

February 7, 2009

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Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland 20852

RE: License Amendment Request for Western Nuclear Inc., Split Rock Mill Site, Source Material License SUA-56 (TAC J00577)

Dear Mr. Chang:

As you requested in your letter dated December 10, 2008, the following presents the information you will need for your Environmental Assessment (EA) to address the proposed license condition amendments to change the selenium standard and the uranium trigger levels for ground water monitoring at the site. These changes were proposed in our letter dated December 1, 2008. The information for your EA is presented in the format required for "Simple Licensing Actions" as specified in NUREG 1748.

The December 1, 2008 letter also requests three administrative changes to the license to update it to reflect current conditions. These include the following:

- The compliance standard for chromium is requested to be deleted as chromium is not a hazardous constituent for the site and is not required to be monitored,
- The requirement for reporting on the groundwater corrective action program is requested to be deleted as the groundwater corrective action program was discontinued in 2006 as permitted by NRC.
- It is requested that the license amendment requiring repair of erosion protection on the reclaimed corrective action pond covers be deleted as the repair work was previously reviewed and approved.

This letter does not address these three administrative changes further.

Introduction

On December 1, 2008 Western Nuclear Inc.(WNI) submitted a letter to the US Nuclear Regulatory Commission (NRC) requesting changes to Source Material License SUA-56 for the Split Rock Mill Tailings Facility near Jeffrey City Wyoming. The requested changes included changes to groundwater monitoring and compliance standards. Specifically, the request included a proposed change to the groundwater compliance standard for selenium and a change in the groundwater monitoring trigger level for uranium.

Proposed Action

Selenium Standard

It is proposed that the groundwater compliance standard for selenium, included in license condition 74 B, be changed from the existing standard of 0.013 mg/l to 0.05 mg/l. In the original application by Western Nuclear (WNI, 1999a), it was proposed that the compliance standard for selenium be set at the current Environmental Protection Agency (EPA) maximum concentration limit (MCL) which is 0.05 mg/l. The current selenium compliance limit is 0.013 mg/l which is based on a historic background value which is no longer considered valid. The limit for selenium in 10 CFR 40, Appendix A, Criterion 5 (Table 5C) is 0.01 mg/l. It was assumed by WNI that the EPA MCL would be an appropriate compliance standard for selenium. It has been determined that the NRC does not recognize the updated EPA MCLs and the proposed standard for selenium would therefore have to be either 0.01 mg/l as specified in 10 CFR 40 or an alternative concentration limit (ACL). WNI has proposed that an ACL for selenium of 0.05 mg/l, which is equivalent to the EPA MCL, be granted.

Uranium Trigger Value

It is proposed that the trigger level for uranium, included in License Condition 74 D, be changed from 0.03 mg/l to 0.13 mg/l for the point of exposure wells completed in the Split Rock Aquifer and 0.044 mg/l for the wells completed in the Floodplain Aquifer (except for monitoring well SWAB-32 for which the uranium trigger level is 0.3 mg/l). Western Nuclear has proposed that the trigger level for uranium be changed to reflect background uranium values which are 0.13 mg/l for the point of exposure wells completed in the Split Rock Aquifer and 0.044 mg/l for the wells completed in the Floodplain Aquifer.

Need for the Proposed Action

Selenium Standard

The current selenium standard is based on a historic background evaluation which is no longer valid and therefore a new standard is necessary. The existing selenium concentrations in several of the groundwater monitoring wells exceed the current selenium standard and exceed the selenium value of 0.01 mg/l included in 10CFR 40, Appendix A. WNI has proposed that the new compliance standard for selenium be set at 0.05 mg/l which is the EPA MCL for selenium. The existing concentrations in the monitoring wells are less than the current EPA MCL for selenium. Since the proposed standard is the current EPA MCL for selenium, it therefore can be concluded that the proposed standard is protective.

Uranium Trigger Value

The existing license condition erroneously set the trigger level for uranium at the EPA MCL for uranium. The background uranium concentrations at the site are greater than the EPA MCL and are therefore at higher concentrations than the trigger level in some of the un-impacted wells. Since the purpose of the trigger value is to provide an indication of the advance of impacted seepage at the POE wells, using a value that is less than background is not appropriate and would lead to unnecessary evaluations to show that background conditions have not been impacted. Therefore the uranium trigger level needs to be changed to reflect background concentrations.

A detailed discussion of the data and procedures used to determine background concentrations is included in the original submittal (WNI, 1999a)

Environmental Impact of Proposed Actions

Selenium Standard

There are no environmental impacts that would result from changing the selenium standard to the current EPA MCL of 0.05 mg/l. Monitoring data show that the concentrations in groundwater at and down gradient of the POC wells are all less than the proposed standard. Since the proposed standard is set at the EPA MCL, which the EPA has determined is a protective value, it can be assumed that the proposed ACL for selenium which is equal to the EPA MCL will be protective.

Uranium Trigger Value

There are no environmental impacts associated with setting the uranium trigger value at background values.

Environmental Impacts of the Alternatives to the Proposed Action

Selenium Standard

Significant work has been done by Western Nuclear to evaluate groundwater conditions at the site and to propose ACLs for various constituents at the site. This work is documented in the NRC EA Ground Water Alternative Concentration Limits, (NRC 2006). That EA documented a detailed review of the technical evaluations that were performed to support the ACLs that are currently in place for the facility. These documents included the following:

- Western Nuclear Inc., 1999a
- Western Nuclear Inc., 1999b
- Western Nuclear Inc., 2000a
- Western Nuclear Inc., 2000b
- Western Nuclear Inc., 2000c
- Western Nuclear Inc., 2003
- Western Nuclear Inc., 2004
- Western Nuclear Inc., 2005a
- Western Nuclear Inc., 2005b
- Western Nuclear Inc., 2005c
- Western Nuclear Inc., 2005d
- Western Nuclear Inc., 2006a
- Western Nuclear Inc., 2006b

These studies documented the site characterization and evaluated various alternatives to address groundwater contamination at the site. The studies concluded and the NRC confirmed (NRC, 2006) that the proposed alternative consisting of institutional controls with alternative concentration limits is the appropriate action for groundwater protection at the site

The alternatives that were evaluated in the original submittal (WNI 1999a) and documented in the NRC EA (NRC 2006) are the same alternatives that could be used to reduce selenium values in groundwater. These alternatives were developed to reduce the area necessary for long-term institutional control and included the use of hydraulic barriers and pumping and treating contaminated groundwater. The environmental impacts associated with these alternatives are documented in the NRC EA (NRC 2006) and include the following:

- Environmental impacts associated with constructing groundwater injection and extraction systems

- Impacts associated with construction of evaporation ponds
- Loss of water due to evaporation
- Removal of land from the historic livestock and wildlife land use
- Loss of billions of gallons of water due to contact with contaminated waters

Further, the economic evaluation included in the original submittal from Western Nuclear (WNI, 1999a) confirmed that the chosen alternative, institutional controls with ACLs, would achieve concentration that are as low as reasonably achievable (ALARA). The NRC EA (NRC 2006) concluded that the other alternatives "would not provide a remedial benefit commensurate with the associated costs."

While this conclusion was made for the constituents for which ACLs were granted, the conclusion is equally or more relevant for the proposed ACL for selenium. The constituents that the EA addresses and for which ACLs have been granted are at concentrations above protective values at the POC but are at levels that are protective at the POE. Selenium concentrations are below protective values at the POC wells and all other locations.

Uranium Trigger Value

The proposed action to set the uranium trigger value at background levels is the only technically sound alternative. Since there are no viable or logic alternatives to this action, there can be no potential environmental impacts from alternatives for this action.

Conclusion

The NRC staff have prepared this EA in support of the proposed actions to amend the Western Nuclear Inc., Split Rock radioactive materials license SUA-56 as proposed in the WNI December 1, 2008 letter. On the basis of this EA, NRC has concluded that there are no significant environmental impacts and the license amendment does not warrant the preparation of an Environmental Impact Statement. Accordingly, it has been determined that a Finding of No Significant Impact is appropriate.

References

- U.S. Nuclear Regulatory Commission (NRC), 2006. Letter from S.J. Cohen to L.J. Corte regarding Environmental Assessment for Ground Water Alternate Concentration Limits, Western Nuclear, Inc., Split Rock Site, Jeffrey City, Fremont County, Wyoming. August 29.
- Western Nuclear Inc., 1999a. Site Ground Water Characterization and Evaluation [ADAMS Accession Nos. ML003672396, ML003672400, ML003672396]
- Western Nuclear Inc., 1999b. Baseline Risk Assessment, Appendix I to Site Closure Plan. December 31. [ADAMS Accession No. ML003672619]
- Western Nuclear Inc., 2000a. Letter from L.J. Corte to T.H. Essig regarding the Site Closure Plan for Western Nuclear, Inc. January 17. [ADAMS Accession No. ML003676128]
- Western Nuclear Inc., 2000b. Letter from H.W. Shaver to T.H. Essig regarding Site Closure Plan for Split Rock Site. February 27. [ADAMS Accession No. ML003686985]
- Western Nuclear Inc., 2000c. Letter from A.J. Thompson to T.H. Essig regarding Site Closure Plan for Western Nuclear, Inc., Split Rock Site, February 28. [ADAMS Accession No. ML003687478]

Western Nuclear Inc., 2003. Supplemental Ground Water Monitoring Report. March 7. [ADAMS ML030760336]

Western Nuclear Inc., 2004. Letter to R.A. Nelson regarding Risk Assessment of Ground Water for Agricultural Uses. May 24. [ADAMS No. ML041490156]

Western Nuclear Inc., 2005a. Letter from L.J. Corte to G. Janosko regarding Efforts to Purchase Properties within Long-Term Surveillance Boundary. February 10. [ADAMS Accession No. ML051220100]

Western Nuclear Inc., 2005b. Response to Request for Additional Information. March 2. [ADAMS Accession No. ML050690064]

Western Nuclear Inc., 2005c. Ground Water Monitoring Report, Split Rock Mill Site, Ground Water and Surface Water Monitoring Results. July 26. [ADAMS Accession No. ML052220552]

Western Nuclear Inc., 2005d. Ground Water Monitoring Report, Split Rock Mill Site, Ground Water and Surface Water Monitoring Results. February 23. [ADAMS Accession No. ML050700396]

Western Nuclear Inc., 2006a. Letter to G. Janosko regarding the Addition of Three Wells to the CAP. May 9. [ADAMS Accession No. ML061390138]

Western Nuclear Inc., 2006b. Ground Water Monitoring Report, Split Rock Mill Site, Ground Water and Surface Water Monitoring Results. April 18. [ADAMS Accession No. ML061560219]

Western Nuclear Inc., 2008. Letter from L.J. Corte to Richard Chang regarding Western Nuclear, Inc. Split Rock Uranium Mill Tailings Facility, Source Materials License SUA-56, Proposed Amendments to License Condition 74. December 1.

We trust that this information will meet your needs in preparing the EA for the proposed license amendments. Should you need additional information, please contact me at your convenience.

Sincerely,

MILLER GEOTECHNICAL CONSULTANTS



Louis Miller
Project Manager

cc: Larry Corte, WNI
Scott Surovchak, DOE