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FACT SHEET
August 11, 2004

PUBLIC COMMENT PERIOD AND PROCEDURES TO REQUEST A PUBLIC HEARING ON THE INTENT TO APPROVE A CLASS 3 PERMIT MODIFICATION REQUEST FOR CORRECTIVE MEASURES FOR THE MIXED WASTE LANDFILL
SANDIA NATIONAL LABORATORIES, EPA ID No. NM5890110518
BERNALILLO COUNTY, NEW MEXICO

ACTION: The New Mexico Environment Department (NMED) is proposing to modify the United States Department of Energy (DOE)/Sandia Corporation's Resource Conservation and Recovery Act (RCRA) Permit (RCRA Permit or Permit) for Sandia National Laboratories (SNL). This modification would incorporate into the RCRA Permit requirements for corrective measures for the SNL Mixed Waste Landfill (Solid Waste Management Unit 76). NMED is announcing the availability of a draft permit for public comment.

FACILITY: Sandia National Laboratories, Bernalillo County, New Mexico

PERMITTEES: DOE, facility owner and co-operator, and Sandia Corporation, facility co-operator (Permittees)

The Permittees are located at the following addresses: SNL, 1515 Eubank SE, Albuquerque, NM, 87123; and NNSA/DOE, Sandia Site Office, KAFB-East, Pennsylvania & H Street, Albuquerque, NM 87116. The Permittees' primary contact for this action is Mr. John Gould, NNSA/Sandia Site Office, DOE, P.O. Box 5400, Albuquerque, NM 87185.

PERMIT NO.: NM5890110518

LOCATION OF THE SNL FACILTY AND THE MWL

SNL is located within the boundaries of Kirtland Air Force Base (KAFB), south of Albuquerque in Bernalillo County, New Mexico. KAFB occupies 52,233 acres. SNL research and administration facilities occupy 2,842 acres and are divided into five Technical Areas (TAs), designated TA-1 through TA-5, and several test areas. TA-1, TA-2, and TA-4 are separate research facilities in the north-central portion of KAFB. TA-3 and TA-5 are contiguous research

facilities forming a 4.5-square-mile rectangular area in the southwestern portion of KAFB. TA-3 encompasses 2,000 acres.

The Mixed Waste Landfill (MWL) is located approximately 5 miles southeast of the Albuquerque International Sunport and 4 miles south of TA-1. The landfill occupies 2.6 acres in the north-central portion of TA-3.

FACILITY OPERATIONS

SNL, in operation since 1945, is engaged in research and development of conventional and nuclear weapons, alternative energy sources, and a wide variety of national security related research and development. As a result of these activities, SNL has generated hazardous, radioactive, mixed (those wastes containing both hazardous and radioactive components), and solid wastes. From 1945 to 1988 most of these wastes were disposed of at SNL at numerous locations, which have been classified by the NMED as Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs). The SWMUs and AOCs include unpermitted landfills, septic-system drainfields and seepage pits, outfalls, waste piles, and test areas. Past waste management activities at SNL have caused the release of hazardous and radioactive contaminants into the environment. The Mixed Waste Landfill is classified as SWMU 76.

DESCRIPTION AND HISTORY OF THE MIXED WASTE LANDFILL

The MWL was opened as the "TA-3 low-level radioactive waste dump" in March 1959. In a DOE environmental survey report dated April 1988, the TA-3 low-level radioactive dump was labeled a "mixed waste site" and has since been referred to as the TA-3 "Mixed Waste Landfill." The MWL accepted containerized and uncontainerized low-level radioactive waste and mixed waste from SNL research facilities and off-site generators from March 1959 to December 1988. Approximately 100,000 cubic feet of low-level radioactive waste containing 6,300 curies (Ci) of activity at the time of disposal were disposed of at the MWL.

There are two distinct disposal areas at the MWL: the classified area (0.6 acres) and the unclassified area (2.0 acres). Wastes in the classified area were disposed of in a series of vertical, cylindrical pits. Historical records indicate that early pits were 3 to 5 feet in diameter and 15 feet deep; later pits were 10 feet in diameter and 25 feet deep. Once pits were filled with waste, they were backfilled with soil and capped with concrete. Wastes in the unclassified area were disposed of in a series of parallel, north-south trenches. Records indicate that trenches were 15 to 25 feet wide, 150 to 180 feet long, and 15 to 20 feet deep. Trenches were backfilled with soil on a quarterly basis and, once filled with waste, were capped with the original soil that had been excavated and locally stockpiled.

The classified area contains wastes that in all likelihood present the greatest security, worker safety, and environmental concerns. Wastes in the classified area include military hardware,

radioactive constituents (e.g., cobalt-60, cesium-137, tritium, radium-226), activation products (e.g., cobalt-60), multiple fission products (e.g., cesium-137, strontium-90), high specific-activity wastes (e.g., tritium, cobalt-60), plutonium, thorium, and depleted uranium.

All pits and trenches contain operational and miscellaneous decontamination waste including gloves, paper, mop heads, brushes, rags, tape, wire, metal and polyvinyl chloride piping, cables, towels, quartz cloth, swipes, disposable lab coats, shoe covers, coveralls, high-efficiency particulate air filters, prefilters, tygon tubing, watch glasses, polyethylene bottles, beakers, balances, pH meters, screws, bolts, saw blades, Kleenex, petri dishes, scouring pads, metal scrap and shavings, foam, plastic, glass, rubber scrap, electrical connectors, ground cloth, wooden shipping crates and pallets, wooden and lucite dosimetry holders, and expended or obsolete experimental equipment.

Containment and disposal of routine waste commonly occurred using tied, double polyethylene bags, sealed A/N cans (military ordnance metal containers of various sizes), fiberboard drums, wooden crates, cardboard boxes, and 55-gallon steel and polyethylene drums. Larger items, such as glove boxes, spent fuel shipping casks, and contaminated soils, were disposed of in bulk without containment. A more detailed MWL waste inventory, by pit and trench, is provided in the SNL Environmental Restoration Project *Responses to NMED Technical Comments on the Report of the Mixed Waste Landfill Phase 2 RCRA Facility Investigation, June 15, 1998*.

SITE INVESTIGATION

Investigation of potential contaminant releases at the MWL was conducted primarily in two major phases referred to as the Phase 1 and Phase 2 RCRA Facility Investigations (RFIs).

Phase 1 RCRA Facility Investigation

A Phase 1 RFI was conducted in 1989 and 1990. The objective was to determine the nature and extent of contamination, the source of contamination, the release and transport mechanism(s), and the pathway(s) of contaminant migration.

Air, surface soil, and subsurface soil samples were collected and analyzed during Phase 1 RFI activities to determine whether hazardous or radioactive constituents had been released to the environment. The Phase 1 RFI results indicated that tritium is the primary contaminant of concern and that it has migrated from MWL disposal cells into the surrounding soil. Elevated tritium levels were detected in classified-area surface soil (0 to 0.5 feet below ground surface [bgs]) and near-surface soil (0.5 to 30 feet bgs). Tritium activity was greatest within the upper 30 feet of the soil profile.

Phase 2 RCRA Facility Investigation

A Phase 2 RFI was conducted from 1992 to 1996 to investigate environmental impacts associated with disposal activities at the MWL. The MWL Phase 2 RFI included an examination

of landfill historical records; radiological surveys; soil sampling for background metals and radionuclides; nonintrusive geophysical surveys; active and passive soil-gas surveys; surface soil sampling for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, and tritium; borehole sampling of subsurface soil for VOCs, SVOCs, metals, and radionuclides; vadose zone tests; aquifer pumping tests; and a risk assessment.

A number of contaminants were identified by the Phase 2 RFI and included VOCs, SVOCs, metals, and tritium. Low levels of VOCs were detected in soil gas. Low levels of VOCs, SVOCs, and cadmium were found in subsurface soil. Radionuclides, with the exception of tritium, were all below their respective minimum detectable activities or within background ranges.

Data from the Phase 2 RFI indicate that tritium is the primary contaminant. Tritium has been a consistent finding at the MWL since environmental studies were initiated at SNL in 1969. Tritium occurs in surface and near-surface soil in and around the classified area of the landfill at activities ranging from 1,100 picocuries/gram (pCi/g) in surface soil to 206 pCi/g in near-surface soil. The highest tritium activities are found within 30 feet of the surface in soil adjacent to and directly below the classified area disposal pits. Below 30 feet from the ground surface, tritium activity drops to a few pCi/g of soil. Tritium also occurs as a diffuse air emission from the landfill, releasing 0.294 Ci/year (yr) into the atmosphere.

Results of a risk assessment prepared by the Permittees for the MWL suggest that releases of contaminants from the MWL pose little risk to human health or the environment under an industrial land use scenario. Tritium activities at the MWL will decrease steadily with time due to its relatively short half-life of 12.3 years. Because of tritium's short half-life and the current levels of activity, it does not appear that tritium releases at the MWL pose a threat to ground water. The depth to groundwater at the MWL is approximately 460 feet below ground surface

Ground Water Monitoring

The MWL ground water monitoring well network consists of seven wells. Five wells were installed between October 1988 and February 1993; two additional wells were installed in November 2000. More than 30 sampling events have been conducted since ground water sampling began at the MWL in September 1990. Currently, ground water in all seven MWL monitoring wells is sampled annually.

Ground water samples have been analyzed for a wide variety of parameters, including radionuclides, metals, VOCs, SVOCs, major ions, and perchlorate. Laboratory analytical data collected to date indicate that no contaminants have migrated to ground water from the MWL.

REGULATORY BACKGROUND

The federal Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 to 6992(k), provides for the regulation of hazardous waste. Congress waived the immunity of the United States for actions brought under state hazardous and solid waste laws as well as under RCRA. Pursuant to

Section 3006 of RCRA, 42 U.S.C § 6926, the United States Environmental Protection Agency (EPA) delegated to NMED, on April 16, 1985 by delegation numbers 8-31 and 8-32, the authority to enforce the Hazardous Waste Act (HWA) and its implementing regulations, the New Mexico Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC, in lieu of EPA enforcement through RCRA. NMED has maintained its delegation from EPA over hazardous waste management in New Mexico and from time to time has amended its state program to conform to statutory or regulatory changes in RCRA. The HWMR require corrective action at solid waste management units (SWMUs) where releases of hazardous waste or hazardous constituents have or may have occurred. The Permitteesmust comply with the HWA, the HWMR and the SNL RCRA Permit with respect to taking corrective action.

NMED issued a RCRA Permit for storage of hazardous waste at SNL on August 6, 1992. On February 6, 2002, the Permittees applied to NMED to renew the SNL RCRA Permit. The existing Permit remains in effect until a final decision is made on the renewal request. The regulations at 20.4.1.900 NMAC, incorporating 40 CFR § 270.42, allow a facility to request modification of a permit. When a permit is modified, only the conditions subject to modification are reopened.

On October 11, 2001, NMED directed the Permittees to conduct a Corrective Measures Study (CMS) for the MWL because of concerns raised by the public. A CMS Work Plan was prepared by the Permittees in accordance with requirements set forth in Module IV (Hazardous and Solid Waste Amendments) of the Permit. The CMS Work Plan was submitted to NMED on December 19, 2001. The CMS Work Plan included a description of the general approach of the investigation and potential remedies or corrective measures, a definition of the overall objectives of the study, specific plans for evaluating potential remedies, schedules for conducting the study, and the proposed format for the presentation of information. The CMS Work Plan was approved with conditions by NMED on October 10, 2002.

After approval of the CMS Work Plan, the CMS was conducted by the Permittees to identify, develop, and evaluate corrective measures alternatives and to recommend the remedies or corrective measure(s) to be taken at the MWL. The results of the CMS were documented in a CMS Report following completion of the study. The report was transmitted to NMED on May 21, 2003. The CMS Report was deemed complete by NMED on January 5, 2004.

On January 23, 2004, the Permittees requested a Class 3 modification of their RCRA Permit for NMED to select a corrective measure or remedy for the MWL. The request included draft language intended to be incorporated into the Permit following the public participation process as prescribed by RCRA. The request also included the Permittees preferred corrective measure or remedy. Although the Permittees must suggest a preferred corrective measure or remedy, NMED may select another corrective measure if necessary to protect human health and the environment. A notice regarding the permit modification request was published by the Permittees in the *Albuquerque Journal* on January 30, 2004. The notice included information on

the date, time, and place of a public meeting to be held by the Permittees concerning the permit modification request.

The public meeting was held on February 26, 2004, from 6:00 to 8:00 p.m., at the Radisson Hotel in Albuquerque, New Mexico. Approximately 50 people attended the meeting. The meeting was held in "poster-session" format to allow one-on-one discussions between the Permittees technical staff and interested members of the public. A series of posters were presented describing the MWL Corrective Measures Process, the alternatives considered, and the preferred remedy selected. A poster showing historical photographs of disposal and characterization activities at the MWL was shown. Handouts with the proposed language for the Class III Permit modification language were also provided. Presenters included Jerry Peace, David Miller, Dick Fate, and Fran Nimick of Sandia Corporation; Tim Goering, a contractor for Sandia Corporation; and John Gould of the DOE.

Public comments gathered from the meeting include:

- recommendations to encourage capping of the facility;
- suggestions for a finding of "no further action" at this time, and a vegetative soil cover;
- concerns about excavation and the potential for exposing workers to hazardous or toxic materials;
- concerns about rodents and burrowing animals, and their potential to mobilize and disperse wastes from the landfill;
- a question concerning operation and management cost differences between Alternative III.b – Vegetative Soil Cover and III.c - Vegetative Soil Cover with Bio-Intrusion;
- questions about whether adding an additional layer of soil would make the landfill safer;
- questions concerning the process and funding for re-evaluating MWL data(i.e., is such a re-evaluation process planned?); and
- a comment that it was unnecessary to cap the MWL, but recommending continued air and ground water sampling for twenty years.

SUMMARY OF THE CORRECTIVE MEASURES STUDY

As stated above, the purpose of the Corrective Measures Study (CMS) was to identify, develop, and evaluate corrective measures alternatives and to recommend the corrective measure(s) or remedy(s) to be implemented at the MWL. Because there has been no significant migration of contaminants from the MWL, the Permittees have implemented a streamlined approach to remedy selection that focuses on containment, stabilization, and excavation technologies that can be used to prevent or limit any future migration of contaminants. The CMS establishes corrective action objectives that must be met by the corrective measure(s) or remedy(s). The

corrective action objectives utilized for the MWL CMS are 1) minimize exposure to site workers, the public, and wildlife; 2) limit migration of contaminants to ground water such that regulatory limits are not exceeded; 3) minimize biological intrusion into buried waste and any resulting release and redistribution of contaminants to potential receptors; and 4) prevent or limit human intrusion into buried waste over the long term.

Initial Screening of Potential Technologies

Corrective measures alternatives are based on individual technologies or various combinations of technologies. Initially, potential technologies were screened to reduce the relatively large number of potential technologies considered to a manageable number. Please refer to Chapter 2 of the CMS Report for additional details. Three criteria were used in the screening process to eliminate less favorable technologies: 1) responsiveness to the corrective action objectives, 2) implementability, and 3) performance.

The technologies initially considered in the CMS are summarized in the table below. A detailed description is provided in the CMS Report.

Technology Category	Specific Technology	Remarks
Not Applicable	No Further Action	No additional work would be done at the landfill beyond minor surface grading to promote drainage and implementation of institutional controls.
Institutional Controls	Long-Term Monitoring	The monitoring of various environmental media, such as ground water, surface soil, air, plants, and animals. The type and frequency of monitoring will depend on the corrective measures selected.
Institutional Controls	Long-Term Surveillance and Maintenance	Planned periodic inspections to identify and repair any damage to the remedy that has been implemented, such as a landfill cover, and any monitoring systems.
Institutional Controls	Long-Term Access Controls	Physical, administrative, and other controls designed to prevent unauthorized entry or use of the site. Examples

		include fences, signs, security patrols, and property deed restrictions.
Containment	Vegetative Soil Cover	Soil cover designed to store precipitation to prevent infiltration into the soil and to allow for removal of the moisture by evaporation and plant transpiration.
Containment	Structural Barriers	Concrete or asphalt cover designed to limit infiltration of precipitation and to preclude biological or human intrusion.
Containment	RCRA Subtitle C Cap	A rigorous landfill cover system that makes use of multiple barrier and drainage systems to limit infiltration of precipitation.
Containment	Bio-Intrusion Barrier	A barrier placed over waste to prevent small animals from burrowing into and contacting waste or contaminated soil buried in a landfill. Bio-intrusion barriers are often constructed of large rocks or wire mesh.
Containment	Containment Cells	Containing the landfill within subsurface horizontal and vertical barriers. Grout curtains and bentonite slurry walls are common examples.
Stabilization/In-Situ Treatment	In-Situ Vitrification	A method whereby waste and contaminated soil are encapsulated in glass by heating and melting the waste, the soil, and the clean soil immediately surrounding the waste and contaminated soil.
Stabilization/In-Situ Treatment	In-Situ Grouting or Chemical Fixation	Pressurized injection of grout or chemicals (e.g., epoxy)

		into boreholes to immobilize waste and contaminated soil.
Excavation/Storage/Treatment /Disposal	Complete Excavation with Above-ground Retrievable Storage	Removal of the contents of the landfill and any highly contaminated soil. Wastes and highly contaminated soil removed from the landfill would be stored in warehouses on the surface permanently.
Excavation/Storage/Treatment /Disposal	Complete Excavation with Off-site Disposal	Removal of the contents of the landfill and any highly contaminated soil. After temporary storage, wastes and highly contaminated soil removed from the landfill would be shipped to an off-site disposal facility.
Excavation/Storage/Treatment /Disposal	Partial Excavation with Above-ground Retrievable Storage	Removal of only the contents of the classified portion of the landfill and any highly contaminated soil associated with that part of the landfill. Wastes and highly contaminated soil removed from the landfill would be stored in warehouses on the surface permanently.
Excavation/Storage/Treatment /Disposal	Partial Excavation with Off-site Disposal	Removal of only the contents of the classified portion of the landfill and any highly contaminated soil associated with that part of the landfill. After temporary storage, wastes and highly contaminated soil removed from the landfill would be shipped to an off-site disposal facility.
Excavation/Storage/Treatment /Disposal	Future Excavation	Removal of the contents of the landfill and any highly contaminated soil. Wastes

		and highly contaminated soil removed from the landfill would be shipped to an off-site disposal facility or stored on-site.

Of these potential technologies, nine technologies were chosen by the Permittees to undergo more detailed screening. The nine technologies that received further attention in the CMS were:

1. no further action;
2. bio-intrusion barrier;
3. vegetative soil cover;
4. RCRA Subtitle C cap;
5. complete excavation with above ground retrievable storage;
6. partial excavation with above ground retrievable storage;
7. complete excavation with off-site disposal;
8. partial excavation with off-site disposal; and
9. future excavation.

Development of and Screening of Candidate Corrective Measures Alternatives

The nine technologies or combinations of technologies retained after the initial screening were developed into candidate corrective measures alternatives and again screened by the Permittees to determine which would be more suitable for implementation at the MWL. Please refer to Chapter 3 of the CMS Report for more details. To this end, each of the candidate corrective measures alternatives was evaluated with respect to effectiveness, i.e., meeting the corrective action objectives; implementability; and cost.

Following this second screening process, four candidate corrective measures alternatives remained that were found most suitable for the MWL. These four candidate alternatives are discussed in the next two sections.

Candidate Corrective Measures Alternatives for the MWL

The four candidate corrective measures alternatives found most suitable for the MWL include three containment alternatives and one excavation alternative and are:

1. No Further Action (Alternative I.a);
2. Vegetative Soil Cover (Alternative III.b);
3. Vegetative Soil Cover with Bio-Intrusion Barrier (Alternative III.c); and
4. Future Excavation (Alternative V.e).

All four candidate corrective measures alternatives include institutional controls, including the No Further Action option. Each of the four candidate alternatives were further evaluated for

long-term reliability and effectiveness; reduction of toxicity, mobility, or volume of wastes; short-term effectiveness; implementability; and cost. Details are presented in Chapter 4 of the CMS Report. The five criteria used for these evaluations are briefly discussed below.

Long-Term Reliability and Effectiveness - This criterion includes consideration of the level of risk that will remain after implementation of the corrective measures alternative, the extent of long-term monitoring and other controls that will be required after implementation of the corrective measures alternative, the uncertainties associated with leaving hazardous waste in place, and the potential for failure of the corrective measures alternative. A corrective measures alternative that reduces risk with little long-term management and that has proven effective under similar conditions is preferred.

Reduction of Toxicity, Mobility, or Volume of Wastes - Each corrective measures alternative was evaluated for its potential to reduce toxicity, mobility, and the volume of hazardous waste and hazardous constituents. A corrective measures alternative that more completely and permanently reduces these factors is preferred.

Short-Term Effectiveness - This criterion includes consideration of the short-term reduction in existing risk that the corrective measures alternative would achieve; the time needed to achieve that reduction; and the potential short-term risks to the community, site workers, and the environment during implementation of the corrective measures alternative. A corrective measures alternative that reduces short-term risk without creating significant additional risk is preferred.

Implementability - Each corrective measures alternative was evaluated for its difficulty of implementing the alternative. This criterion includes consideration of potential problems related to installation and construction; operation and maintenance; difficulties with cleanup technologies; permitting and approvals; and the availability of necessary equipment, services, expertise, and storage and disposal capacity. A corrective measures alternative that can be implemented quickly and easily is preferred.

Cost- Each corrective measures alternative was evaluated for cost, which included capital and operation and maintenance costs. Capital costs consisted of construction and installation costs; equipment costs; and indirect costs including engineering, legal fees, permitting fees, start-up and shakedown costs; and contingency allowances. Operation and maintenance costs were estimated for 30 years and include operating labor and material costs, maintenance labor and material costs, replacement costs, utilities, monitoring and reporting costs, administrative costs, indirect costs, and contingency allowances. Most costs were calculated based on their net present value. A corrective measures alternative that is less costly but does not sacrifice protection of human health and the environment is preferred.

Additional Information on the Four Candidate Corrective Measures Alternatives

MWL Alternative I.a (NFA with Iinstitutional Controls) - Under this alternative, the operational cover would be maintained and current institutional controls and ground water monitoring would continue. Additional soil would be used to bring the landfill surface to a central crown and uniform grade to prevent ponding and promote surface runoff.

There would be no intrusive activities at the site. No potential for exposure to the buried waste exists. This alternative poses minimal risk to site workers implementing institutional controls. Capital and operation and maintenance costs for the No Further Action with institutional controls alternative are $1,772,882.

MWL Alternative III.b (Vegetative Soil Cover) - Under this alternative, a vegetative soil cover comprised of multiple lifts of compacted soil would be deployed on the existing landfill surface to isolate buried waste from the surface environment and to further minimize infiltration of precipitation. A topsoil layer, admixed with gravel, would be vegetated with native plants to promote transpiration and to mitigate wind and water erosion. A cover constructed of natural soil is expected, based on modeling, to perform well with minimal maintenance.

This alternative involves minimal intrusive activities at the site. No potential for exposure to waste exists. There would be minimal risk to site workers implementing institutional controls. Capital and operation and maintenance costs for the Vegetative Soil Cover alternative are $4,335,274.

MWL Alternative III.c (Vegetative Soil Cover with Bio-Intrusion Barrier) - Under this alternative, a bio-intrusion barrier composed of a layer of cobbles or boulders would be constructed on the existing landfill surface before construction of a vegetative soil cover. The vegetative soil cover would be comprised of multiple lifts of compacted soil to isolate buried waste from the surface environment and to further minimize infiltration of precipitation. A topsoil layer, admixed with gravel, would be vegetated with native plants to promote transpiration and to mitigate wind and water erosion. A cover constructed of natural soil is expected, based on modeling, to perform well with minimal maintenance.

This alternative involves minimal intrusive activities at the site. No potential for exposure to waste exists. There would be minimal risk to site workers implementing institutional controls. Capital and operation and maintenance costs for the Vegetative Soil Cover with Bio-Intrusion Barrier alternative are $7,096,859.

MWL Alternative V.e (Future Excavation) - Under this alternative, the landfill would be completely excavated at some future date. Future excavation would entail either aboveground retrievable storage of waste and/or shipment of waste to an off-site facility for disposal. Warehouses for processing and storage of classified and unclassified waste would be built on

site, adjacent to the landfill to minimize handling and transportation logistics and costs. Separate facilities would be required for classified and unclassified waste.

Capital costs for the Future Excavation alternative are $106,209,085 (not including off-site disposal costs). There are no operations and maintenance or waste disposition costs for future excavation.

Addition of a Fifth Candidate Corrective Measures Alternative

Because of public concern over the MWL and at the direction of NMED, the Permittees have included a detailed analysis of complete excavation with off-site disposal (Alternative V.b, see Appendix H of the CMS Report), even though this option did not pass the screening process of the CMS. The same five criteria that were applied to the other four candidate alternatives were used to evaluate the complete excavation with off-site disposal option (long-term reliability and effectiveness; reduction of toxicity, mobility, or volume of wastes; short-term effectiveness; implementability; and cost).

Under this candidate alternative, the landfill would be excavated, and waste debris separated from soil. Wastes and any highly contaminated soils would be shipped off-site for disposal. Excavation and waste management would take place under temporary structures to mitigate risk of exposure to the public, surrounding facilities, and the environment. Total direct and indirect costs are estimated to be $618,000,000.

Preferred Corrective Measures Alternative for the MWL

The Permittees have recommended Alternative III.b, Vegetative Soil Cover, as the preferred corrective measure or remedy for the MWL. *See* Chapter 5 of the CMS Report. Under Alternative III.b, a vegetative soil cover would be constructed on the existing landfill surface. Relative to Alternative I.a (No Further Action with Institutional Controls), Alternative III.b would offer additional protection against exposure to waste in landfill disposal cells, further minimize infiltration of precipitation, and limit bio-intrusion and human intrusion into buried waste.

NMED proposes in its draft permit to select Alternative III.c, Vegetative Soil Cover with Bio-Intrusion Barrier, as the corrective measures or remedy for the MWL. Environmental investigations completed at the MWL indicate that past releases of contaminants from the landfill do not pose unacceptable risk to human health and the environment. Due to the relatively immobile nature of the majority of the wastes contained within the landfill based on the inventory, it appears that any future releases of contaminants would be minimal and would not pose a significant risk to human health or the environment.

As with Alternative III.b (vegetative soil cover), Alternative III.c would offer additional protection against exposure to waste in landfill disposal cells, further minimize infiltration of precipitation, and limit bio-intrusion and human intrusion into buried waste. There would be no

intrusive activities at the site and therefore no potential for exposure of the workers, the public, and the environment to waste. This alternative also poses minimal risk to site workers implementing institutional controls in the present and future. The bio-barrier component of the cover system would prevent for the most partsmall animals from burrowing through the cover and coming into contact with waste and contaminated soil. A bio-barrier will not stop insects, such as ants, from burrowing into the ground.

PROPOSED ACTION

As stated above, the New Mexico Hazardous Waste Regulations, 20.4.1.900 NMAC, incorporating 40 CFR § 270.42, allow a facility to request modification of an existing RCRA permit. Modification of the SNL RCRA Permit is necessary to establish the framework to complete corrective action at the MWL. NMED is therefore issuing a draft permit for public comment. NMED proposes to insert language into Module IV of the Permit that:

a.) Incorporates the CMS Report, prepared by the Permittee, *Mixed Waste Landfill Corrective Measures Study Final Report, Sandia National Laboratories/New Mexico,* dated May 2003, by reference;

b.) Selects a vegetative soil cover with bio-intrusion barrier (CMS Report Alternative III.c) as the remedy for the MWL;

c.) Requires a Corrective Measures Implementation (CMI) Plan for the landfill that incorporates the final remedy. The plan is to be submitted to NMED for approval within 180 days of following remedy selection. The plan would contain implementation schedules;

d.) Requires a CMI Report for the landfill to be submitted to NMED for approval within 180 days after implementation of the remedy is complete;

e.) Requires that the Permittees submit to NMED progress reports during implementation of the remedy;

f.) Requires a long-term monitoring and maintenance plan to be submitted by the Permittees to the NMED for approval.

AVAILABILITY OF ADDITIONAL INFORMATION

The Administrative Record for this proposed action consists of this Fact Sheet, the Public Notice, the proposed draft permit described above, the original Permit, the CMS Report, Phase 1 and Phase 2 RCRA Facility Investigation (RFI) Reports, and other relevant correspondence and

documents. The Administrative Record may be reviewed from Monday through Friday 8:00 a.m. to 5:00 p.m. at the following locations:

New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone: (505) 428-2500

Government Information Department
Zimmerman Library
University of New Mexico
Albuquerque, NM 87131-1466
Phone: (505) 277-5057

This Fact Sheet, the Public Notice, draft permit and CMS report are also available on the NMED web site at: http://www.nmenv.state.nm.us/hwb/snlperm.html under Mixed Waste Landfill.

This Fact Sheet, the Public Notice, draft permit, CMS Report, and Phase 1 and Phase 2 RFI Reports may also be reviewed from Monday through Friday, 8:00 a.m. to 5:00 p.m., at the following location:

New Mexico Environment Department
District 1 Office
Hazardous Waste Bureau
4131 Montgomery Blvd., NE
Albuquerque, New Mexico 87109
Phone: (505) 841-9450

To obtain a copy of the Administrative Record or a portion thereof, in addition to further information please contact Mr. William Moats at (505) 284-5086, or at the address given above. NMED will provide copies, or portions thereof, of the Administrative Record at a charge of $0.25 per page.

PUBLIC HEARING

NMED will conduct a public hearing on the draft Permit beginning **Thursday, December 2, 2004, 9:00 a.m.**, at the Radisson Hotel & Conference Center Albuquerque, 2500 Carlisle Boulevard NE, Albuquerque, New Mexico 87110.

The public hearing will provide interested persons a reasonable opportunity to present data, views, and arguments, as well as to examine witnesses. The hearing will continue daily with morning, afternoon, and evening sessions as appropriate, until all persons have been afforded an adequate opportunity to present comment. The hearing will be conducted in accordance with the Hazardous Waste Management Regulations, 20.4.1.901 NMAC, and the applicable portions of the Environment Department Permit Procedures, 20.1.4 NMAC.

PUBLIC COMMENT

A. WRITTEN PUBLIC COMMENT

NMED will accept written public comment through **December 2, 2004**. Written comments shall be based on all reasonably available information and include, to the extent practicable, all referenced factual materials. Written comment must be filed by **5:00 p.m., December 2, 2004** with the Hearing Clerk at the address below.

Hearing Clerk
New Mexico Environment Department
Room 2151N
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, New Mexico 87502

B. PUBLIC COMMENT DURING THE HEARING

At the public hearing, NMED will accept technical and non-technical oral or written comment. The Hearing Officer will set reasonable limits upon the time allowed for oral comment. Oral or written comment on the draft Permit shall be accepted at the public hearing as set forth below:

1. Non-Technical: Any person may present non-technical oral public comment at the hearing. The Hearing Officer will reserve time for non-technical oral comment during each day of the public hearing. Any person may file non-technical written comment in lieu of oral comment during the hearing with the Hearing Officer Clerk.

2. Technical: Any person, including the applicant, who wishes to present technical oral comment, shall file a *Notice of Intent to Present Technical Testimony* ("*Notice of Intent*") on or before **November 1, 2004** with the Hearing Clerk at the address above. Technical testimony is scientific, engineering, economic, or other specialized testimony, and can be presented in writing or orally. Technical testimony does not include legal argument, general comments, or statements or policy concerning matters at issue in the hearing. To promote efficiency, fairness and avoid prejudice and surprise, technical oral comment will be restricted to points and factual information raised in comment with the exception of rebuttal, as appropriate. The *Notice of Intent* shall contain the following information:

   A. Person/Entity: Identify the person or entity filing the *Notice of Intent;*
   B. Position: State whether the person or entity filing the *Notice of Intent* supports or opposes the draft Permit;
   C. Witnesses: Identify each witness, including name, address, affiliation(s), and educational and work background;
   D. Length of Testimony: Estimate the length of the direct testimony of each witness;

E. Exhibits: Identify all exhibits; for all exhibits which are not part of the Record Proper, attach a copy (the Record Proper consists of the Administrative Record and all documents filed with the Hearing Clerk);
F. Technical Materials: Identify all technical materials relied upon by each witness in making a statement of technical fact or opinion contained in the direct testimony; make available any technical materials to any party upon request;
G. Direct Testimony: Attach a summary of direct testimony of each witness, stating any facts or opinion(s) to be offered by such witness and explaining the basis for such facts or opinion(s). Summaries of testimony shall be comprehensive, substantive and provide sufficient detail to avoid surprise, prejudice and allow for effective cross-examination.

3. The failure to file a timely *Notice of Intent* meeting the requirements above shall preclude a person from presenting technical oral or written comment at the hearing, but shall not preclude a person from presenting non-technical oral comment.

C. PARTY STATUS

1. Any person, including the applicants, who wishes to be a party for purposes of public participation at the public hearing shall file either a timely *Notice of Intent* or a timely *Entry of Appearance* on or before **November 1, 2004** with the Hearing Clerk at the address above. The *Entry of Appearance* shall include the following:

A. Person: The person or entity filing the entry and their address;
B. Position: State whether the person or entity supports or opposes the draft Permit; and
C. Length of Testimony: Provide an estimate of the amount of time for oral comment, if any.

2. The failure to file a timely *Entry of Appearance* shall preclude a person from being a party in the proceeding, but shall not preclude a person from presenting non-technical oral public comment at the hearing.

As soon as practicable, but in no event later than two weeks prior to the hearing, the Hearing Officer shall make a hearing schedule available for public participants and mail it to each person who file an *Entry of Appearance* or *Notice of Intent.*

PROCEDURE OF ISSUANCE OF FINAL PERMIT DECISION

NMED will respond in writing to all significant public comments received during the public comment period and hearing, and will notify all persons providing comments on the final decision of the Secretary. The Secretary will issue a final permit decision and the response to comment. The response will specify which provisions, if any, of the draft Permit have been changed in the final permit decision, and the reasons for the change.

The Secretary will make the final permit decision publicly available and shall notify the Permittees by certified mail and all persons presenting written comment by mail. The Secretary's decision shall constitute a final agency decision and may be appealed as provided by the Hazardous Waste Act.

ARRANGEMENTS FOR PERSONS WITH DISABILITIES

Any person with a disability requiring assistance or auxiliary aid to participate in this process should contact Judy Bentley at the following address: New Mexico Environment Department, Room N-4030, P.O. Box 26110, 1190 St. Francis Drive, Santa Fe, New Mexico 87502-6110, (505) 827-2844. TDD or TDY users please access Judy Bentley's number via the New Mexico Relay Network. Albuquerque users may access Ms. Bentley's number at (505) 275-7333.