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Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for Maywood, New Jersey



U.S. Department of Energy



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Department of Energy

Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831—8723

March 29, 1995

Ms. Angela Carpenter, Project Manager
Federal Facilities Section
U. S. Environmental Protection Agency
Region II
290 Broadway
New York, New York 10007-1866

Dear Ms. Carpenter:

MAYWOOD SITE - CLEANUP CRITERIA IMPLEMENTATION FOR PHASE I REMEDIATION

The purpose of this letter is to summarize DOE's proposed approach for implementing Phase I remedial action at the Maywood Site. As described in "EPA Region 2's Position on the Dispute Regarding Cleanup Levels for Radionuclide Contamination at the Maywood Chemical Company Superfund Site", the preferred alternative for the Maywood site is a phased action, in which Phase I will address contamination at residential vicinity properties, the unremediated portion of the Ballod property, three parks, the fire station, and the Maywood Interim Storage Site (MISS) waste pile. Subsequent to the dispute resolution, DOE began excavation and off-site commercial disposal of the contaminated materials from the MISS waste pile in October 1994, as a removal action. DOE's current plans call for initiating removal actions at other Phase I properties in FY1996.

As specified in the dispute resolution, soils contaminated above cleanup criteria at the Phase I properties: "will be excavated and shipped off-site for commercial disposal in accordance with applicable regulations. . . Surface and subsurface soil . . . will be remediated to 5 pCi/g [radium-226 and radium-228, combined] above background."

Excavation of contaminated soils and materials at the Phase I properties will be guided by hand-held radiation detection instruments, such as gamma scintillation detectors. Count rates will be correlated with soil concentrations of the radionuclides of concern (e.g., primarily the thorium-232 decay series for the Maywood site), to identify soil areas contaminated above cleanup criteria. Excavation of soils with elevated readings will continue until the data from the field instruments indicate that the area is below the designated cleanup criteria. At that point, soil samples will be collected and sent for confirmatory analysis at a radioanalytical laboratory. In addition, an in-situ gamma spectroscopy system will be utilized during the Phase I remedial action; this system will directly measure contaminant concentrations in soil without requiring the collection of samples, and generate average contaminant concentration data on-site in real time. After the remediation team has determined that all above-criteria soils have been

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excavated from an area, DOE's independent verification contractor (IVC) also will conduct confirmatory analysis.

The cleanup criterion of 5 pCi/g for the Phase I properties at the Maywood site represents the maximum acceptable concentration of radium-226 and thorium-232 in soil averaged over any area of 100 m² and any depth interval of 15 cm. It is possible, therefore, that individual soil samples may exceed 5 pCi/g, yet not exceed the cleanup criteria when averaged with surrounding soil samples. FUSRAP and IVC protocols and operating procedures specify the statistical basis for evaluating sampling data with respect to site-specific cleanup criteria.

DOE guidance (DOE Order 5400.5) also recognizes special criteria for localized "hot-spots" of elevated radioactivity over areas smaller than 100 m². Depending on the site-specific conditions, these hot-spots may exceed the primary criteria by a factor of $(100/A)^{1/2}$, where A is the area (m²) in which the concentrations are elevated - i.e., it may be acceptable for soil concentrations in localized areas to exceed the basic cleanup criteria by factors of 2 to 10 (for areas of 25 m² to ≤ 1 m², respectively).

Similarly, in situations where significant damage to structures, roadways, sidewalks, large trees, or other significant site features may result from excavating small amounts of residual above-guideline contamination, DOE may propose the use of supplemental criteria. As outlined in 40 CFR Part 192 and DOE Order 5400.5, supplemental criteria (i.e., criteria other than 5 pCi/g) may be appropriate in situations where the cost, health risk, or environmental harm associated with cleaning a site to the primary criteria is unreasonably high relative to the benefit. In such cases, DOE would prepare a hazard assessment to document the potential health risks associated with any contaminants left in place. Supplemental criteria would be proposed only where potential risks are very small; they would not be proposed for situations where individuals are likely to be exposed for long periods of time to concentrations above the primary criteria. For example, DOE would not generally attempt to remove contamination that may be present beneath houses or permanent structures, unless it is determined to pose a potentially significant health risk.

A detailed work plan will be developed before initiation of the Phase I remediation to fully document the anticipated remedial activities at each affected property. However, due to the aggressive schedule for the initiation of the Phase I activities, it is very important that all parties agree on the basic approach for implementation of the remediation criteria as quickly as possible. I suggest that we meet at the earliest convenient date to discuss any questions or concerns that you may have. The objective of this meeting would be to resolve any remaining issues and reach final agreement on the Phase I approach.

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We look forward to getting on with the Phase I remediation for the Maywood site, and appreciate your input. If you have any questions or suggestions, please contact me at (615) 576-9634.

Sincerely,



David G. Adler, Site Manager
Former Sites Restoration Division

cc: Nicholas Marton, NJDEP