NORTHERN NEW MEXICO CITIZENS' ADVISORY BOARD
Recommendation to the Department of Energy
No. 2010-02

Reducing all Outfalls Generated at Los Alamos National Laboratory, including Sandia Canyon, Relating to Studies and Cleanup of Chromium,
The 260 Outfall and All Others
Drafted by the Environmental Monitoring, Surveillance and Remediation Committee

Background:

On November 19, 2008, the Northern New Mexico Citizens Advisory Board (NNMCAB) passed Recommendation 2008-11, "Reducing the Outfall into Sandia Canyon, Relating to Studies and Cleanup of Chromium."

On May 25, 2009, Mr. George Rael, Assistant Manager for Environmental Operations, Department of Energy (DOE) replied to this recommendation, stating that the Sandia Canyon Investigation Report (April 2009) would address the feasibility of reducing the outfall into Sandia Canyon. On October 15, 2009, this report was submitted to the New Mexico Environment Department (NMED) (Investigation Report for Sandia Canyon LA-UR- 09-6450). This is a long, complex, technical report of approximately 858 pages.

NO ACTIONS RELATIVE TO NNMCAB RECOMMENDATION 2008-11 HAVE BEEN DETERMINED OR IMPLEMENTED TO DATE.

On January 13, 2010, Mr. Danny Katzman presented a summary of findings in that Investigation Report to a joint meeting of the Environmental Monitoring, Surveillance and Remediation Committee and the Waste Management Committee of the NNMCAB.

Chromium: Much of the 18,000 kg of Chromium (Cr) in the wetland reach is in the stable form of Cr(III), a non-hazardous form of Cr. However, a large amount of Cr(VI) has been measured in monitoring wells (R-28, R-42, SCI-2). A mass balance calculation projects that approximately 600 kg of Cr largely in the form Cr(VI) has entered the regional aquifer.

Outfall 260, High Explosives (HE) & Barium: Although the Building 16 Outfall 260 has been eliminated, and pollution generated there is being cleaned up, although with some difficulty. Much of the pollution is from HE and Barium. Springs in the area may still be a factor in pollution migration. Active methods such as removal of soil, a Stormwater Management System barrier unit and a storm water filter have been installed. An additional well and more monitoring will be completed in the near term.

Radioactive Liquid Waste Treatment Facility: The 2008 Environmental Surveillance Report states that Mortandad Canyon continued to receive discharges of treated effluent from the Radioactive Liquid Waste Treatment Facility (RLWTF) and that High Explosive Research Department explosives continued to be detected in the regional aquifer at Pajarito Canyon Regional Well R-18.

Elimination of all Outfalls is an important step for completion of remediation around the LANL site.

Comments and Observations:

The NNMCAB is aware that NMED will have reviewed the Sandia Canyon Investigation Report perhaps by mid-2010. A later report by Los Alamos National Laboratory (LANL) should include remedies for cleanup and monitoring of the Cr(VI). However, 300,000 gallons of water is still being released into Sandia Canyon each day. Since the wetland area is relatively stable (as to size and surface water) most of this discharge goes underground along various paths and has the potential to enter the regional aquifer.

The NNMCAB understands that preserving the wetland area is an important strategy. It seems prudent to reduce the amount of outfall to a much lower number while studies continue. Maintaining a viable wetland of the current size should be possible with a reduced outfall.

This Recommendation reinforces the NNMCAB opinion presented in Recommendation 2008-11. This Recommendation also indicates that all discharges from LANL, such as from Outfall 260 and the RLWTF, should be reduced or, where possible, eliminated and that LANL should generate clean waste water, which can be used within the laboratory areas.

Recommendations:

Chromium:

No. 1 On the basis of the additional study that has been completed, as an interim measure, reduce the amount of outfall into Sandia Canyon so that the amount is only sufficient to keep the existing wetland area viable. LANL is to determine the amount of needed water.

No. 2. Continue to study the effects on stored Cr(III) and Cr(VI) if the wetland is not maintained.

Other Outfalls:

No. 3. Make it a priority to reduce or eliminate all outfalls wherever possible.

Beneficial Use:

No. 4. Divert the excess of all outfalls to beneficial uses.

Intent:

The intent of this recommendation is to reduce or eliminate as much discharge from LANL into canyons as possible, in order to eliminate a possible mechanism for the spread of Chromium into the aquifer while other studies and remedies are underway. (Later information and remedies may have a different final end state for the Sandia Canyon wetland.)

References:

1. NNMCAB Recommendation 2008-11.
2. Investigation Report for Sandia Canyon, October 2009, LA-UR- 09-6450.