



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

September 18, 1998

Mr. Ray Plienness
U.S. Department of Energy
Grand Junction Office
2597 B 3/4 Road
Grand Junction, CO 81503

**SUBJECT: ACCEPTANCE OF THE FINAL GROUND WATER COMPLIANCE ACTION PLAN
FOR THE INACTIVE URANIUM MILL TAILINGS SITE AT FALLS CITY, TEXAS**

Dear Mr. Plienness:

The U.S. Nuclear Regulatory Commission (NRC) staff hereby concurs with the U.S. Department of Energy's (DOE's) Ground Water Compliance Action Plan (GCAP), dated April 8, 1998, for the Uranium Mill Tailings Remedial Action Project site at Falls City, Texas. This action completes the remedial action for the Falls City site under the Uranium Mill Tailings Radiation Control Act of 1978, as amended (UMTRCA).

DOE submitted a final Remedial Action Plan and Site Conceptual Design for Stabilization of the Inactive Uranium Mill Tailings at Falls City, Texas, dated November 1991. The staff reviewed and conditionally concurred with the proposal in August 1992. The conditional concurrence was based on DOE's deferring compliance with the ground-water cleanup provisions of Title 40 Code of Federal Regulations Part 192 (40 CFR 192), Subparts B and C. DOE's final Completion Report dated August 1996, was reviewed by NRC staff and accepted by letter dated April 16, 1997. NRC staff accepted DOE's Long Term Surveillance Plan for the site by letter dated July 8, 1997, and the site was transferred to long-term care under the general license provisions of 10 CFR 40.27.

As discussed in the enclosed Supplemental Technical Evaluation Review (TER), NRC staff has determined that the GCAP and modification of the Falls City Remedial Action Plan satisfies the requirements set forth in the UMTRCA, and the regulations in 40 CFR 192, Subparts B and C for the cleanup of ground-water contamination resulting from the processing of ores for the extraction of uranium.

DOE must modify the LTSP to include monitoring of the existing plume for five years (until 2003) in wells 832, 886, 891, 924, and 963 for the protection of beneficial water use. This action completes the remedial action for this site under UMTRCA.

September 18, 1998

R. Plieness

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If you have any questions concerning this letter, please contact the NRC Project Manager, Elaine Brummett, at (301) 415-6606.

Sincerely,

[original signed by C. Abrams for]

Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: D. Metzler, DOE GJPO

CASE CLOSED: L51164

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**SUPPLEMENTAL TECHNICAL EVALUATION REPORT
TITLE I GROUND WATER REMEDIATION**

DATE: September 9, 1998

FACILITY: Falls City, Texas

PROJECT MANAGER: Elaine Brummett, Uranium Recovery Branch, DWM/NMSS

TECHNICAL REVIEWER: Michael Layton, Uranium Recovery Branch, DWM/NMSS

BACKGROUND:

The U.S. Department of Energy (DOE) submitted a final Remedial Action Plan (RAP) and Site Conceptual Design for the Stabilization of the Inactive Uranium Mill Tailings at Falls City, Texas, dated November 1991, for NRC staff review. The staff reviewed the RAP and conditionally concurred on the proposed remedial action as documented in the August 1992, Technical Evaluation Report (TER). The conditional concurrence was based on DOE's deferring compliance with the ground-water cleanup provisions of Title 40 Code of Federal Regulations Part 192 (40 CFR 192), Subparts B and C. DOE demonstrated that there was no health, safety, or environmental impact from the ground-water situation at the Falls City site. Therefore, DOE proposed to address compliance with these requirements as part of a separate program for ground water cleanup.

DOE's final Completion Report for surface remediation dated August 1996, was reviewed by staff and accepted by letter dated April 16, 1997. The staff accepted DOE's Long-Term Surveillance Plan (LTSP) for the site by letter dated July 8, 1997, and the site was transferred to long-term care under the general license provisions of 10 CFR 40.27.

The ground-water restoration phase of the Uranium Mill Tailings Remedial Action (UMTRA) Project was initiated by DOE's final Programmatic Environmental Impact Statement (PEIS) for the UMTRA Ground Water Project. The final PEIS was approved for distribution on September 19, 1996, and the Record of Decision was approved and published on April 28, 1997.

This supplemental TER documents the staff's review of DOE's Ground Water Compliance Action Plan (GCAP), dated April 8, 1998, for the Falls City Uranium Mill Tailings Remedial Action Project site at Falls City, Texas, and modifies the conditional concurrence in the August 1992 TER.

SUMMARY AND CONCLUSIONS:

Staff has determined that the GCAP and modification of the Falls City RAP satisfy the requirements set forth in the Uranium Mill Tailings Radiation Control Act of 1978, as amended (UMTRCA), and the standards in 40 CFR 192, Subparts B and C for the cleanup of ground-water contamination resulting from the processing of ores for the extraction of uranium. DOE must modify the LTSP to include monitoring of the existing plume for five years (until 2003) in

Enclosure

wells 862, 886, 891, 924, and 963 for the protection of beneficial water use. This action completes the remedial action for this site under UMTRCA.

DESCRIPTION OF DOE's REQUEST:

DOE requested a RAP modification to revise the Aquifer Restoration portion of the Water Resource Protection Strategy. The modification identified DOE's compliance approach for ground-water cleanup, which involves no remediation, based on the uppermost aquifer meeting the limited use classification due to wide-spread ambient contamination unrelated to uranium milling operations at the Falls City site.

TECHNICAL EVALUATION:

DOE submitted the Site Observational Work Plan (SOWP) for the Falls City site to the NRC for an informational and "fatal flaw" review in May 1997, to determine if the approach was technically feasible and consistent with the regulatory requirements. DOE's described compliance approach of no remedial action was based on the uppermost aquifer (Deweeseville/Conquista and Dilworth formations) meeting the limited use classification, and no apparent risk to human health or the environment from the contaminated ground water because of no known exposure pathway in the uppermost aquifer. DOE's characterization and analysis showed that there is no discharge of ground water from the uppermost aquifer to deeper aquifers or surface waters, no one is using or projected to use the uppermost aquifer since it meets the limited use classification, and better quality water is readily available from deeper aquifers.

DOE concluded there is no known livestock, domestic, or drinking water wells in the contaminated ground water of the Deweesville/Conquista aquifer. The background ground-water quality is sufficiently poor in this aquifer that it has no historical or current use as a drinking water supply. There is no known current use of the Dilworth aquifer as a drinking water supply within a 3-kilometer (2-mile) radius of the site. Water from this aquifer has historically been considered poor quality. Water from the Dilworth aquifer has been used to water livestock and gardens in the site vicinity. DOE concluded this beneficial use can continue without adverse risk to animals or humans.

DOE indicated that it will monitor the ground water in the uppermost aquifer to ensure that beneficial uses are protected. Wells 862, 886, 891, 924, and 963 will be sampled and analyzed annually for five years (until 2003) to monitor plume movement. At the end of the five-year period, DOE will consult with the NRC and the State of Texas to determine if continued monitoring will be required. This ground-water monitoring commitment is in addition to the disposal cell performance monitoring, consequently, DOE will modify the LTSP to include the additional monitoring.

Staff reviewed the SOWP from an informational perspective and concluded that DOE's approach for complying with the ground-water cleanup provisions in 40 CFR 192, Subparts B and C, had no fatal flaws. Staff's review of the GCAP also concludes that the approach is consistent with requirements in the regulations and DOE's PEIS. Therefore, the staff concurs with the DOE ground-water reclamation for the Falls City site.

REFERENCES:

- U.S. Department of Energy, 1996. Final Programmatic Environmental Impact Statement for the Uranium Mill Tailings Remedial Action Ground Water Project, October 1996. DOE/EIS-0198.
- U.S. Department of Energy, 1997. Final Site Observational Work Plan for the UMTRA Project Site at Falls City, Texas, May 1997. DOE/AL/62350-157 Rev. 1.
- U.S. Department of Energy, 1998. Final (GCAP) Subpart B, Ground Water Compliance Modification to the Remedial Action Plan of the Inactive Uranium Mill Tailings Site at Falls City, Texas. Transmitted by letter dated April 8, 1998.
- U.S. Nuclear Regulatory Commission, 1992. Final Technical Evaluation Report for the Proposed Remedial Action at the Falls City Uranium Mill Tailings Site, Falls City, Texas.
- U.S. Nuclear Regulatory Commission, 1997. Falls City, Texas, Site Observational Work Plan. Letter to Mr. George Rael, DOE/AL from Mr. Joseph Holonich NRC/URB, October 7, 1997.