

July 12, 2011

MEMORANDUM TO: Bill von Till, Chief
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

FROM: Stephen J. Cohen, Team Leader **/RA/**
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

SUBJECT: REPORT OF MEETING WITH URANIUM ONE AMERICAS, INC.

Enclosed with this memorandum is a report of the June 1 and 2, 2011 meeting between representatives of Uranium One Americas, Inc. and U.S. Nuclear Regulatory Commission staff to discuss the resubmittal of its application for the proposed Ludeman in situ recovery facility in Wyoming and licensing actions for its Moore Ranch and Willow Creek facilities. If you have any questions, please contact me.

Enclosure: Meeting Report

cc: Meeting Attendees

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MEETING REPORT

DATE: June 1 & 2, 2011

TIME: 8:30 a.m. to 4:00 p.m.

PLACE: U.S. Nuclear Regulatory Commission Headquarters
11545 Rockville Pike
Room T-3A00
Rockville, MD 20852

PURPOSE: This meeting was requested to discuss items to be incorporated into a revised license amendment application for the Uranium One Americas, Inc. (Uranium One) Ludeman project; status of license amendment applications for the Willow Creek facility; status of license renewal application for the Willow Creek facility (including November 2010 updates); and the financial assurance estimate for the Moore Ranch facility. Attachment 1 is the agenda for this meeting.

ATTENDEES:

See Attendees List (Attachment 2).

BACKGROUND:

Uranium One is licensed to operate the Willow Creek and Moore Ranch ISR facilities, both in the Powder River Basin of Wyoming. It submitted and subsequently withdrew an application to construct and operate an ISR at the Ludeman site in the Powder River Basin. Prior to resubmitting the application, Uranium One requested a meeting with the NRC staff to review items that should be included in its application. Uranium One also discussed the additional licensing, including the use of both hydrochloric acid and sulfuric acid during precipitation, information required for financial assurance estimates, and the Willow Creek license renewal.

DISCUSSION:

NRC staff discussed the Ludeman license application. Attachment 3 contains a list of items requiring additional information for the Ludeman application. Staff also discussed the Uranium One Willow Creek SUA-1341 license amendment request to allow the use of both hydrochloric acid and sulfuric acid in the precipitation circuit at the Irigaray central processing facility. Also discussed was the status of the request to modify the Radiation Safety Technician (RST) qualifications to make them align with the qualifications in Regulatory Guide (RG) 8.31. Staff informed the licensee that a minor wording change to the previously submitted application change page would be required to amend the license as requested.

NRC staff also discussed the pending SUA-1341 license renewal request with Uranium One. Staff discussed several items relating to health physics issues as follows:

Enclosure

- The 10 CFR 40, Appendix A, Criterion 8, specified that periodic checks of emission control equipment will be conducted and documented to ensure that the emission controls are operating near peak efficiency. The 1996 and 2008 license renewal applications (LRA) do not address the checks or logs for emission controls. License condition 10.8 refers to recommended operating ranges for emission controls, but these parameters and ranges for controls are not specified in Section 4.0 of the 1996 LRA. NRC requested a copy of the Wyoming air quality permit to review the specified yellowcake emission controls.
- Willow Creek LRA Page 7-7, or Section 7.3, refers to drying under a vacuum, and indicates radon is the only significant release. This does not appear to be an accurate description of the Willow Creek yellowcake dryer.
- Willow Creek LRA Page 7-14, or Section 7.3.3.1.6, refers to a yellowcake rotary vacuum dryer resulting in minimal particulate emissions. This does not appear to be an accurate description of the Willow Creek yellowcake dryer.
- RG 8.30 refers to the surveys expected at in situ recovery facilities. The Willow Creek LRA contains no information on beta radiation dose surveys or shallow-dose results from personnel dosimetry.
- NRC staff questioned the Willow Creek LRA Section 5.7.3.1 assumption that all gross alpha activity is natural uranium and/or that Ra-226 and Th-230 should be included in “natural uranium” definition. Willow Creek has not provided radiological characterization information that demonstrates that all gross alpha activity on air sampling media is natural uranium.
- A Willow Creek LRA revision dated November 2010 to Section 5.7.6 on contamination control was provided in response to an open issue that alpha and beta contamination surveys are needed; but did not revise other references in this section to specify that both alpha and beta surveys will be done.
- The Willow Creek LRA specifies in Section 5.3 that the Radiation Safety Officer (RSO) or a qualified designee will conduct daily and weekly inspections to observe radiation safety control practices. RG 8.31 expects these inspections to be done by the RSO or Health Physics Technician (equivalent to the Willow Creek RST) and specifies applicable training for these positions. The LRA needs to specify training for the designated persons other than the RSO or RST who are allowed to conduct inspections, survey and release materials from the restricted area.
- NRC staff reviewed the meteorological data provided in Willow Creek’s 1996 LRA Table 2.13 and questioned the current locations of Irigaray environmental monitoring stations. Predominant wind directions seem to be from the NW and SE, and the current monitoring station locations appear to be positioned for wind directions from E and W.

- The narrative description of the Willow Creek LRA Table 5.15 regarding Irigaray annual soil sampling, indicates that no trends are apparent. However, the IR-3 station average concentration of uranium from 1995 through 2000 is significantly higher than the other four (4) monitoring locations with no explanation provided. Uranium One staff suggested during the meeting that the monitoring location is close to the 1994 yellowcake spill area that may be the source of the elevated soil uranium levels.
- The narrative description of the Willow Creek LRA Table 5.16 regarding Christensen Ranch annual soil sampling summary also indicated that no trends are apparent. However, sampling station AS-6 data for U, Ra-226, Th-230 and Pb-210 are higher for 1998 and 1999 than for previous years or subsequent years (i.e., 1997 and 2000) with no explanation provided.
- NRC staff notes that no airborne environmental particulate monitoring is conducted at the Christensen Ranch satellite facility or the nearest residence (as shown in the Willow Creek LRA Tables 5.21 and 5.22). Uranium One responded that NRC had approved the monitoring program since this was a satellite facility and no yellowcake was produced there.

NRC staff discussed several items relating to surface water and ground water hydrology issues for the pending SUA-1341 license renewal request. The staff informed Uranium One that most of the outstanding hydrology issues identified in past NRC correspondence had been sufficiently addressed. The remaining issues may be addressed as license conditions in the draft license. The issues discussed with Uranium One included NRC concerns as follows:

- Identification of coal bed methane (CBM) well installation and CBM produced water impoundments in and near the license area and Willow Creek's ability to discern CBM produced water from Willow Creek ISR operations water.
- Willow Creek's deep disposal well permits and their renewal status and their effect on operational safety if these permits are not renewed.
- The potential for installation of new private wells within and near the license area and how these private wells will be identified and evaluated by the licensee and reported to NRC.
- The possible hydrologic connection and possible hydraulic interference between the Willow Creek and North Butte operations.
- The Willow Creek baseline water quality determination and sampling parameters for aquifers above, below, and adjacent to the mine units.
- Mine unit stability monitoring frequency and time frames.

- The Wyoming Department of Environmental Quality's groundwater classification and how this relates to aquifer exemption boundaries at Willow Creek mine unit 4.

Regarding the Ludeman ISR application, the attendees discussed the following:

- NRC staff and the licensee discussed specific acceptance issues concerning the geologic and hydrologic characterization at the proposed Ludeman ISR and nearby domestic wells and actions taken by Uranium One to address these characterization issues.
- NRC staff and licensee discussed additional hydrologic issues highlighted in acceptance tables developed by NRC for the Ludeman application.

Regarding sureties for Uranium One's sites, the following issues were discussed.

- Uranium One had asked what information we need with respect to a basis for their unit costs. We responded that we would need information that clearly demonstrates the source of the cost (e.g. Bureau of Labor Statistics data, quote/contract)
- As a follow on to the above, Uranium One had asked if they are required to provide a quote or contract. We responded that they are not required, but if they choose to provide the quote/contract they may request to have the contract/quote withheld under 10 CFR 2.390

ACTIONS: None

ATTACHMENTS

- 1 Agenda
- 2 List of Attendees
- 3 Ludeman Acceptance Review Comments

ATTACHMENT 1

MEETING AGENDA

Uranium One

June 1-2, 2011

MEETING PURPOSE: Meeting to Discuss Revised Ludeman Amendment Application; Moore Ranch Surety; Willow Creek

MEETING PROCESS:

June 1, 2011

<u>Time</u>	<u>Topic</u>	<u>Lead</u>
8:30 a.m.	Introductions	All
	NRC List of Identified Needs to be Incorporated Into a Revised Amendment Application for Ludeman Project.	All
	Discussion of NRC List	All
	Summary of Action Items	Moderator
	Public Comment/Questions	Moderator
4:30 p.m.	Adjourn	

June 2, 2011

<u>Time</u>	<u>Topic</u>	
8:30 a.m.	Introductions	All
	Status of Willow Creek Amendment Application for the Use of H ₂ SO ₄ In Elution Circuit at Irigaray Plant and The Inclusion of Condition (#2) of Section 2.4.2 of Regulation Guide 8.31 Into The 1996 Renewal Document.	NRC
	Status of SUA-1341 Willow Creek License Renewal, (May 2008), Amended With Updated Information (November 2010).	NRC
	Level of Detail and Documentation for Line Item Cost Estimates Included in Operational Sureties.	All
	Summary of Action Items	Moderator
Moderator	Public Comment/Questions	
4:30 p.m.	Adjourn	

