

March 7, 2011

Mr. Wayne W. Heili
President
Lost Creek ISR, LLC
5880 Enterprise Drive, Suite 200
Casper, WY 82609

SUBJECT: LOST CREEK ISR, LLC, LOST CREEK IN SITU RECOVERY FACILITY,
SWEETWATER COUNTY, WYOMING, SUMMARY OF JANUARY 27, 2011
PUBLIC MEETING - (TAC NO. J00559)

Dear Mr. Heili:

On January 11, 2011 (ML103340234), the U.S. Nuclear Regulatory Commission (NRC) staff issued its first draft license to Lost Creek ISR, LLC (LCI) for its proposed uranium *in situ* recovery facility (ISR) at its Lost Creek project site in Sweetwater County, Wyoming. LCI provided comments to the staff on January 21, 2011. The staff held an open meeting with LCI on January 27, 2011, to discuss LCI's comments on the draft license. The meeting summary enclosed, herein, documents discussions of the draft license conditions that occurred at this January 27, 2011, meeting.

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 component of NRC's document system Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

W. Heili

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If you have any questions concerning this letter, please contact me, either by telephone at (301) 415-6142, or by email at tanya.oxenberg@nrc.gov.

Sincerely,

/RA/

Tanya Palmateer Oxenberg, Ph.D.
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 Management Programs

Docket No.: 040-09068

Enclosure: Meeting Summary

cc:

Meeting Attendees

M. Bautz, WDEQ

M. Newman, BLM

D. McKenzie , WDEQ

W. Heili

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MEETING REPORT

DATE: January 27, 2011

TIME: 9:00 a.m. – 1:00 p.m.

PLACE: U.S. Nuclear Regulatory Commission
Two White Flint North, Rockville, Maryland
Room T8C5

PURPOSE: To discuss draft license for the Lost Creek ISR facility.

ATTENDEES: See Attached Attendee List

BACKGROUND:

The U.S. Nuclear Regulatory Commission (NRC) staff is in the process of finalizing its Safety Evaluation Report (SER) and issued a draft license for Lost Creek ISR, LLC (LCI) on January 11, 2011 (see ML103340234 and ML103360080). LCI provided written comments on the draft license on January 21, 2011 (see ML110320026). The purpose of the meeting was to discuss LCI's comments on the draft license.

DISCUSSION:

The meeting and teleconference began at 9:00 a.m. EST. The staff stated that the meeting was open to the public and that members of the public would be allowed to ask questions or make comments at the end of the meeting. Two members of the public listened in on the meeting. The NRC staff also discussed the status of its review and noted that the draft license has not received formal legal review and issuing the draft license does not constitute a licensing decision by the NRC. The draft license conditions were then reviewed.

A summary of the discussion is presented below. LCI's comments are provided in normal text and NRC staff comments have been *italicized*. Note that the following discussions are organized by license condition (LC) and are not necessarily presented in the same order as during the public meeting. Additionally, the discussion relates to LCI's written comments dated January 21, 2011. If no written comments were provided, the NRC staff assumes that LCI agrees to the LC. To aid in the review, the January 11 draft license is included as an attachment to this meeting summary.

License Condition 9.2

LCI stated that the list of document dates should be deleted and replaced with "as updated" because it is only possible to comply with the final approved application document and should be consistent with the language used for this license condition in the Moore Ranch license.

The staff disagrees and stated that most licenses issued by the NRC include a license condition that states “except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below” and lists specific dates of correspondence that apply. This correspondence consists of the application and other supporting documentation, such as responses to RAIs. Further, the staff pointed out that LCI had submitted several changes to the technical report (TR) since April 22, 2010. The minor changes submitted in May and June 2010 will be incorporated in the license as supplemented by license conditions. The changes submitted in November 2010 will not be included in the initial license because the technical review of the changes may delay license issuance. Therefore, the specific dates will remain in the license condition.

License Condition 9.5

LCI disagreed with only the last paragraph:

“The licensee shall continuously maintain an approved surety instrument for the Lost Creek Project, in favor of the State of Wyoming. The initial surety estimate shall be submitted for NRC review and approval within 90 days of license issuance, and the surety instrument shall be submitted for NRC review and approval 90 days prior to commencing operations.”

LCI recommended the NRC staff change the paragraph to read:

“The initial surety estimate will include a revised decommissioning, decontamination, and reclamation plan which will include soil cleanup criteria for radionuclides other than radium based on the radium benchmark dose method. The soil cleanup criteria, based on the radium benchmark dose methodology for U and other radionuclides, will demonstrate that residual radioactivity in soil meet the criteria in 10 CFR 40, Appendix A, Criterion 6(6).”

LCI stated the surety instrument must be based upon a current revised decommissioning plan incorporating application of the Radium Bench Mark Standard as committed in the revised Section 6.5.1 of the technical report, and that license conditions 12.13 & 12.14 were redundant.

The staff disagreed with changing the wording in LC 9.5 because it is consistent with the license and draft license issued to Uranium One and Uranerz, respectively, and thus is a “standard condition.” LC 12.14 is a site-specific requirement to ensure compliance with Commission Order CLI-00-08. LCI submitted the revised Section 6.0 of the technical report in November 2010, which this draft license does not address. As stated in the previous discussion, the November 2010 revision will not be included in the initial license to avoid license issuance delays.

License Condition 9.6

LCI stated the license condition is redundant because LCI committed in the technical report to comply with the guidance document. Additionally, LCI stated that the wording in LC 12.14 regarding beta/gamma monitoring procedures is redundant with LC 9.6 and should be stricken.

The staff disagreed because LCI did not address beta-gamma surveys in the technical report; therefore, the LC remains as written unless legal review warrants a change. The staff explained that the language in LC 12.14 is not the same as the language in LC 9.6. LC 9.6 addresses items released from restricted areas only. LC 12.14 addresses all areas during decommissioning.

License Condition 9.7

LCI requested the following be added to the end of the second paragraph to be consistent with the Moore Ranch license:

“With the following exception:

The licensee will identify a qualified designee(s) to perform daily inspections in the absence of the RSO or HPT. The qualified designee(s) will have qualifications and health physics training as specified by the licensee in Sections 5.3.1.1, 5.4.3.2 and 5.5 of the Technical Report. Furthermore, the qualified designee(s) may perform daily inspections no more than three days per week, and the resulting inspection reports will be reviewed by health physics staff within 24 hours of the return of the health physics staff. The licensee will also have a health physics staff member available by telephone while the qualified designee(s) is performing the daily inspection.”

The staff disagreed because the specified training cited in the revised technical report was submitted in November 2010, and as stated earlier, is not included in this draft license. However, the staff agreed that an exception could be negotiated and will provide a revised version in the next draft license.

License Condition 10.2

LCI requested the staff to change two items in this license condition:

- (1) the listed maximum flow rate in this condition be changed to average annual rate; and
- (2) the limitation of 1 million pounds of annual yellowcake production be increase to 2 million pounds.

In discussions, LCI indicated that the flow rate listed in the license condition was characterized as nominal rate in the application; as such, the operations may have rates that are slightly above the nominal rate. The dose assessment was based on the reported nominal rate for one year thus leading to LCI’s proposed change. Staff discussed with LCI that its proposed change does not limit the short-term production rate (instantaneous or daily rate) nor provide a meaningful measure to be used for future compliance inspections. Furthermore, though the application refers to the listed rate of 6000 gpm as a nominal rate in one section (Section 3.2), language in other sections of the application (Sections 3.2.7.3, 3.2.7.4 & 3.3) implies that the listed rate was a maximum rate. LCI responded that the maximum instantaneous production capability of the plant will be 7500 gallons per minute (gpm), which would certainly limit the short-term production rate. LCI indicated that it was possibly interested in several 100 gpm above the nominal rate for its operations.

LCI indicated that it listed 2 million pounds in the application as the capacity of the plant, which included production from toll milling or future satellite sites. The staff discussed that LCI stated that one million pound was the expected annual production in several sections of the application as that amount anticipated for the initial operations (operations at the Lost Creek facility, which is the basis for the license application). As LCI did not propose a dryer for this facility in the application, the production rate for yellowcake was not a substantial risk factor in assessing dose to the workers or public. However, the assessment based traffic impacts in the environmental documents on the facility shipping two trucks of yellowcake slurry per week. Using 15,000 pounds of U_3O_8 per slurry truckload, the environmental assessment equated to annual production of 1.56 million pounds of U_3O_8 per year.

The staff will consider revising the license condition to reflect LCI's clarification of the operational flow and annual production rates provided the revisions are consistent with the analyses performed by the safety evaluation and environmental reviews.

License Condition 10.3

LCI wanted to know if trained operators can complete the operational check and documentation on weekends and holidays as per past standard practice in the industry?

The staff pointed out that anyone using an instrument must conduct an operational check with a source to ensure the instrument is responding to radiation, just as the user would conduct a battery check to verify that the battery is operating properly. Trained operators are limited to surveys for releasing resin trucks from one restricted area of a licensee's site to another restricted area of the same licensee's site. Under this scenario, the staff expects the training and qualification program would address operational checks.

License Condition 10.5

LCI requested clarification on what the staff meant by item (2) "non-operational activities involving radioactive materials." Additionally, LCI requested the staff remove the term "sealed sources" from the license condition because the proposed license does not include oversight of sealed sources. If LCI uses sealed sources at the facility, LCI will utilize the radiation safety program mandated by the associated regulations and license. LCI stated that LC 10.5 provides for the requirement of the first part of LC 12.11 and supports its request to have the first part of LC 12.11 stricken.

The staff explained that "non-operational" refers to other activities conducted by the licensee that does not involve uranium recovery and the production and shipment of yellowcake, such as area surveys, environmental monitoring, and waste disposal. LCI defines all of these activities as part of its operations. The staff agreed to explore revising the wording.

Sealed sources refer to any radioactive materials, such as calibration or check sources, that are not licensed or under a manufacturer's general license. The Am-241 sources in smoke detectors fall within this category and need to be stored, used, and disposed of following procedures that ensure personnel and

public safety and contamination control meet the requirements in 10 CFR Part 20. Additionally, 10 CFR 20.1502(a) requires licensees “to monitor occupational exposure to radiation from licensed and unlicensed radiation sources under the control of the licensee.”

License Condition 10.6

LCI requested that language in this license condition on pressures for MIT be more performance-based and the 5-year test requirement be limited to injection wells. Staff agreed that the language for the performance-based approach is consistent with recently issued draft/final licenses for other applicants. However, the staff notes that limiting the 5-year test to injection wells only will be unique to this license. Staff discussed with LCI LCI’s proposed plan to possibly change a production well to injection well during restoration. LCI assured the staff that adequate accounting mechanisms will be in place to ensure that any injection well will have the required 5-year MIT.

The staff will consider revising the license condition to reflect LCI’s request for performance-based language and limiting the 5-year MIT to injection wells.

License Condition 10.7

LCI requested that language be added to this license condition to acknowledge that the restoration schedule in the application reflected an NRC-approved alternate restoration schedule pursuant to 10 CFR 40.42.

LCI stated that section 6 of the Technical Report was modified at the request of NRC staff to reflect that the proposed restoration schedule (Figure 1.7-2 of the TR) was an alternate restoration schedule pursuant to 10 CFR 40.42. Staff acknowledged that the proposed restoration schedule was an alternate schedule; however, the proposed schedule had relative rather than absolute dates. The schedule also included both production and restoration schedules, whereas the NRC does not require strict schedules for production. The applicant would need to submit an alternate schedule with definitive dates once construction and production began. The license condition included standard language requiring a licensee to submit an alternate schedule for a specific mine unit should restoration of that mine unit exceed 24 months. The staff stated that LCI must comply with other reporting requirements in 10 CFR 40.42.

The staff will consider revising the license condition to reflect LCI’s clarification that the restoration schedule in the application is an NRC-approved restoration schedule pursuant to 10 CFR 40.42.

License Condition 10.8

LCI requested that language in this license condition be changed from “until the restoration target values (RTVs) have been achieved” to “until initiation of stabilization.”

LCI suggested that the proposed change in terminology would provide a clearer definition but not substantially change intent of the license condition. Staff agreed that the terminology may be clearer by the proposed change.

The staff will consider revising the license condition to reflect LCI's clarification of the terminology.

License Condition 10.9

LCI requested that several phrases in this license condition be changed to clarify the terminology and intent.

LCI inquired clarification by staff on the policy if all historic drill holes were not located even though "good faith efforts" were made. Staff acknowledged that all historic boreholes may not be found in the field, but required LCI to make a good faith effort to locate all historic drill holes prior to operations. The purpose for monitoring during operations is for the timely detection of an excursion, and evaluate whether or not the excursion is due to an unfounded drill hole. LCI suggested that the term borehole/well be replaced by borehole because only a single historic well is known to exist in the area.

The staff will consider revising the license condition to reflect LCI's requested language changes.

License Condition 10.10

LCI requested that language in this license condition to monitoring potential excursions across the fault be modified to be less prescriptive.

LCI stated that the language in the license condition was too prescriptive and thus extremely conservative. LCI stated that it performed an additional detailed evaluation of the fault to provide Wyoming Department of Environmental Quality (WDEQ) with a monitoring plan that may meet staff's purpose for monitoring across the fault. Staff proposed some tentative language that would be mutually acceptable.

The staff will consider revising the license condition to reflect LCI's request.

License Condition 10.12

LCI requested NRC's rationale for uniquely requiring Lost Creek to screen perimeter wells in all sub-horizons of the HJ Horizon, whereas other facilities have multiple zones undergoing operations but no similar license condition. LCI expressed its view that other ISR licensed facilities target multiple horizons and the other facilities do not have a similar license condition. Staff noted that the anisotropic drawdown pattern for one pumping test was more consistent with a high degree of vertical rather than horizontal anisotropy in the HJ Horizon.

The staff will consider revising the license condition to reflect LCI's request.

License Condition 10.13

LCI requested that language in this license condition allow the recording of daily manifold pressures and flow rates by the computer system.

LCI proposed that the computer system will be able to provide a more accurate record of the pressures and flow rates than manually recording the data in the field by an operator. Staff expressed the view that the computer records are fine to document the data, but LCI should perform inspections to verify that the operating conditions are normal and no leaks are occurring. Therefore, the staff did not agree that a simple computer record is sufficient. LCI expressed its view that its SOPs will cover the inspection items and that the intent of this license condition was to only record the daily data.

The staff will consider revising the license condition to reflect LCI's proposed changes.

License Condition 10.14

LCI suggested revising the license condition to include the second part of LC 12.11. The proposed change would read:

“The licensee will ensure that calibrated radiation instrumentation will be available that can: (1) detect radiation exposure readings that span from the LLD, as described in Regulatory Guide 8.30, to dose rates above those that can be measured in an ISR facility; and (2) perform equipment release, area and personnel contamination surveys as described in Regulatory Guide 8.30.”

The staff disagreed. Regulatory Guide 8.30 does not address beta-gamma contamination limits. Therefore must meet release criteria in NRC guidance document, “Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material,” dated April 1993 (ADAMS Accession No. ML003745526) or suitable alternative procedures approved by NRC.

License Condition 11.1C

LCI requested that language in this license condition be changed from “pressures for the entire system” to “pressures for each injection manifold.”

LCI indicated that “pressures on the entire system” does not have any meaning in context of operations whereas the proposed change would clarify the intent. Staff did not disagree with the clarification.

The staff will consider revising the license condition to reflect LCI's clarification of the method to report the operational injection manifold pressures.

License Condition 11.3A

LCI requested that language in this license condition be changed from “production pattern” to “mine unit”, and the word “equal” to “similar” in the second to last sentence.

LCI suggested that this language change provided clarification. Staff did not disagree.

The staff will consider revising the license condition to reflect LCI's clarification

License Condition 11.3B

LCI requested that language in this license condition be changed from “exempted aquifer” to “reclassified aquifer,” and eliminating the sentence discussing monitoring in subhorizons.

LCI indicated that the change to reclassification is consistent with Wyoming’s designation under its UIC program. Staff noted that Wyoming may have more stringent requirements than EPA for implementing its UIC program; however, the reclassified aquifer has to be exempt from requirements of the Safe Drinking Water Act (SDWA) for the Class III wells to be permitted. LCI requested that the last sentence be removed because similar requirements will be in License Condition 10.12

The staff will consider revising the license condition to reflect LCI’s request; however, the term “exempted aquifer” will be required.

License Condition 11.5

LCI requested the license condition be amended to read:

“The Licensee shall notify the NRC Project Manager (PM) by telephone or email within 24 hrs of confirming lixiviant excursion...”

LCI stated that as written, the wording requires the PM to be available by telephone at all times, which appears to overstate the risk of an excursion. LCI stated that excursions are not a violation of any regulations and the PM has no responsibility in developing a solution to the problem. Therefore, adding the ability to notify the PM by email is appropriate and would be consistent with the reporting methodology described in license condition 11.6.

The staff agreed to revise the license condition.

License Condition 12.1

LCI requested that language in this license condition be changed from “approved aquifer exemption areas” to “water reclassification,” and that phrase “all permits” be clarified.

For the requested change to water reclassification, see discussion above for License Condition 11.3B. LCI indicated that “all permits” would result in submittal of extensive volume of paperwork as a permit applies to each individual well. The staff indicated that the intent was to obtain a general summary of the permit area for the UIC.

The staff will consider revising the license condition to reflect LCI’s request; however, the term “aquifer exemption” will be required.

License Condition 12.7

LCI requested striking this condition from the license as LCI made commitments to installing pond-monitoring wells in the application.

LCI stressed that it committed to installing the wells around the pond in the application and will install the fourth well prior to operations. Staff noted that two wells (MW-1 and MW-4) appeared to be screened above a clay lens, at which any water infiltrating into the subsurface would tend to become perched. However, monitoring well MW-3 may not be screened in a similar horizon. LCI indicated that the clay lens was not contiguous in the area. A discussion ensued about the depth to install a well if no fine grain lens was noted in the subsurface. Staff suggested that LCI must determine that depth based on appropriate factors including times required to infiltrate into the deeper horizons and the potential to collect water at low permeable horizons but without an underlying clay lens.

The staff will consider revising the license condition to reflect LCI's clarification of the operational flow and annual production rates.

License Condition 12.8

LCI requested that data submitted on November 22, 2010 be considered and that this license condition be removed following NRC review. LCI requested that the previously submitted data be reviewed and this condition be struck upon completion of the review. LCI stated that requiring a costly license amendment for such a simple item is unwarranted.

The staff disagreed. As stated earlier, information submitted after June 24, 2010 will not be included in the initial license. The meteorology program is part of the site monitoring program required by Criterion 7 of Appendix A to 10 CFR Part 40. Regulatory Guide 3.63 provides guidance on methods to meet the regulatory requirements. Regulatory Guide 3.63 states that the minimum amount of meteorological data needed for a siting evaluation is considered to be that amount of data gathered on a continuous basis that is representative of long-term (e.g., 30 years) meteorological conditions in the site vicinity. Further, the reduced data and supportive documentation should be retained and should be available for review for the period of facility operation. LCI has not yet provided the NRC with an analysis of the statistical data that verifies the similarity or validity of the data.

License Condition 12.9

LCI did not understand why LC 12.9 was included because LCI had provided additional description of the sampling methodology and results of additional samples that were collected to meet requirements in Regulatory Guide 4.14. LCI requested additional information from the NRC staff on what is lacking in the preoperational radiological environmental monitoring report.

The staff agreed that the license condition was vague and explained that the SER discussed in detail the information that was lacking. The staff stated that LCI met most of the requirements. However, game samples were not collected although LCI stated in the TR that license areas is in Wyoming Game and Fish Department hunting areas. The staff has determined that game hunted and consumed that may have grazed within the licensed area, are subject to food sampling in Regulatory Guide 4.14. Consequently, the NRC staff concludes that not sampling game animals is inconsistent with Regulatory Guide 4.14 food

sampling and the requirement in Appendix A of 10 CFR 40 that LCI provide complete baseline data prior to major construction.

Although not discussed in the meeting, LCI did not collect surface soil samples at air particulate stations, nor did LCI report results for dissolved Ra-226 as recommended by Regulatory Guide 4.14. The NRC staff finds that LCI has not provided a justification for not co-locating surface soil samples with each of the air particulate sampling locations as recommended in Section 1.1.4 b. of Regulatory Guide 4.14. Without the dissolved Ra-226 concentrations, the NRC staff cannot conclude that the onsite surface water monitoring program is consistent with Regulatory Guide 4.14. Thus, the staff cannot conclude that LCI has provided complete baseline data for the site and its environs, as required by Criterion 7 of Appendix A to 10 CFR Part 40.

License Condition 12.10 A)

LCI did not understand why LC 12.10 A) was included because LCI had provided methods for complying with 10 CFR 40.65. LCI requested additional information from the NRC staff on what additional information is needed.

The staff stated that LCI did not demonstrate that the radon stacks will be monitored consistent with Regulatory Guides 8.37 and 4.14, Table 2, under "other stacks." Nor did LCI demonstrate why it is not necessary to monitor these effluents. The staff cannot conclude that LCI's monitoring program for gaseous effluents is in compliance with 10 CFR 20.1101(d), 10 CFR 1302(a), Criteria 8 of Appendix A to 10 CFR Part 40, and 10 CFR 40.65, nor can the staff conclude that LCI's monitoring program is consistent with Regulatory Guide 4.14 and Regulatory Guide 8.37.

Although not discussed in the meeting, the NRC staff provides this additional information to LCI. In demonstrating compliance with 10 CFR 1302(a), applicants must demonstrate that they will make appropriate surveys of radioactive materials in effluents released to unrestricted and controlled areas as specified in the requirement. For point sources (e.g., a defined stack or pipe), the release point will generally be the effluent discharge point (i.e., where the uncontrolled effluent is released to the air). If the effluent is discharged to a restricted area, LCI may propose measuring or calculating the effluent quantities or concentrations at the effluent discharge point (and use this undiluted value, or may use appropriate modeling to estimate the concentrations to which people are exposed) or at the unrestricted/controlled area boundary. For dose calculations, LCI may also propose taking direct measurements at the unrestricted area boundary.

License Condition 12.10 B)

LCI stated that Section 7.2.1 Exposure Pathways in the TR presented a thorough analysis of pathways of exposure and contained maximum exposure estimates for a potential resident living at the boundary, as well as analyzed the possible dose to a casual member of the public in the proposed licensed area. LCI would like this license condition removed.

The staff stated that although LCI has demonstrated that exposure to the public is within limits at the boundary of the proposed licensed area, LCI has not demonstrated compliance with 10 CFR 20.1101(d), 10 CFR 1302(a), and Criteria 8 of Appendix A to 10 CFR Part 40 within the boundary. Because the public has access to BLM and State property within the proposed licensed area, LCI must demonstrate compliance within the boundary (e.g., outside the processing plant and header houses).

License Condition 12.10 C)

LCI stated that Section 7.2.1 Exposure Pathways in the TR presented a discussion of MILDOS modeling that analyzed the potential public dose from radon and its progeny and stated that the modeled dose estimates were essentially all from radon progeny. LCI stated that Section 5.7.7 Airborne Effluent and Environmental Monitoring Programs in the TR contained a discussion of the effluent monitoring program. LCI would like this license condition removed.

The staff disagreed and stated that LCI did not describe effluent monitoring, but described environmental monitoring locations. Most of the monitoring locations were placed at the licensed boundary rather than near the effluent source. Although LCI has placed air particulate and radon environmental monitoring samplers at locations that are consistent with Regulatory Guide 4.14, LCI has not demonstrated compliance with 10 CFR 20.1101(d), 10 CFR 1302(a), and Criteria 8 of Appendix A to 10 CFR Part 40 within the boundary. Specifically, LCI has not demonstrated that exposure to the public in unrestricted areas within the proposed licensed area is ALARA. Furthermore, LCI neither proposed an acceptable method for monitoring air effluent to unrestricted areas to verify control systems are sufficient, nor has LCI discussed how the radon progeny will be factored in the public dose. Therefore, the NRC staff cannot determine if LCI will comply with 10 CFR 20.1101(d), 10 CFR 1302(a), and Criteria 8 of Appendix A to 10 CFR Part 40 within the boundary.

License Condition 12.10 D)

LCI stated that Sections 5.7 Radiation Safety Controls and Monitoring and 7.2.1 Exposure Pathways provide a detailed discussion of all aspects of external and internal dose control, surveying and monitoring. LCI would like this license condition removed because it is redundant with the requirements of LC 9.7 and 10.5.

The staff disagreed and stated that LCI stated in Section 5.7.2 in the TR that “the monitoring commitments are intended to be minimum practices” and the “RSO retains the authority to increase sampling and monitoring frequency and locations as necessary to ensure adequate protection of all workers and the public”. The staff stated that LCI needs a stronger commitment to include all occupational exposure wherever exposure may occur.

License Condition 12.11

LCI stated that the first paragraph in LC 12.11 is redundant with condition 10.5 and the second paragraph is redundant with the proposed revision of LC 10.14. LCI would like this license condition removed.

The staff disagreed. A gamma survey meter must have the capability beyond the intended range needed to ensure radiation areas comply with 10 CFR 20.1902 and exposures do not exceed 10 CFR Part 20, Subparts B and C. LCI stated in the TR that exposure rates may be as high as 8 mrem/hr at an ISR, but the Model 19 instrument that LCI stated would be used at the Lost Creek Project, cannot measure exposure rates beyond 5000 μ R/hr or 5 mR/hr. However, the technical specifications indicate that the range of the Model 3 instrument is 0 to 200 mR/hr. The staff concludes that LCI must use the appropriate survey instrument when gamma surveys indicate exposure rates near the Model 19 range limit to ensure exposure readings measured and posted are in accordance with 10 CFR Part 20, Subparts F and J.

License Condition 12.12

LCI requested that this license condition removed because it is redundant with LC 10.5.

The staff disagreed. LC 10.5 is a standard license condition stating that SOPs are required. LCI is not required to submit these SOPs to the NRC for review and approval before start-up. LC 12.12 requires LCI to submit procedures to the NRC for review. This license condition was included because LCI stated in Section 5.7.2.1, Personal External Dosimetry, that LCI will provide dosimeters to workers as required by 10 CFR 20.1502a, but did not describe how LCI will monitor exposures of employees that will not require dosimetry to ensure LCI complies with 10 CFR 20.1502.

License Condition 12.13

LCI requested that this license condition be removed because it is a replicate of LC 9.5.

The staff agreed.

License Condition 12.14

LCI requested that the staff remove this license condition because it is a replicate of LC 9.5.

The staff disagreed and explained that LCI did not include a “decommissioning plan” in the TR and stated that a plan would be submitted 12 months prior to the start of decommissioning. Commission Order CLI-00-08 requires the NRC staff to review and approve a decommissioning, decontamination, and reclamation plan and the associated financial assurance and cost estimates prior to issuance of a license in accordance with Criterion 9 of Appendix A to 10 CFR Part 40. LCI submitted a change to the TR in November 2010, which includes the decommissioning plan, but as stated earlier, the staff is not including the

November submission in this license issuance. The November 2010 and any additional information submitted will be considered in the amendment.

Additionally, the language is not the same in LC 12.14 as in LC 9.6. LC 9.6 addresses items released from restricted areas only. LC 12.14 involves all areas during decommissioning.

License Condition 12.15

LCI proposed that this license condition be removed and that the NRC verify the completion of the QA Project Plan during the preoperational inspection.

The staff disagreed. The QA plan is too large to be reviewed during the inspection.

PUBLIC DISCUSSION:

The Wyoming Outdoor Council asked about the exemption granted to LCI to construct roads and the proper plugging procedures. The NRC staff stated that roads constructed to support exploration were considered pre-license activities and allowed. Also, the staff explained that it expected LCI to make a good faith effort to find abandoned boreholes. The problem with many of the older boreholes is that they were drilled prior to GPS technology and are difficult to locate. Pump tests would determine if there is conduit between aquifers. If not, no problem, but if so, then LCI may have to use a metal detector to locate the well casings.

The Wyoming Outdoor Council asked if the NRC has been coordinating with the BLM, to which the staff replied that the NRC and BLM have an MOU and coordinate actions.

ACTION ITEMS:

NRC will provide a detailed meeting summary of the issues discussed.

NRC will provide a revised draft license.

ATTACHMENTS:

1. Attendee List
2. Meeting Agenda
3. Draft License



MEETING ATTENDEES

Topic: Discuss draft license to construct and operate an in situ recovery (ISR) uranium facility at its Lost Creek site in Wyoming

Date: January 27, 2011

NAME	AFFILIATION	PHONE NUMBER	E-MAIL
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*Attended by telephone			

MEETING AGENDA
Lost Creek ISR, LLC
January 27, 2011

MEETING PURPOSE: Discuss Draft License.

MEETING PROCESS:

Time	Topic	Lead
9:00 a.m.	Introductions	All
	Discussion of Draft License Conditions	All
1:00 p.m.	Summary of Action Items	Moderator
	Public Comment/Questions	Moderator
1:30 p.m.	Adjourn	