

August 29, 1997

Mr. Oscar Paulson  
Kennecott Uranium Company  
Sweetwater Uranium Facility  
P. O. Box 1500  
Rawlins, Wyoming 82301

Dear Mr. Paulson:

The U.S. Nuclear Regulatory Commission staff has completed its review of the Kennecott Uranium Company (KUC) request of July 9, 1996, to amend Source Material License SUA-1350 for the Sweetwater Uranium Facility to allow disposal of 11e (2) byproduct material generated by Crow Butte Resources, Inc. in the Sweetwater tailings impoundment. Based on its review, the NRC staff concludes that the disposal of Crow Butte 11e (2) material at the Sweetwater facility is acceptable.

The Crow Butte material is byproduct material under Section 11e (2) of the Atomic Energy Act of 1954, as amended, and consists of wastes resulting from the process of in situ uranium extraction. KUC provided information relative to the type and description of the material, volume to be disposed of, and the disposal schedule and plan. Due to the type and amount of material to be placed in the tailings impoundment at the Sweetwater facility, the NRC staff has concluded that no revision to the site reclamation plan or reclamation bond is necessary to complete this action.

Therefore, pursuant to title 10 of the Code of Federal Regulations (10 CFR) Part 10, Source Material License SUA-1350 is hereby amended by modifying License Condition 10.6 (LC 10.6) to allow disposal of 11e (2) from the Crow Butte ISL facility, Crawford, Nebraska. The NRC staff's review is documented in a Technical Evaluation Report for the license amendment (Enclosure 1). A copy of the revised license incorporating the amended LC 10.6 is Enclosure 2.

If you have any questions concerning this letter or the enclosures, please contact the NRC Project Manager, Ms. Charlotte Abrams, at (301) 415-5808.

Sincerely,  
(Original signed by Daniel M. Gillen for)  
Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 40-8584  
License No. SUA-1350  
Case No./Status: case closed  
TAC No. L51427  
Amendment: 10

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Enclosures: AS stated

cc: D. Finley, WyDEQ  
R. Hammond, KUC

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TECHNICAL EVALUATION REPORT  
DISPOSAL OF IN-SITU LEACH ILE (2)  
BYPRODUCT MATERIALS

DOCKET NO. 40-8584

LICENSE NO. SUA 1350

LICENSEE Kennecott Uranium Company

FACILITY Sweetwater Uranium Mill

PROJECT MANAGER Charlotte Abrams

SUMMARY AND CONCLUSIONS

The U.S. Nuclear Regulatory Commission staff has reviewed the July 9, 1996, request of Kennecott Uranium Company (KUC) to amend NRC Source Material License SUA 1350 for the Sweetwater uranium mill. By this submittal, KUC requested NRC approval to accept for disposal ILE (2) byproduct materials from Crow Butte Resources, Inc.'s (CBR's) Crow Butte in situ leach (ISL) uranium facility. Based on its review, the NRC staff considers KUC's request acceptable.

DESCRIPTION OF LICENSEE'S AMENDMENT REQUEST

By its submittal dated July 9, 1996, KUC requested NRC approval to accept ILE (2) byproduct materials for disposal in the Sweetwater mill tailings impoundment. These materials will arrive from CBR's Crow Butte ISL facility located in Dawes County, Nebraska, where the materials were generated as part of CBR's uranium extraction activities authorized under NRC Source Material License SUA 1534.

The materials, which currently are disposed of at International Uranium (USA) Corporation's White Mesa uranium mill in Blanding, Utah, will include wastes such as spent resins, filter material, contaminated equipment (e.g., valves, pumps, piping) and contaminated soils. KUC also provided (1) testing results for the material, (2) a disposal plan for the materials, and (3) the standard operating procedure for void reduction in materials to be placed in the Sweetwater tailings impoundment. KUC expects between 1300 and 2800 cubic yards of material will be shipped and disposed of in the Sweetwater tailings impoundment over the course of a 15 year period. Due to the relatively small amount of material to be placed in the tailings impoundment, KUC does not believe a revision to its site reclamation plan or to the reclamation bond amount is necessary.

TECHNICAL EVALUATION

Criterion 2 to 10 CFR Part 40, Appendix A, states "To avoid the proliferation of small waste disposal sites and thereby reduce perpetual surveillance obligations, byproduct materials from in situ extraction operations . . . must be disposed of at existing large mill tailings disposal sites . . ." unless specific considerations . . . clearly outweigh the benefits of reducing the

perpetual surveillance obligations. Specific Considerations include the nature of the wastes (e.g. their volume and specific activity) and the costs and environmental impacts associated with transporting the material offsite for disposal.

KUC proposes to accept byproduct materials generated at the Crow Butte ISL facility for disposal at the Sweetwater facility. The materials will be placed in the existing 60-acre tailings cell which is synthetically lined. The volume of material to be accepted is not significant when viewed in terms of the total capacity of the Sweetwater tailings impoundment (approximately 4.0 million tons) and relative to the amount of tailings currently in the impoundment (approximately 2.4 million tons).

Based on a review of the testing results on past representative samples of the material, the NRC staff anticipates that the byproduct material to be disposed of will not contain hazardous wastes, and will not contain appreciable levels of heavy metals. KUC commits to ensuring that no materials that are known to be, or test as, hazardous waste will be placed in the tailings cell. The potential levels of radioactive constituents in the byproduct material are not expected to differ significantly from those currently, or projected to be, observed in the tailings cell. As mentioned previously, the byproduct materials to be disposed of are expected to be similar to those currently transported to the White Mesa uranium mill site for disposal. In addition, as part of its license requirements, KUC is conducting regular monitoring and sampling of the groundwater surrounding the tailings cell under its groundwater compliance program.

The byproduct materials will be transported by covered trucks approximately 300 miles from CBR's facility to the Sweetwater mill. The trucks will be inspected for road worthiness and scanned and decontaminated, if necessary, prior to leaving the CBR facility. Each truck will be equipped with a Spill Contingency Plan and Spill Kit in the event of a spill or accident, and the driver will make the initial cleanup efforts prior to the arrival of CBR personnel to complete the cleanup. CBR will be notified by the truck driver via mobile radio or radiotelephone in the event of a spill or other problem. After unloading is completed, all trucks will be checked for contamination and decontaminated, if necessary, before being released from the Sweetwater facility.

Based on the above, the NRC staff finds KUC's proposal to accept byproduct materials generated at CBR's Crow Butte ISL facility to be acceptable. Therefore, pursuant to Title 10 of the Code of Federal Regulation, Part 40, Source Material License SUA-1350 is amended by revising License Condition No. 10.6 as follows:

10.6 During the period of mill shutdown, the licensee shall not add tailings or other solid wastes to the tailings cell, except byproduct material in the form of debris generated by routine site maintenance; a maximum of 10,000 cubic yards of byproduct material generated in the course of decommissioning U.S. Energy Corporation's Green Mountain Ion Exchange (GMIX) facility which is licensed by SUA-1524 and a maximum of 2800 cubic yards of 11e (2) byproduct material generated by Crow Butte

Resources, Inc. in the course of operating its Crow Butte In Situ Leach (ISL) facility which is licensed by SUA 1534. Disposal of the GMIX materials shall be performed as described in the disposal plan which was submitted in Kennecott's July 21, 1993, letter. Disposal of the Crow Butte ISL materials shall be in accordance with Kennecott's submittal of July 9, 1996. Any disposal activities in the tailings cell shall be performed in accordance with the standard operating procedure, "Reduction of Voids in Material Placed in the Tailings Cell for Disposal," submitted on October 27, 1997. In addition, the licensee shall implement an interim stabilization program for all tailings areas not covered by standing water. The stabilization program shall include written operating procedures and shall minimize the dispersal of windblown tailings.  
[Applicable Amendments 1, 4, 10]

#### ENVIRONMENTAL IMPACT EVALUATION

An environmental review was not performed since this action is categorically excluded under 10 CFR 51.22(c)(1).