

TA 21

Kieling, John, NMENV

From: Scott Kovac [scott@nukewatch.org]
Sent: Friday, January 26, 2007 4:57 PM
To: Kieling, John, NMENV
Subject: MDA B Comments

Attachments: NMED MDA B 1-26-07.pdf



NMED MDA B
-26-07.pdf (207 KB)

John,

Attached are our comments.

Thanks,
Scott

~~~~~  
Scott Kovac  
Operations and Research Director  
Nuclear Watch of New Mexico  
551 Cordova Road #808  
Santa Fe, NM, 87501  
505.989.7342 office and fax  
[www.nukewatch.org](http://www.nukewatch.org)



January 26, 2007

By email to: john.kieling@state.nm.us

John E. Kieling, Program Manager  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6303

Re: Public Comments about Public Notice No. 06-16  
LANL MDA B Investigation/Remediation Work Plan (SWMU 21-015)  
LA-UR-06-6918, October 2006, EP2006-0783

Dear Mr. Kieling:

Thank you for the opportunity to provide comments to the New Mexico Environment Department about the Material Disposal Area B (MDA) Investigation/Remediation Work Plan (IRWP) for Solid Waste Management Unit (SWMU) 21-015 at Technical Area 21 (TA-21) as referenced above. We also thank the Department for its past resolve on working with LANL to implement the Consent Order. The opportunity for the public to comment about LANL actually removing legacy waste from the ground is happening today because of the Department's hard work. Without the Consent Order, MDA B might have been just capped and covered, which was LANL's proposal in the 2002 Performance Management Plan. The prospects of proposed misnomers such as "Natural Attenuation" and "Accelerated Cleanup" are being replaced with real cleanup. We also applaud the application of residential standards in this Work Plan.

The organizations listed at the end of these comments recommend that NMED approve the IRWP with modifications. We make the following general and specific comments, along with recommendations for the modifications, which we request be made before the IRWP is approved.

### **General Comments**

We are very concerned that NMED has not provided itself with adequate time to thoroughly review the public comments before the due date for NMED action, which is only five days from when public comments are due. Two of those days comprise the weekend. We understand that NMED staff will be working this weekend to meet the Consent Order due date of January 31, 2007. In the future, NMED must give itself adequate time to review the public comments.

We found the IRWP to be inconsistent in several areas including; sampling locations; the timing for the Sampling and Analysis Plan (SAP) and backfilling the trench.\*\*\*.

Please ensure that LANL makes all reference documents readily available online and in hard copy.

Because commenting on Consent Order deliverables is a new process, please state that any errors or omissions will not be used as precedence by LANL in future deliverables.

### **Specific Comments**

#### **Amount of Waste**

What is the estimated amount of waste to be generated for each specific type of waste? Will LANL proceed if, for example, more waste, or more waste of a more expensive type is generated than originally estimated? Are the figures given in appendix D, Table D-1 still the working numbers? The cleanup of MDA V comes to mind. MDA V generated 20 times more waste than originally estimated. Will LANL continue the work if it turns out that 20 times more waste is discovered than was estimated? Please describe the regulatory process under the Consent Order if such event should occur.

#### **Development of Implementation Plan**

The IRWP states "To assess possible issues, plan and control the work environment, and prevent damage to the surrounding environment, an implementation plan will be developed." IRWP, p. vi. When will the implementation plan be completed? Where would one find the deadline for it to be completed? In the IRWP? In the Consent Order? Will it be a draft document? How will the public provide input?

#### **Use of quality-controlled laboratories**

What are the requirements for the laboratories to be selected for this project? At what point will a statistically significant number of false positive results result in action by NMED? What are the consequences under the Consent Order? Are there a minimum or maximum number of samples specified? What is the estimated total number of samples that will be taken over the length of this project? Will the NMED retain any split samples?

#### **SAP**

Data about the residual radiological and hazardous chemical concentrations will come from samples to be taken from the fill, soil, or rock in the side walls of the excavation at a later date based on the approved SAP from the native tuff in the bottom of the excavation. These data will be used to assess the nature and extent of potential residual contamination beneath and surrounding the MDA disposal trenches." IRWP, p. 2.

What is the justification for the delays in sampling until after the SAP is approved? If there are volatile organic compounds (VOCs) in the fill, soil or rock in the sidewalls of the excavation, they will have dissipated the sampling area before. We request a deadline of 24 hours for approval by NMED of the SAP.

However, the IRWP contradicts itself by stating: "Excavations will be backfilled upon complete removal of all buried waste to prevent ongoing hazards associated with open excavations and to prevent the heavy equipment from tracking any residual

contamination outside of the excavation.” IRWP, p. 8. If the later quote is the situation, then when will the samples for the approved SAP for the residual contamination be completed? This contradiction must be resolved before the IRWP is approved.

Further, the IRWP states: “The objective of the SAP will be to define the nature and extent of any residual contamination at MDA B by using data from previous RFI work and by removing the contaminant source (buried waste) and allowing sampling beneath the waste trenches. The nature and extent of any residual contamination will be characterized by sampling directly beneath the former waste disposal trenches after the wastes has been removed and possibly also by drilling subsurface boreholes.” IRWP, p. 8.

a. Does the previous RFI work include the 1998 unpublished data as presented in Appendix B, Section B-4.3.1? IRWP, p. 3. If so, it must be clearly stated in the document.

b. NMED must state specifically the requirements for collecting data for the SAP. Does the sampling include the fill, soil or rock in the side walls of the excavation or the directly beneath the former waste disposal trenches after excavation? Regardless, the sampling must include sampling in the downgradient areas of MDA B.

### **Land Transfer**

At the December 7, 2006 public meeting, it was announced that the Los Alamos County School Board intends to transfer parcel A-8-A, which is adjacent to MDA B for residential housing. Construction may begin during the excavation of MDA B. Residents may begin living in the housing during the excavation of MDA B. We are concerned about possible exposure of construction workers and residents, including children.

### ***EXECUTIVE SUMMARY***

*All buried waste will be removed and disposed of at appropriate disposal facilities according to the characteristics of the waste.*

What are the proposed transportation routes from MDA B through Los Alamos County to the appropriate disposal facilities? More information, including maps, schedules, notification protocol, and adequate HAZMAT training need to be made available to communities along the transportation routes to the appropriate disposal facility.

### ***2.0 Background***

The IRWP states “the complete operational history relevant to MDA B during the 1944 to 1948 time frame that MDA B was open is presented in LANL’s “MDA Historical Context” document (LANL 2006, **draft**).” We are concerned about a new practice by LANL where it relies upon draft documents to support both legal and regulatory requirements for providing information to the public. When will the MDA Historical Context document be finalized? Will it be incorporated into the IRWP for MDA B? Will this final document be available to the public? An unpublished MS thesis must also not be used as a reference. IRWP, p. 30.

### **3.2.3 Hydrogeology 3.2.3.1 Infiltration**

*Under unsaturated conditions, most of the open fractures beneath the site are expected to be completely dry, and vadose zone water will exist in the tuff matrix only.*

...  
*However, modeling studies predict that when fractures disappear at contacts between stratigraphic subunits, when fracture fills are encountered, or when fracture coatings are interrupted, fracture moisture is absorbed into the tuff matrix (Soll and Birdsell 1998, 70011, pp. 193–202).*

Is there anything other than modeling to rely on? Are there any known fractures? Will the entire depth of any fracture encountered be excavated? We all know how seasonal and sporadic precipitation is in New Mexico. Dry fractures this year may be wet next year. Will fractures be investigated even though they may be dry this year?

### **3.2.3.3 Regional Aquifer**

*The main aquifer in the Los Alamos area rises westward from the Rio Grande within the Santa Fe Group and into the Puye Formation beneath the central and western portion of the Pajarito Plateau. The depth of the aquifer decreases from about 1200 ft bgs along the western margin of the plateau to about 600 ft bgs along the eastern margin (see Figure 3.2-2). The regional aquifer was encountered in deep wells near MDA B at 5870 ft asl in well R-7, at 5850 ft asl in well Otowi-4, and at 5835 ft asl in well R-8, (Figure 3.2-2), resulting in an approximate 1260-ft depth to groundwater at MDA B.*

Please use either ‘bgs’ or ‘asl’, not both, in the same document.

*The groundwater in the main aquifer is separated from any alluvial or perched groundwater by 350–620 ft of tuff and volcanic sediments (Purtymun 1995, 45344, p. 29).*

Why is this sentence in here? Are we to assume that the 350-620 ft of tuff and volcanic sediments are protecting the aquifer and that there are no pathways?

### **Table 4.1-1**

LANL states in Table 4.1-1, Item 14 that they are not going to complete a drainage sediment investigation because they have already reported that work in the Los Alamos/Pueblo Canyon Investigation Report. NMED must require LANL to conduct a drainage sediment investigation, especially following the excavation.

Consent Order Specifications and LANL Proposed Alternatives. Item 17, LANL states it will not conduct any regional groundwater investigations as part of the IRWP. “Regional groundwater investigations are being conducted in accordance with the hydrogeologic work plan (LANL 1998, 595999), approved by NMED, and “Los Alamos Canyon and Pueblo Canyon Intermediate and Regional Aquifer Groundwater Work Plan” (LANL 2003, 82612). LANL states it will “duplicate the work being performed under the hydrogeologic work plan” and LANL 2003 referred to above. In order to protect public health and the environment, NMED would be wise to reject LANL’s reasoning and hold

open the possibility that there will be a need to drill an additional regional groundwater well due to findings of contamination.

Further, the regional groundwater investigations did not meet the site-specific needs for monitoring groundwater contamination from MDA B. Also, none of the regional wells produce water samples that are reliable for the detection of the MDA B contaminants including trace metals and radionuclides. Please see the attachment.

In Items 18, 19 and 20, LANL states that they aren't going to conduct groundwater sampling because it would "duplicate the work required under Section IV.A.3 of the Order." Section IV.A.3 requires the preparation of the Interim Facility-Wide Groundwater Monitoring Plan.

NMED must require that Items 18, 19 and 20 be part of the IRWP. The NMED NOD for the LANL Well Screen Analysis Report (WSAR) discusses the WSAR as an unreliable measure of the reliability of the LANL characterization wells. The attachment shows that none of the regional wells in the Interim Facility-Wide Groundwater Monitoring Plan produce reliable water samples for the detection of MDA B contaminants.

Further, the wells are too distant from MDA B to detect contamination from MDA B.

#### ***4.14 Borehole Sampling Activities***

*Subsurface pore-gas samples will be submitted for the analysis of VOCs and tritium. If any volatile contaminants are detected, a second round of samples will be collected approximately 30 days later. The decision about installing pore-gas monitoring wells will be based on the results of this sampling. The boreholes will remain open until the decision to install vapor monitoring wells is made. A long-term vapor monitoring program will be developed, as appropriate.*

Leaving the boreholes open is unacceptable. The Standard Industry Practice is to make vapor measurements in real time and immediately install monitoring wells or properly plug (backfill) and abandon the borehole. We are aware that LANL and NMED have left open unmonitored deep boreholes across Area G during activities for the Consent Order.

Some of the boreholes have partially collapsed. Now money is not available to redrill the boreholes for either proper sealing or for use as vapor monitoring wells. If any borehole is left open for a future decision, there must be a plan for watching the borehole, and money available for mobilizing drilling equipment to deal with the need to properly backfill and abandon the borehole.

#### ***4.13 TA-21 Industrial Waste Line***

*The TA-21 industrial waste line, located along the southern boundary of MDA B, may be encountered during the excavation of some portions of MDA B, although portions of the line were removed in 2003 (LANL 2003, 91446). The remaining 2,300-ft portion of the TA-21 industrial waste line, located along the southern boundary of MDA B, will be removed.*

Please point this waste line out on any map included in this Work Plan. If it runs along the southern boundary of MDA B, were any soil samples taken when it was installed? How deep is this waste line?

#### **4.3.2 Environmental Protection Monitoring**

*Activities within the excavation enclosure will be monitored using real-time continuous air monitoring (CAM) systems or similar devices. The CAMs will survey airborne radioactive particles inside the work zone and outside the enclosure at specific locations around the site.*

Beryllium must be specifically monitored for.

#### **4.3.3 Emergency Response**

*An emergency response plan will be prepared to establish a program that optimizes a safe and informed response to emergency situations, with the intent of protecting project personnel, the public, the environment, and property, in the event of hazardous substance releases, employee contamination, accidents, injuries, fires, or natural disasters.*

Is there a comprehensive emergency response plan available? Other communities may be affected. Is there an emergency response plan, along with equipment, to meet the needs and the personnel to respond?

#### **4.4 Excavation of Disposal Trench Contents**

*Overburden material and material excavated in order to lay back the side slopes of the excavation will be initially screened to determine if it must be considered waste or if it is potentially suitable for being returned to the excavation site based on a nonhazardous waste determination and meeting residential cleanup levels. Representative samples will be collected from the overburden and lay-back material as it is excavated. Screening analyses will be performed using laboratory procedures and instrumentation and will include TAL metals, SVOCs, VOCs, and gamma-emitting radionuclides. If the screening analyses indicate that there is potential for hazardous waste and/or contaminants to be present above residential cleanup levels, the material will be handled as waste. If the screening results indicate that the material is not hazardous waste and potentially meets residential cleanup levels, representative samples will be collected and submitted through the Laboratory's Sample Management Office (SMO) for analysis of TAL metals, radionuclides (by gamma spectroscopy), isotopic uranium, isotopic plutonium, tritium, strontium-90, VOCs, SVOCs, dioxins/furans, PCBs, explosive compounds, perchlorate/nitrate, and cyanide. The material will be stockpiled within the boundary of the AOC until analytical results are received and reviewed. If the analytical results indicate hazardous waste and/or **that contaminants exceed residential cleanup levels**, the material will be processed as waste. If results indicate that hazardous waste and cleanup goals are met, the material will be used to backfill the excavation. The placement of the material as backfill will be tracked so that analytical data may be linked to specific areas of the site.*

*All trenches will be **backfilled with clean fill material** (i.e., appropriate soil and/or rock either from an offsite source or from excavated overburden and side slope material that*

has been sampled and **determined to be nonhazardous** and meets cleanup goals) after waste is removed.

Fill will consist of appropriate soil and/or rock material **that can be verified as uncontaminated**, either from an off-site source or from excavated overburden and side slope material that has been sampled and determined to be uncontaminated.

These three paragraphs are an example of inconsistencies in terminology used. Will the backfill material be below residential cleanup levels, be clean, be nonhazardous, or be uncontaminated? None of these terms may be found in the glossary. We recommend that LANL be required to rewrite this section of the IRWP so that it is consistent and clear and provide copies to the public making comments on the IRWP.

Also, please explain why is the sampling of radionuclides limited to gamma spectroscopy?

### **5.1 Excavation Methods**

*To minimize waste, the overburden and lay-back material will be characterized and, if it is determined that it is uncontaminated, will be used as backfill when the excavation is complete.*

*The waste excavation consists of the following activities:*

- *The overburden will be removed from above the waste material from the surface down to the top of the buried waste. This material will consist of topsoil and/or fill material and, in some areas, asphalt, and will require minimal screening and segregation.*
- *Excavation will continue until field screening (using laboratory methods) indicates that all undisturbed geologic material has levels below residential cleanup levels for TAL metals, SVOCs, and VOCs, as determined by NMED (NMED 2005, 90802 or current version) or EPA (EPA 2005, 91002 or current version), and levels below residential cleanup levels for radionuclides (LANL 2005, 88493 or current version). Excavation will continue until residential cleanup levels are met or until deemed impracticable, as determined by NMED.*

### **5.7 Excavation Backfilling and Surface Restoration Methods**

*Once all waste is removed, the waste trenches will be backfilled and compacted and clean soil cover material will be replaced over the affected area. Clean fill material will be shipped in from off-site. All affected surfaces will be restored to their original grade (approximately), reseeded, and a straw mulch or appropriate erosion-control fabric will be applied to help stabilize the surface. To prevent future subsidence, the backfill material will be compacted to the extent practical. Best management practices will be established to monitor and prevent erosion*

There is a discrepancy here. Will all fill material be clean and be shipped in from off-site? This is in contrast to Section 4.4 that states, "If results indicate that hazardous waste and cleanup goals are met, the material will be used to backfill the excavation."

Are there any plans to permanently mark the area?

Would there be any reason permanently mark this area during the backfilling process?  
Six inches of red pumice spread over the area at a depth of about a foot or so would warn future excavators.

#### **5.9.1 Drilling Methods**

*Boreholes will be drilled with a drill rig capable of continuous coring and deep borehole production. All drilling activities will follow appropriate Laboratory guidance documents and protocols to ensure that health and safety issues are reviewed and addressed during field operations.*

*Boreholes will be drilled initially using a hollow-stem auger. In the event that boreholes cannot be completed by this method, air-rotary drilling with a split barrel sampler will be used. This will ensure that the desired depth can be achieved and that continuous core can be collected.*

NMED must specifically state that drilling fluids or even water cannot be used in the boreholes. There must be a specific statement that the air rotary coring will be performed without use of any water-based drilling fluids or drilling foams. Further, if the air rotary boreholes collapse, then it is necessary to use casing advance\_drilling methods to stabilize the borehole from collapse.

#### **5.9.5 Pore-Gas Sampling Methods**

*Subsurface pore-gas samples will be collected from all boreholes in accordance with the current version of SOP-6.31, after allowing for the equilibration of pore gases at the completion of drilling activities.*

We are concerned about this section as not being acceptable. For the continuous coring auger drilling, the pore gas measurements need to be taken at discrete intervals in the boreholes during drilling. During the RCRA site characterization activities at LANL, equipment was designed and used for this purpose. If it is necessary to use air drilling for the boreholes, then the air returned from the drilling must be monitored in "real time" for volatile contaminants.

#### **B-2.2.7.2 Radioactive Waste**

*At least one truck, contaminated with fission products from the Trinity test, is buried in MDA B (DOE 1986, 08657).*

Where will this go? Is this an historic artifact? Ebay?

Thank you for your careful consideration of our comments. Should you have any questions or comments, please contact us.

Sincerely,

Joni Arends  
Concerned Citizens for Nuclear Safety  
[jarends@nuclearactive.org](mailto:jarends@nuclearactive.org)

Scott Kovac  
Nuclear Watch New Mexico  
[scott@nukewatch.org](mailto:scott@nukewatch.org)

Miguel Pacheco  
Las Vegas, NM  
[mtpac@cybermesa.com](mailto:mtpac@cybermesa.com)

Marian Naranjo  
[mariann2@windstream.net](mailto:mariann2@windstream.net)

Sheri Kotowski  
Embudo Valley Environmental Monitoring Group  
[serit@cybermesa.com](mailto:serit@cybermesa.com)

Marilyn Hoff  
Peace Action New Mexico  
[marigayl@netzero.com](mailto:marigayl@netzero.com)