

Kieling, John, NMENV

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Sent: Friday, November 09, 2012 2:29 PM
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Subject: Request for extension of comment period and to hold a public hearing for the SNL MWL LTMMP
Attachments: LTMMPFINALCOMMENT11-03-12.2d.doc

Dear Secretary Martin and Mr. Kieling,

Please see the attached request for an extension for comments on the Long Term Monitoring and Maintenance Plan and also the request for a public hearing in the matter. The request is by Citizen Action New Mexico, Concerned Citizens for Nuclear Safety and Registered Geologist Robert Gilkeson.

Thank you.

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Dear Mr. Kieling,

We, the undersigned, respectfully request that the New Mexico Environment Department (NMED) withdraw the issuance of the March 23, 2012 proposed Long-Term Monitoring and Maintenance Plan (LTMMP) for the Mixed Waste Landfill (MWL) at Sandia National Laboratories (SNL), submitted by SNL. We find that the sequence of review of the LTMMP is out of order with the requirement for SNL to submit the 5-year review of the MWL by May 26, 2010. The undersigned request an extension of the comment period for the proposed LTMMP. The public should also first be provided with the 5-year review report for the MWL which is a mandatory requirement under the Resource Conservation and Recovery Act (RCRA). The 5-year review report was required by May 26, 2010 in the NMED Final Order issued on May 26, 2005 (see Attachment A). Citizen Action and members of the public have also requested that the LTMMP be subject to a public hearing.

The issuance for public comment of the Sandia RCRA Part B Hazardous Waste permit and the Kirtland Air Force Base Permit concurrently with the proposed LTMMP places too short a timeframe for review and comment for three lengthy documents. Reviewing all three documents is an especially unacceptable burden on the public and because of incomplete references and the size of the documents.

The SNL MWL was operated for 30 years from 1959 to 1988 as an open dump of 7 unlined trenches and 45 unlined pits. An incorrect regulatory pathway was chosen for the MWL by SNL and the NMED. The MWL was not in compliance with the requirements in RCRA to obtain a permit for a hazardous waste landfill. 40 CFR § 270.1. The MWL dump lost interim status because the MWL was never put on a RCRA Part A or Part B application. 40 CFR 270.73. SNL lost interim status and violated RCRA by not submitting a Part B RCRA hazardous waste permit application and by continuing to leave hazardous waste in place without submitting a post closure permit or by clean closure. “Owners/operators of surface impoundments, landfills, land treatment units, or waste piles must also apply for a post-closure permit unless closure is demonstrated by removal of the waste (clean closure).”

<http://homer.ornl.gov/sesa/environment/guidance/rcra/lois.pdf>

The issuance of Module IV by the EPA in 1993 could not grant legal permitted status to the MWL in the first place because the MWL was out of compliance at the time.

The Consent Order of April 29, 2004 (“Consent Order”), itself states II.A.4, “Unpermitted landfills include, but are not limited to, those at . . . TA-III (MWL).” AR at 001391 (emphasis added). Thus by its very terms, the consent order does not provide that the Sandia landfill ever obtained a RCRA permit at any time or in 1992. Moreover, the only “RCRA permit” presumably available in 1992 would be a Subtitle C permit, as directed by 40 C.F.R. § 270.1(c). Thus any land based Solid Waste Management Unit (“SWMU”) that received waste after July 26, 1982, or that did not certify closure under 40 CFR Part 265.115 by January 26, 1983, was required to obtain a post closure permit, unless the SWMU was closed by removal or decontamination under 40 CFR Part 270.1(c). Otherwise all Treatment, Storage and Disposal Facilities (“TSD”) were required to seek a permit to continue to operate under RCRA Subtitle C. 40 C.F.R. § 270.1(c). This permit consists of a Part A application (40 C.F.R. § 270.13) and a Part B permit (40 CFR § 270.14). Sandia continued to deposit RCRA waste through all of 1988, but never sought such a permit. Since no permit existed for the MWL dump, NMED had no authority to assert jurisdiction to grant a “permit modification” through the Final Order.

At one point, NMED apparently agreed with Citizen Action’s current position that the Sandia landfill is subject to the RCRA permitting process as a regulated unit. Specifically, NMED position was that the Mixed Waste Landfill is required to close under the Closure Plan requirements of ... 40 CFR 265, Subpart G, Closure and Post Closure, and Subpart N, Landfills.” The NOD further states that “Under ... 40 CFR 270.1(c), owners and operators of landfills that received waste after July 26, 1982 are required to obtain a post-closure permit for the facility, unless closure by removal is demonstrated. For facilities that did not receive an operating permit, and close under interim status standards, this post closure permit serves to impose several critical statutory and regulatory requirements, including the requirements for corrective action (61 FR 19438, May 1, 1996).” AR at 009166; *see also* AR at 009183-009184.

The consent order, among NMED, Sandia, and the United States Department of Energy, is insufficient authority to allow Sandia to request permit modification, without any showing that it does, in fact, have a permit in the first instance. The Consent Order does not function as an enforceable order in lieu of a closure plan and post closure permit because Section III.W.1 (2) provides an exception for those to be part of the permit. The proposed hazardous waste permit does not contain those requirements for the MWL dump.

The regulatory criteria for the SNL MWL dump are misstated by the proposed LTMMP as being only those for a Solid Waste Management Unit (SWMU). The MWL received hazardous waste after July 26, 1982 and is by legal definition a “RCRA regulated unit.” The MWL is subject to the closure requirements and post-closure requirements of 40 CFR 264 Subparts F and G for groundwater well monitoring networks for regulated units. (See 63 Federal Register 56710 et seq. and 40 CFR § 264.118). Post Closure Plans for regulated units require compliance with groundwater monitoring requirements that are found in Subpart F (40 CFR 264.90-100). (40 CFR 264.118(b)(1)).

The MWL dump has never had a well monitoring network that complied with the minimum requirements for at least one upgradient and three down-gradient monitoring wells for detection or a network that met requirements for long term monitoring.

The trenches and pits at the Sandia MWL dump are displayed on Figure 1. The operations at all time as a waste dump and the arbitrary decision to refer to the dump as a landfill were described on page 17 in the DOE/SNL MWL May 2003 Corrective Measures Study Final Report as follows:

“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 disposal activities at the SNL MWL dump are described on page 2-1 of the proposed LTMMP as follows:

“The MWL disposal area comprises 2.6 acres and accepted containerized and uncontainerized low-level radioactive waste and minor amounts of mixed waste from SNL/NM research facilities and off-site DOE and U.S. Department of Defense generators from March 1959 to December 1988.”

Mixed waste is radioactive waste that contains a component of hazardous waste. A very serious issue is the mistake by the NMED to designate the SNL MWL dump as a solid waste management unit (SWMU). The Resource Conservation and Recovery Act (RCRA) designates disposal sites that received hazardous waste after July 26, 1982 as “regulated units.” From 40 CFR § 264.90(2):

“All solid waste management units must comply with the requirements in §264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a “regulated unit”) must comply with the requirements of §§264.91 through 264.100 in lieu of §264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of §264.101 apply to regulated units.”

The SNL MWL dump is a RCRA regulated unit that operated illegally without obtaining a RCRA permit. The groundwater monitoring practices at the SNL MWL dump did not comply with the requirements of RCRA 40 CFR §§264.91 through 264.100 for a regulated unit at any time up to the present. Further, the monitoring well network in the proposed LTMMP does not comply with §§264.91 through 264.100. In addition, the proposed network of wells for monitoring the vadose zone is not adequate to detect contamination below the unlined trenches and pits because the proposed wells are located outside the boundary of the dirt cover.

The intent of DOE/SNL and NMED to use the proposed LTMMP as an alternative requirement for closure of the SNL MWL dump under corrective action does not comply with the RCRA requirements for closure of the MWL dump because it is a RCRA

regulated unit. The criteria for the use of alternative mechanisms for closure of regulated units are described in Federal Register / Vol.63, No. 204 / Oct. 22, 1998, pages 56710-56735 titled ***Part II - Environmental Protection Agency - 40 CFR Parts 264, 265, 270, and 271- Standards Applicable to Owners and Operators of Closed and Closing Hazardous Waste Management Facilities: Post-Closure Permit Requirement and Closure Process; Final Rule.***

The Final Rule states that closure may be performed through corrective action only when the regulated unit is located close to a SWMU, a release has occurred, and both the regulated unit and the SWMU may be responsible for the release. However, the SNL MWL dump is an isolated RCRA regulated unit and a release has occurred. For isolated regulated units such as the SNL MWL dump the Final Rule on page 56727 requires closure to be part of the RCRA Permit and to include 40 CFR 264 Subparts G, H and L. From page 56727:

“This rule retains the closure requirements for isolated units. This final rule allows the Regional Administrator to replace the requirements of Subparts F, G, and H with alternative requirements developed for corrective action only where a regulated unit is situated among SWMUs (or areas of concern), a release has occurred, and both the regulated unit and one or more SWMUs (or areas of concern) are likely to have contributed to the release” [Emphasis supplied].

We respectfully request for NMED to order DOE/SNL to retract the proposed LTMMP that does not comply with the closure requirements in RCRA and for NMED to require installation of reliable networks of monitoring wells at the Sandia MWL dump (1) in the poorly productive fine-grained sediments at the water table and (2) in the deeper highly productive sands and gravels in the Ancestral Rio Grande (ARG) strata. The ARG strata are the RCRA uppermost aquifer. We request a public hearing on the proposed LTMMP if NMED disagrees with our request for retraction.

The public comment period for the Draft SNL Permit ends on November 16, 2011. A very serious mistake is that the draft permit lists the SNL MWL dump RCRA regulated unit as SWMU 76. The required closure process for the MWL dump with post-closure plan is not provided in the Draft Permit. We, the undersigned, respectfully request NMED to retract the Draft SNL Permit and correct this serious omission.

We, the undersigned, respectfully request a public hearing on the Draft SNL Permit. Further, and prior to any notice of public hearing, pursuant to 20.4.1.901.A.(4) NMAC, we request that NMED, the Permittees, the undersigned, and other parties conduct negotiations to attempt to resolve issues related to the draft permit. We believe that other parties and NMED would agree with some of the concerns and objections raised in the following comments and that a revised draft permit could be developed prior to the public hearing.

We have outlined below the many reasons for our request to retract the proposed LTMMP and to hold a public hearing on the LTMMP:

1. The issuance of the SNL RCRA Part B Hazardous Waste draft permit and the Kirtland Air Force Base draft permit concurrently with the proposed LTMMP places too short a timeframe for informed review and comment by the public for the three lengthy documents. Reviewing all three documents concurrently places an especially unacceptable burden on the public. Further, the references are incomplete and the size of those documents.
2. SNL has not complied with the requirement in the May 26, 2005 Final Order (Curry) to provide the required 5-year review report for the SNL MWL dump to NMED and to the public by May 25, 2010. The required report is now 2½ years late (See Attachment A -- October 24, 2012 letter re: Objection to Delay of 5-year review period). Information generated by the 5-year review report should be made available to the public before the public provides comment on the proposed LTMMP, and before the NMED approval of the LTMMP. Because the LTMMP is considered the post-closure plan, it should be considered a Class 3 permit modification request and therefore, should follow those regulations.
3. IPRA documents received by Citizen Action on May 24, 2012 show that negotiations to delay the 5-year review report were held between NMED, SNL and DOE without the required public participation. On February 17, 2011 NMED and DOE/Sandia held a secret meeting in violation of the New Mexico Open Meetings Act in which a revision to the May 26, 2005 Final Order began for the purpose to provide a delay for completion of the 5-year review requirement. No minutes of the 02/17/2011 meeting were made until 11/08/2011 and the minutes were not posted for public review. The secret meeting dealt with significant issues of concern to Citizen Action and the public that had participated in proceedings that resulted in the Final Order regarding the MWL dump. The 02/17/2011 meeting was closed to the public.

The 02/17/2011 secret meeting affected public policy for the management of hazardous wastes at the SNL MWL dump. The 5 year review was discussed in subsequent emails from DOE/Sandia to NMED staff person William Moats on March 9, March 16 and November 8, 2011. On October 14, 2011 NMED issued a Notice of Approval for the DOE/SNL MWL Corrective Measures Implementation Report (CMI Report) allowing the first five year period for re-evaluating the feasibility of excavation and analyzing the effectiveness of the remedy to begin five years after the approval of the LTMMP. The Notice of Approval was signed by Hazardous Waste Bureau Chief John Kieling who exceeded his authority in granting a delay for a condition that of the Final Order that was ordered at the Secretary level in 2005.

The issue of delay for the 5-year review was not presented in the CMI Report for the public to be able to review and comment. Citizen Action and other members of the public filed comments for the CMI Report, but were denied an opportunity to comment on any revision to the Final Order for the 5 year review period. Thus, the public was denied its right to participate in the decision making process under RCRA and under the Open Meetings Act.

4. The proposed LTMMP should be withdrawn by SNL because the defective groundwater monitoring network currently in place is not compliant with RCRA 40 CFR §§264.91 through 264.100, and for additional specific reasons as described below.
5. The four monitoring wells in the proposed LTMMP monitoring network are displayed on Figure 2 and include the three contaminant detection monitoring wells MWL-MW7, -MW8 and -MW9 located along the western side of the SNL MWL dump and the background monitoring well MWL-BW2 located 200 ft east of the dump. The proposed network is defective because monitoring wells MWL-MW7, -MW8 and -MW9 have water levels in October 2011 that are near to or less than 4 ft for sampling and do not provide reliable and representative groundwater samples as required by RCRA. The water levels are too low according to page 25 in the DOE/Sandia report by Goering et al. (2002) as follows:

"MWL monitoring wells will eventually become ineffective due to declining ground-water levels. In general, for a 5-inch diameter well, at least 4 ft of standing water is required above the bottom of the well screen to properly purge and sample a well. Groundwater levels in MWL wells will be monitored until the wells are no longer effective. The wells will then be plugged and abandoned" [Emphasis supplied].

Table 3.5.1-1 in the proposed LTMMP shows the standing water in October 2011 for wells MWL-MW7, -MW8 and -MW9 to be 4.65, 4.02 and 3.4 ft, respectively. The annual rate of decline of 0.5 ft per year for the MWL monitoring wells is described on page 2-6 of the LTMMP as follows:

"Groundwater levels beneath the MWL declined at an average rate of approximately 0.5 ft/yr as a result of ongoing large-scale removal of water by the City of Albuquerque and KAFB from production wells through 2007."

The ongoing decline of water levels at 0.5 ft/yr means that the two monitoring wells MWL-MW8 and -MW9 are not able to provide reliable and representative groundwater samples. Further, well MWL-MW7 will not provide reliable and representative groundwater samples within the next year. The NMED March 2004 Compliance Order on Consent (Consent Order) on page 63 requires replacement of the three new defective monitoring wells as follows:

"In the event of a well or piezometer failure, or if a well or piezometer is any way no longer usable for its intended purpose, it must be replaced with an equivalent well or piezometer."

6. In addition, the proposed LTMMP monitoring network is defective because groundwater monitoring wells MWL-MW7, -MW8 and -MW9 have anomalously deep water levels by ~20 ft that do not represent the elevation of the water table below the MWL dump. The deep water levels are because of the strong downward hydraulic gradient in the fine-grained sediments and the 30-ft long screens in the three new wells. The NMED March 2004 Consent Order on page 194 requires

monitoring wells to be in compliance with the 1992 RCRA guidance document. Page 6-39 in the RCRA guidance states the following:

“The screen length should generally not exceed 10 feet.”

Indeed, the NMED draft RCRA Permit for the National Aeronautics and Space Administration (NASA) Facility in southern New Mexico described the importance for monitoring wells to have short well screens. From page 64 in the March 19, 2007 NASA draft RCRA Permit:

“The selection of the well screen length depends upon the objective of the well. Piezometers and wells where only a discrete flow path is monitored are generally completed with short screens (two ft or less). While monitoring wells are usually constructed with longer screens (usually five to ten ft), they shall be kept to the minimum length appropriate for intercepting a contaminant plume.”

Moreover, the NMED was well aware that the 30-ft long screens would cause an anomalous deep water level in the three new monitoring wells that was not accurate for the elevation of the water table. For example, from page 2 in the June 19, 2007 NMED Notice of Deficiency (NOD) letter for installation of the background monitoring well MWL-BW2:

“NMED expects MWL-BW2 to be screened in the uppermost part of the saturated zone, with about 5 feet of screen above the water table. Because of the proposal to use 30 feet of screen, instead of 20 feet, and because of the significant vertical gradient that exists at the MWL site, the water level in MWL-BW2 is expected to be significantly lower than that observed in existing well MWL-BW1.”

Accurate knowledge of the elevation of the water table below the Sandia MWL dump is not provided by the existing network of monitoring wells in the proposed LTMMP. RCRA and the Consent Order require the replacement of monitoring wells MWL-MW7, MW8 and MW9 that were installed along the western side of the MWL for the purpose to determine the water table elevation. The NMED letter of July 2, 2007 on page 2 required the new monitoring wells to be installed at the water table as follows:

“Each well shall be installed to monitor groundwater at the water table.”

Well MWL-MW3 monitored the elevation of the water table on the western side of the Sandia MWL dump from 1990 to 2007. The well was plugged and abandoned in April 2008. The elevation of the water table measured on April 11, 2007 in well MW3 was 4911.26 ft above mean sea level (ft amsl). The new monitoring wells MWL-MW8 and -MW9 are located 90 ft south and 90 ft north of well MW3, respectively. Well MWL-MW7 is located 220 ft south of well MW3. The elevations of the water levels measured in wells MW7, MW8 and MW9 in October 2008 were 4891.90, 4891.59 and 4888.20 ft amsl, respectively, and 19.4 ft, 19.6 ft and 23 ft, respectively, below the elevation of the water table measured in well MW3 in April 2007. As stated above in Topic 5, the annual rate of decline of the water table below the MWL dump is approximately 0.5 ft/year. The sudden anomalous deep water

levels measured in wells MW7, MW8, and MW9 are not accurate for the elevation of the water level below the Sandia MWL dump. After all factors are considered, the elevation of the water table at the three new wells was not more than +/- one ft different than the elevation of the water table measured at well MW3 in April 2007.

The anomalous low water levels measured in the three new wells MWL-MW7, -MW8 and -MW9 are evidence the wells do not provide the required knowledge of the elevation of the water table below the SNL MWL dump. As stated above in Topic 5, the NMED Consent Order requires replacement of monitoring wells that are not usable for the intended purpose.

7. The proposed LTMMP groundwater monitoring network is defective and not in compliance with RCRA because a network of monitoring wells is not installed in the Ancient Rio Grande (ARG) strata present at a depth beginning ~60 ft below the water table. The ARG strata are the productive aquifer for drinking water defined as the “uppermost aquifer” by RCRA. Table 3.5.1-1 shows that monitoring wells MWL-BW2, -MW7, -MW8 and -MW9 are installed in alluvial fan deposits which are composed of fine grained sediments that only produce small amounts of groundwater.
8. The proposed LTMMP does not comply with the 2004 Consent Order for monitoring groundwater beneath the dump. No monitoring wells are installed beneath the SNL MWL dump in the groundwater as defined by the Consent Order. The Consent Order defines groundwater as follows:

“Groundwater means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply.” (Consent Order definitions, p.15).

However, the LTMMP does not provide a network of monitoring wells in the ARG strata, the uppermost aquifer zone that produce a sufficient amount of groundwater to be utilized as a water supply. Instead, all the four monitoring wells in the LTMMP are in the poorly productive, fine-grained alluvial fan sediments that do not produce water in the quantity as required by RCRA and the Consent Order for monitoring. The LTMMP monitoring network is additionally defective because there is no background monitoring well placed in the ARG strata.

9. The proposed LTMMP monitoring network is defective because the direction of flow of the groundwater at the SNL MWL dump is west/southwest (Bearzi 2007) and there are no monitoring wells placed in the ARG strata or at the water table in the fine-grained sediments at the southern boundary of the MWL dump.
10. The proposed LTMMP presents false information to the public regarding the historic reliability and representativeness of groundwater monitoring for the MWL dump. The LTMMP also makes the false assertion that there currently exists a reliable network of groundwater monitoring wells. The LTMMP should be retracted for presenting false information.

11. The proposed LTMMP must be withdrawn by SNL. It dishonestly cites on page 2-1 the Report of the Mixed Waste Landfill Phase 1 RCRA Facility Investigation (RFI) (SNL/NM September 1990) for accurate characterization of the groundwater at the MWL dump and installation of a reliable network of monitoring wells. The LTMMP fails to include in its references the issues raised by the following documents:

A. The Environmental Protection Agency (EPA) Region 6 issued a Notice of Deficiency (NOD) Report on September 22, 1994 (EPA, 1994) for the March 1993 DOE/Sandia Phase 2 RCRA Facility Investigation (RFI) Work Plan for the SNL MWL dump. The conclusion in the 1994 EPA Region 6 NOD for the defective groundwater protection practices at the SNL MWL dump follows:

“Based on the southwest gradient flow of groundwater, the MWL monitoring wells are located cross gradient instead of downgradient from the MWL; therefore, contaminants emanating from the MWL may not be detected in the monitoring wells” [Emphasis supplied] (p. 6).

B. The NMED issued a report in March 1993 by staff Mr. Will Moats and Ms. Lee Winn that described the monitoring well network at the SNL MWL dump as “inadequate” as follows:

“The hydrogeologic conditions at the MWL have not been adequately characterized. . . Water level data from July 1992 indicate south-directed or southwest directed flow. However, the gradient and direction of ground-water flow are not known with reasonable certainty (p. 3).”

“The detection monitoring system that currently exists at the MWL is inadequate because the direction and speed of ground-water flow can not be determined with reasonable certainty (p.7).”

C. The Los Alamos National Laboratory (LANL) issued a report in 1991 about the failure of the monitoring well network in the DOE/SNL 1990 Phase 1 RFI Report for the SNL MWL to comply with RCRA as follows:

“The data from the present monitoring well network indicates that there is only one downgradient and no upgradient wells. This in itself establishes the inadequacy (under RCRA) of the present well network (p. 3).”

12. Further, the proposed LTMMP is dishonest as it cites on page 2-1 the Report of the Mixed Waste Landfill Phase 2 RCRA Facility Investigation (RFI) (SNL/NM September 1996) for accurate characterization of the groundwater at the MWL dump and installation of a reliable network of monitoring wells. The LTMMP fails to include in its references the many deficiencies for the network of monitoring wells described in the NMED 1998 NOD as follows:

#1 deficiency. Well MWL-MW3 was the only downgradient monitoring well.

#2 deficiency. The upper screen in the onsite monitoring well MWL-MW4 was installed too deep below the water table for the well to measure the elevation of the water table or detect groundwater contamination at the water

table. The proposed LTMMP continues to misrepresent well MW4 as a reliable monitoring well.

#3 deficiency. The NMED 1998 NOD Report required DOE/Sandia to prove on a technical basis that the high nickel concentrations measured in the groundwater samples collected from monitoring wells MWL-MW1 and -MW3 were only from the corrosion of the stainless steel well screens. DOE/Sandia did not provide proof that corrosion was responsible for the high nickel concentrations. In fact, RCRA criteria identify the high nickel concentrations repeatedly detected in the groundwater samples from well MW1 and MW3 as evidence of groundwater contamination from the wastes buried in the Sandia MWL dump.

#4 deficiency. The NMED 1998 NOD Report recognized that the data collected from pumping tests were unreliable and not usable to calculate the speed of groundwater travel below the MWL dump. Nevertheless the unreliable data are presented as accurate in the proposed LTMMP.

#5 deficiency. The NMED 1998 NOD Report required a risk assessment of the potential impacts of the Sandia MWL dump on local and regional groundwater quality. The risk assessment required by the NMED 1998 NOD Report was not performed.

Despite the EPA 1994 NOD Report and the NMED 1998 NOD Report, DOE/SNL incorrectly described the defective and unreliable monitoring well network at the SNL MWL as a reliable network of monitoring wells at all time up to the March 2012 proposed LTMMP.

None of the deficiencies in the NMED 1998 NOD Report (or in the EPA 1994 NOD Report) were resolved. A public hearing was held in December 2004 for the NMED recommendation to leave the toxic wastes buried in unlined trenches and pits at the SNL MWL dump below a dirt cover (Pruett, 2005). The unreliable water quality data from the defective monitoring well network in the DOE/Sandia Phase 2 RCRA Facility Investigation (RFI) Report were an important part of the NMED recommendation to leave the wastes below a dirt cover. The Phase 2 RFI was not accurate and not in compliance with RCRA for the selection of a remedy.

13. The four new monitoring wells MWL-BW2, MWL-MW7, -MW8, and -MW9 that were ordered by NMED in 2007 for installation at the SNL MWL dump required a Class 2 and Class 3 permit modification before the monitoring wells could be installed and made a part of the proposed LTMMP. 40 CFR 270.1 Appendix I, C.1.a, C.4. and C.5.a. The public did not receive its right to review and comment on the proposed four new wells that were ordered by NMED for the MWL dump. SNL now incorrectly states that the four new defective and unreliable groundwater monitoring wells constitute a reliable groundwater monitoring network in the proposed LTMMP for the MWL. Changes for the network of groundwater monitoring wells required notice and opportunity for comment prior to the issuance of the proposed LTMMP.

The proposed LTMMP is presented out of sequence with the requirements of the RCRA for Class 2 and 3 modifications to the permit. The public was entitled to notice, review, comment and public hearing for the new defective groundwater monitoring wells and the change in indicator parameters, hazardous constituents, or concentration limits before the installation and prior to the presentation of the proposed LTMMP. By putting the LTMMP out for review at the present time, the public's procedural rights are violated.

The proposed LTMMP is incomplete because it lacks the required network of groundwater monitoring wells in both the fine-grained sediments at the water table and the deeper ARG strata. The public cannot make informed comment regarding the LTMMP until the required reliable networks of groundwater monitoring wells are installed.

14. The SNL MWL dump does not have the leak detection system required for RCRA landfills. Compliant long-term vadose zone monitoring for VOCs and tritium is not provided for beneath the SNL MWL dump in the proposed LTMMP. The three proposed multiple-port vadose zone monitoring wells are installed in vertical boreholes located outside the footprint of the soil cover and are too distant from the MWL dump for early detection of contamination. The unlined pits and trenches require installation of a monitoring system immediately below the discrete pits and trenches to provide early detection of a release from the MWL.
15. The NMED November 2006 report *Evaluation of the Representativeness and Reliability of Groundwater Monitoring Well Data, Mixed Waste Landfill, Sandia National Laboratories*, ("Moats Evaluation") New Mexico Environment Department/Hazardous Waste Bureau By: William P. Moats, David L. Mayerson^{1???}, and Brian L. Salem (November 2006) has not been scientifically peer reviewed nor set for public review and comment prior to its use. The *Moats Evaluation* was a major document to discredit informed public comment for the need to replace the defective monitoring well network that was dishonestly presented as a reliable network in the DOE/SNL November 2005 Corrective Measures Implementation Plan for the dirt cover remedy at the MWL.
16. The NMED May 26, 2005 Final Order (Curry) required NMED to provide the "major document" known as the *Moats Evaluation* for public review and comment. Further, NMED was required to review, consider and respond to the public comments before using the *Moats Evaluation* as an official document. For example, from Conditions 3 and 4 on page 4 in the Final Order:
 3. NMED and Sandia shall provide a convenient method for the public to review Sandia's Corrective Measures Implementation Plan, Corrective Measures Implementation Report, progress reports, long-term monitoring and maintenance plan, and any other major documents developed by NMED [i.e., the 2006 *Moats Evaluation*] or Sandia [i.e. the 2007 Fate and Transport Model by Ho et al.] for the MWL ("the documents"), including but not

limited to, posting the documents on a publicly-accessible website [Emphasis supplied].

4. NMED and Sandia shall provide a method and schedule that allows interested members of the public to review and comment on the documents, and NMED shall review, consider and respond to these public comments prior to approving any of these documents.

NMED did not provide the public process required by the NMED Final Order for the *Moats Evaluation*. We, the undersigned, respectfully request NMED to immediately provide the public with the above listed Conditions 3 and 4 in the May 26, 2005 Final Order. If NMED denies this request, the undersigned then respectfully request for NMED to retract the unscientific and highly flawed *Moats Evaluation*.

17. The proposed LTMMP should not be put out for review by the public until the same public review process has been provided for the *Moats Evaluation* and for the required 5-year reevaluation report for the SNL MWL that is now 2 ½ years late (see Attachment A). NMED claimed that it “welcomes the review of the *Moat’s Evaluation* by EPA” in a July 17, 2007 letter, but has not requested the review from EPA. The undersigned and the public need the EPA review of the *Moats Evaluation* and also the 5-year review report to properly review the LTMMP.
18. The issues raised by the January 31, 2006 TechLaw Inc. report were not provided to the public for consideration in the public comment on the DOE/SNL November 2005 Corrective Measures Implementation Plan. The TechLaw report was titled “Technical Review of the Probabilistic Performance Assessment Modeling of the Mixed Waste Landfill at the Sandia National Laboratories, and of the Mixed Waste Landfill Corrective Measures Implementation Plan, Dated November 2005.” The 2006 TechLaw, Inc. report indicates numerous defects for Sandia’s computer modeling, the dirt cover remedy and the long term monitoring provisions for the dirt cover. The proposed LTMMP should not be sent out for public comment until the issues raised by the TechLaw, Inc. reports have been resolved by NMED. TechLaw states:
 - a. The existing dirt cover installed over the wastes buried in the MWL dump is defective because it is not the required design and does not have the required instrumentation to recognize the travel of water through the dirt cover and into the buried wastes (TechLaw, 2006).
 - b. The existing soil moisture probe holes below the MWL dump are inadequate because they only monitor below a small number of the unlined pits and trenches, they do not monitor continuously and they do not monitor the breakthrough of moisture at the base of the dirt cover. (TechLaw, 2006).
19. The *Probabilistic Fate and Transport Modeling of the Mixed Waste Landfill* (Ho et al. January 2007) is a major document that was not presented to the public for review and comment as required by the May 26, 2005 Final Order (see discussion above in Topic 17). Ho et al fail to incorporate the knowledge that the MWL dump

groundwater monitoring network was defective. Ho et al used the unreliable and unrepresentative groundwater monitoring data for the conclusions contained in their badly flawed and inaccurate fate and transport modeling. We, the undersigned, respectfully request NMED to immediately provide the public with the above listed Conditions 3 and 4 in the May 26, 2005 Final Order (see Topic 17) for public review and comment on Ho et al. (2007) with response by NMED.

20. The proposed LTMMP does not address the concerns for monitoring the high levels of contamination within and beneath the SNL MWL dump. NMED requested DOE/SNL to identify locations for monitoring wells inside the dump where high levels of tritium and PCE were discovered in the RCRA Facility Investigation. Nevertheless, DOE/SNL did not propose any monitoring wells inside the dump at the high levels of contamination. These wells are necessary for long-term monitoring and validation of the Fate and Transport Model.
21. The recent closure of a DOE legacy waste dump at LANL Technical Area 21, Material Disposal Area (MDA) B, with a similar size and inventory of wastes as the Sandia MWL dump was by excavation. The remedy for closure of the SNL MWL dump should be consistent with the protective measures for closure of the MDA B dump at LANL.
22. We request inclusion of this request for retraction and/or extension of the comment period for the DOE/Sandia March 23, 2012 proposed LTMMP for the Sandia MWL dump as preliminary comments in the administrative record for the proposed LTMMP.
23. We incorporate by reference all comments for the Corrective Measures Implementation Report filed on February 17, 2011 by Citizen Action David B. McCoy, Executive Director a copy of which is located on the NMED website at: ftp://ftp.nmenv.state.nm.us/hwbdocs/HWB/snl/Mixed_waste_landfill/MWL_CMI_Report_Comments_Received/

Sincerely,

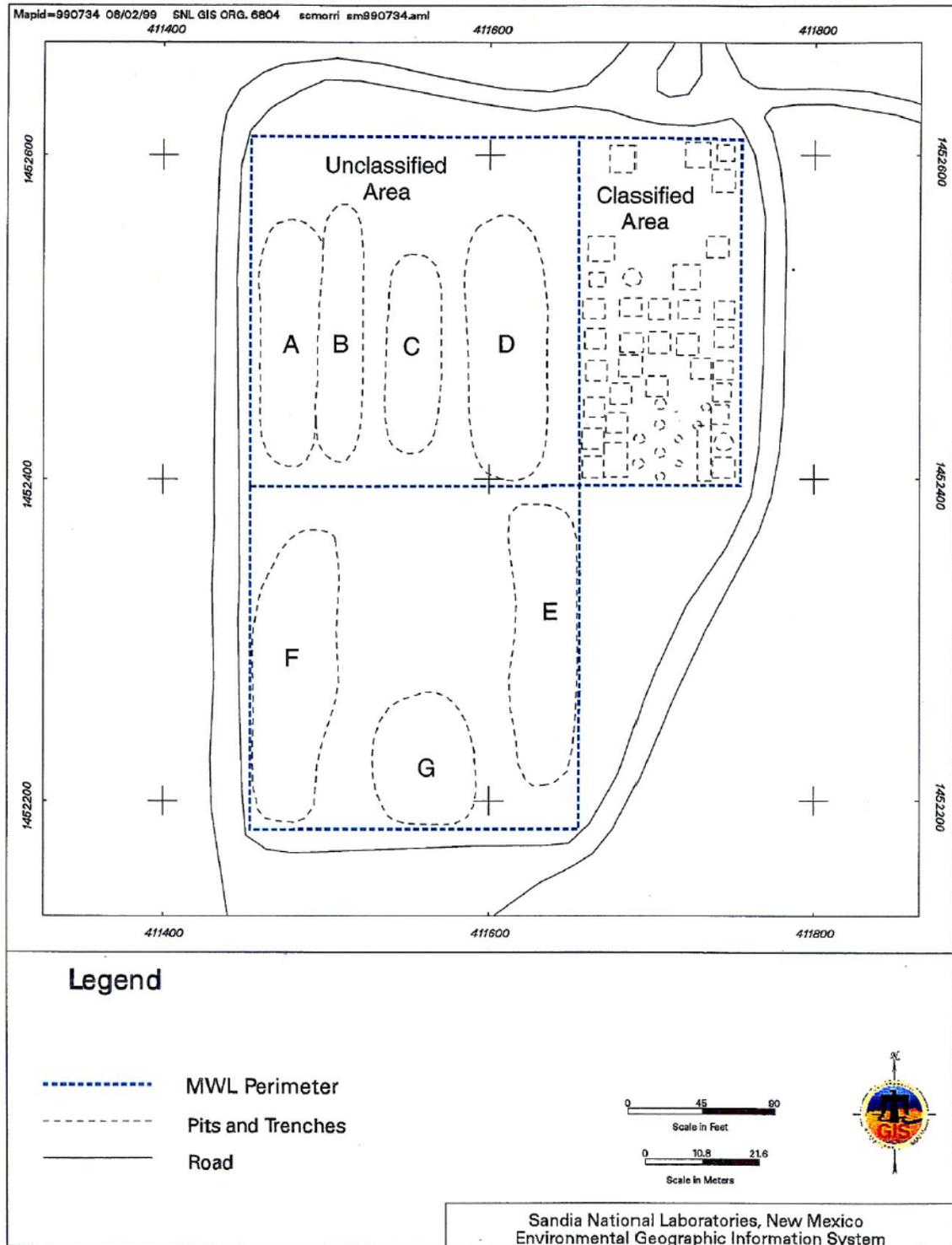
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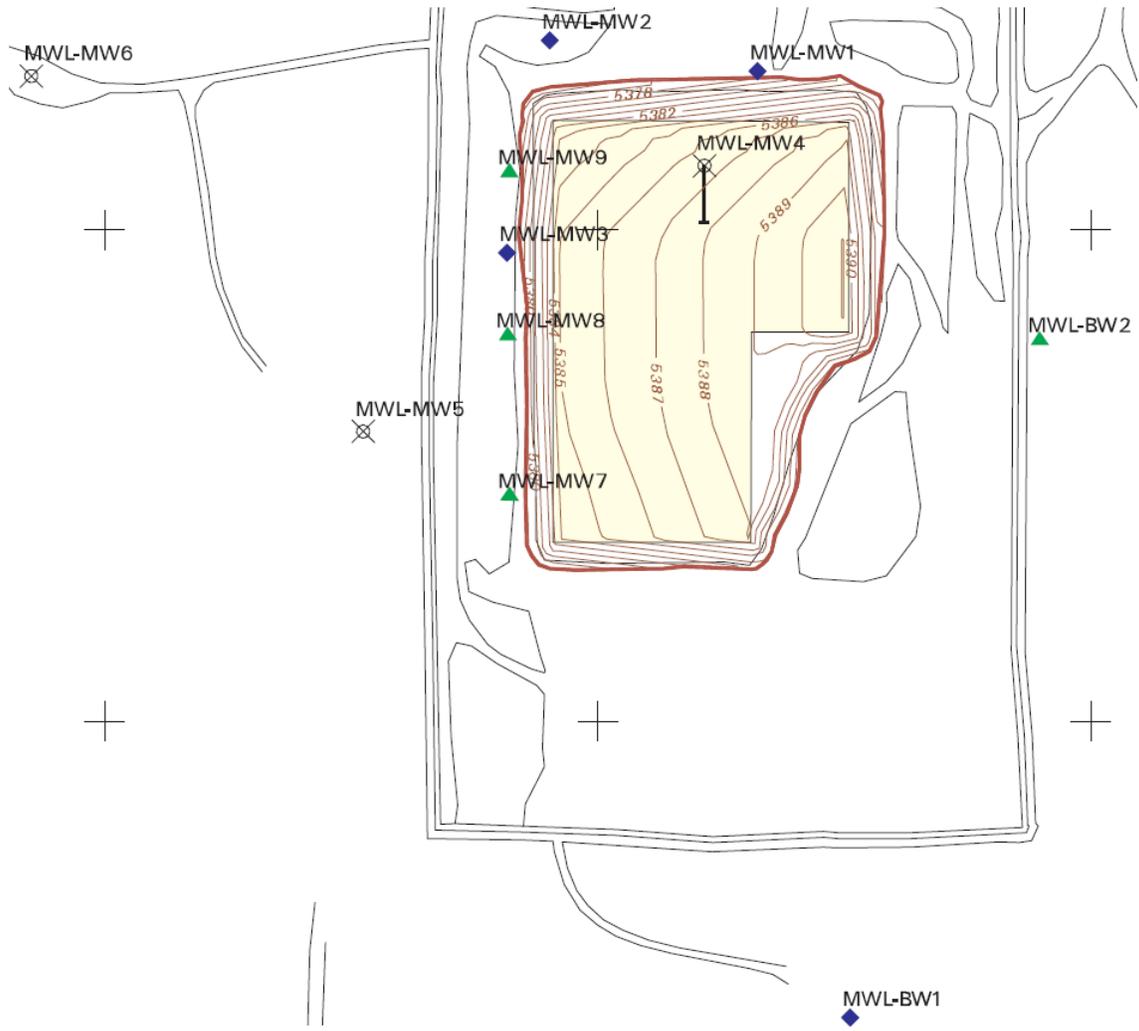
Figure 1. Map of the 2.6 acre Sandia Mixed Waste Landfill (Sandia MWL dump) showing the locations of the 45 unlined disposal pits in the 0.6-acre Classified Area and the 7 unlined disposal trenches in the 2-acre Unclassified Area.



Source: Figure 1-3 in Sandia Report SAND 2002-4098 (Goering et al., 2002).

Figure 2. Location of the new detection monitoring wells MWL-MW7, -MW8 and -MW9 along the western boundary of the Sandia MWL Dump and new background monitoring well MWL-BW2 200 feet east of the MWL Dump. The figure also shows

the location of the plugged and abandoned monitoring wells MWL-MW1, -MW2, -MW3, and -BW1.



Legend

- ▲ Recently Installed Groundwater Monitoring Well
- ◆ Recently Plugged and Abandoned Groundwater Monitoring Well
- Groundwater Monitoring Well MWL-MW4 (showing horizontal extent)
- Groundwater Monitoring Well
- - - - - 1-ft Contour Interval for Proposed Soil Cover
- Toe of Proposed Soil Cover

Scale 0.....200 feet

Source: Figure 1-2 in Mixed Waste Landfill Groundwater Monitoring Report Calendar Year 2008, Sandia National Laboratories, May 27, 2009

Attachment A
October 24, 2012

David Martin, Secretary
New Mexico Environment Department

John Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department

Re: Objection to Sandia National Laboratories' (SNL) Mixed Waste Landfill (MWL) Delay of the Five Year Review Required by the May 26, 2005 Final Order (Curry May 2005) and Class 3 Permit Modification for the MWL (NMED August 2005).

Dear Secretary Martin and Chief Kieling:

Citizen Action New Mexico, Concerned Citizens for Nuclear Safety and Registered Geologist Robert Gilkeson respectfully request that the New Mexico Environment Department (NMED) immediately enforce the 2005 Final Order condition #5 requirement that Sandia perform a 5-year review for 1) the feasibility of excavation of the MWL, 2) the effectiveness of the dirt cover for the dump's radioactive and hazardous wastes, 3) update of the fate and transport model for the site with current data, 4) re-evaluation of any likelihood of contaminants reaching groundwater, and 5) detail of all efforts to ensure any future releases or movement of contaminants are detected and addressed well before any effect on groundwater or increased risk to public health or the environment is determined.

1. We object to the use of the Long-Term Monitoring and Maintenance Plan (LTMMP) to modify and delay the 2005 Final Order requirement that Sandia perform the 5-year review. The LTMMP is not an appropriate vehicle for modification of the 2005 Final Order.
2. The requirement for producing the LTMMP arose from a Level 3 permit modification for corrective measures for the MWL provided for in the 2005 Final Order (Curry). The 2005 Final Order resulted after a multi-year process that included four days of public hearings in December 2004. Modification of the 5-year review requirement requires a level 3 modification of the permit.
3. Condition #5 of the 2005 Final Order stated as follows:

“Sandia shall prepare a report every 5 years, re-evaluating the feasibility of excavation and analyzing the continued effectiveness of the selected remedy. The report shall include a review of the documents, monitoring reports and any other pertinent data, and anything additional required by NMED. In each 5-year report, Sandia shall update the fate and transport model for the site with current data, and re-evaluate any likelihood of contaminants reaching groundwater. Additionally, the report shall detail all efforts to ensure any

future releases or movement of contaminants are detected and addressed well before any effect on groundwater or increased risk to public health or the environment. Sandia shall make the report and supporting information readily available to the public, before it is approved by NMED. NMED shall provide a process whereby members of the public may comment on the report and its conclusions, and shall respond to those comments in its final approval of the report.”

4. By allowing the possibility of a greater than 7-year delay in providing the first 5-year review report to the public, NMED is violating the requirements of the 2005 Final Order and 40 CFR 270.42 Appendix I for permit modifications and public notice and hearing requirements.
5. Nowhere in condition #5 or in the entire 2005 Final Order is there any language that would give legal justification or give the implication that the NMED or DOE/SNL can delay compliance with condition #5, i.e., that the first 5-year review report will not be provided before November 2017, as planned with the LTMMP, and more than 7 years later than the date of May 26, 2010 required by the 2005 Final Order.
6. Sandia failed to comply with the explicit and mandatory language of condition #5 of the 2005 Final Order. The language that says “Sandia shall prepare” places the duty squarely upon Sandia to prepare the 5-year evaluation in a timely fashion, by May 26, 2010. That is mandatory language without provision for delays.
7. The additional extension of 5 years, beyond the 7 years that have already passed since the 2005 Final Order, constitutes a modification of the general permit condition for reporting required in the 2005 Final Order. 270.42 Appendix I A.4.b.
8. The 7 year extension of time to provide the 5-year evaluation report is an impermissible modification of the 2005 Final Order for Corrective Action for the MWL dump. The Modification of Module IV of Sandia’s permit was accomplished by the 2005 Final Order. A change to the 2005 Final Order as a part of the SNL Permit requires a permit modification request from Sandia to NMED for modification of the 2005 Final Order. It would then be noticed for the public with opportunity for comment and a possible public hearing upon request. Extension of a final compliance date requires a Class 3 modification. 270.42 Appendix I A. 5.b
9. The DOE/SNL should have at least made a Level 2 modification request for an extension of the time period to provide the 5-year report to the NMED. No such modification request has been made.
10. NMED determined out of thin air and without regulatory basis that the first five-year period will begin upon NMED approval of the LTMMP (Kieling October 2011).
11. On May 9, 2012 Citizen Action made a public records request to NMED for the 5-year review extension as follows:

Provide all documents upon which the New Mexico Environment Department relies for its interpretation that the May 26 2005 Final Order provides for the Sandia National Laboratories (SNL) to perform a 5-year review of the MWL dump after approval of the Long-term Monitoring and Maintenance Plan.

Provide any requests by SNL for that interpretation of paragraph 5, p. 5 of the Final Order.

Provide any letter of approval furnished to SNL for that interpretation.

Provide any notice furnished to the public for that interpretation previous to NMED approval.

12. NMED response to the public records request was to state that there were no documents.

Conclusion

Citizen Action requests that NMED do the following:

- 1). Immediately enforce the 5-year review requirement of condition #5 of the Final Order;
- 2). Stay the LTMMP until such time as the 5-year review has been completed and the review has been made available to the public as provided for in Condition #5;
- 3). Order the LTMMP extension language for the five-year review be withdrawn from the LTMMP, and;
- 4). NMED strictly enforce Condition #5 at all times in the future.

Sincerely,

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