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George Brozowski
U.S. Environmental Protection Agency, Region 6
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REMEDIATION OF MATERIAL DISPOSAL AREA B

Dear Mr. Brozowski:

This memo is to provide a brief description of the Material Disposal Area B (MDA B) remediation project and the approach for Los Alamos National Laboratory (LANL) to comply with the Rad-NESHAP monitoring and pre-construction approval requirements for the project. We request that you respond with your concurrence on the pre-construction approval determination or your preferred path forward.

MDA B Description

Material Disposal Area (MDA) B, a six-acre area, is located at Technical Area 21 at LANL. From 1944 until 1948, MDA B received waste related to LANL processes. However, there are no official waste inventory records for MDA B. According to historical data, anecdotal information, and process knowledge, the types of waste disposed at the landfill were highly variable. Disposal trenches may contain radioactive and chemically contaminated laboratory wastes, debris, and waste products from a Water Boiler (low output nuclear reactor) as well as containers of solvents, chemical mixtures, corrosive liquids and gasses.

The scope for MDA B in accordance with the Order of Consent with New Mexico Environmental Department is to conduct site characterization during excavation of all contents of MDA B estimated at approximately 31,000 cubic yards. These activities will be conducted per the NMED approved work plan for MDA B and the documented safety analysis for MDA B in accordance with 10 CFR 830, Subpart B, "Safety Basis Requirements". The field work is anticipated to commence in fiscal year 2007.

Estimated Project Dose

To estimate the uncontrolled off-site dose from MDA B cleanup operations, ENV-MAQ used the following information:



- Source term in MDA B was determined by reviewing historical documents on the site's inventory. The best estimate is 100 g plutonium-239, to be handled over two years. This corresponds to approximately 6 curies total, or 3 curies processed per year.
- Particulate release fraction of 0.001, or 0.1%, in accordance with appendix D.
- Closest receptor to MDA B is a business approximately 20 meters away; note that not all operations are this close to the receptor.
- At this distance, the CAP88 dose impact value is $4.1E+5$ millirem off-site per curie of Pu-239 released.

The resulting off-site dose to the maximally exposed member of the public, without factors for controls, is greater than 0.1 millirem per year.

Options for containment are being considered and the remediation activities might take place in a tent with a HEPA controlled exhaust. With HEPA filter controls, the resulting off-site dose to the maximally exposed member of the public is still greater than 0.1 millirem per year. This estimate considers a transmission level of 1%, or 99% removal efficiency, in accordance with appendix D.

Rad-NESHAP Monitoring Requirements

The proposed remediation activities are considered to be sources of non-point (diffuse) emissions. As such, emissions monitoring will be performed with LANL's ambient air monitoring network (AIRNET) instead of stack monitors.

We evaluate the monitoring requirements of diffuse sources in the same manner as we evaluate the monitoring requirements of release points and in accordance with §61.93 (b)(4) of the Rad-NESHAP. Thus diffuse sources of radioactive air emissions require ambient monitoring when the potential impact to the nearest off-site receptor is greater than 0.1 mrem. As described above, we have determined that the potential to exceed 0.1 mrem/yr exists, so additional ambient radionuclide air monitoring will be required. We anticipate the installation of 10 additional AIRNET monitoring stations as well as a series of real-time, alarming radiation detectors.

Rad-NESHAP Pre-construction Approval Requirements

A pre-construction approval must be obtained prior to construction of a new source or modification to an existing source with potential impacts of 0.1 mrem to the nearest off-site receptor in accordance with §61.96 of the Rad-NESHAP. We consider the Environmental Restoration program to be active and ongoing at LANL. In addition, the current restoration plan for MDA B does not qualify as a physical or operational change to a stationary source. Therefore, the project is not a modification as defined by 40 CFR §61.15, and is not subject to pre-construction approval or the reporting requirements to EPA. However, due to the complex nature of the project and the potential for public interest, we are providing this courtesy notification and plan to provide periodic progress reports as the project develops.

Closing

We request that you respond with your concurrence on the pre-construction approval determination or your preferred path forward. We will plan to provide you with a tour of MDA B on your next trip to Los Alamos. In the meantime, if you have questions or comments, please do not hesitate to contact me by email at davef@lanl.gov or by telephone at (505) 665-3850.

Sincerely,


David Fuehne
ENV-MAQ, Acting Deputy Group Leader

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