

May 21, 2015

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, RESPONSE TO LICENSE
CONDITION 12.10, LOST CREEK ISR, LLC, SWEETWATER COUNTY,
WYOMING, LICENSE SUA-1598 (TAC J00717)

Dear Mr. Cash:

By letter dated June 13, 2013, (U.S. Nuclear Regulatory Commission [NRC] Agencywide Documents Access and Management System (ADAMS) Accession No. ML13282A384), Lost Creek ISR, LLC (LCI) submitted a response to License Condition 12.10 of its Source Materials License SUA-1598. LCI subsequently withdrew the June 13, 2013, response and replaced it in its entirety with its response dated July 12, 2013 (ADAMS Accession No. ML13282A381). On November 15, 2013, LCI submitted its standard operating procedures (ADAMS Accession No. ML13324A962) referenced in its July 12, 2013, response. On November 10, 2014, NRC staff issued a technical evaluation report on the LCI submittals (ADAMS Accession No. ML14289A073). The staff found that the information provided by LCI was insufficient and requested additional information within 30 days. On January 16, 2015, LCI submitted a revised response to License Condition 12.10 (ADAMS Accession No. ML15029A423).

NRC staff has accepted LCI's January 16, 2015, response for a detailed technical review and has completed its technical review of the response. During our technical review, NRC staff identified certain areas of deficiency for which we are requesting additional information. The staff's request for additional information (RAI) is enclosed, herein. Staff is willing to meet with LCI to discuss and/or clarify staff's expectations for the enclosed RAI, otherwise please either respond to this RAI or provide a schedule for submitting your responses within 30 days of receipt of this letter. In addition, staff also is reviewing the submittals to address License Conditions 12.11, 12.12 and 12.13 and will provide comments under separate cover.

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) 415-0697, or at John.Saxton@nrc.gov.

Sincerely,

/RA/

John Saxton, Hydrogeologist
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:

Requests for Additional Information

cc:

Mr. Miles Bennett, WDEQ

Mr. Brian Wood, WDEQ

Mr. John Russell, BLM

J. Cash

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**U.S. Nuclear Regulatory Commission
Requests for Additional Information
Lost Creek ISR, LLC
Technical Review of Response to License Condition 12.10
For Source Material License SUA-1598**

The purpose of the following Request for Additional Information (RAI) is to provide the additional information and data that are necessary for the U.S. Nuclear Regulatory Commission (NRC) to review a response from Lost Creek ISR, LLC (LCI) to its License Condition 12.10.

Description of Deficiency

License condition 12.10(A) requires the licensee to describe how the quantity of the principal radionuclides from all point and diffuse sources will be accounted for in, and verified by, surveys and/or monitoring. In general, LCI has explained how radionuclide concentrations will be measured, but has not explained how either flow rates or total volumes of air discharged will be determined to estimate quantities of radionuclides released.

Staff requires additional clarification of LCI's proposed monitoring plan, as described below.

Basis for Request

NUREG-1569, Acceptance Criteria 4.1.3(2) and 5.7.7.3(1) refer, in part, to the ALARA aspects of Regulatory Guide (RG) 8.37. RG 8.37 states, in part, "When practicable, releases of airborne radioactive effluents should be from monitored release points (e.g., monitored stacks, discharges, vents) to ensure that the magnitude of such effluents is known with a sufficient degree of confidence to estimate public exposure."

Requests for Additional Information

1. Explain how LCI proposes to estimate the flow rate or total volume of air discharged from the plant wall vent (air effluent site # E1) to calculate effluent quantities of uranium, radon and radon progeny.
2. Explain how LCI proposes to estimate the quantity of radionuclides released from other plant vents and rollup doors, including periods when rollup doors are open or closed.
3. Clarify the sample frequency for radon progeny from the plant wall vent. Table 1 states under "Radon Daughters – Method" that no sampling will occur, but the frequency is stated as 3 times per quarter.
4. Explain the significance of five boxed notes on Figure 1 which describe: (1) outside plant west wall at two locations "Make Up Air Dimensions Locations Are Approximate," and (2) outside plant east wall at three locations, "Roof Top Unit Dimensions Locations Are Approximate."

Enclosure

5. Explain how LCI proposes to estimate the flow rate or total volume of air discharged from the precipitation vent (Site #E2); elution vent (Site #E3); waste water vent (Site #E4); resin transfer vent (Site #E5); and shaker deck vent (Site #E6).
6. Explain how LCI proposes to estimate the flow rate or total volume of air discharged from wellhead covers.
7. Explain whether the additional radon sample locations described in LCI's February 24, 2015, Semi-Annual Effluent and Environmental Monitoring Report (ADAMS Accession No. ML15069A256) will be included in LCI's plan to comply with license conditions 12.10 A through D. These additional radon sample locations are described in the Semi-Annual report in Section 7.0, "Passive Radon," sub-section, "Supplemental Passive Radon." If so, explain how flow rates or total volume of air discharged are determined for the North Vent and South Vent.

Description of Deficiency

License condition 12.10(B) requires the licensee to evaluate the member(s) of the public likely to receive the highest exposures from licensed operations consistent with 10 CFR 20.1302. In general, LCI has explained radiological monitoring in the warehouse for the UPS driver. However, LCI did not clearly explain how sample frequencies might be changed in the future, or how future changes in land use would be evaluated and documented.

Staff requires additional clarification of LCI's proposed monitoring plan, as described below.

Basis for Request

10 CFR 20.1302(a) requires that "The licensee shall make or cause to be made, as appropriate, surveys of radiation levels in unrestricted and controlled areas and radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public in §20.1301." 10 CFR 20.1501(a) requires that "Each license shall make or cause to be made, surveys of areas, including the subsurface, that – (1) may be necessary for the licensee to comply with the regulations in this part; and (2) are reasonable under the circumstances to evaluate – (i) the magnitude and extent of radiation levels; and (ii) concentrations or quantities of residual radioactivity; and (iii) the potential radiological hazards of the radiation levels and residual radioactivity detected." In addition, NUREG-1569, Acceptance Criteria 5.2.3.(13) states that the management control program is acceptable if "... an annual report will be submitted to the NRC that includes the as low as is reasonably achievable audit report, land use survey, monitoring data, corrective action program report, one of the semiannual effluent and environmental monitoring reports, and the Safety and Environmental Review Panel information. A license condition will be established to this effect." This is the information referred to in SUA-1598 License Condition 11.2.

Requests for Additional Information

8. Clarify how LCI proposes to reevaluate the warehouse measurement frequencies for each measurement type. On p. 5 of its January 16, 2015, letter, LCI commits to estimating dose to the UPS driver using results from quarterly measurements of: (1) gamma exposure; (2)

radon concentration; (3) radon progeny concentration; and (4) uranium particulate concentration. LCI stated that "If, after a year, the data shows the potential exposure from any of these measurements cannot be discerned from background ... the rate of sampling will be reduced to once per year for each parameter at baseline levels to ensure there is no change." As written, this commitment appears to state that LCI will reduce sampling frequencies for all types of measurements if any one type of measurement is not discernable from background.

9. Explain how LCI intends to evaluate and document changes in future land use. LCI stated on p. 7 that "The presence of other members of the public such as ranchers, campers, and hunters in the vicinity of the plant has been virtually nonexistent since 2006 when LCI began routine work at the site. There are no stock watering wells, campgrounds, or other infrastructure routinely maintained by the public in the vicinity of licensed activity."