Reamit 3/19/10

ENTERED

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	)	**No. HWB 09-37(P)**
FOR A HAZARDOUS WASTE FACILITY	)	**HWB 10-04(P)**
PERMIT FOR LOS ALAMOS NATIONAL	)	
LABORATORY	)	

TESTIMONY OF JAMES BLANKENHORN

My name is James Blankenhorn. I am the Project Director for the Waste Disposition Project at Los Alamos National Laboratory (LANL). I am responsible for the safe management of all waste at TA-54, including the hazardous and mixed wastes that will be managed in accordance with the requirements of the Proposed Permit. The waste management operations at TA-54 G and L meet applicable State and Federal regulations and specifically meet requirements contained in the Proposed Permit. My conclusion is based on my extensive experience in the hazardous and nuclear waste industry, my knowledge and understanding of applicable requirements, my understanding of the TA-54 facility and waste management practices at LANL, and my understanding and familiarity with the Proposed Permit.

1. Qualifications

I received a Bachelor of Science degree in Chemistry from Florida Institute of Technology, Melbourne, Florida in 1986. I received a Master of Science degree in Environmental and Hazardous Waste Management from the National Technology University in 1998.

After receiving my Bachelor's degree in 1986, I served in the United States Army first as an active duty officer from 1986 to 1990 and then serving in the United States Army Reserves from 1991 to the present. While in the Army, I supported defense programs related to detection, prevention, recovery and disposition of weapons of mass destruction for both homeland defense and national defense abroad. I continue those duties today as an EPA Region VI, Emergency Planning Liaison Officer for the State of New Mexico. I also served as the commanding officer of a Chemical, Biological, Radiation, Nuclear and High Explosives Battalion providing chemical, biological and nuclear detection, identification, early warning and consequence management assistance. My command responsibilities included all aspects of safe operations, training, equipment readiness, cost control, performance management, mobilization and deployment in support of both the War on Terrorism as well as in support of domestic

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consequence management during declared times of emergency. My unit provided technical expertise and training to chemical units located within the Southeastern United States; made recommendations on plans to address environmental and regulatory issues to organizations and facilities within the command; arranged for the storage, treatment and disposal of hazardous wastes and materials; and advised military executives on nuclear, chemical and biological operations including defense, recognition, deployment, decontamination and recovery.

Since leaving active service, I have had significant experience in waste management practices, nuclear safety, environmental compliance, personnel safety, formality of operations, planning and project management.

At DOE's Savannah River facility, I was responsible for implementing the SRS Site Treatment Plan and for developing the storage, treatment and disposal strategies for the SRS Waste Management Environmental Impact Statement. I provided technical support to on-going waste management operations associated with the site's hazardous, low level, low level mixed, and transuranic waste programs. I authored the SRS Waste Acceptance Criteria Manual and developed programs to ensure compliance with DOE Orders, EPA regulations and South Carolina Department of Health and Environmental Control (SCDHEC) Hazardous Waste Regulations

In my current position I am responsible for the management and disposition of hazardous and nuclear waste at LANL. This includes the direct management of TA-54 operations, implementing strategies for the management of legacy waste, and developing strategies for future waste management practices at the Laboratory. Prior to this assignment I served as the acting Facility Operations Director for Environmental and Waste Management Operations where I employed my extensive waste management background to managing a diverse set of waste and environmental facilities. This position provided Operations, Engineering, Maintenance, and ESH&Q support to the Waste Disposition, Water Stewardship, TA-21 Closure, and Radioactive Liquid Waste Projects at LANL. This position was responsible for the overall safe and compliant operations of these projects and ensured that mission objectives and priorities were met within established budgets. I established and maintained a critical interface function with internal and external customers including National Nuclear Security Administration, Defense Nuclear Facility Safety Board, and Environmental Management Programs. Prior to this assignment, I served as the Senior Operations Manager for the Waste Disposition Project including Technical Area 54, Waste Characterization, Reduction, and Repackaging (WCRR), and Radioactive Assay and Non-destructive Testing (RANT) facilities. In this capacity, I was responsible for coaching and mentoring the organization and facilitating the implementation of Formality of Operations. My responsibilities included developing, implementing, and managing Safety Basis for three Nuclear Hazard Category II facilities and implementing a number of programs associated with Conduct of Operations, Conduct of Training, Conduct of Maintenance and Conduct of Engineering.

2. Material Reviewed

In preparation of this testimony, I reviewed the following:

- Proposed Permit issued January 20, 2010
- NMED Fact Sheet dated July 6, 2009 "Intent to issue a Hazardous Waste Facility Permit Under the New Mexico Hazardous Waste Act, Los Alamos National Laboratory (LANL), Los Alamos County, New Mexico" (Fact Sheet).
- Comments received from interested members of the public.

3. Operational Issues and the Proposed Permit

Research programs that support the Laboratory's mission generate RCRA- regulated waste (both hazardous and mixed wastes) that must be properly managed to avoid potential risks to human health and the environment. Remediation of sites that were contaminated by historic Laboratory operations also generates substantial volumes of waste. Waste generated across LANL is reviewed under a stringent waste acceptance program and managed to disposition under a number of environmental regulatory requirements. Hazardous and mixed waste generated in large volumes such as remediation waste is generally shipped directly to off-site treatment and disposal facilities that are permitted by the state in which they are located. Waste generated in smaller volumes is sent to the permitted storage at TA-54 where it is consolidated for shipment.

The hazardous waste storage units in Area G store containers of hazardous, mixed low level, and mixed transuranic waste in solid and liquid form. Area L stores containers of hazardous and mixed low level waste in solid and liquid form. Liquid wastes are stored primarily in structures that are designed with secondary containment, but secondary containment pallets are also used. The specific units at Areas G and L to be permitted are described in detail in Appendix A of the Proposed Permit. A facility at TA-54 West is used for shipment of transuranic waste to WIPP.

I would like to address the requirements contained in Section 3 "Storage in Containers". I will also address section 2.10 "Required Equipment" of the Proposed Permit.

LANL is in agreement with the vast majority of requirements contained in Section 3 of the Proposed Permit. This section complies with the RCRA requirements and is protective of human health and the environment. However LANL has identified a limited number of conditions in the Proposed Permit that require clarification. The remainder of my testimony will focus on specific sections of the Proposed Permit relative to waste management operations at LANL.

Part 2.10.1 Required Equipment: RCRA has "preparedness and prevention" rules in 40 CFR §264.30 through 264.37 that establish performance standards intended to minimize or prevent the occurrence of emergency situations at permitted facilities. Additional performance standards in 40 CFR §270.14(b)(8)(iv) require a Permittee to describe "the procedures, structures or

equipment" used at the facility to "mitigate effects of equipment failure and power outages". The EPA did not intend for these rules to be prescriptive; the objectives of these rules are to establish minimum general requirements and rely on the owner/operator to determine how to meet them. LANL provided a list of equipment in the permit application to NMED that meets the equipment requirements in 40 CFR §264.32. This list includes, but is not limited to, internal communication or alarm systems capable of providing immediate emergency instruction; communication devices capable of summoning outside emergency assistance; and fire, spill and decontamination control equipment. Part 2.10.1 of the draft permit incorporates LANL's list of equipment as Attachment A (Technical Area Unit Descriptions) and Attachment D (Contingency Plan) and requires LANL to maintain the equipment. LANL has developed procedures for each permitted unit that address the performance standard in 40 CFR §270.14(b)(8)(iv).

The language in the last paragraph in Part 2.10.1 states that LANL shall maintain equipment capable of mitigating the effects of a power outage at each permitted unit and goes on to specify the exact nature of the backup power equipment and the type of equipment that require backup power. LANL takes exception to the prescriptive detail of the Proposed Permit language because it goes far beyond the RCRA regulatory requirements (40 CFR §270.14(b)(8)(iv)) which allow the Permittee the flexibility to determine the appropriate combination of procedures, structures or equipment to meet the performance standard of mitigating effects of power outages. While LANL uses backup power for some of the equipment at some of the regulated units, LANL also uses other means such as procedures to mitigate the effects of power outage. These other methods comply with RCRA requirements at 40 CFR §270.14(b)(8)(iv)) and are protective of human health and the environment. LANL proposes the following revision of lines 28 – 33 of Section 2.10.1 of the Proposed Permit.

> PROPOSED LANGUAGE 2.10.1
> The Permittees shall provide procedures, structures or equipment capable of mitigating the effects of equipment failure or power outage at each permitted unit for equipment listed in Attachments A and D (*see* 40 CFR §270.14(b)(8)(iv). ~~And 270.32(b)(2)). This~~
> ~~29 equipment must be batteries, generators, or some other form of backup power supply and~~
> ~~30 must be capable of operating evacuation alarms, emergency communication equipment,~~
> ~~31 automatic fire suppression systems, and lights in buildings without daylight illumination.~~
> ~~32 The Permittees shall ensure that it is possible to provide fuel to backup generators under~~
> ~~33 adverse conditions.~~

Part 3.1 General Conditions: Proposed Permit Part 3 sets forth the requirements for storage of hazardous waste in containers. The container management practices in 40 CFR §264 Subpart I are essentially straight forward good management practices. These regulations include, but are

not limited to, design and operating requirements and inspections. Like the preparedness and prevention regulations, the container management rules are not prescriptive. These rules rely on the Permittee to develop and implement container management practices that are suitable for the waste types managed at the facility.

Part 3.1 of the Proposed Permit specifies that containers of hazardous waste be stored and managed in accordance with 40 CFR Part 264, Subpart I requirements. In addition, this section specifies that the storage of hazardous waste containers is limited to the units and capacities shown in Attachment J, Table J-1 and further limited to those waste codes listed in Attachment B of the Part A Application. Additional language in Part 3.1.3 specifies when a Class 1 permit modification is required for building or structure changes. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.2 Condition of Containers: This section requires that hazardous waste containers be in good condition and that waste must be transferred from containers in bad condition to a sound container and is based on the regulatory requirements of 40 CFR §264.171. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.3 Acceptable Storage Containers: This section limits LANL to storage of containers that comply with Subpart I requirements. This section requires that containers meet Department of Transportation regulations 49 CFR Parts 173 and 178 for waste that will be transported off-site. Applicants comply with this requirement of the Proposed Permit. This section also allows LANL to use storage containers for wastes that are too large for normally available containers, such as glove boxes, vacuum pumps, tanks and other oversize equipment in alternative containers. The specifications for storage of these items are provided in this section. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.4 Compatibility of Waste with Containers: This section requires the use of containers or liners that are not incompatible with the wastes stored as specified in 40 CFR §264.172. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.5 Management of Containers: This section contains requirements on the storage of waste containers. Requirements that identify demarcation of storage areas, drum storage and movement requirements, aisle space, drum stacking requirements, and drum protection requirements are specified in this section. The Applicants agree with the language of the

Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.6 Waste Container Labeling: This section requires that containers storing hazardous waste be labeled "hazardous waste" for safety purposes and in accordance with 40 CFR §262.34. This section also specifies labeling requirements such as the waste generator's name, address, EPA identification number and other relevant information. This section also specifies that mixed waste containers also be labeled "Radioactive". The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.7 Containment Systems: This section specifies requirements for waste containers that prevent contact with accumulated liquids in accordance with 40 CFR §264.175. Section 3.7.1(1) of the Proposed Permit specifies that LANL maintain secondary containment systems at all permitted units used to store waste which contain free liquids. The Applicants agree with the language in section 3.7.1(1) of the Proposed Permit. The language in this section of the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Section 3.7.1(2) of the Proposed Permit specifies requirements for the handling of liquids that accumulate in secondary containment systems. The language in section 3.7.1(2) does not clearly define the regulatory requirement. The regulatory triggers for removal of material from the containment system under the cited regulations are performance standards related to the control of precipitation or spilled or leaked waste that may accumulate in the containment system (i.e.: the excess capacity requirement in 40 CFR §264.175(b)(4)) and the overflow prevention requirement 40 CFR §264.175(b)(5)). For example, the secondary containment must have sufficient capacity to safely contain a monsoon rain until the accumulated liquid may be removed. The Department expressed concerns in the Fact Sheet about enforceability of this RCRA performance standard without setting the 24-hour time limit, for the removal of spilled or leaked waste and accumulated precipitation in liquid form from sumps or secondary containment systems if the sump or secondary containment is the sole means of secondary containment. The Department's proposed language does not set a volume threshold for triggering the 24-hour removal requirement and does not recognize program needs that may result in longer removal times.

The permit needs to establish a performance standard threshold for accumulated liquid waste or precipitation that both triggers the removal requirement and satisfies the permit requirement for removal of liquids. There are practical limits when removing liquids from a sump or other structure; there will always be residual liquids incapable of being removed through standard industry practices of pumping, pouring or aspirating. The RCRA rules recognize this issue in the EPA's definition of an "empty container" in 40 CFR §261.7(b)(1). This rule defines a container that has held hazardous waste as "empty" if:

- All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping and aspirating, and

- No more than one inch remains on the bottom of the container.

The inclusion of similar language in Section 3.7.1(2) of the proposed permit would provide necessary certainty for the LANL employees who perform inspections or are responsible for removing liquids from secondary containment structures.

LANL's other concern about the proposed language is that compliance with the 24-hour limit may not always be possible depending upon conditions encountered in the field. For example, it may be necessary to sample and analyze spilled waste or precipitation before the appropriate removal method may be determined. If the amount of liquid in the sump or secondary containment exceeds the threshold level but cannot be practically or safely removed within 24-hours, the addition of daily inspection language should address the concerns NMED outlined in the Fact Sheet.

The Applicants believe the following proposed language changes will address the Department's concerns about enforceability and will not create unnecessary burdens:

> PROPOSED LANGUAGE 3.7.1(2)
> 7 (2) The Permittees shall remove spilled or leaked waste and accumulated precipitation, capable of being pumped, poured or aspirated,
> 8 from sumps or secondary containment systems ~~If the sumps or secondary~~
> ~~9 containment system are the sole means of secondary containment the Permittees~~
> ~~10 must remove the spilled or leaked waste and/or accumulated precipitation in liquid~~
> ~~11 form within 24 hours of detection or immediately if necessary to prevent overflow~~
> ~~12 of the secondary containment system. Otherwise, the Permittees must remove the~~
> ~~13 spilled or leaked waste and/or accumulated precipitation in any form~~ in as timely a
> 14 manner as is necessary to prevent overflow of the containment system and shall,
> 15 while the system's capacity is diminished, measure the system daily to demonstrate
> 16 that the system retains sufficient capacity to contain 10% of the volume of
> 17 containers or the volume of the largest container holding free liquids, whichever is
> 18 greater. (*see* 40 CFR §§ 264.175(b)(4) and (5)). The Permittees shall document
> 19 this measurement in the Facility Operating Record.

Section 3.7.1(3) of the Proposed Permit specifies requirements for storage based upon which storage containers are stored. LANL complies with the requirements in this section of the Proposed Permit. The Applicants agree with the language in section 3.7.1(3) of the Proposed Permit. The language in this section of the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Section 3.7.1(4) of the Proposed Permit specifies documentation requirements, such as a copy of the manufacturer's specifications, for any coating applied to the surface of storage base structures. This documentation was not required by NMED at the time the units were originally permitted. These secondary containment units have been subject to at least weekly inspections since the units were subject to interim status. Any evidence of corrosion, cracks, or differential settlement identified during these inspections is promptly addressed.

The effect of the conditions in 3.7.1(4) as written could require the replacement of coatings based solely on the lack of records that were not previously required irrespective of the condition of the material and the results of weekly inspections. The Applicants propose the following language for section 3.7.1(4)

> PROPOSED LANGUAGE 3.7.1 (4)
> 25 (4) If a coating or sealant is used as a secondary containment system, the Permittees
> 26 shall perform ~~maintain documentation in the Facility Operating Record that the coating or~~
> ~~27 sealant was applied and~~ ~~maintain the coatings or sealants in accordance with the manufacturer's~~
> ~~28 specifications~~ routine inspections of the coating and sealant condition. Results of these inspections will be documented and recorded in accordance with Attachment E (Inspection Plan). Newly applied or repaired coatings will be applied and maintained in accordance with the manufacturer's specifications and documentation will be maintained in the Facility Operating Record. This documentation shall include a copy of the manufacturer's
> 29 specifications as well as a certification stating the Permittees' installation and
> 30 maintenance procedures were in accordance with the manufacturer's specifications.
> 31 If the base of the containment unit has expansion or construction joints, the
> 32 Permittees shall install and maintain chemically resistant water stops, which are
> 33 embedded in the concrete, or equivalent external systems (*e.g.* sealant systems) (*see*
> 34 40 CFR §270.32(b)(2)).

If the existing conditions outlined in section 3.7.1(4) of the Proposed Permit remain as written, The Applicants request a compliance schedule be included in the permit for compliance with the requirements of the section. In particular, epoxy coatings and sealants have a specified minimum temperature for application, which severely limits the time frames available to implement the requirement. In addition, many of the units are in use and operations would have to stop in the affected area and move to another permitted location while the reapplication is occurring. All of this will require time to schedule and implement and could not be completed prior to the issuance of this permit.

Section 3.7.1(5) (6) (7) (8) specifies secondary containment maintenance and repair requirements. In addition, specification for pallet design capacity and coatings are contained in

this section. The Applicants agree with the language in section 3.7.1(4) of the Proposed Permit. The language in this section of the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.8 Inspection Schedules and Procedures: This section requires waste containers be stored in a manner that allows inspection for leaks, corrosion and deterioration and that labels can be read without moving the container. The Applicants agreess with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.9 Volatile Organic Air Emissions: This section directs that air emissions from containers be controlled in accordance with 40 CFR CC. This section also requires LANL to manage hazardous wastes subject to emissions controls in accordance with Attachment E (Inspection Plan) of the Proposed Permit. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.10 TA-3 Container Storage Requirements: This section requires the storage of hazardous waste at TA-3 conform to the unit description in Attachment A and Attachment J. This section also specifies floor sealant requirements for areas at TA-3. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.11 TA-50 Container Storage Requirements: This section requires the storage of hazardous waste at TA-50 to conform to the unit description in Attachment A and Attachment J. The language regarding run-on controls is not clear. TA-50 has large areas of asphalt paving where run-on to the asphalt during precipitation events cannot be prevented. However, existing run-on controls ensure that water does not come into contact with waste stored at the facility. Hazardous waste is stored within enclosed steel sheds at the unit. These steel sheds prevent precipitation or run-on events from contact with the hazardous waste containers.

> PROPOSED LANGUAGE 3.11.3
>
> 31 The Permittees shall prevent surface water run-on from contacting stored waste containers at ~~to~~ the TA-50 permitted units.

Part 3.12 TA-54 Container Storage Requirements: This section requires the storage of hazardous waste at TA-54 to conform to the unit description in Attachment A and Attachment J. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

Part 3.13 TA-55 Container Storage Requirements: This section requires the storage of hazardous waste at TA-55 to conform to the unit description in Attachment A and Attachment J. The Applicants agree with the language of the Proposed Permit. The language in the Proposed Permit meets the requirements of the RCRA regulations and is protective of human health and the environment.

FURTHER AFFIANT SAYETH NAUGHT

James A. Blankenhorn

STATE OF NEW MEXICO)
) ss.
COUNTY OF LOS ALAMOS)

SUBSCRIBED, SWORN TO AND ACKNOWLEDGED before me this 19th day of March, 2010

Lola Z. Sandoval
NOTARY PUBLIC

My Commission Expires:
December 24, 2013