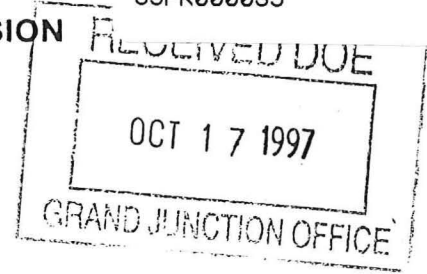




UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 9, 1997



Mr. Ray Plienness, Project Manager
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 SPOOK, WYOMING

Dear Mr. Plienness:

The U.S. Nuclear Regulatory Commission staff hereby concurs with the U.S. Department of Energy's (DOE's) Ground Water Compliance Action Plan (GCAP), dated March 18, 1997 for the Spook Uranium Mill Tailings Remedial Action Project site at Spook, Wyoming. This action completes the remedial action for the Spook 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 Spook, Wyoming, dated July, 1989. The staff reviewed and conditionally concurred with the proposal in December, 1989. The conditional concurrence was based on DOE's deferring compliance with the groundwater cleanup provisions of Title 40 Code of Federal Regulations Part 192 (40 CFR 192), Subparts B and C. DOE's final Completion Report dated October, 1991 was reviewed by NRC staff and accepted by letter dated March 4, 1992. NRC staff accepted DOE's Long Term Surveillance Plan for the site by letter dated September 21, 1993 and the site was transferred to long-term care under the general license provisions of 10 CFR 40.27.

As discussed in the enclosed Technical Evaluation Review (TER), NRC staff has determined that the GCAP and modification of the Spook 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 groundwater contamination resulting from the processing of ores for the extraction of uranium. No modifications to the Long-Term Surveillance Plan are required.

If you have any questions concerning this subject please contact the NRC Project Manager, Janet Lambert, at (301) 415-6710.

Sincerely,

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 GJO
F. Bosiljevac, DOE Alb
J. Virgona, DOE GJO
R. Edge, DOE GJO

NRC Docket No. WM-00072

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SUPPLEMENTAL TECHNICAL EVALUATION REPORT
TITLE I GROUNDWATER REMEDIATION

DATE: October 6, 1997

FACILITY: Spook, Wyoming

PROJECT MANAGER: Janet Lambert, 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 and Site Conceptual Design for Stabilization (RAP) of the Inactive Uranium Mill Tailings at Spook, Wyoming, dated July 1989, for NRC staff review. Staff reviewed the RAP and conditionally concurred on the proposed remedial action as documented in the December 1989, Technical Evaluation Report (TER). The conditional concurrence was based on DOE's deferring compliance with the groundwater 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 groundwater situation at the Spook site. Therefore, DOE proposed to address compliance with these requirements as part of a separate program for groundwater cleanup.

DOE's final Completion Report dated October 1991 was reviewed by staff and accepted by letter dated March 4, 1992. Staff accepted DOE's Long-Term Surveillance Plan (LTSP) for the site by letter dated September 21, 1993, and the site was transferred to long-term care under the general license provisions of 10 CFR 40.27.

The groundwater 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 staff's review of DOE's Ground Water Compliance Action Plan (GCAP), dated March 18, 1997, for the Spook Uranium Mill Tailings Remedial Action Project site at Spook, Wyoming; and modifies the conditional concurrence in the December 1989 TER.

SUMMARY AND CONCLUSIONS:

Staff has determined that the GCAP and modification of the Spook Remedial Action Plan satisfies 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 groundwater contamination resulting from the processing of ores for the extraction of uranium. No modifications to the LTSP are required by this action. This action completes the remedial action for this site under the UMTRCA.

DESCRIPTION OF DOE's REQUEST:

DOE requested a RAP modification to revise the Aquifer Restoration portion of the Water Resources Protection Strategy. The modification identified DOE's compliance approach for groundwater 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.

TECHNICAL EVALUATION:

DOE submitted the Site Observational Work Plan (SOWP) for the Spook Site to the NRC for an informational and "fatal flaw" review in May, 1995 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 meeting the limited use classification, and no apparent risk to human health or the environment from the groundwater because of no known exposure pathway in the uppermost aquifer. DOE's characterization and analysis showed that there is no discharge of groundwater 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 that the extent of existing contamination may increase with time, but the contaminant concentrations will decrease because of dilution and attenuation within the aquifer. Although groundwater data had not been collected at the site since 1989, DOE further concluded that supplemental data would not be needed because the source of contamination had been minimized, the amount of infiltration through the tailings had been greatly reduced, and the existing characterization was adequate to address uncertainties associated with any changes in groundwater conditions beneath or downgradient of the Spook site.

Staff reviewed the SOWP from an informational perspective and concluded that DOE's approach for complying with the groundwater 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 NRC staff concurs with the DOE groundwater reclamation for the Spook site.

REFERENCES:

- U.S. Department of Energy, 1995, Site Observational Work Plan for the UMTRA Project Site at Spook, Wyoming. DOE/AL/62350-156 Rev. 0.
- 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 Ground Water Compliance Action Plan and Remedial Action Plan Modification of the Inactive Uranium Mill Tailings at Spook, Wyoming. transmitted by letter dated March 18, 1997.

- U.S. Nuclear Regulatory Commission. 1989. Final Technical Evaluation Report for the Proposed Remedial Action at the Spook Tailings Site. Spook, Wyoming.
- U.S. Nuclear Regulatory Commission. 1995. Fatal Flaw review of UMTRA Project Spook Site Observational Work Plan. Memorandum to Joe Holonich from John Austin, November 20, 1995.



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Department of Environmental Quality

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(307) 332-6755

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(307) 332-3144

October 17, 1997

Mr. Don Metzler
U.S. Dept of Energy, Grand Junction Projects Office
P.O. Box 2567
Grand Junction, CO 81502

RE: Spook UMTRA Site - Final Ground Water Compliance Action Plan

Dear Don,

The Wyoming Dept. of Environmental Quality has reviewed the Final Ground Water Compliance Action Plan (GCAP) for the Spook, Wyoming Uranium Mill Tailings Remedial Action (UMTRA) Site. The GCAP modifies Section 5.5 of the Spook Remedial Action Plan to indicate that aquifer restoration will not be implemented at Spook.

The State concurs with DOE's decision based on the high ambient concentrations of selenium and uranium in the uppermost aquifer, both of which exceed EPA Maximum Concentration Limits. The background selenium levels at Spook also exceed Wyoming Class III (livestock) standards.

Although the Ground Water Compliance Action Plan does not require further monitoring, it is my understanding that DOE will be conducting a final round of sampling at Spook during FY 1998. The sampling results will be shared with the State.

Thank you for the opportunity to comment on the GCAP. Please notify my office when the final Spook sampling event is scheduled so that we may review procedures and participate.

Sincerely,

John Erickson
Sr. Environmental Specialist

xc: Richard Chancellor - Cheyenne DEQ/LQD
Roberta Hoy - Cheyenne DEQ/LQD
Mark Moxley - Lander DEQ/LQD

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