



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

July 2, 1999

Gary Chase, Radiation Safety Officer
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

SUBJECT: NRC INSPECTION REPORT NO. 40-8452/99-01

Dear Mr. Chase:

An NRC inspection was conducted June 8, 1999, at the site of your former Bear Creek Mill facility. The enclosed report presents the scope and results of that inspection.

The purpose of this inspection was to review activities related to your possession-only license which authorizes the reclamation of uranium tailings that were generated in past operations. The inspection determined that you have continued to conduct remediation activities at the site in a safe manner.

Based on the results of this inspection, no violations or deviations were identified; therefore, no response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

Should you have any questions concerning this inspection, please contact me at (817) 860-8191 or Mr. Louis C. Carson II at (817) 860-8221.

Sincerely,

A handwritten signature in cursive script, appearing to read "D. Blair Spitzberg".

D. Blair Spitzberg, PhD., Chief
Fuel Cycle & Decommissioning Branch
Division of Nuclear Materials Safety

Docket No.: 40-8452
License No.: SUA-1310

Enclosure:
NRC Inspection Report
40-8452/99-01

Gary Chase

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cc w/enclosure:

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Wyoming Radiation Control Program Director

ENCLOSURE

**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Docket No.: 40-8452
License No.: SUA-1310
Report No.: 40-8452/99-01
Licensee: Bear Creek Uranium
Facility: Former Bear Creek Mill
Location: Converse County, Wyoming
Dates: June 8, 1999
Inspector: Louis C. Carson II, Health Physicist
Fuel Cycle & Decommissioning Branch
Division of Nuclear Materials Safety

Approved By: D. Blair Spitzberg, PhD., Chief
Fuel Cycle & Decommissioning Branch
Division of Nuclear Materials Safety

Attachment: Supplemental Inspection Information

EXECUTIVE SUMMARY

Former Bear Creek Mill NRC Inspection Report 40-8452/99-01

This inspection included a review of site status and remediation; management organization and controls; site radiation protection; environmental protection; and waste management programs.

Site Status and Decommissioning for Uranium Mill Sites

- Bear Creek's reclamation plan was approved by the NRC in February 1992. There are approximately 60,000 yards² of land remaining to be reclaimed. Activities at the site, which have been managed by the Radiation Safety Officer/Environmental Coordinator (RSO/EC), included site reclamation and erosion protection. In October 1998, the licensee completed the placement of the radon barrier on the tailings impoundment (Section 1).
- Site activities and decommissioning programs were being conducted in accordance with the Bear Creek Remediation Plan, the license, and applicable regulations for uranium mill sites (Section 1).

Management Organization and Controls

- The licensee's organization and management controls were found to be in accordance with requirements of the license. A qualified individual had maintained adequate oversight of reclamation activities (Section 2).
- Established procedures were found to be in compliance with the license (Section 2).

Radiation Protection

- The licensee had implemented a radiation protection program that was found to be in accordance with requirements established in 10 CFR Parts 19 and 20 and the license. In 1998, occupational exposures were well below the regulatory limits (Section 3).

Environmental Protection and Radioactive Waste Management

- Site fences were in good condition. Site security and perimeter postings were appropriate (Section 3).
- The radioactive waste management program had been conducted in accordance with license requirements (Section 4).

Report Details

1 Site Status and Decommissioning Inspection Procedure for Uranium Mill Sites (87654)

1.1 Inspection Scope

The site status and decommissioning program were reviewed to determine if licensee activities were being conducted in accordance with the Bear Creek Reclamation Plan, the license, and applicable NRC regulations for uranium mill sites.

1.2 Observations and Findings

The Bear Creek Reclamation Plan was approved by the NRC in February 1992. There are approximately 60,000 yards² of land remaining to be reclaimed. The owner-controlled area and site restricted area encompasses 1040 acres. Activities at the site were managed by the RSO/EC which included site reclamation. An office building and two warehouses remained as part of the site property. In July 1997, the licensee began the final stages of reclaiming the tailings impoundment to include the placement of the radon barrier. In October 1998 the licensee completed the radon barrier installation. At the time of this inspection, no reclamation work was in progress due to the rainy season.

1.3 Conclusion

The inspector concluded that the site was being maintained in accordance with the Bear Creek Reclamation Plan, the license, and applicable NRC regulations for uranium mill sites.

2 Management Organization and Controls (88005)

2.1 Inspection Scope

The organization structure was reviewed to ensure that the licensee had maintained an effective organization with defined responsibilities and functions. The licensee's standard operating procedures were reviewed, and the implementation of these procedures was assessed to evaluate the effectiveness of such controls on site activities.

2.2 Observations and Findings

a. Management Organization

During this inspection, the licensee's functional organization chart was compared with the organization chart referenced in License Condition (LC) 11. No changes in site organization structure had occurred since the previous inspection. The site was maintained by a single employee, the RSO/EC. The RSO/EC reports to the operations

manager who had relocated to the Union Pacific office in Rock Springs, Wyoming. The operations manager visits the site several times per month. The inspector concluded that the licensee's overall organization structure agreed with the license.

License Condition 15 requires the licensee to document the results of personnel monitoring, surveys, calibrations, sampling, audits, inspections, meetings, training sessions, investigations, and corrective actions. The inspector reviewed licensee records for 1998 and 1999 such as instrument calibration records, training records, and monthly reports. The licensee's program met requirements. The following sections of this report detail the inspector's review of these records.

License Condition 33 requires that written procedures be established and reviewed by the RSO/EC at least annually for nonoperational and surveillance activities including environmental and radiation monitoring and instrument calibrations. The inspector reviewed the standard operating procedures (SOPs) established by the licensee for routine site activities. SOPs had been reviewed annually by the RSO/EC, as required, with the last review occurring on January 20, 1999. The inspector noted that the licensee's radiation safety training and personnel monitoring procedures had been updated to reflect the revised 10 CFR Part 20 requirements.

2.3 Conclusions

The licensee's organization and management controls met the requirements of the license. A qualified RSO/EC had maintained adequate oversight of reclamation activities. Procedures had been established and were found to be adequate for the site.

3 **Radiation Protection (83822)**

3.1 Scope

The inspector reviewed the licensee's radiation protection program to determine compliance with the license application and 10 CFR Parts 19 and 20.

3.2 Observations and Findings

The radiation protection program had been limited to equipment release surveys, radon barrier installation, and erosion protection work. The RSO/EC expanded the radiation protection program when the evaporation pond remediation and radon barrier work began. The inspector reviewed occupational monitoring records, airborne radioactivity sampling data, and contamination survey results. No personnel bioassay program was required. The inspector determined worker occupational exposures were well below the regulatory limits. The inspector reviewed the licensee's radiation safety training program for compliance with the requirements of 10 CFR 19.12. The inspector noted that contract workers had received adequate radiation safety training in 1998.

License Condition 18 requires that the licensee not release contaminated material above the limits pursuant to "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct or Source

Materials." According to the RSO/EC, no material and equipment was exposed to licensed material. The licensee's contamination survey records for 1998 and 1999 indicated that no contamination was detected above these limits for released materials. The licensee's release program was in accordance with requirements of the license. The inspector noted that the two warehouses and a maintenance shop were located within site restricted area. The licensee would have to perform final release surveys on those structures in accordance with LC 18 prior to license termination.

License Condition 14 exempts the licensee from the radiological posting requirements set forth in 10 CFR 20.1902(e) provided the licensee conspicuously posts all entrances to the mill with the words: "Any area within the mill may contain radioactive material." The inspector observed that the waste disposal area, mill tailings area, and the demolished mill site within the restricted boundary were adequately posted as required by the license. Additionally, the inspector determined that licensed material was secure within the site property as required by 10 CFR 20.1801.

3.3 Conclusion

The licensee implemented a radiation protection program that was in compliance with the license and applicable portions of 10 CFR Parts 19 and 20.

4 **Environmental Monitoring (88045) Radioactive Waste Management (88035)**

4.1 Scope

The inspector reviewed the licensee's environmental monitoring and radioactive waste management programs to determine compliance with applicable requirements specified in the license.

4.2 Observations and Findings

Over 100 acres of the mill tailings had been covered with 3 to 5 feet of clay radon attenuation barrier. According to the licensee, most of the topsoil cover had been seeded to protect the NRC radon attenuation barrier from erosion. The radon barrier installation was complete and had been tested for radon flux. The licensee expected to have the rip-rap rock, and erosion protection completely in place by the end of 1999. The licensee needed to conduct final grade work on the tailings pile and place 200,000 yards³ of topsoil on some of the lower areas of the pile. Approximately 60,000 yards² of the southwest section tailings pile was expected to be reclaimed this year.

License Condition 36 requires that the tailings embankment be inspected on a monthly basis. The inspector reviewed the results of the embankment inspections for the period of May 1998 through May 1999. Monthly reports of the inspection results were provided to the corporate office. The licensee had also conducted technical evaluations of the tailings embankment and had submitted the results to the NRC. The licensee reported that no degradation to the dam structure had been detected. Likewise, the inspector toured the embankment area, tailings pile, and former evaporation ponds and found no degradation. Dam inspections and reports had been conducted in accordance with the license.

License Condition 21 requires that the licensee conduct an annual survey of land use in areas within 2 miles of the mill, and submit a report to the NRC each year. The Land Use Survey Report describes significant land use changes by private residences, nonresidential structures, grazing areas, potable water and wells, and uses. The inspector reviewed the licensee's 1998 Land Use Survey Report which was submitted to the NRC on November 1, 1998. The licensee did not identify any new land uses around the site.

4.3 Conclusions

The waste management and environmental monitoring programs had been conducted in accordance with license requirements.

5 **Exit Meeting Summary**

An exit meeting was conducted at the conclusion of the inspection on June 8, 1998. During this meeting, the inspector reviewed the scope and findings of the inspection. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector.

ATTACHMENT

LIST OF PERSONS CONTACTED

Licensee

Gary Chase, Radiation Safety Officer/Environmental Coordinator
Ernest Scott, Operations Manager

INSPECTION PROCEDURES USED

| | | |
|----|-------|---|
| IP | 83822 | Radiation Protection |
| IP | 87654 | Decommissioning Inspection Procedure for Uranium Mill Sites |
| IP | 88005 | Management Organization and Control |
| IP | 88035 | Radioactive Waste Management |
| IP | 88045 | Environmental Monitoring |

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

| | |
|--------|--|
| CFR | Code of Federal Regulations |
| LC | License Condition |
| NRC | Nuclear Regulatory Commission |
| RSO/EC | Radiation Safety Officer/Environmental Coordinator |
| SOP | standard operating procedure |