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**Sent:** Tuesday, January 25, 2011 7:33 PM  
**To:** Bearzi, James, NMENV; Martin, David, NMENV  
**Subject:** Mixed Waste Landfill

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The following comments are submitted to the New Mexico Environment Department for the **Sandia National Laboratories' Corrective Measures Implementation Report** (CMI Report) for the **Mixed Waste Landfill** that is a radioactive and hazardous waste dump contaminating Albuquerque's drinking water aquifer.

**FOR THE REASONS BELOW, I/OUR ORGANIZATION REQUESTS THAT THE NEW MEXICO ENVIRONMENT DEPARTMENT:**

- 1) DENY THE SANDIA CMI REPORT AND PROVIDE A PUBLIC HEARING;**
- 2) PERFORM A RISK ASSESSMENT FOR THE MIXED WASTE LANDFILL BASED ON INFORMATION SUBSEQUENT TO THE 2004 PUBLIC HEARING;**
- 3) REOPEN AND RECONSIDER THE DECISION TO LEAVE THE SANDIA MWL DUMP WASTE UNDER A DIRT COVER ABOVE ALBUQUERQUE'S DRINKING WATER;**
- 4) NEW GROUNDWATER MONITORING WELLS SHOULD BE INSTALLED AT THE MIXED WASTE LANDFILL AND THE PLANS SUBMITTED TO THE PUBLIC AS REQUIRED BY 40 CFR 270.42;**
- 5. COMPLETE EXCAVATION AND CLEANUP OF THE MIXED WASTE LANDFILL WITH STORAGE OF THE WASTE IN AN ENGINEERED FACILITY ON SITE.**

The CMI Report has not addressed:

- **The dirt cover placed over the dump will not be effective for the thousand year required protection from the long lived wastes in the dump that can enter air and water.**
- The existing dirt cover installed over the wastes buried in the MWL 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 (2006 TechLaw, Inc. report).
- 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, Inc. 2006). NMED withheld the TechLaw report from the public during the decision making process until 2009.

- The proposed soil gas monitoring well network in the vadose zone is inadequate and unacceptable because it does not monitor below the unlined pits and trenches.
- The dirt cover decision was based on data from groundwater monitoring wells that were in the wrong locations, with corroded well screens and drilled with Bentonite drilling muds that prevents knowledge of contamination. The monitoring wells could not furnish representative and reliable groundwater samples.
- No correctly located upgradient background monitoring well was installed until 2008.
- Comparison of recent data from both the old and new background monitoring wells with older downgradient wells demonstrates that contamination of the groundwater was present from the MWL wastes beginning in 1990 for nickel, chromium, cadmium and nitrates. Groundwater may be also be contaminated with the highly toxic carcinogen tetrachloroethene (PCE).
- The U. S. Congress commissioned a study of the contamination issues at the Sandia MWL Dump by WERC. However, the WERC Expert Panel was not informed of and could not address the issues of unreliable data from the flawed network of groundwater monitoring wells at the MWL dump and the contamination of groundwater.
- Three of the four newer groundwater monitoring wells were installed too deep to monitor at the water table. The well screens are 30 ft in length rather than the EPA required length of 10 ft. The wells were drilled improperly and are sampled incorrectly. The three wells require replacement as soon as possible.
- A \$275,000 investigation (April 2010) by the Environmental Protection Agency Office of Inspector General found that EPA Region 6 staffers had concerns about the landfill's affect on groundwater and the lack of effective groundwater monitoring at the MWL dump. The Inspector General also found the *Oversight Report of the EPA staff's MWL dump concerns are still being kept secret from the public.*  
<http://www.epa.gov/oig/reports/2010/20100414-10-P-0100.pdf>
- No groundwater monitoring well network is installed for the uppermost aquifer as defined by RCRA and also required by the April 29, 2004 Compliance Order on Consent.
- The proposed soil gas monitoring well network in the vadose zone is inadequate and unacceptable because it does not monitor below the unlined pits and trenches.
- DOE/Sandia performed a field investigation in 2008 that discovered a 10-fold increase of tritium contamination released from the wastes buried in the unlined trenches and pits at the MWL dump. An investigation of the new contamination discovered in the vadose zone below the unlined trenches and pits was not performed.
- The existing DOE/Sandia 2007 Fate and Transport Computer Model (FTM) will be used to assess the performance of the long-term monitoring. The DOE/Sandia FTM is defective because it does not recognize that the groundwater below the MWL dump is presently contaminated with cadmium, chromium, nickel and nitrate from the wastes buried in the MWL dump.
- The 2007 FTM Report rejected the new computer calculations and the earlier computer calculation in 1995 (Klavetter, 1995) that identified the groundwater is

contaminated with PCE from the wastes buried in the MWL dump. PCE is a contaminant in the vadose zone below the MWL dump but the nature and extent of the PCE contamination is not accurately known either in the vadose zone or in the groundwater. PCE has probably contaminated the groundwater but can be masked from detection by the defective monitoring well network at the MWL dump.

- The MWL may be contaminating groundwater with tetrachloroethene (PCE) above the new EPA MCL standards. The DOE/Sandia 2007 FTM Report predicted that the groundwater below the MWL dump is contaminated at the present time with PCE at concentrations above 0.05 ug/L. The EPA is setting a new Drinking Water Standard (DWS) limit for PCE at 0.05 ug/L that is a hundred fold tightening of the current standard of 5 ug/L. The EPA standard is tightened because PCE at any concentration in drinking water may cause cancer.

Risk assessment was not performed as part of the CMI Plan dirt cover remedy because of the belief that a pathway was not present for contamination to reach the groundwater beneath the MWL. The lack of a risk assessment for the MWL is problematic based on new technical information that has surfaced since the 2004 public hearing for the remedy.

The new discovery of the groundwater contamination beneath the MWL dump requires that the dump be excavated and that groundwater be properly monitored.

Thank you for your consideration,

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