



Environmental Programs
Corrective Actions Project
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National Nuclear Security Administration
Los Alamos Site Office, MS A316
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Date: August 31, 2006
Refer to: EP2006-0752

Mr. James Bearzi
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303



SUBJECT: RESPONSE TO NOTICE OF DISAPPROVAL FOR THE "INVESTIGATION REPORT FOR MATERIAL DISPOSAL AREA G, CONSOLIDATED UNIT 54-013(b)-99, AT TECHNICAL AREA 54," LOS ALAMOS NATIONAL LABORATORY, EPA ID#NM0890010515, HWB-LANL-05-019, DATED JULY 26, 2006, AND THE SUPPLEMENT TO THE NOTICE OF DISAPPROVAL FOR MATERIAL DISPOSAL AREA G, DATED AUGUST 4, 2006

Dear Mr. Bearzi:

Los Alamos National Laboratory (the Laboratory) and the Department of Energy are in receipt of your notice of disapproval (NOD) and the supplement to the NOD for the Material Disposal Area (MDA) G investigation report. The NOD and supplement require the Laboratory to install four additional vapor monitoring wells to further characterize vertical extent of organic vapor contamination at MDA G. As discussed with New Mexico Environment Department (NMED) staff, the Laboratory will meet this requirement by extending four existing boreholes to deeper depths and completing these boreholes as vapor monitoring wells. A supplemental work plan for installing these four additional vapor phase monitoring wells will be submitted to the NMED within 60 days of receipt of the NOD. Following implementation of the supplemental work plan, the Laboratory will prepare a revised investigation report that will incorporate the results from the supplemental investigation and will include a revised long-term vapor monitoring plan.

In the supplement to the NOD, NMED recommended that the Laboratory drill one additional borehole in the vicinity of borehole 54-01111 to determine the vertical profile of tritium concentrations in the vapor phase, citing tritium as an important indicator of contaminant transport in the subsurface. The Laboratory has reviewed this recommendation and concluded that this borehole is not necessary to evaluate subsurface migration of organic vapors at MDA G. Specifically; tritium does not provide additional information on the subsurface migration potential of volatile organic compound (VOC) vapors. Both VOCs and tritium migrate in the subsurface at MDA G through the process of vapor diffusion. Because subsurface pore gas is saturated with respect to water, tritium will diffuse more slowly through the subsurface than VOCs. Therefore, vapor-phase tritium

does not serve as a "first arriver" and would not serve as an indicator of potential VOC migration. In addition, because boreholes at MDA G are being directly monitored for VOCs, there is no need to use tritium as an analog for evaluating migration potential. Although liquid-phase tritium might serve as a "first arriver" with contaminants transported by water, the low moisture contents measured in tuff at MDA G indicate that this contaminant transport mechanism is not occurring. As a result, additional characterization of tritium in the vicinity of borehole 54-01111 will not aid in evaluating subsurface VOC contamination. Therefore, in the supplemental work plan, the Laboratory will not propose installing an additional borehole in the vicinity of borehole 54-01111 to determine the vertical profile of tritium concentrations.

Please contact John Hopkins at 505-667-9551 (johnhopkins@lanl.gov) or Frank Bosiljevac at 505-845-5746 (fbosiljevac@doeal.gov) if you have any questions.

Sincerely,



Andrew Phelps, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,



David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Office

AP/DG/JH/jr

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