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January 30, 2014

Mr. Jack Whitten, Chief, Nuclear Materials Safety Branch
Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region IV
1600 East Lamar Blvd.
Arlington, Texas 76011-4511

Subject: Request for comment on Draft Environmental Assessment for Decommissioning at Kirtland Air Force Base.

Dear Mr. Whitten,

The New Mexico Environment Department, Environmental Protection Division, Radiation Control Bureau (NMED) thanks you for the opportunity to review and comment on the above subject. NMED comments are only with respect to the RW-06 site located within Kirtland Air Force Base and the radioactive contaminants as they relate to release for unrestricted use based on dose (i.e. 25 mrem/year). The NMED review of Kirtland Air Force Base, Albuquerque, New Mexico, and Final Status Survey Report for Remediation of Site RW-06 October 2012 was reviewed in its entirety.

Comments page ES-1 radionuclides of concern (ROCs) do not include 238 Plutonium and 99Technetium (half-life $\sim 2.12E+05$ year with 0.292MeV beta max energy). Based on DOE reports conducted by Inhalation Toxicology Research Institute (ITRI), fission product inhalation studies were conducted in the 1960s and included 99 Molybdenum, so the longer half-life 99Technetium may need to be included in the ROC. The nonstochastic radiobiological effects of combined alpha and beta irradiation of the lungs of rats from inhaled radionuclides were studied by ITRI using the alpha emitter 238 Plutonium, so it may also be a candidate for the ROC.

Comments page ES-1 the Executive Summary uses the term “unrestricted release of surface soil and surfaces of remediated areas at RW-06 site,” which differs from the term used on page ES-3 “Based on the Conclusion presented above, (i.e. Executive Summary) the following recommendation is proposed: 1. Unconditionally release”. How are the terms unrestricted release and unconditionally release applied in the remediation of radiological waste at RW-06?

Comments page 1-1 for 1.2 Site Description and History: NMED finds the Historical Site Assessment to be minimal and recommends supplementing the historical information, to include the following: expand on 1.2.3 Review of Previous Investigation and include all documents; additional information on radioactive waste at the site and how it was generated; interviews with the generators and review of technical documents prepared by the generators related to the waste at RW-06; documents related to the materials buried at the site and prepared by the generator; previous decommissioning activities and detail on waste manifest; current and future land use; meteorology and climatology; geology and seismology; surface water hydrology; and natural resources.

Comments page 1-11 for 1.3.3 Derived Concentration Guideline Levels: NMED agrees with the DCGL for the radionuclides listed and their activity levels listed in the table. Additional radionuclides may be added if they are present at RW-06 (e.g. 238 Plutonium and 99 Technetium).

Comments on missing information: NMED was unable to locate or review a decommissioning plan which would have been submitted prior to decommissioning for review and approval. It appears the site decommissioning was completed without review and approval of a decommissioning plan. The Quality work plan referred to in a letter from NRC to Kirtland Air Force Base is the only reference found that may be considered as a decommissioning plan.

Comments page 3-5 Table 3-2 Accuracy soil percent recovery: Recovery would indicate percent recovery and can utilize internal tracer to measure recovery for a radiochemical analysis and matrix spike samples for liquid scintillation, but how would this apply to nuclides determined by gamma spectroscopy?

Comments page 5-2 Table 5-1 Summary Statistics by ROC and Sample Group: 226 Radium was determined by its daughter 214 Bismuth by gamma spectroscopy. What energies and branching ratio were used in the calculations, and was secular equilibrium assumed or factored in as part of the calculation? Since 214 Lead have energies of 0.295 MeV gamma photon with ~19% branching ratio, and 0.352 MeV gamma photon with ~ 36% branching ratio among others were these used to determine the 226 Radium?

The NMED review of Kirtland Air Force Base concludes that the RW-06 site meets the criteria for unrestricted release for the ROC presented in the report, but there may be a need to add 238Plutonium and 99Technetium, if only to document they are not present. NMED appreciates the opportunity to comment on the Final Status Survey Report for Remediation of Site RW-06 October 2012.

Sincerely,



Michael Vonderheide, EPD, Director
New Mexico Environment Department