

JAN 5 1993

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Uranium Mill Tailings Remedial Action  
Project Office  
U.S. Department of Energy  
Albuquerque Operations Office  
P.O. Box 5400  
Albuquerque, New Mexico 87115

Dear Mr. Chernoff:

My staff has reviewed the Department of Energy's "Final Long-Term Surveillance and Maintenance Plan for the Green River, Utah, Disposal Site," dated September 1992. As a result, we have enclosed (Enclosure 1) a list of comments that should be addressed before this plan can be accepted. Also enclosed (Enclosure 2) is a list of suggestions for increasing the clarity and completeness of the document. In addition, the document should be titled "Long-Term Surveillance Plan," in accordance with the standard title addressed in the regulations, and should not be referred to as "Final" until all the required information is included.

If you have any questions regarding our comments, please contact me at FTS 8-301-504-3439, or the NRC Project Manager, Elaine Brummett, at FTS 8-301-504-2533.

Sincerely,

(SIGNED) JOHN J. SURMEIER

John J. Surmeier, Chief  
Uranium Recovery Branch  
Division of Low-level Waste Management  
and Decommissioning  
Office of Nuclear Material Safety  
and Safeguards

Enclosures: As stated

cc: S. Hamp, DOE, AL

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SUBJECT ABSTRACT: Comments on Green River LTSP

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COMMENTS ON THE  
LONG-TERM SURVEILLANCE PLAN  
FOR THE GREEN RIVER, UTAH, DISPOSAL SITE

The Nuclear Regulatory Commission staff has compared information in the Department of Energy's (DOE) Long-Term Surveillance Plan (LTSP) of September 1992 to that in the Completion Report (CR) and the Remedial Action Plan (RAP) for the Green River site, as well as to the generic Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program, September 1992 (guidance document).

1. Section 2.1.1  
The third paragraph indicates that the disposal cell has a gently sloping top of five percent, but Figure 2.2 does not indicate a top slope, only side slopes of twenty percent. This discrepancy should be corrected.
2. Section 2.1.1  
The third paragraph also states that the radon barrier is one-foot thick and has five feet of sand, gravel, and select fill above it. This is in contrast to Figure 2.4, which is in agreement with the CR in indicating that the radon barrier is three-feet thick and has one and one-half feet of material (sand and gravel) above it. The cover description should be corrected.
3. Section 2.1.2  
The legal description in this section differs from the one on the disposal site map (Attachment 2) in that N46degrees44'09"W and N76degrees27'51"W have "S" instead of "N" on the map. The map has also repeated one term (S79degrees02'45"E) instead of using N51degrees27'32"E. In addition, the description in the section has omitted the ending "E" in N50degrees20'35"E. These discrepancies should be corrected.
4. Section 2.2.2  
The first paragraph indicates that DOE is in the process of executing agreements for access to the disposal site. Right-of-way access agreements need to be completed and documented in the final LTSP.
5. Section 2.2.4  
The fourth paragraph (the first sentence at the top of page 2-7) indicates that Type A riprap is defined as having a median-minimum diameter (D50) of 18 inches by weight. There are two errors in this terminology. First, riprap is not referred to in terms of a diameter by weight. This should be corrected to simply say inches. Second, Calculation 10-536-02-04 in the CR (Vol. 4A, page 6/13) indicates that Type A riprap has a D50 of 6 inches while Type B riprap has a D50 of 18 inches, based on a certain procedure. Later in that calculation (page C-3), Type A riprap for this site was determined to have a lower-bound D50 of about two inches. This size rock was used (Vol. 2) because the rock durability score was greater than 80, and over-sizing

was not necessary. The LTSP statement should be corrected to correspond to the CR, assuming that the report is correct.

6. Section 2.2.4  
The sixth sentence in the fourth paragraph should indicate that Type B riprap used in the toe of the cell had a D50 of 18 inches, not 6 inches (see above discussion).
7. Section 3.0  
The last sentence of the paragraph states that new aerial photographs will be taken "at regularly scheduled intervals." However, Section 3.6 of the guidance document and Section 3.3 of the LTSP say the need for new aerial photographs will be assessed at regular five-year intervals, unless unusual conditions require more frequent assessment. These sections should be consistent.
8. Section 3.1  
The first sentence states, "A site atlas has been prepared that includes a vicinity map, a topographic map, and a disposal map (refer to Attachment 2)." Attachment 2 includes only one map, and it is labeled "Final Topographic Map." However, the Attachment 2 cover sheet says "disposal site map," and the map has the information required of a disposal site map. DOE should correct this discrepancy.
9. Section 3.1  
The vicinity map should be of a smaller scale than the map in Attachment 2 and contain some different information (according to Section 3.1.1). A copy of the disposal site vicinity map should be provided in the LTSP or referenced if it is included in another document the NRC staff has received.
10. Section 5.2.3  
The first paragraph references 40 CFR 192.02(a)(4) as allowing indirect monitoring as an additional measure to ensure groundwater protection. However, 40 CFR 192.02(a)(4) simply states that, "Control of residual radioactive materials and their listed constituents shall be designed to comply with the performance standards in Part 264.111(a) and (b) of this chapter." Part 264.111(a) and (b) makes no mention of indirect monitoring to achieve groundwater protection. The indirect monitoring, neutron moisture monitoring (NMM), described in this chapter was a specific agreement in the RAP. The narrative concerning the rationale for indirect monitoring should be revised to accurately describe the basis for the monitoring.
11. Section 5.2.3  
The sections describing the findings regarding the neutron moisture monitoring are not consistent with the recent findings of the NRC staff concerning the effectiveness of DOE's monitoring program. NRC's concerns regarding the NMM measurements are presented in the letter to the Uranium Mill Tailings Remedial Action (UMTRA) Project Office dated November 13, 1992. The concerns expressed in that letter must be addressed before this issue can be resolved in the LTSP.

12. Section 5.3.1  
The discussions concerning the 'Observational Approach' are not appropriate for compliance with the long-term care rule of 10 CFR 40.27. The 'Observational Approach' is an engineering methodology that allows the construction of a project without absolutely defining all uncertainties before construction begins. This is accomplished by making observations of identified uncertainties during the course of the project and making adjustments in the construction, as needed, to meet the objectives of the design. Under the long-term care rule (10 CFR 40.27), the performance of the completed remediation is monitored and corrective action is implemented, as soon as practicable, if the performance standards are not met [40 CFR 192(c)]. The NRC staff does not believe that the 'Observational Approach' will serve to 'streamline' this regulatory framework. All discussions concerning the 'Observational Approach' should be deleted from the LTSP.
13. Section 6.3  
Bullet four of the first paragraph should include NRC in the list for notification that an inspection will be conducted.
14. Section 6.4.2  
If the successful establishment of vegetation around the embankment is of concern, the section should include the seed mix used for re-vegetation and provide criteria for making the determination of successful establishment of vegetation, as detailed in the guidance document. This section should also mention that volunteer plant growth, particularly on the cell, is to be described in the inspection report.
15. Section 7.2.1  
The second statement under the second bullet should be corrected to say "... magnitude 4.0 (Richter scale) or greater," (see letter to National Earthquake Information Center in Attachment 6).
16. Section 8.3  
The last sentence should indicate that copies of all relevant documents will be transmitted to the state and will be included in the annual report to NRC.
17. Section 9.3  
The first paragraph should indicate that the preliminary (assessment) site inspection report will also be submitted to NRC within 60 days of the inspection.
18. Section 10.0  
This section of the LTSP has omitted the subsection summarizing required reports. It should be expanded to correspond to Section 10.0 of the guidance document.
19. Section 11.2  
Bullet two should be corrected to say "... magnitude 4.0 (Richter scale) or greater," (see letter in Attachment 6).

20. Section 12.0  
The Quality Assurance Program Plan should be referenced and a copy of the plan provided to NRC.
21. Attachment 3, Site Ownership/Custody Documentation/Access Agreements, states only that the information is forthcoming. The required information must be included in the final LTSP.

SUGGESTED REVISIONS TO THE  
LONG-TERM SURVEILLANCE PLAN  
FOR THE GREEN RIVER, UTAH DISPOSAL SITE

These suggestions by the Nuclear Regulatory Commission staff are based on a comparison of the Long-Term Surveillance Plan (LTSP) to the Department of Energy's (DOE) Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program of September 1992 (guidance document), or are merely editorial. No formal reply is required.

1. Section 1.2  
The second paragraph should be updated to mention that 1992 legislation has extended the completion date to 1996.
2. Section 1.3  
The list of activities under the first sentence should include quality assurance and emergency measures.
3. Section 2.1.1  
The first paragraph indicates that the tailings were stabilized about 600 feet from the processing site, but should also indicate that this was stabilization on-site.
4. Section 2.1.1  
The fourth paragraph states that the disposal cell covers eight acres, but the Completion Report indicates that the processing site covers eight acres while the disposal cell covers five acres. Also, the dimensions of the disposal cell are given as approximately 600 ft along each side, however, the first paragraph of Section 2.2.4 says the dimensions are 530 ft by 450 ft. The final LTSP should be accurate and consistent in reporting these dimensions.
5. Section 2.2.3  
The sentence will need revision if DOE will maintain the fence, once the title is transferred.
6. Section 2.2.4  
The first paragraph indicates the volume of compacted tailings in the cell, but does not indicate if this amount includes the other types of contaminated material.
7. Section 3.1.1  
This section states that the disposal site vicinity map will encompass and will include certain items. Since this map should have been completed, the wording should be revised to reflect that fact.
8. Section 3.1.3  
The second paragraph states that a new, separate inspection map will be prepared after each inspection. Reference to Section 6.5 could be added, since what is to be recorded on this map is discussed there.



9. Section 4.2  
The boundary monument sketch in Figure 4.2 indicates that the top of the monument is 25 cm above the ground. In the guidance document, this distance is one inch (2.54 cm). The reason for this difference could be mentioned.
10. Section 4.7  
This section on reference posts is missing in the LTSP. The guidance document indicates that reference posts are to be installed near permanent features, such as boundary monuments and monitor wells, if natural conditions can obstruct them. The LTSP could state that either reference posts were installed or that they are not needed.
11. Section 5.0  
The groundwater characterization information is very detailed and appears complete. However, such a degree of detail is not necessary, since 40 CFR 40.27 allows the groundwater characterization information to be incorporated into the LTSP by referencing the appropriate existing documents, such as the Remedial Action Plan (RAP) groundwater chapters. A certain amount of summary material in the LTSP is desirable, but a complete reiteration of RAP descriptions is not necessary. There are also several redundant and repeated paragraphs throughout this chapter.
12. Section 5.0  
The second paragraph should state when the groundwater monitoring program began.
13. Section 5.0  
The third paragraph should be reworded to indicate that the four items listed are used to determine the need for monitoring. Also, the draft Surveillance and Maintenance Plan should not be referenced since it has been replaced with the LTSP. The last sentence should indicate that the referenced information is summarized below (per the guidance document).
14. Table 5.1 (page 5-6)  
The table should include the word "excluding" before the U, under Natural Gross Alpha.
15. Section 6.1  
The first sentence could indicate that inspections will also be done after an unusual event that could affect the site, such as a flood or an earthquake. This section could mention if there is a preferred time of year (season) for the annual site inspection. This section could also add that, if possible, one inspector be familiar with the site.
16. Section 7.1  
DOE could add at the end of the sentence, "or monitoring activities."

17. Section 7.2.2  
DOE should consider reissuing the letters to agencies every five years concerning notification of unusual events that might affect the site.
18. Section 8.1  
This paragraph should give examples of the custodial maintenance anticipated specifically for this site; for example, sign replacement and weed control.
19. Section 8.2  
This paragraph should either give examples of the items that are considered repairs; for example, repair of damage to wells and reseeded, or refer to Table 8.1 in the guidance document.
20. Section 10.0  
This section should include the statement that all information will be available for review by NRC and the public.
21. Section 11.1  
The last sentence should indicate what the abbreviation "NWS" represents.
22. Section 11.1  
This section should include instruction to annually update the telephone numbers for the contact lists, all agencies, and parties with whom DOE has a contractual arrangement.
23. Section 12.1  
The second paragraph mentions "DQOs," and the fourth bullet refers to "SOPs." These terms should be defined.
24. Section 12.1  
This section could reference the Quality Assurance Plan for groundwater monitoring and could be written more clearly to indicate that Standard Operating Procedures are the Quality Control procedures and that the Data Quality Objectives are part of the Quality Assurance Plan.
25. Section 13.1  
The third sentence should refer to the mill site, not the disposal cell, as the location of abandoned buildings. Since these buildings are on the remediated designated site, they should not contain hazardous materials. The phrase "may contain hazardous materials" should be deleted or the specific hazardous materials suspected to exist there should be described.