Dave Freudenthal, Governor

# Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

John Corra, Director

June 21, 2006

Mr. Gary S. Janosko,
Branch Chief
Fuel Cycle Facilities Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, MD 20852

RE: Draft EA, Western Nuclear Inc., Split Rock Mill Tailings Site
Source Material License SUA-56, Docket # 40-1162

Dear Mr. Janosko:

The Wyoming Department of Environmental Quality (WDEQ), Water Quality Division (WQD) has reviewed the *Draft Environmental Assessment (EA) for Amendment to Source Materials License SUA-56 For Groundwater Alternate Concentration Limits* for Western Nuclear Inc.'s, Split Rock mill tailings site, located near Jeffrey City, Wyoming. The Draft EA addresses WNI's request to revise groundwater protection standards as proposed in the 1999 Site Closure Plan. The WDEQ has provided comments on the original document and ensuing supplements and is taking this opportunity to reiterate our concerns with this site. If the proposed amendment to the License is granted a large (>3,000 ac.) area of relatively high quality ground water resource will become adversely impacted and unsuitable for roughly 1000 years as contaminants spread uncontrolled throughout ground water underlying the property. Additional comments on the Draft EA follow.

Deficiencies in Evaluation of Potential Remedies

Potential remedies evaluated in the 1999 plan appeared to be an "all or nothing" approach. We believe that accepting 'natural flushing' (NRC terminology for uncontrolled migration) as a final remedy over such a long period of time (in this case 1000 years) requires the highest degree of scrutiny, analysis, and certainty, and should never be accepted unless provisions are made to ensure periodic and regular assessment of emerging remedial technologies, and reconsideration of economic factors applied to the remedy cost/benefit analyses. Little, if any consideration was given to targeting remediation of 'hot spots', or evaluating interim measures that could minimize the spread of site derived contamination into unaffected portions of the aquifer.

As we've stated in the past, the factors used in the cost/benefit analyses of remedial alternatives are, in our opinion, inadequate. One aspect of the evaluation of costs and benefits that continues to concern us is the



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approach used to determine the true cost of the state's groundwater resources lost into perpetuity. In its analysis, WNI applied a value of $15 per *acre* to generate this loss, which we believe is unrealistically low given our knowledge that, in areas near the site, irrigators pay approximately $7.50 per *acre-foot* for groundwater.

Additionally, cost estimates associated with some of the remedies evaluated seem excessively high, given that there are technologies available that could reduce the amount of waste water generated, thereby lowering overall remedial costs. The loss of unrestricted public access to lands within the site's Long-term Care Boundary (LTCB) is also of concern, and the NRC should consider whether that 'value' has been sufficiently considered and factored accordingly into the remedy cost/benefit analyses.

The EA should evaluate the potential for targeting interim remedial measures (control or remediation) at contaminant 'hot spots' or along the leading edge of the contaminant plume in order to reduce the extent of the contamination, as well as the duration of the cleanup.

ACLs

The EA is not clear on which groundwater protection standards apply to the point of compliance (POC) wells, or what the maximum allowable contaminant concentrations are proposed for the point of exposure (POE) wells. Of particular concern, the EA does not provide any details on what, if any, measures (e.g. corrective action) will be taken if contaminant concentrations are exceeded at POC or POE monitoring wells. Please provide us this very important information prior to the EA becoming final so we can have the opportunity to review those proposed limits and comment accordingly.

The EA states that "Livestock and agricultural groundwater uses will not be restricted within the LTSB." However, the proposed alternate concentration limit (ACL) for manganese (225 mg/l for the NW valley and 35 mg/l for the SW valley) is well above the Wyoming agricultural use/suitability standard of 0.2 mg/l. This water would not be suitable for agriculture use.

We are unclear as to why an ACL is listed for nitrate, but not nitrite, in Table 1 since a potential contaminant exposure pathway discussed in the EA is to livestock. The Wyoming ground water use/suitability standard for livestock consumption is based upon *nitrite* concentrations (10 mg/l), not nitrate. The Wyoming nitrite standard should be the maximum level allowed inside the LTSB if that water might be used for livestock watering.

We would like to make one additional comment on this site. For many years, the WDEQ attempted to work with WNI through conference and conciliation to fully evaluate the extent of ground water contamination and to take a more aggressive approach at controlling the migration of groundwater contamination, as required per the provisions of the 1981 Stipulation and Order (Docket No. 643-79) before the Environmental Quality Council of the State of Wyoming. The history of these efforts prior to 1998, including NRC's involvement, is summarized in Section 2.3 of WDEQ/LQD's second evaluation of WNI's ground water quality data and remediation practices [letter and attachment of March 26, 1998 from R. Chancellor (WDEQ/LQD) to S. Baker (WNI)].

In our opinion, the majority of groundwater contamination at this site could have, and should have been prevented were more aggressive corrective action measures taken in the 1980's and early 1990's.

In retrospect, it appears that the NRC's focus has been on reclaiming the tailings impoundments, with only secondary concern, at best, for potential long-term groundwater contamination. Unfortunately, the citizens of Wyoming may likely have to deal with both the consequences and the indirect costs of the NRC's decisions for generations to come. Consistent with these concerns, we feel that the NRC should require the evaluation and implementation of interim and long term contamination control and/or remediation measures at the earliest opportunity in order to minimize both the damage to ground water resources, as well as overall cleanup costs and timeframes.

We hope that the history of this site adds to the learning curve for uranium mill tailings sites throughout the United States, particularly given the resurgence in interest in uranium mining and the possibility for new mines near some of the existing and proposed long-term care areas.

Please feel free to contact me at 307-777-7072 should you have any questions concerning this letter or our expectations for the Split Rock facility.

Sincerely,

John F. Wagner
Administrator
Water Quality Division

JFW/bb/6-0546.LTR

cc: Mr. Stephen J. Cohen, NRC, via email
Mr. John Corra, Director, Wyoming DEQ
Mr. Patrick Tyrrell, Wyoming State Engineer
Mr. Mike Bessom, Director, Wyoming Water Development Office
Mr. Kevin Frederick, WQD, Cheyenne
Ms. Roberta Hoy, LQD, Cheyenne
Mr. Mark Thiesse, WQD, Lander