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## **Concerned Citizens For Nuclear Safety**

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### **Community Group Questions LANL Dedication to Ground Water Protection Direction and Extent of Chromium Contaminant Plume Unknown**

### **Neptunium Discovered In Los Alamos County Drinking Water Wells and the Buckman Wellfield**

### **More Transparency Needed Regarding Cleanup Plans**

A year ago, on December 23, 2005, the Department of Energy (DOE) and Los Alamos National Laboratory (LANL) reported chromium contamination in the regional aquifer beneath LANL at levels eight times the New Mexico groundwater quality standard and four times the federal drinking water standard. Despite the year that has passed, DOE and LANL still have not determined the direction or the extent of the contaminant plume.

Robert H. Gilkeson, Registered Geologist, said, "We know the contamination level is high and the concentrations are growing with each sample. We know that the contamination is located in the aquifer strata which will allow it to travel quickly, but we do not know how close the contamination plume is to drinking water wells. Gaining the necessary knowledge is crucial if we are to address this emerging environmental emergency and prevent the chromium contamination from reaching the precious drinking water wells." Gilkeson was a lead consultant for LANL's well drilling program.

The regional aquifer is the sole drinking water supply for Los Alamos County, including LANL, the Los Alamos town site and White Rock. The chromium was found in a well drilled to characterize the hydrogeology of the Pajarito Plateau. The well, named Regional Well-28 (R-28), is located in roughly the middle of Mortandad Canyon. R-28 is surrounded by five of the Los Alamos County drinking water wells, two of which are the most productive wells in the system.

DOE has proposed drilling a new well to determine the direction of the plume, which would be located between R-28 and the most productive drinking water well, Pajarito Mesa 3 (PM-3). However, due to bureaucratic procurement problems under new

management at LANL, the drilling has been delayed until March 2007 – 15 months after the chromium was first reported to the public.

In March 2006, the public learned that the chromium in the aquifer is the toxic hexavalent chromium form that was made famous in the movie “Erin Brockovich.” There are two forms, one is the trivalent form, which is good for health, and the other is the harmful hexavalent form, which is dangerous to health. The EPA has found hexavalent chromium to be toxic, even from brief exposure. Hexavalent chromium may irritate the gastrointestinal tract, skin and lungs, cause lung cancer and perforation of the nasal septum. Long-term exposure to elevated levels of hexavalent chromium has the potential to damage the kidney, liver, circulatory system and nerve tissues.

LANL first knew about the rising levels of chromium contamination in January 2004. When first discovered, the levels were four times the New Mexico groundwater quality standard and two times the federal drinking water standard.

“LANL knew about the contamination when they were deep in negotiations with New Mexico Environment Department [NMED] about the fence-to-fence cleanup order for LANL. If DOE and LANL would have followed procedure and reported the findings, NMED would have been in a stronger negotiation position. CCNS believes that the cleanup Consent Order would be more protective of human health and the environment had NMED known about the increasing chromium levels in the regional aquifer,” said Joni Arends, of CCNS.

LANL did not report the chromium contamination to NMED for almost two years nor did they conduct further investigation to determine the form of the chromium. NMED responded with a notice of violation to DOE and LANL with a potential fine of \$795,000.

### **Neptunium Discovered In Los Alamos County Drinking Water Wells and the Buckman Wellfield**

Chromium is not the only contaminant that is threatening our drinking water. In June, DOE released the draft Site-Wide Environmental Impact Statement for LANL (LANL SWEIS), a document that assessed the environmental impacts of proposed activities, but also provided data on the current condition of the area. Appendix F of that report revealed new data about increasing levels of contaminants in the Los Alamos County drinking water wells and the Buckman Wellfield, which supplies Santa Fe residents with over 40% of their drinking water. These contaminants include neptunium, a radionuclide with similar health impacts to plutonium and directly related to nuclear weapons. Neptunium is found at levels above the current drinking water standards in the Los Alamos County drinking water wells and is present at levels above the proposed drinking water standards in the Buckman Wellfield.

The proposed drinking water standard will lower the maximum allowable amount of plutonium and neptunium, as well other radionuclides associated with nuclear weapons, by two orders of magnitude in order to reflect new research about the health dangers. The standard will be lowered from 15 picocuries per liter to 0.15. For more information, please see [www.ieer.org](http://www.ieer.org).

Joni Arends said, "DOE and LANL have handled the discovery of the neptunium in the same way that they handled the chromium. They included this data in the draft LANL SWEIS, but did not inform the regulators and water utilities of the contamination. DOE and LANL must address this environmental emergency more efficiently and effectively than they have thus far."

### **More Transparency Needed Regarding Cleanup Plans**

Further, DOE and LANL are limiting the public's access to the proposed clean up plans under the Consent Order that directly address protection of the regional aquifer. By denying the public hard copies of the documents, DOE and LANL are obfuscating the process. In response to a recent document request by CCNS, Lorrie Bonds Lopez, an Environmental Communication and Public Involvement specialist within the LANL Environmental Programs, stated: "We will no longer be providing hard copies of documents available on the web, in particular, those displayed by NMED."

Joni Arends said, "DOE and LANL claim transparency. However, we don't see it. The new management at LANL has only intensified this problem with their profit motive. Many members of the public do not have access to the web, nor to high speed internet, making these documents difficult to obtain. Ever since the new management came in, citizen groups have seen less transparency, not more."

Despite assurances of transparency in communicating with the public, LANL's policy stands in stark contrast to the DOE policies at the Waste Isolation Pilot Plant (WIPP). WIPP staff ensures that those interested in making comments are provided with the documents and takes extra steps to ensure that community groups have the opportunity to participate in the public process.

Joni Arends said, "DOE staff at WIPP have worked in a spirit of cooperation with groups, such as CCNS, to ensure that public meetings are scheduled at times when all concerned parties could attend and provide documents in a timely manner. LANL could learn something about facilitating public participation from WIPP."

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