UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 17, 1996

Mr. Richard Sena, Acting Director
Environmental Restoration Division
Uranium Mill Tailings Remedial Action
Project
U.S. Department of Energy
2155 Louisiana NE, Suite 4000
Albuquerque, NM 87110

SUBJECT: NRC STAFF REVIEW OF THE LONG-TERM SURVEILLANCE PLAN FOR THE TUBA CITY, ARIZONA, URANIUM MILL TAILINGS DISPOSAL SITE

Dear Mr. Sena:

The U.S. Nuclear Regulatory Commission staff has completed its review of page changes to the U.S. Department of Energy's (DOE's) Long-Term Surveillance Plan (LTSP), for the Uranium Mill Tailings Remedial Action Project disposal site at Tuba City, Arizona. These page changes, which were transmitted to the NRC by letter dated September 24, 1996, addressed compliance with the U.S. Environmental Protection Agency's groundwater protection standards under 40 CFR Part 192 at the disposal site.

DOE proposes to postpone point-of-compliance groundwater monitoring, as required under Subpart A to 40 CFR 192, until corrective action to clean up existing groundwater contamination under Subpart B is completed. DOE believes that the effectiveness of Subpart A monitoring as a reliable indicator of disposal cell performance is limited at this time, due to (1) the presence of pre-existing site-related groundwater contamination beneath and downgradient of the site, (2) the possibility of continuing transient drainage of contaminants associated with disposal cell construction, and (3) the potential remobilization of contaminants in the soil as the result of disposal cell runoff and percolation.

The NRC staff considers the proposed postponement of groundwater monitoring for disposal cell performance until after the completion of groundwater restoration to be in accordance with the provisions of 10 CFR Part 40.27. However, the NRC staff's review has identified a number of issues that need to be addressed by DOE before the NRC can find the LTSP acceptable. These issues are documented and discussed in the enclosure to this letter.

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If you have any questions concerning this letter or the enclosure, please contact the NRC Project Manager for the Tuba City site, Mr. James Park, at (301) 415-6699.

Sincerely,
/s/ Original Signed By:]

Daniel M. Gillen, Assistant Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. WM-73

Enclosure: As stated

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NRC Staff Review Comments on the Long-Term Surveillance Plan for the Tuba City, AZ, UMTRA Project Disposal Site

1. In the LTSP, DOE indicates that compliance with Subpart A of 40 CFR Part 192 will be addressed following the completion of Subpart B activities to clean up pre-existing site-related groundwater contamination. However, DOE does not clearly or completely describe the actions it will take during and following completion of the groundwater restoration phase. Specifically, post-groundwater restoration requirements under 10 CFR 40.27(b)(2) are not addressed in the LTSP. Actions that should be addressed during groundwater restoration are discussed in the following comments.

   The NRC staff requests that the LTSP be revised to more clearly identify the activities DOE will conduct during and subsequent to groundwater restoration.

2. DOE states in the LTSP that currently available information indicates that some groundwater contamination may be attributed to the disposal cell. However, DOE does not discuss any specific measures or criteria that will be used to assess the disposal cell performance during the groundwater restoration phase. The NRC staff considers performance assessment during the groundwater restoration phase to be necessary under the current site conditions, because disposal cell failure could create a perpetual contamination source and render groundwater restoration activities ineffective or even useless.

   The NRC staff recognizes that conventional groundwater monitoring may not be effective in evaluating disposal cell performance under the current site conditions; however, the staff considers that it should be possible to devise and incorporate in the LTSP some measures and/or criteria that can be used for this purpose. For example, analyses of the rate of contaminant removal, along with data from selected monitoring wells (e.g., the evaluation monitoring network wells and possibly other wells over the site area) during the groundwater restoration phase, may provide sufficient information to determine whether or not the disposal cell is a potent contamination source and thereby provide useful information to assess the disposal cell performance.

   The NRC staff requests that the LTSP be revised to incorporate performance assessment measures and/or criteria to assess disposal cell performance during groundwater restoration.

3. DOE states in the LTSP (p. 5-16) that the following phenomena may be partly responsible for groundwater contamination observed beneath and downgradient from the disposal site: (a) transient drainage from the disposal cell; and (b) infiltration of runoff water from the disposal cell into the vadose zone and subsequent remobilization of contaminants from this zone into the ground water downgradient of the cell. However,

the LTSP does not provide any discussion of activities and steps that DOE will undertake to investigate and substantiate these phenomena and to make a definitive determination that the disposal cell is performing as designed.

The NRC staff requests that the LTSP be revised to address the activities and steps that DOE has undertaken or will undertake to investigate and substantiate the phenomena cited above, and make a definitive determination that the disposal cell is performing as designed. The NRC staff considers that, while investigation of these phenomena can be undertaken during or after the groundwater restoration phase, it may be advantageous to conduct these investigations during the groundwater restoration phase, so that the results can be used, along with other information, to assess the disposal cell performance and possibly revise the groundwater restoration program.

4. In the LTSP, DOE does not address measures that it will implement for the protection of current and prospective water users, including ground water and spring water users, during the groundwater restoration phase.

   The NRC staff requests that the LTSP be revised to provide specific measures that DOE will undertake to protect public health, safety, and the environment from existing contamination in the ground water and surface springs, during the groundwater remediation phase. If such measures are identified in other program documents for the site, they may be incorporated by reference.

5. In the February 1996 draft of the LTSP, DOE stated that a preliminary screening for organic constituents was being performed on ground water samples collected in December 1995 (page 5-14, second paragraph). The current LTSP, however, includes no mention of the results of these tests, and provides no information as to whether or not organic contaminants are of concern at the disposal site.

   The NRC staff requests that the LTSP be revised to document the results of the analyses conducted for organic constituents, and to modify contaminant characterization studies in the site area, if warranted by the results of such analyses.

6. In the LTSP, DOE discusses an "evaluative ground water monitoring" program, which includes an evaluative monitoring network of seven existing monitor wells. It is not clear whether monitoring of local surface springs was considered as part of the monitoring network.

   The NRC staff requests that the LTSP be revised to include monitoring of surface springs as part of the evaluative monitoring network, or to provide justification why such monitoring is not necessary.

7. The DOE states on page 5-21 (third paragraph) that "[g]round water monitoring at the Tuba City site will remain the responsibility of the DOE <u>until</u> the site comes under NRC general license" (emphasis added).

The NRC staff notes that the long-term surveillance program, required under 10 CFR 40.27(b), is likely to include groundwater monitoring, and that, as the likely long-term care agency for the Tuba City site, DOE is required to implement the LTSP after it has been accepted by NRC (§40.27(c)(1)).

Therefore, the NRC staff requests that the LTSP be revised to recognize that groundwater monitoring, if necessary, will remain the responsibility of DOE, even after the site is placed under the 10 CFR 40.27 general license.