed Permit places no requirements on the interim status units other than those in the *Compliance Schedule*, and no requirements on the units that are clean closed, and the references in Attachment J are for informational purposes only.

XVII. LIST OF SWMUs AND AOCs

Attachment K, *Listing of SWMUs and AOCs*, is addressed in testimony by Ms. Kathryn Roberts.

XVIII. LIST OF OFF-SITE FACILITIES

Attachment L is a list of off-site facilities that may return treatment-derived waste or waste residuals to LANL or are otherwise eligible to send waste to LANL. Permit Section 2.2.1 limits the off-site locations from which the Applicants are authorized to receive wastes and makes reference to Attachment L. This list was provided by the Applicants.

XIX. COST ESTIMATES

Attachment M, *Cost Estimates for Financial Assurance*, is addressed in testimony by Mr. Mohamed Nur.

XX. FIGURES

Attachment N contains the figures referenced throughout the Permit. The figures were submitted by the Applicants in numerous permit applications and were only altered by the Department to include Permit-specific reference numbers.

XXI. LONG-TERM MAINTENANCE AND MONITORING PLANS

Attachment O, *Long-Term Maintenance and Monitoring Plans*, is addressed in testimony by Mr. David Cobrain.

XXII. NEW OR REVISED PROPOSED PERMIT LANGUAGE

A. Preparedness and Prevention Requirements

Permit Section 2.10.5, *Arrangements with Local Authorities*, includes new permit language as included in a NMED letter dated March 16, 2010 to the Applicants, which is marked as **NMED Exhibit 123, (AR 33290)**, addressing a March 5, 2010 EPA memorandum,

Preparedness and Prevention Requirements for RCRA TSDFs (NMED Exhibit. 124, AR 33221). That memorandum suggests RCRA permits explicitly require owners and operators provide appropriate emergency responders with sufficient information to safely respond to hazardous waste emergencies at their facilities, specifically the type, quantity, and location of hazardous wastes at the facility. The Department is satisfied that the new permit language at Permit Section 2.10.5 appropriately addresses EPA's concern. The Department informed the Applicants in a letter dated March 16, 2010 (NMED Ex. 123) that they are expected to immediately begin to augment the internal procedures described in the memorandum.

B. TA-54 Structures and Procedures

Numerous other Proposed Permit language changes reflect a recent modification to the Applicants' current Hazardous Waste Facility Permit. The permit modification request from the Applicants was received by the Department on March 3, 2010 (NMED Exhibit 125) (AR 33192). That modification was approved in the NMED's March 17, 2010 letter to the Applicants, titled *Approval of Class 1 Permit Modification Request and Fee Assessment*, which is marked as NMED Exhibit 126 (AR 33291). These changes go to new or changed structures, *i.e.*, characterization trailers or removed domes at TA-54 Area G Pads 1, 10, and 11 and Area L Dome 216 and these changes do not substantially alter any requirement of the Proposed Permit. These changes, as listed below, are illustrated in NMED's March 17, 2010 letter to the Applicants titled *Proposed Revised Language for Draft Renewal Permit* (Proposed Permit), which is marked as NMED Exhibit 127 (AR 33292).

Attachment A, Section A.4.1, *Area L*, is altered to remove reference to the canopy at area 216 because the canopy has been removed.

Attachment A, Section A.4.1.2, *Canopy 216*, is removed from the Proposed Permit because the canopy has been removed.

Attachment A, Section A.4.2.1, *Pad 9*, is altered to remove reference to Dome 226 because the dome has been removed.

Attachment A, Section A.4.2.2, *Pad 1*, is altered to remove reference to Dome 226 because the dome has been removed and to add reference to a new waste characterization structure referred to as the Mobil Visual Examination and Repackaging (MOVER).

Attachment A, Section A.4.2.4, *Pad 10*, is altered to replace the reference to a characterization trailer referred to as the Fixed Energy Response Function Analysis with Multiple Efficiency (FRAM) with a reference to characterization trailer referred to as the Super High Efficiency Neutron Coincidence (SuperHENC).

Attachment A, Section A.4.7, *Pad 11*, is altered to add reference to a characterization structure referred to as the High Energy Real-Time Radiography (HERTR) Unit.

Attachment D, Table D-2, *TA-54 Area G Emergency Equipment*, is altered to remove reference to Dome 226 because the dome has been removed.

Attachment J, Table J-1, *Active Portion of the Facility*, is altered to remove reference to the FRAM and Canopy 216 and to add reference to the MOVER, SuperHENC, and the HERTR.

Attachment M, Table of *Cost Estimates for Financial Assurance*, is altered to remove reference to the FRAM, Canopy 216, and Dome 226 and to add reference to the MOVER, SuperHENC, and the HERTR.

Attachment N, Figure 7, *Technical Area 54, Area L, Security Fences, Entry Gates and Entry Stations*, is altered to remove reference to structure TA-54-60.

Attachment N, Figure 8, *Technical Area 54, Area G, Security Fences, Entry Gates and Entry Stations*, is altered to remove reference to structure TA-54-60 and Dome 226, and to add reference to the MOVER, and the HERTR.

Attachment N, Figure 26, *Technical Area 54, Area L, Container Storage Unit*, is altered to remove reference to structure TA-54-60.

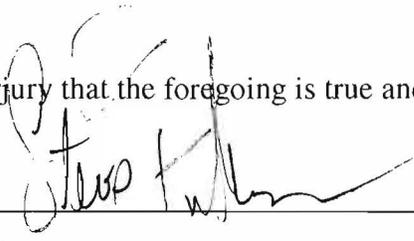
Attachment N, Figure 27, *Technical Area 54, Area G, Container Storage Units*, is altered to reflect removed or added structures at Pads 1, 5, 6, 9, 10, and 11. The Department has altered the Applicants' submittal by removing specific references to Material Disposal Area G to make the figure consistent with the remainder of Proposed Permit.

Attachment N, Figure 29, *TA-54, Area G, Pad 1*, is altered to remove reference to Dome 226 and to add reference to the MOVER.

Attachment N, Figure 31, *TA-54, Area G, Pad 10*, is altered to replace the reference to the FRAM with a reference to the SuperHENC.

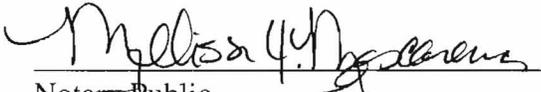
Attachment N, Figure 36, *TA-54, Area G, Pad 11*, is altered to add reference to the HERTR.

I, Steve Pullen, swear under penalty of perjury that the foregoing is true and correct.



Steve Pullen
Environmental Specialist and Supervisor
Hazardous Waste Bureau
New Mexico Environment Department
Santa Fe, New Mexico

Subscribed and sworn to before me this 19th day of March, 2010 by Steve Pullen



Notary Public

My commission expires:

April 3, 2011