

ENCLOSURE 1



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

May 19, 1999

MEMORANDUM TO: Docket File 40-0299

FROM: Elaine Brummett, Project Manager
Uranium Recovery Branch
Division of Waste Management, NMSS

A handwritten signature in black ink, appearing to read "Elaine Brummett", written over the typed name.

SUBJECT: ENVIRONMENTAL ASSESSMENT REGARDING THE ABOVE-GRADE
IMPOUNDMENT ENHANCED RECLAMATION DESIGN FOR THE
UMETCO MINERALS CORPORATION'S EAST GAS HILLS URANIUM
MILL SITE IN WYOMING

Umetco Minerals Corporation (Umetco), in its submittal dated October 6, 1997, requested that the U.S. Nuclear Regulatory Commission (NRC) amend Source Material License SUA-648, authorizing execution of the enhanced reclamation plan for the Above-Grade Impoundment (tailings disposal cell) at its uranium mill site in the East Gas Hills area, Natrona County, Wyoming. Additional information on the enhanced plan, that would increase the size of the impoundment, was submitted and reviewed as discussed in the Technical Evaluation Report. Information related to the potential environmental impact of the proposed construction was submitted by letters dated April 1, April 21, September 5, and November 5, 1998, as well as April 14, 1999. In accordance with 10 CFR 51.21, the NRC staff determined that an environmental assessment (EA) was required to document its review of Umetco's request. The EA prepared by the staff is provided as an attachment to this memorandum to be placed in the licensee's docket file.

License No. SUA-648

Attachment: As stated

ENVIRONMENTAL ASSESSMENT
FOR
UMETCO MINERALS CORPORATION'S URANIUM MILL SITE
EAST GAS HILLS, NATRONA COUNTY, WYOMING

IN CONSIDERATION OF AN AMENDMENT TO
SOURCE MATERIAL LICENSE SUA-648 FOR THE
ABOVE-GRADE IMPOUNDMENT ENHANCED RECLAMATION PLAN

PREPARED BY

THE U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF WASTE MANAGEMENT
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

ENVIRONMENTAL ASSESSMENT FOR THE
ABOVE-GRADE IMPOUNDMENT ENHANCED RECLAMATION PLAN
UMETCO MINERALS CORPORATION'S
URANIUM MILL SITE IN NATRONA COUNTY, WYOMING

1.0 INTRODUCTION

1.1 Background

The Umetco Minerals Corporation's (Umetco) uranium mill site is located in western Natrona County, in the East Gas Hills area of central Wyoming. The Umetco site is licensed by the U.S. Nuclear Regulatory Commission (NRC) under Materials License SUA-648 to possess byproduct material in the form of uranium waste tailings, as well as other radioactive wastes generated by past milling operations. The mill operated from 1960 to 1979 and has been dismantled. Current site activities include completion of reclamation of three disposal areas and continuation of the ground-water corrective action program.

In 1980, Umetco submitted a reclamation plan for the Above-Grade Tailings Impoundment (Impoundment), incorporating the adjacent experimental heap leach area. The plan was approved with modifications as documented in License Condition (LC) 54. Umetco completed tailings re-grading and construction of the cover, except for six inches of topsoil and seed, in 1992. As per the approved design, the cover consists of 1-foot of clay, 1-foot of filter soil, and 7.5-feet of overburden soil. Several years after construction, erosion of the cover was noted and concerns were expressed for erosion along the east toe of the Impoundment, the closure of the north toe drain, and additional contamination found near the north edge of the Impoundment.

1.2 Proposed Action

The major proposed modifications to the approved Reclamation Plan for stabilization and containment of the waste material include:

1. Extend the radon barrier/cover on the north and east sides about 200 feet in order to close the drain system and cover contamination found along the downstream toe.
2. Add erosion protection (rip rap) along a portion of East Canyon Creek to protect the toe of the Impoundment.
3. Replace the previously proposed topsoil/vegetative cover with rip rap (rock) erosion protection on both the top and side slopes of the Impoundment.

In addition, Umetco would verify the stability, settlement, radon attenuation, and other aspects of the existing Impoundment.

1.3 Review Scope

In accordance with 10 CFR Part 51, this Environmental Assessment (EA) serves to: (1) present information and analysis for determining whether to issue a Finding of No Significant Impact or to prepare an Environmental Impact Statement (EIS); (2) fulfill the NRC's compliance with the

National Environmental Policy Act when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary. Should the NRC issue a finding of no significant impact, no EIS would be prepared and the license amendment would be granted.

2.0 SITE CHARACTERISTICS

The licensed facility, including associated uranium mill tailings and heap leach disposal areas, comprises 546 acres (162.5 ha) and is located approximately 50 miles (80 km) southeast of Riverton in Natrona County, Wyoming. The Above-Grade Impoundment is one of three disposal areas on the site, and now covers 133 acres (53 ha). The enhanced design would enlarge the Impoundment to approximately 170 acres (68 ha).

According to the Final Environmental Statement (FES) for the mill operation (NRC, 1980) and the Supplement to the Environmental Report (Umetco, 1995), the nearest residence is located approximately 5 miles (8 km) northeast of the site. Within a 50-mile (80-km) radius, the 1990 population was 4,407. Within 5 miles (8 km) of the site, approximately 78 percent of the land is under the U.S. Bureau of Land Management (BLM) jurisdiction. Current usages of land and water adjacent to the site remain as reviewed by the NRC staff and documented in its original FES for the East Gas Hills Uranium Project. Within 30 miles (48 km) of the site, there are three other uranium mill sites and several former uranium mining sites. Also, the Wyoming abandoned mine land reclamation program has reclaimed open uranium mine pits adjacent to the site.

With the exception of several evaporation ponds, there are no perennial surface water bodies in the area of the East Gas Hills mining district. The mill site is in the surface drainage area of the East Canyon Creek, which is ephemeral in the site area. The ecology of the region has not materially changed from that presented in the FES, as confirmed by reports of annual inspection by the Wyoming Department of Environmental Quality (WDEQ) and the BLM. The geographical area is semi-arid with an average annual precipitation of 9 inches (23 cm).

3.0 OPERATIONS

The mill operated from 1960 to 1979 and tailings slurry was placed in the Impoundment during this period. The earth dams of the Impoundment are of silty clayey sands. Besides the original dam on the north, additional dams were built to expand the capacity (on the east in 1969, on the north in 1972, and east of the main dam in 1974). The material in the Impoundment had completed 90 percent settlement before the cover soil was placed.

4.0 ENVIRONMENTAL EFFECTS

The Umetco ground water corrective action program became operational in December 1990, and continues to address ground-water cleanup for the entire site, as required under LC 35. Environmental monitoring of the mill site is required by LC 34, and results indicate applicable standards are being met. No area-wide releases of byproduct-generated effluents, other than permitted fluxes of radon-222, are anticipated. Localized releases, if any, will be characterized and controlled through the site's "as low as is reasonably achievable" (ALARA) program.

The cultural/historical and archaeological resources data for the site were recently updated (Umetco, 1998a and 1999b). One potential resource area was noted in close proximity to the Above-Grade Impoundment, and the licensee has committed to doing further exploration, retrieval of cultural data, and other actions as needed to meet the requirements of the National Historic Preservation Act. These findings and Umetco's commitments have been reviewed by the Wyoming State Historic Preservation Office (January 14, 1999) and discussed with NRC staff on May 11, 1999. Staff also discussed procedures with the Advisory Council on Historic Preservation (Denver office) on February 1, 1999. The archaeologist for the BLM Casper Field Office is preparing the Programmatic Agreement for the project and has suggested an approach to the cultural work. Umetco has committed to prepare the necessary treatment plan for any cultural resource sites that might be disturbed, according to that approach (Umetco 1999b). Umetco also committed to have an archaeologist monitor construction activities, and to halt construction if cultural deposits are found.

The potential impact to threatened and endangered species on or near the site has been addressed by the U.S. Fish and Wildlife Service (FWS) (March 14, 1998, and February 24, 1999), and Umetco (1998b, 1999b). The Impoundment is within the mill site's restricted area which has been under continuous disturbance since 1960. Because the ground is barren and has remained un-vegetated, the existence of wildlife within the restricted area is minimal. There have been no observed prairie dog colonies within the restricted area so the endangered black-footed ferret is not likely to be in the site area. To address concerns of the FWS, Umetco committed to perform a site survey for the Mountain Plover prior to beginning construction on the Impoundment, and to consult the Service if work will be necessary within the buffer zone around the two red-tailed hawk nests (Umetco 1999b). Umetco also has submitted a 404 permit application to the U.S. Corps of Engineers, as rock armoring of a portion of East Canyon Creek would impact a small wetlands area. The application provides for replacement of the wetlands in the realigned creek channel.

The planned scope of activity for the Impoundment is not different than past construction activities in this and adjacent areas, and less personnel and equipment are on site than when the mill was in operation. The staff considers that any additional environmental effects at the site, as a result of the requested activity, will be insignificant considering all the mitigation efforts that Umetco will perform.

For the cover materials to be used, the clay borrow area, in Fremont County, and the frost protection (overburden/B spoils) borrow area in Natrona County are on BLM land and permitted by the WDEQ. Evaluation of threatened and endangered species and a cultural survey were addressed in the EA done by BLM as part of the permitting process. One possible source of rock for the disposal cell cover is the Rattlesnake Hills Quarry. Preliminary evaluation has been done at this site, and Umetco has committed to providing the final documentation to NRC, indicating that the requirements of the National Environmental Policy Act have been met, before Umetco uses the rock borrow site (Umetco, 1998c).

5.0 ALTERNATIVES

The action that the NRC is considering is approval of an amendment request to a source material license issued pursuant to 10 CFR Part 40. The alternatives available to the NRC are:

1. Approve the license amendment request as submitted; or
2. Amend the license with such additional conditions as are considered necessary or appropriate to protect public health and safety and the environment; or
3. Deny the request.

Based on its review, the NRC staff has concluded that the environmental impacts associated with the proposed action do not warrant either the limiting of Umetco's future operations or the denial of the license amendment. The NRC staff has concluded that there are no significant environmental impacts associated with the proposed action, once the potential and identified cultural resources have been addressed. Therefore, alternatives with equal or greater impacts need not be evaluated. Additionally, in the Technical Evaluation Report prepared for this action, the staff has reviewed the licensee's proposed action with respect to the criteria for reclamation, specified in 10 CFR Part 40, Appendix A, and has no basis for denial of the proposed action. Therefore, the staff considers that Alternative 1 is the appropriate alternative for selection.

6.0 SUMMARY AND CONCLUSIONS

Based on an evaluation of the environmental impacts of the Umetco amendment request, the NRC has determined that the proper action is to issue a Finding of No Significant Impact (FONSI) in the Federal Register. The following statements support the FONSI and summarize the conclusions resulting from the EA.

1. An acceptable environmental and effluent monitoring program is in place to monitor effluent releases and to detect if applicable regulatory limits are exceeded. Radiological effluents from site operations have been, and are expected to continue to remain below the regulatory limits;
2. Present and potential risks were assessed. Given the remote location, limited activities requested, the small area of impact, the commitments by the licensee, and the past activities on the site, the staff has determined that the risk factors for health and environmental hazards are insignificant.

7.0 CONSULTATION AND SOURCE INFORMATION

In completing this action, the NRC staff held discussions or corresponded with representatives of the Wyoming State Historic Preservation Office, WDEQ, Wyoming Fish and Game Department, U.S. Fish and Wildlife, and the BLM (Wyoming offices), as documented below.

References

Correspondence and Telephone Conversations (by date):

Letter from Umetco, providing the Supplement to the Existing Environmental Report, January 11, 1993.

Letter from Umetco, providing the Supplement to Applicant's Environmental Report, January 23, 1995.

Letter (with enclosures) from T. Gieck, Umetco, to J. Holonich, NRC, Subject: Request for license amendment authorizing execution of enhanced reclamation design for the Above-Grade Impoundment, October 6, 1997.

Letter From Judy Wolff, State Historic Preservation Office, to M. Karbs, BLM (cc: E. Brummett, NRC), comments on Umetco's cultural survey report, January 23, 1998.

Letter (with enclosure) from T. Gieck, Umetco, to J. Holonich, NRC, transmitting the "Class III Cultural Resources Inventory", February 4, 1998(a).

Letter from J. Holonich, NRC, to Field Supervisor, U.S. Fish and Wildlife Service, requests information on protected plant and animals in the vicinity of Umetco site, February 13, 1998.

Letter from Michael M. Long, U.S. Fish and Wildlife Service, to J. Holonich, NRC, suggesting precautions to protect candidate species, raptors, and migratory birds, March 14, 1998.

Letter from T. Gieck, Umetco, to J. Holonich, NRC, response to comment on potential environmental impacts to borrow areas, clean-up areas, and East Canyon Creek drainage, April 1, 1998(b).

Telephone conversation with Fred Georgesen, BLM, and Elaine Brummett, NRC, concerning the environmental assessment for the clay borrow area, April 14, 1998.

Letter from T. Gieck, Umetco, to J. Holonich, NRC, response i.e., updating environmental assessment and information on borrow sites, April 21, 1998(c).

Letter from Don Whyde, BLM, to Elaine Brummett, NRC, concerning the cultural resource work completed for Umetco's rock borrow area, May 1, 1998.

Letter from Don Whyde, BLM, to Elaine Brummett, NRC, concerning completed assessment of mitigation needs for cultural resources at the Umetco site, October 23, 1998.

Letter from T. Gieck, Umetco, to J. Holonich, NRC, concerning cultural resource site #48NA465, November 5, 1998(d).

Letter from N.K. Stablein, NRC, to J. D. Wolf, State Historic Preservation Office, concerning areas to be protected and areas needing mitigation, January 4, 1999.

Memorandum from T. Gieck, Umetco, to E. Brummett, NRC, transmitting drawing showing boundaries of threatened and endangered species survey, January 5, 1999(a).

Letter from Judy K. Wolf, Deputy State Historic Preservation Officer, to N. King Stablein, NRC, stating no objection to the reclamation project, conditional to appropriate mitigation of cultural resources, January 14, 1999.

Letter (with enclosures) from N.K. Stablein, NRC, to Field Supervisor, U.S. Fish and Wildlife Service, requesting information on protected plants and animal species in the site area, including area to be cleaned; and enclosing 1998 Umetco species survey, January 26, 1999.

Letter from Michael M. Long, U.S. Fish and Wildlife Service, to J. Holonich, NRC, suggesting precautions for the mountain plover, raptors, and wetlands/riparian areas, February 24, 1999.

Telephone conversation with Alan Stanfill, Advisory Council on Historic Preservation, and Elaine Brummett, NRC, concerning requirements of Section 106 of the National Historic Preservation Act, February 1, 1999.

Letter (with enclosures) from NRC to Wyoming Game and Fish Department, providing Umetco's threatened and endangered species survey, February 1, 1999.

Letter (with enclosures) from T. Gieck, Umetco, to N.K. Stablein, NRC, regarding cultural sites, wildlife, and wetlands, April 14, 1999(b).

Telephone conversation with Karen Kempton, State Historic Preservation Office, and Elaine Brummett, NRC, regarding Ms. Kempton's informal approval of the approach for cultural work at the Umetco site. Her concerns on the draft treatment plan will be addressed before construction on the Impoundment begins and the licensee's commitments appear adequate, May 11, 1999.

Telephone conversation Chris Arthur, archaeologist for BLM, and Elaine Brummett, NRC, concerning the Umetco treatment (mitigation) plan and the inter-agency agreement, May 20, 1999.

Document:

U.S. Nuclear Regulatory Commission, "Final Environmental Statement for the Gas Hills Uranium Project," NU-REG-0702, July 1980.