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August 13, 2004

United States Nuclear Regulatory Commission
Attn: Mr. Robert Nelson
Chief, Division of Uranium Processing
Fuel Cycle Facilities Branch
11545 Rockville Pike, Two White Flint North
Rockville, MD 20852

Dear Mr. Nelson:

By this letter, Western Nuclear, Inc. (WNI) hereby requests that the Nuclear Regulatory Commission (NRC) grant WNI a license amendment permitting cessation of its *active* groundwater corrective action program (GWCAP) at its Split Rock site in Jeffrey City, Wyoming, which involves pumping and evaporation of site groundwater containing 11e.(2) byproduct material constituents as identified by WNI. The discussion below demonstrates that the continuation of its current GWCAP will not result in further improvement of site groundwater quality, is causing the unnecessary expenditure of financial resources, and likely will delay reclamation of site evaporation ponds and, thus, license termination, assuming NRC accepts WNI's final site closure plan. As a result, WNI hereby requests that NRC grant WNI a license amendment specifically authorizing cessation of all *active* GWCAP activities (other than associated monitoring) thereby allowing the reclamation of site evaporation ponds to commence.

I. SITE HISTORY

The Split Rock facility was built in 1957 and began operating as a toll mill in 1958 under WNI's Atomic Energy Commission (AEC) license No. R-205 that eventually became Source Material License No. SUA-56. Ore was processed from uranium mines in both the Gas Hills to the north and the Sheep Mountain area to the south of the Split Rock facility. The Split Rock facility was placed on standby in 1981 following a substantial drop in world-wide uranium prices. In 1986, reclamation activities commenced at the Split Rock site pursuant to the requirements of 10 CFR Part 40, Appendix A for Title II licensed active uranium mill sites. Reclamation activities performed to date include mill decontamination and decommissioning, clean up and post-cleanup verification of all areas potentially impacted by windblown tailings, and final surface reclamation of the Split Rock tailings impoundments. Comprehensive site characterization studies and evaluation of potential alternatives have been conducted to address groundwater compliance issues.

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With respect to the above-mentioned GWCAP, on March 26, 1981, NRC incorporated into SUA-56 the first environmental reporting requirements for groundwater (Amendment No. 1 to the December 4, 1980 renewed SUA-56). A groundwater detection monitoring plan was added to the SUA-56 on May 6, 1985 (Amendment No. 25) though no site-specific background concentrations had been established. Background water quality standards and specific license standards for groundwater compliance were incorporated into SUA-56 on April 15, 1987 (Amendment No. 36). On May 15, 1987, WNI notified NRC that a statistically significant change in groundwater quality from background concentrations had been detected. Subsequently, WNI proposed a groundwater compliance monitoring program to delineate the concentrations and extent of relevant constituents of concern (COCs). This monitoring program and specific compliance standards were incorporated into SUA-56 on August 4, 1987 (Amendment No. 39).

WNI developed a GWCAP and, on April 8, 1988, submitted a plan for accelerated dewatering of tailings impoundment water and proposed Alternate Concentration Limits (ACLs). NRC approved WNI's proposed GWCAP for accelerated tailings dewatering but deferred review of the proposed ACLs until publication of NRC's ACL guidance in May of 1988. On August 4, 1988, NRC informed WNI that the GWCAP would have to be operating by January 31, 1990. On March 31, 1989, WNI re-submitted an application for ACLs and Revision No. 2 to the 1987 Tailings Reclamation Plan (TRP) as an integral component of the GWCAP. On June 15, 1989, NRC stated that WNI's ACL application could not be approved at that time. Subsequently, WNI submitted a revised GWCAP on August 31, 1989, and NRC incorporated this GWCAP into SUA-56 on September 29, 1989, as Amendment No. 51 (License Condition No. 74). This plan called for pumping water from wells in the Northwest and Southwest Valleys to lined evaporation ponds constructed in the Southwest Valley for treatment (i.e., evaporation in ponds and additional enhanced evaporation by spraying water on the surface of the tailings impoundment). Pumping of site groundwater commenced in the spring of 1990. As surface reclamation progressed, the surface area available for spray evaporation decreased, and, as a result, the total volume of groundwater collected for evaporation in accordance with the GWCAP had to be decreased. On March 27, 1996, WNI applied for a license amendment to authorize decreased pumping and evaporation stating that the amendment was necessary to facilitate surface reclamation and would have no material impact on the effectiveness of the GWCAP. The license amendment (#79) was approved by NRC on April 28, 1997. The NRC Technical Evaluation Report (TER) supporting the license amendment concluded that the license amendment would result in no significant change in the types or significant increase in the amount of any effluent that may be released from the site. At the present time, the NRC-mandated GWCAP continues to operate with six (6) to fifteen (15) million gallons of groundwater being pumped and evaporated annually.

II. SITE GROUNDWATER ANALYSES AND CONCLUSIONS

Comprehensive and detailed site studies were performed by WNI over a five (5) year period to fully characterize the Split Rock site's source terms, hydrological and geological conditions, and geochemical effects on constituent transport. In addition, potential corrective action alternatives for groundwater compliance were rigorously screened, and an "as low as reasonably achievable" (ALARA) evaluation was performed with respect to potential impacts to public health, safety, and the environment from each alternative. These alternatives were addressed, in draft and final form, and, subsequently, were proposed to NRC for its approval in a site closure plan at several noticed public meetings in Jeffrey City, Wyoming, and through noticed public comment periods.

On October 29, 1999, WNI submitted the proposed site closure plan, including a Site Groundwater Characterization and Evaluation Report to NRC for its review and consideration. This proposal, which included proposed ACLs, concluded that the active GWCAP would not be able to restore site groundwater to the water quality standards in WNI's license. Specifically, Section 3.1 of the Report concludes that the existing *active* GWCAP has very little impact on site groundwater. Calculations indicate that GWCAP captures approximately five percent of the northwest valley seepage and nineteen (19) percent of the southwest valley seepage. Additionally, *active* GWCAP pumping is not able to retrieve any of the contaminated groundwater that has migrated past the mouths of the valleys. Groundwater monitoring data confirm the conclusion that the existing *active* GWCAP is doing little to improve site groundwater quality.

In a letter dated January 7, 2000, NRC acknowledged that groundwater pumping associated with the current GWCAP is "inadequate to restore groundwater" to the standards set forth in WNI's license. NRC's January 7, 2000 letter also discussed potential alternatives to WNI's proposal, including a "perpetual containment" pumping alternative that would have required WNI and the eventual long-term custodian to pump and evaporate site groundwater in perpetuity at WNI's expense.

In response to the discussion of this particular alternative, in a letter dated February 28, 2000, WNI stated that such an alternative was contrary to the provisions of the Atomic Energy Act of 1954, as amended, because such an alternative did not take into account the associated costs of conducting a containment alternative in perpetuity. By suggesting it to pursue a "perpetual containment" GWCAP alternative, WNI argued that NRC ignored the fact that passive, rather than active, controls are preferred when proposing a site closure plan and long-term surveillance and monitoring. In support of its position, WNI cited to the Environmental Protection Agency's (EPA's) Final Environmental Impact Statement for Remedial Action Standards for Inactive Uranium Processing Sites (FEIS), in which EPA expresses a strong preference for "passive" rather than "active" control methods. See United States Environmental Protection Agency,

Final Environmental Impact Statement for Remedial Action Standards for Inactive Uranium Processing Sites, Vol. II, D-50 (October 1982). Similarly, in its Generic Environmental Impact Statement on Uranium Milling (GEIS), NRC states that "the basic criterion for tailings disposal is that the disposal method [should] not depend on perpetual human care and maintenance." GEIS at 14-3-4. The GEIS also states that the basis of the required fund for long-term surveillance and monitoring is that uranium mill tailings sites "will be decommissioned and reclaimed in such a manner to restrict long-term needs to periodic visual inspection." The GEIS goes on to state that "the situation would be one in which 'passive monitoring' would be appropriate....Based on the requirements which will be imposed on currently active and future operations, the staff considers it reasonable to assume a passive monitoring situation over the long term." GEIS at A-110-111. Indeed, Criterion 12 specifically reflects this GEIS analysis: "The final disposition of tailings, residual radioactive material, or wastes at military sites should be such that ongoing active maintenance is not necessary to prevent isolation." Based on these statements, WNI concluded that NRC's suggestion of a "perpetual containment" pumping alternative ignored fundamental assumptions that underlie the EPA/NRC Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) regulatory regime.

In addition, WNI argued that the "perpetual containment" pumping alternative is impractical for several reasons. First, WNI asserted that the "perpetual containment" was prohibitively expensive and resulted in little or no benefit to public health. At that time and at present, WNI is unnecessarily expending significant financial resources to maintain the existing *active* GWCAP.¹ As a result, if NRC were to direct WNI to continue its active GWCAP, WNI argued, that NRC would be violating the cost-benefit principles embodied in Section 84 of the Atomic Energy Act of 1954, as amended, which states that management of byproduct material should be conducted "taking into account the risk to public health, safety and the environment, with due consideration of the economic costs and such other factors as the Commission deems appropriate." See 42 U.S.C. § 2114(a)(1). Second, WNI stated that the Preamble to 10 CFR Part 40, Appendix A allows licensees to propose "alternatives to the specific requirements in this appendix [Appendix A]," and that the Commission could approve such alternatives if they provided a level of protection that is "equivalent to, to the extent practicable²,...the level which would be achieved by the requirements of [Appendix A]." Moreover, WNI stated that, according to the Preamble, licensing decisions based on the Criteria in Appendix A or alternatives proposed by licensees "will take into account the risk to the public health and safety and the environment with due consideration to the economic costs involved...." *Id.* Further, WNI argued that continuation of the active GWCAP

¹ Currently, the existing *active* GWCAP is the only significant ongoing operational activity being conducted by WNI at the Split Rock site. Cessation of the *active* GWCAP will allow WNI to significantly reduce direct operating costs and associated overhead at the Split Rock site, which currently are being used to engage in ineffective groundwater corrective action.

² The Commission defines the term "practicable" as "reasonably achievable." 10 CFR Part 40, Appendix A, Preamble.

potentially may result in greater environmental harm than benefit as it will cause substantial ongoing surface impacts as a result of the need for continuing waste disposal capability and may result in increased airborne emissions of radionuclides. Continued pumping and evaporation activities also result in the continued maintenance and monitoring of the evaporation ponds, which will delay reclamation of those ponds and the eventual transfer of the site to the long-term custodian. For the aforementioned reasons, WNI argued that NRC should adopt WNI's site closure plan, including specifically the proposed ACLs, so that the *active* GWCAP could cease.

Recently, WNI completed additional detailed analyses of COCs present in site groundwater based on additional monitoring per NRC's request as part of revisions to WNI's site-specific groundwater model. These analyses affirm that WNI's GWCAP has not reduced the level of tailings constituents in site groundwater to satisfy applicable groundwater quality standards in accordance with 10 CFR Part 40, Appendix A, Criterion 5. They also refined estimates of the concentrations and extent of COCs in site groundwater to re-define the proposed site boundary (including portions subject to institutional controls that run with the title to the tailings impoundment), of the property to be transferred to DOE upon license termination. WNI's proposed site closure plan does not contemplate any further *active* groundwater corrective action. As a result and due to the inability of the current *active* GWCAP to provide any significant public health and safety benefits, continuation of the *active* GWCAP will result only in the continued expenditure of financial resources without any measurable benefit.

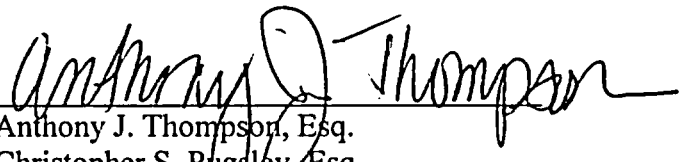
Based on NRC's preference for "passive" controls, cessation of the *active* GWCAP, along with WNI's proposed ACLs, which are based on *passive* groundwater corrective action with a site boundary defined by its groundwater model, would "reasonably achieve" adequate protection of public health and safety. After reviewing this proposal, the Commission directed WNI to demonstrate its good faith efforts to purchase all of the properties within the proposed site boundary, including those located in Red Mule. WNI has acquired a fee interest or durable institutional control interests in all lands (excluding United States government-owned lands) within the potential zone of impact, except for a few parcels in the Red Mule subdivision. WNI also proposed a pre-funded alternate water supply for any residents of Red Mule who may be affected by the aforementioned groundwater plume in the future. Currently, WNI has acquired a fee title interest in a majority of the Red Mule properties within the revised proposed zone of impact from the groundwater plume. As discussed in a May 17, 2004, meeting with NRC Staff, WNI continues to pursue the purchase of fee title or other durable property interests in the few remaining Red Mule properties and will continue to pursue the acquisition of such interests until WNI determines that acquisition of such interests is no longer "reasonably achievable." At such time, WNI will request that NRC approve its site closure plan and terminate its license, because, as the provisions of Section 81(b)(1)(B)(4) of UMTRCA state, "the Commission shall take into consideration the

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status of ownership of such land and interests therein and the ability of the licensee to transfer title and custody thereof to the United States or a State" when evaluating a licensee's proposed site closure plan.

As discussed above, continuation of WNI's *active* GWCAP serves no purpose other than to delay the reclamation of site evaporation ponds while realizing no long-term improvement in site groundwater quality. Therefore, WNI requests that NRC Staff grant WNI a license amendment to SUA-56 authorizing the cessation of all GWCAP activities, including active pumping and evaporation of site groundwater, so that WNI may complete reclamation of site evaporation ponds as part of its license termination efforts. Should NRC Staff determine that such a license amendment cannot be granted, WNI requests that a full explanation of the reasons associated with the denial of this request be provided, including whether the requested license amendment is denied for administrative reasons (i.e., purely technical compliance with Part 40 requirements) or for other reasons. Thank you for your time and consideration in this matter, and we look forward to your response.

Respectfully Submitted,



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