

March 16, 2009

Mr. Wayne Heili
Vice President - VR Energy
5880 Enterprise Drive
Suite 200
Casper, WY 82609

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION – NEW LICENSE APPLICATION
REQUEST – LOST CREEK ISR, LLC’s LOST CREEK IN-SITU RECOVERY
FACILITY, SWEETWATER COUNTY, WYOMING (DOCKET NO. 40-9068)

Dear Mr. Cash:

By letter dated March 31, 2008, Lost Creek ISR, LLC resubmitted a source material license application for the Lost Creek in-situ leach uranium recovery project in Sweetwater county, Wyoming, to the U.S. Nuclear Regulatory Commission (NRC). Subsequently, by letter dated June 10, 2008, the NRC staff informed you that the acceptance review had been completed and that the application was found sufficient for technical review. The NRC environmental staff recently conducted a review of the Environmental Report (ER), and identified deficiencies that require additional information before completing the review.

During the technical review of the ER, the following resource areas were found deficient: Land Use; Transportation; Water Resources (ground and surface); Noise; and Public and Occupational Health. The request for additional information (RAI) is included in the enclosure.

We respectfully request that, within 30 days, you either provide the information requested, or a schedule for submitting the requested information. Please understand that delay in responding to the RAIs would result in a delay of the completion of the environmental review and subsequent National Environmental Policy Act document.

If you have any questions concerning this letter or its enclosure, please contact Alan Bjornsen at (301) 415-1195, or at Alan.Bjornsen@nrc.gov.

W. Heili

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room, or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Ronald Burrows, Project Manager
Uranium Recovery Licensing Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management and
Environmental Protection
Office of Federal and State Materials and
Environmental Managements Programs

Docket No.: 40-9068

Enclosure: Request for Additional Information

cc: J. Cash, LCI
D. McKenzie, DEQ
M. Moxley, DEQ
A. Boyle, DEQ
E. Heffern, BLM
M. Newman, BLM

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OFFICIAL RECORD COPY

**U.S. Nuclear Regulatory Commission Request for Additional Information
Lost Creek ISR, LLC, Lost Creek In-Situ Uranium Recovery Facility
Application for a U.S. Nuclear Regulatory Commission Source Materials License**

By letter dated March 31, 2008, Lost Creek ISR, LLC (LCI) resubmitted a source material license application for the Lost Creek in-situ leach (ISL) uranium recovery project in Sweetwater county, Wyoming, to the U.S. Nuclear Regulatory Commission (NRC). The NRC environmental staff recently conducted a review of the Environmental Report (ER), and identified deficiencies that require additional information before completing the review. Individual information requests are organized by resource (subject matter) area, as they may apply to either the Technical Report (TR) or Environmental Report (ER). The basis for requesting the additional information is also provided.

Land Use

LCI has not provided sufficient information regarding the characteristics of land use surrounding the proposed Lost Creek site to enable the staff to prepare a National Environmental Policy Act (NEPA) document complete for public review. Land use characteristics should extend outward from the site boundary 5 miles because of the potential drawdown of the target aquifer from recovery wells.

1. From Sec. 2.2.1 TR and 3.1 ER provide a map needed that shows the predominant land use activities (e.g., grazing) within 5 miles of the site.
2. Provide details on the termination of any landowner agreements for grazing and other uses as a result of the proposed development of the land for ISL operations.

Transportation

The analysis, while informative, was not comprehensive enough to understand and mitigate specific access routes, maintenance and upgrades necessary, and volumes of traffic to be generated by the proposed facility.

1. From Sec. 4.2 ER provide the roads planned to be used to access the site (both for construction and operation).
2. Also from Sec. 4.2 ER provide the general potential destinations of the yellowcake slurry.
3. From Sec. 4.3.2 ER identify the roads would be upgraded, and how would they be improved.
4. Also from Sec. 4.3.2 ER provide the general type of maintenance plan that would be proposed for the roads used to access the site.
5. From Sec. 3.0 TR provide the types (and number) of vehicles (and equipment) that would be used to operate the site.
6. Also from Sec. 3.2 ER provide the approximate number of vehicle trips (per day) that are expected for construction and operation.

Enclosure

Surface Water

Sec. 7.1.5.1 ER provides general statements regarding the location of proposed work in relation to surface water features. In order to assess potential impacts to surface water features, specific locations and the specific feature is required.

1. Identify specific structures (e.g., road and pipeline crossings, buildings, storage areas, etc.) that would be located on/within surface (albeit ephemeral) water features (incl. wetlands).
2. Provide the specific measures are currently proposed to minimize the potential impact upon these features.

Groundwater

Groundwater analysis in the ER is insufficient to interpret the current conditions and assess the potential impact to the groundwater regime and regional supply wells.

1. From Sec 2.7.2 ER an additional table and figure is needed to illustrate the potential effect on existing and future locations of domestic and stock wells, given the drawdown predictions in the production aquifer.
2. Sec 3.5.2.2 indicates a pump test was planned for the fall of 2007 to assess the hydrologic relationship between the UKM and MKM sands. Please provide results.
3. Sec 3.5.3 ER describes monitoring wells at the Kennecott Sweetwater Mill. Please state if the monitoring wells are still in use, or if they have been closed.
4. From Sec 3.5.5.2 ER provide a more descriptive plan of the proposed operation.
5. In Sec 4.5.1.3 ER comparative information is required to assess recharge rates (that Lost Creek water level recharge rates of 10-15 years [following uranium extraction] are comparable to predictions of other operations of similar scale).
6. General – provide (as currently known) the approximate number of exploratory and confirmation/delineation borings, completed and proposed, to be drilled at the Lost Creek site.

Ecology

A recent map (not included in the application), provided by the Wyoming Game & Fish Department, shows a sage grouse lek in the northeast portion of the site (on State land). Provide a discussion on how this could change proposed operations at the site, and what mitigation measures would be proposed.

Noise

Sec 3.8 ER indicates field measurements were taken at the site. Provide the following information:

1. Type of instrument used.
2. Directionality of measurements.
3. Weather (meteorological) conditions at the time the measurements were taken.
4. Time of day when the measurements taken.
5. How the measurements recorded (continuous vs. averaged [over what period]).
6. The dB scale used.
7. The duration of the measurements.
8. Whether the measurements would be repeated at another time.
9. A table of the results along with a map of the locations of the measurements.

Sec 4.7.1.2 ER describes noise impacts. Please provide a list of equipment and vehicles that would be used at the site during construction and operation, and 'cut' sheets that present specifications (including noise levels) for those pieces of equipment.

Public and Occupational HealthGeneral

Additional information is needed for assessing radiological and non-radiological public health impact for the site environs, as required for an overall impact comparison for the planned project. An assessment of the public and occupational health impact is required.

1. Provide information on the background radiation levels in the general area (outside the site) for the proposed facility. Include an evaluation of the site baseline radiation monitoring data for identifying atypical radiation levels currently existing that are different than that for the surrounding area.
2. Provide information on any public health studies (radiological and chemical) that may have been performed for the region that should be considered in evaluating existing public health impact.

Non-Radiological

In Sec 4.12.1.1 ER, Non-radiological Impacts, and Sec 4.13.1.1 ER, Gaseous Emissions and Airborne Particulates, provide information on non-radiological effluents, stating that such effluents would not be released into pathways that could impact public health and safety. However, no discussion is provided to substantiate this position.

Radiological

Sec 4.12.1.2 ER, Radiological Impact, provides assessments for the radiation exposure to members of the public and occupation exposure to radon. The details of the modeling provided are not sufficient to support a review and validation. Additional information is needed for evaluating the modeling used for estimating both the doses to members of the public and to occupationally exposed individuals for assess overall health effects.

Sec 4.3 TR, does not discuss the handling and disposal of potentially elevated levels of radioactive material resulting from well installation. The drilling of the injection and extraction wells has the potential to result in residual surface soils with elevated levels of radioactivity from cuttings where drilling encounters the uranium/radium bearing ore. Provide information how these soils will be managed to ensure residual levels do not exceed acceptable levels.

Waste Management

Sec 4.13.1.2 ER describes the use of deep well injection for disposal of 11(e)(2) by-product liquid wastes. Such a disposal for the by-product material would constitute an alternative disposal of radioactive materials as covered by 10 CFR 20.2002. Provide an evaluation of potential radiological impact for such disposal, addressing proposed total radioactivity, potential radiological doses to members of the public for any feasible exposure pathways within the next 1000 years.

Sec 4.2.2 TR – provide how storm water would be managed.

Sec 4.2.4 TR – provide the type of septic system being proposed. If collected in a tank, provide final disposal site.

Sec 4.3 TR – provide how solid wastes would be managed, including storage location and disposal location.

Facility Description

The descriptions of the facility design, controls, and operation are not well defined. Although there are general discussions of the processes and facility layout and general descriptions of control measures in the TR, there are few details to actually evaluate the effectiveness of an integrated design and operation. Specifically, information on facility design and operational controls for radioactive waste collection, processing, and storage should be provided. Also, the following additions would allow for a more complete impact assessment of the proposed action:

1. In Sec 3.0 TR a more complete description of the storage ponds is needed, including: 1) size; 2) depth; 3) liner material; 4) operation; 5) maintenance; and 6) monitoring.
2. In Sec 3.1 TR different types of storage tanks are mentioned, but more information is needed to describe them: 1) size; 2) type of tank; 3) contents; 4) location; 5) maintenance schedule; and 6) security/monitoring.
3. In Sec 3.1 TR the final product (yellowcake slurry) is described. Provide where the slurry would go to be final processed into dry yellowcake (provide distance from Lost Creek and the probable transportation route).
4. Sec 5.0 TR describes the operation of the facility. Provide the number of people it would take to operate the facility, and the number of shifts that would run.

Alternatives

The heart of the NEPA process is the alternatives analysis, and to adequately fulfill its requirements, a meaningful analysis of alternatives must be assessed. In that light, provide the consideration that was given to the following, and the steps that actually lead to the decision to use the ISL process to recover uranium:

1. Process that would be used.
2. Specific siting of the facility.
3. Well field layout.
4. Site development (facility layout).
5. Site sequencing.
6. Access (to the site and internal to various areas)
7. Structures (buildings and outside areas).