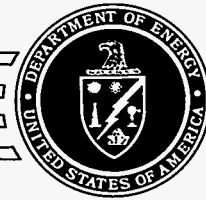


United States Department of Energy



**COMMENT AND RESPONSE  
DOCUMENT FOR THE LONG-TERM  
SURVEILLANCE PLAN FOR THE  
FALLS CITY DISPOSAL SITE  
FALLS CITY, TEXAS**

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**Uranium Mill Tailings Remedial Action Project**

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**COMMENT AND RESPONSE DOCUMENT FOR THE  
LONG-TERM SURVEILLANCE PLAN FOR THE  
FALLS CITY DISPOSAL SITE, FALLS CITY, TEXAS**

**November 1996**

**Prepared for  
U.S. Department of Energy  
Environmental Restoration Division  
UMTRA Project Team  
Albuquerque, New Mexico**

**Prepared by  
Jacobs Engineering Group Inc.  
Albuquerque, New Mexico**

**UMTRA DOCUMENT REVIEW FORM**

**(1)**

**COMMENT**

Site: Falls City, Texas Date: 10 June 1996  
Document: Long-Term Surveillance Plan for the Falls City Disposal Site, Falls City, Texas  
Reviewer: U.S. Nuclear Regulatory Commission

Comment: 1, Hydrology

On page 5-23, DOE discusses the likelihood of surface remediation impacting the shallow ground water as a transient condition; however, the discussion focuses on temporary changes in water levels due to loading the aquifer. DOE should also recognize that compaction of the tailings may promote transient drainage from the disposal cell, which could temporarily impact groundwater quality as well. This likelihood should also be addressed in the discussion of temporary aquifer impacts to recognize that the initial increases in constituent levels may not indicate cell failure.

**RESPONSE**

Page: \_\_\_\_\_ By: J. Crain Date: 27 June 1996

The DOE recognizes that consolidation and development of excess pore-water pressure caused by loading of the *in situ* tailings will occur. The DOE also recognizes that the dissipation of excess pore-water pressure could temporarily impact ground water quality.

To assess the potential impacts of transient drainage on ground water quality, the DOE presented calculations and data in the RAP and SOWP accounting for 1) water used during mill operation, 2) the *in situ* moisture content of tailings, and 3) water added to contaminated material, including precipitation during construction of the disposal cell.

**PLANS FOR IMPLEMENTATION:**

The DOE will add text to Section 5.2 of the LTSP discussing the potential consolidation drainage of slime and sand slime tailings and gravity drainage of water added during construction in the context of long-term performance of the disposal cell.

The following was added after the top paragraph on page 5-23:

After the disposal cell is completed, dissipation of excess pore-water may occur. In addition, gravity may drain water added to the cell during construction. Drainage from consolidation of tailings and seepage of construction water are transient conditions that could cause temporary changes in ground water levels and ground water quality near the cell. Such changes, however, are not related to the performance of the disposal cell cover, and any

temporary variations in waters levels and quality should be incorporated in the baseline data of initial ambient conditions at the disposal site.

**UMTRA DOCUMENT REVIEW FORM**

**(2)**

**COMMENT**

Site: Falls City, Texas Date: 10 June 1996  
Document: Long-Term Surveillance Plan for the Falls City Disposal Site, Falls City, Texas  
Reviewer: U.S. Nuclear Regulatory Commission

Comment: 2, Hydrology

DOE describes the rationale for post construction ground water monitoring in the Chapter 5 text as "DOE's Best Management Practice." In reality, DOE is required to conduct post-closure monitoring for demonstrating performance of the disposal cell in accordance with 40 CFR Part 192.03, and commitments in the RAP. DOE should make that distinction in the text, since this was the basis of NRC concurrence in the RAP.

**RESPONSE**

Page: \_\_\_\_\_ By: T. Jackson Date: 28 June 1996

See below.

**PLANS FOR IMPLEMENTATION:**

The following changes will be made to the text to make it clear that post-closure monitoring is in accordance with 40 CFR §192.03 and commitments in the RAP.

Replace the second sentence in paragraph 1, page 5-1, with the following:

Based on evaluation of site characterization data, it has been determined that a program to monitor ground water for demonstration of disposal cell performance based on a set of concentration limits is not appropriate because ground water in the uppermost aquifer is of limited use, and a narrative supplemental standard has been applied to the site that does not include numerical concentration limits or a point of compliance (POC) (40 CFR §192.21(g)[1995]).

Replace the second paragraph on page 5-1 with the following:

The DOE plans to perform post-closure ground water monitoring in the uppermost aquifer as a "best management practice" (BMP) as requested by the state of Texas. The purpose of the BMP monitoring is to provide additional background and characterization information, and to evaluate trends in ground water quality (naturally-occurring or site-related). Ground water sampling will be conducted semiannually for up to five years following completion of the disposal cell (until 1999). Upon completion of the sampling

program, ground water conditions will be assessed based on the additional information collected, and the BMP monitoring will be discontinued. The NRC will participate in the assessment process.

BMP monitoring is not required under the regulations for the purpose of demonstrating compliance with the final EPA ground water protection standards (40 CFR §192.02 [1995]) and will not trigger corrective action (40 CFR §192.04 [1995]).



**UMTRA DOCUMENT REVIEW FORM**

**(3)**

**COMMENT**

Site: Falls City, Texas Date: 10 June 1996  
Document: Long-Term Surveillance Plan for the Falls City Disposal Site, Falls City, Texas  
Reviewer: U.S. Nuclear Regulatory Commission

Comment: 3, Hydrology

Figure 5.3 shows monitoring wells 701 and 709 in different locations than is shown in drawing FCT-LTSP-001. This appears to be a labeling error in this figure.

**RESPONSE**

Page: \_\_\_\_\_ By: T. Jackson Date: 28 June 1996

The locations for these two wells are correct on both the figure and the drawing, but the labels are incorrect. Figure 5.3 indicates that well 709 is abandoned and well 701 is active. The opposite is true. Well 701 was abandoned and well 709 is active. In addition, the site boundary on Figures 5.3 and 5.4 is in error and will be corrected.

**PLANS FOR IMPLEMENTATION:**

Figures 5.3 and 5.4 have been corrected to show the true site boundary.

UMTRA DOCUMENT REVIEW FORM

(4)

**COMMENT**

Site: Falls City, Texas Date: 10 June 1996  
Document: Long-Term Surveillance Plan for the Falls City Disposal Site, Falls City, Texas  
Reviewer: U.S. Nuclear Regulatory Commission

Comment: 4. Hydrology

DOE states that monitoring is anticipated to be terminated five years after completion of disposal cell construction. DOE should be aware that monitoring can not be terminated without approval from NRC.

**RESPONSE**

Page: \_\_\_\_\_ By: T. Jackson Date: 28 June 1996

See below.

**PLANS FOR IMPLEMENTATION:**

The following changes will be made to the text to make it clear that post-closure monitoring will be terminated with approval from NRC.

Replace the existing paragraph 4 on page 5-19, under the heading "Sampling Frequency" with the following paragraph:

Ground water has been monitored at the Falls City site since 1986. Ground water sampling for the BMP monitoring program will be conducted semiannually for up to five years following completion of the disposal cell (until 1999). Upon completion of the sampling program, ground water conditions will be assessed based on the additional information collected. If it is determined that less frequent, or no further monitoring is required, the DOE will modify the LTSP and submit it to NRC for approval.

**UMTRA DOCUMENT REVIEW FORM**

(5)

**COMMENT**

Site: Falls City, Texas Date: 10 June 1996  
Document: Long-Term Surveillance Plan for the Falls City Disposal Site, Falls City, Texas  
Reviewer: U.S. Nuclear Regulatory Commission

Comment: 5. Surface Erosion

Based on the site visits and a review of the Remedial Action Inspection Plan (RAIP), it appears that adequate vegetation density has not been maintained on the top of the cell following DOE's approval of the construction activities. It is our understanding that DOE has reseeded several areas to increase the vegetation density. DOE has not provided any additional information on the success of the reseeded, and the staff has not yet verified that the necessary density has been achieved. Establishing adequate vegetation remains an open issue for the Completion Report and may have to be addressed in the Final LTSP.

**RESPONSE**

Page:        By: J. Crain Date: 28 June 1996

Since the last NRC site visit, the DOE has reseeded bare areas of the topslope of the disposal cell. The reseeded was successful and a dense, healthy grass community has established on the top of the cell. Photographs and text found in the *1995 Annual Prelicensing Inspection of the Falls City, Texas, UMTRA Project Disposal Site*, February 1996, may serve to verify the success of the DOE's reseeded.

**PLANS FOR IMPLEMENTATION:**

Forward copy of 1995 prelicensing inspection report to NRC staff.

**UMTRA DOCUMENT REVIEW FORM**

(6)

**COMMENT**

Site: Falls City, Texas Date: 10 June 1996  
Document: Long-Term Surveillance Plan for the Falls City Disposal Site, Falls City, Texas  
Reviewer: U.S. Department of Energy

Comment: 1

Add verbiage into the LTSP regarding vegetative cover mowing and herbicide application.

**RESPONSE**

Page:        By: W. Migdal Date: 10 June 1996

See below.

**PLANS FOR IMPLEMENTATION:**

The following changes will be made to the text to incorporate the need for annual mowing and herbicide application.

Add the following sentence at the end of the "Planned Vegetation" section on page 6-5:

To prevent excessive growth in the vegetative cover, mowing operations will be conducted semiannually in late spring (May-June) and early fall (September - October) on top and around the disposal cell, within the permanent withdrawal area.

Add the following statement to the last sentence, in the "Volunteer Plant Growth" section on page 6-5:

...on an annual basis.