



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

August 19, 2008

Lawrence J. Corte, President
Western Nuclear, Inc.
2801 Youngfield, Suite 340
Golden, CO 80401

SUBJECT: NRC INSPECTION REPORT 040-01162/08-001

Dear Mr. Corte:

This refers to the announced inspection conducted on June 4, 2008, at the Western Nuclear, Inc., Split Rock site in Jeffrey City, Fremont County, Wyoming. The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of examination of selected procedures and representative records, observations of activities, and interviews with personnel. The preliminary inspection findings were discussed with you at the exit briefing conducted at the conclusion of the onsite inspection, and the final inspection findings were presented to Mr. Brad DeWard telephonically on June 25 and July 23, 2008. The enclosed report presents the results of this inspection.

As discussed in our exit briefings, we request that you provide us with a copy of your original submittal, Addendum A to Revision 5 of the reclamation plan, which addresses the evaluation of the placement of a drainage diversion channel and its relation to the cover of the Corrective Action Pond. We have determined that this information is necessary to support a previous NRC decision as outlined in the NRC Memorandum for Docket File 40-1162, dated March 25, 1994.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact Ms. Linda Gersey at (817) 860-8299 or the undersigned at (817) 860-8197.

Sincerely,

/RA RJ Evans for/

Jack E. Whitten, Chief
Nuclear Materials Safety Branch B

Docket No.: 040-01162
License No.: SUA-56

Enclosure:

NRC Inspection Report 040-01162/08-001

cc w/Enclosure:

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 040-01162

License No.: SUA-56

Report No.: 040-01162/08-001

Licensee: Western Nuclear, Inc.

Facility: Split Rock Site

Location: Jeffrey City, Fremont County, Wyoming

Date: June 4, 2008

Inspector: Linda M. Gersey, Health Physicist
Nuclear Materials Safety Branch B

Accompanied by: Richard Chang, General Scientist
Douglas T. Mandeville, PE, Geotechnical Engineer
Ted Johnson, NRC Consultant
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental
Management Programs

Approved by: Jack E. Whitten, Chief
Nuclear Materials Safety Branch B

Attachment: Supplemental Inspection Information

ENCLOSURE

EXECUTIVE SUMMARY

Western Nuclear, Inc., Split Rock Site
NRC Inspection Report 040-01162/08-001

This inspection consisted of a site tour of the completed construction activities and verification of the groundwater and surface water monitoring programs.

On-site Construction

- The geotechnical construction and the erosion protection construction activities were consistent with the information presented in the Construction Completion Report and were performed in accordance with the approved reclamation plans (Section 1).

Environmental Protection

- The surface water and groundwater monitoring programs were being implemented in accordance with regulations and the license (Section 2).
- All ambient gamma exposure rates were the same as background levels (Section 2).
- Two inspection findings were identified relating to the exceedance of the selenium groundwater protection standard for well-5 (previously well 4) and clarification of which Client Sample ID in the Laboratory Analytical Report corresponds to well-5. These issues will be resolved under separate correspondence (Section 2).

Report Details

Site Status

All reclamation work has been completed and approved by the NRC, including reclamation of the tailings impoundment, reclamation of the Corrective Action Pond (CAP), approval of the alternate concentration limits (ACL) for groundwater, and subsequent deactivation of the groundwater remediation system. The license no longer requires a radiation safety program because all tailings have been covered. The only activities remaining are groundwater monitoring and preparation for transfer of the site to the U.S. Department of Energy.

During a September 2007 NRC site visit, thin areas were identified on the CAP pond final cover system. A purpose of this inspection was to obtain visual verification of the licensee's correction actions to address the thin areas of the CAP pond. NRC staff also inspected the geotechnical and erosion control aspects of the final cover system construction over the CAP pond. The inspector took ambient gamma exposure rates around the site to verify the licensee's results as stated in the Construction Completion Reports (CCR).

1 On-site Construction (88001)

1.1 Inspection Scope

Determine if the geotechnical engineering and erosion protection features on the CAP pond were constructed as approved by the NRC in the licensee's reclamation plan, as documented in the licensee's CCR dated July 10, 2007.

1.2 Observations and Findings

a. Geotechnical Engineering

NRC staff reviewed the licensee's July 2007 CCR and did not identify any geotechnical engineering related problems with the CAP pond. As the erosion protection layer had been placed on top of the radon barrier, it was not possible for NRC staff to directly observe the geotechnical components of the final cover system. However, the CAP pond cover appears to have been graded in accordance with the NRC approved reclamation plan, and no areas of differential settlement were observed during the inspection. This indicates that the cover system appears to be working as designed. NRC staff observed the remnants of a soil stockpile that was used by the licensee to supply soil for the radon barrier. The soil appeared to be of the appropriate type for use as a radon barrier.

One item was identified related to the licensee's documentation to assess the placement of a drainage diversion channel and its potential to impact the cover of the CAP pond. In Memorandum for Docket File 40-1162 dated March 25, 1994, the NRC approved Addendum A to Revision 5 of the licensee's reclamation plan, although the licensee's original submission cannot be located in the NRC files. To supplement the NRC's files, the NRC has requested that the licensee provide a copy of their original submission.

b. Erosion Protection

NRC staff performed a site tour to verify the in-place conditions of the erosion protection aspects of the CAP pond, as outlined in the licensee's CCR. NRC staff verified the consistency and quality of rock placement in the CAP pond area. NRC staff also verified that the appropriate rock sizes were placed at the correct locations. A series of verification depth checks, performed by NRC staff, indicated that the rock was placed to the required thickness. NRC staff also examined the finished surface of the CAP pond for the presence of minimal erosion protection. The CAP pond surface areas that did not have sufficient cover, as identified during the NRC site visit conducted during the fall of 2007, had been sufficiently covered per License Condition 74.G. The licensee indicated that a contractor had brought additional erosion protection material on-site to rework the thin spots. NRC staff did not identify the presence of any thin spots of erosion protection during the inspection.

1.3 Conclusions

The geotechnical construction and the erosion protection construction activities were consistent with the information presented in the CCR and were performed in accordance with the approved reclamation plans.

2 Environmental Protection (88045)

2.1 Inspection Scope

Determine if the surface water and groundwater monitoring programs were being performed by the licensee as required by the regulations and the license.

2.2 Observations and Findings

License Condition 24 and 74 state, in part, the requirements for the surface water and groundwater monitoring programs. Five surface water samples are collected at locations along the Sweetwater River. Sixteen groundwater sampling points are within the proposed long-term care boundary. NRC staff reviewed the semi-annual surface water and groundwater monitoring reports submitted by the licensee since the second half of 2005.

NRC staff identified an issue related to the selenium concentration in the point of compliance well-5. License Condition 74.B requires, in part, that the groundwater protection standard for selenium, equal to 0.013 milligrams per liter (mg/L), is not to be exceeded. As documented in the Semi-annual Surface water and Groundwater Monitoring Reports since the second half of 2005 to the second half of 2007, the selenium concentrations in well-5 (previously well 4) ranges from 0.016–0.023 mg/L. These sample results are above the limit of 0.013 mg/L. Also, a discrepancy was noted in the results submitted in the body of the report verses the analysis reported in the Laboratory Analysis Report. It appears that the Client Sample IDs of both WN-5 and WN-5R are being used for the results of well-5. By NRC letter dated August 6, 2008, the licensee was asked to address these issues. NRC staff will evaluate the licensee's response, upon receipt of the licensee's reply.

The licensee's Procedure C.3.0, "Groundwater Sampling Procedure," was reviewed by NRC staff, along with groundwater sampling records and field sheets. Based on the review of the procedures and field sheet records, the licensee is performing the Compliance Sampling Program in accordance with License Conditions 24, 74, and Internal Procedure C.3.0.

During the site tour, the inspector conducted radiation surveys using a Ludlum Model 19 microR survey meter (NRC Number 015540, calibration due date of February 14, 2009). The covered areas were found to be approximately 35-40 microRoentgens per hour ($\mu\text{R/hr}$), which was the same as the background ambient gamma exposure rate.

2.3 Conclusions

The surface water and groundwater monitoring programs were being implemented in accordance with regulations and the license. All ambient gamma exposure rates were the same as background levels. Two inspection findings were identified relating to the exceedance of the selenium groundwater protection standard for well-5 (previously well 4) and clarification of which Client Sample ID in the Laboratory Analytical Report corresponds to well-5. These issues will be resolved under separate correspondence.

3 **Exit Meeting Summary**

The inspector presented the preliminary inspection results to the licensee's representatives at the conclusion of the onsite inspection on June 4, 2008. Final inspection findings were presented to Mr. Brad DeWard telephonically on June 25 and July 23, 2008. Representatives of the licensee acknowledged the findings as presented. During the inspection, the licensee did not identify any information reviewed by the inspector as propriety.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. DeWard
H. Shaver
L. Miller

Site Manager
Counsel
Geotechnical Consultant

INSPECTION PROCEDURES USED

IP 88001
IP 88045

On-Site Construction
Environmental Protection

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ACL	alternate concentration limits
CAP Pond	Corrective Action Pond
CCR	Construction Completion Report
IP	inspection procedures
µR/hr	microRoentgens per hour
mg/L	milligrams per liter