

April 15, 2015

Mr. John Cash, Vice President  
Lost Creek ISR, LLC  
5880 Enterprise Drive, Suite 200  
Casper, WY 82609

SUBJECT: DEFICIENCY IN LICENSE AMENDMENT APPLICATION, LOST CREEK ISR  
PROJECT, SWEETWATER COUNTY, WYOMING, LICENSE SUA-1598,  
DOCKET NO.: 040-09068

Dear Mr. Cash:

On February 23, 2015, the U.S. Nuclear Regulatory Commission (NRC) initiated its acceptance review of the Lost Creek ISR LLC (Lost Creek) request pertaining to the KM and Lost Creek East license amendments (ML15044A173). During the acceptance review, a deficiency was identified that prevents the NRC from accepting the application for detailed technical review.

In summary, the primary deficiency of the amendment requests is inadequate information concerning the characterization of the confining unit and aquifer that underlie the KM horizon relative to the control and prevention of excursions. Examples of this deficiency are enclosed.

NUREG-1569, "Standard Review Plan for In Situ Leach Uranium Extraction License Applications," states: "The application will be considered complete for docketing if the information provided is complete, reflects an adequate reconnaissance and physical examination of the regional and site conditions, and provides appropriate analyses and design information to demonstrate that the applicable acceptance criteria will be met." Given the above deficiency, the application is not acceptable for docketing and the staff has terminated its acceptance review.

If Lost Creek intends to pursue these amendments, Lost Creek should respond within 30 days of receipt of this letter with the information to address this deficiency. The NRC staff would also be willing to set up a telecon or meeting to discuss this matter.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

J. Cash

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If you have any questions, please contact me at (301) 415-6722, or at [Chad.Glenn@nrc.gov](mailto:Chad.Glenn@nrc.gov).  
You may also contact Mr. John Saxton at (301) 415-0697, or at [John.Saxton@nrc.gov](mailto:John.Saxton@nrc.gov).

Sincerely,

**/RA/**

Chad Glenn, Sr. Project Manager  
Uranium Recovery Licensing Branch  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 040-09068

License No: SUA-1598

Enclosure:

Examples of Deficiency in Lost Creek KM  
and Lost Creek East Amendments

cc: Mr. Miles Bennett, WDEQ  
Mr. Brian Wood, WDEQ  
Mr. John Russell, BLM

J. Cash

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If you have any questions, please contact me at (301) 415-6722, or at [Chad.Glenn@nrc.gov](mailto:Chad.Glenn@nrc.gov).  
You may also contact Mr. John Saxton at (301) 415-0697, or at [John.Saxton@nrc.gov](mailto:John.Saxton@nrc.gov).

Sincerely,

**/RA/**

Chad Glenn, Sr. Project Manager  
Uranium Recovery Licensing Branch  
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Mr. John Russell, BLM

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**ML15093A261**

OFC	DUWP	DUWP	DUWP	DUWP	DUWP
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DATE	4/3/15	4/3/15	4/7/15	4/9/15	4/15/15

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## EXAMPLES OF DEFICIENCY IN LOST CREEK KM AND LOST CREEK EAST AMENDMENTS

Page D6-5 of Volume 7 (KM amendment) states:

*At this time, lower confinement of the KM aquifer remains under investigation.*

Page D6-23 of Volume 8b (LC East amendment) states:

*L Horizon is the underlying aquifer to the KM Horizon, but will require additional hydrologic characterization.*

NUREG-1569, "Standard Review Plan for In Situ Leach Uranium Extraction License Applications," states in acceptance criterion 2.6.3(4) that the characterization of the site geology and seismology is acceptable if "A geologic and geochemical description of the mineralized zone and the geologic units immediately surrounding the mineralized zone is provided."

Page 1 of Volume 8c (LC East amendment) states:

*The pump test results demonstrated that there was no measurable hydraulic communication between the HJ and KM horizons in any of the five pump test areas. Additionally, there was no measurable hydraulic communication with the underlying N Horizon.*

During these pumping tests, the applicant did not measure the water levels in the L horizon, which is the aquifer immediately underlying the KM horizon. Therefore, the hydraulic properties of the confining unit that underlies the KM horizon cannot be evaluated based on these tests. The request therefore does not meet acceptance criterion 2.7.3(3) which states: "The applicant should describe all hydraulic parameters used to determine expected operational and restoration performance."

Page D6-12 of Volume 7 (KM amendment) states:

*...the minor communication between the composite KLM Horizon and the overlying and underlying horizons can be managed through operational practices, detailed monitoring, and engineering operations.*

Page D6-25 of Volume 8b (LC East amendment) states:

*The lower production zone aquifer (KM Horizon) is bounded by a laterally extensive upper confining unit, but a lower laterally extensive confining unit is absent. However, based on testing results to date, it is anticipated that the minor communication between the production zones and the overlying and underlying horizons can be managed through operational practices, detailed monitoring, and engineering operations.*

Enclosure

The amendment requests do not provide any specific details regarding how the hydraulic communication between horizons will be managed. Acceptance criterion 3.1.3(5)(f)(i) is therefore not met which states, that an impact analysis is acceptable if it describes “The ability to control the migration of lixiviant from the production zones to the surrounding environs.”