

November 13, 2014

MEMORANDUM TO: Bill Von Till, Chief
Uranium Recovery Licensing Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safeguards
and Safety

FROM: Chad Glenn, Sr. Project Manager */RA/*
Uranium Recovery Licensing Branch
Division of Decommissioning, Uranium Recovery,
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SUBJECT: PUBLIC MEETING SUMMARY

On October 8, 2014, a Public Meeting was held with AUC LLC (AUC) at U.S. Nuclear Regulatory Commission Headquarters. The purpose of the meeting was to discuss AUC's response to staff's request for additional information on AUC's license application. A summary of the meeting is enclosed.

Docket No: 040-09092
Enclosure: Meeting Summary

cc: Meeting Attendees (via email)

CONTACT: Chad Glenn, NMSS/DUWP
(301) 415-6722

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OFFICE	NMSS	NMSS	NMSS	NMSS
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DATE	11/3/14	11/4/14	11/13/14	11/13/14

OFFICIAL RECORD COPY

MEETING SUMMARY

DATE: October 8, 2014

PLACE: NRC Two White Flint North, Conference Room 8-C05-C
1155 Rockville Pike
Rockville, Maryland

PURPOSE: This meeting was held to discuss the AUC LLC (AUC) proposed Reno Creek In Situ Leach Uranium Recovery (ISR) project application for a source material license and AUC's responses to requests for additional information.

ATTENDEES: See Enclosure 2

BACKGROUND:

On October 3, 2012, AUC submitted a license application requesting authorization to construct and operate its proposed Reno Creek ISR project to be located in the Powder River Basin near Wright, Wyoming. This submittal is publicly available in the U.S. Nuclear Regulatory Commission (NRC) Agencywide Document Access and Management System (ADAMS) via Accession Number ML122890785. The NRC staff's acceptance of the license application request is documented in a letter dated June 18, 2013 (ADAMS Accession Number ML13161A319). The staff proceeded with its review of the license application request and determined that additional information was necessary to complete its review. Staff issued a Request for Additional Information (RAI) on February 10, 2014 (ADAMS Accession Number ML13365A110). On June 13, 2014, AUC submitted responses to NRC's RAI (ADAMS Accession Number ML14169A452). On September 9, 2014, NRC staff accepted AUC's RAI responses for detailed technical review (ADAMS Accession Number ML14247A276).

DISCUSSION:

This meeting was scheduled to address questions and open items related to AUC's responses to the RAIs. The attendance list is included as Attachment 1. Attachment 2 contains the meeting agenda. This summary addresses topics in the order they were discussed in the meeting. The discussion started with a summary of the October 2, 2014 NRC-AUC Public Meeting and some follow-up discussion from that meeting.

Technical Discussions

- **Radiation Protection**

RAI-23 Follow-up Background Radiological Characteristics

As a follow-up to the discussion at the October 2, 2014 public meeting, AUC stated that they will perform vegetation sampling per Regulatory Guide 4.14 in three sectors from the current location of the Central Processing Plant (CPP). This sampling will be conducted three times during the grazing season.

AUC plans to collect the first set of new sampling in October 2014, the second set in November 2014, and third set in the spring 2015 timeframe. AUC plans to submit the sampling reports to NRC as they receive them.

Path Forward: NRC and AUC agreed to defer the discussion on food sampling (livestock and crops) until the October 23, 2014 public meeting.

- **Hydrology**

RAI-12 Surface Water Flow into Proposed Surface Impoundment

This RAI stated that the applicant did not provide an adequate evaluation of surface water flow to the surface impoundment. The applicant's response referenced the flood inundation study in its application which states that the CPP and associated infrastructure will be sited on a hill to avoid potential flooding and runoff, and that grading plans and drawings consistent with Regulatory Guide 3.11 will be addressed during final planning.

This is an open issue because this information is needed to support the staff's safety evaluation. For recent applications that include surface impoundments, staff required calculations and/or drawings to demonstrate consistency with guidance in Regulatory Guide 3.11 prior to issuance of the license. In this case, staff needs to confirm that the berm upslope of the impoundment is adequate and the proposed diversion of water and/or flow from the upslope areas is accounted for in the freeboard calculations. In this discussion, the NRC staff noted that the probable maximum flood used for this analysis need not be the 1,000 year flood event. (Also related to RAI-35).

Path Forward: After this discussion, the applicant had no clarifying questions. Therefore, staff expects the applicant to address this issue in its revised response to RAI-12.

RAI-22 (A and B only) Well Development and Low-Flow Sampling

- A) The RAI stated that several borehole logs did not document well completion activity – specifically well development. Table 2.7B-1 presents well completion details and not all well completion reports contain well development data. For example, well completion report for OM-3 (Page 2.7D Appendix E-11) does contain well development information, but the well completion report for SM-3 (Page 2.7D Appendix E-10) does not. This is an open issue due to the fact that AUC did not state that the wells used for site characterization were properly developed prior to sampling (AUC does note that future wells will be developed). If the wells used for site characterization were properly developed prior to sampling, the applicant needs to include a statement to clarify that point in its revised response to RAI-22.
- B) The RAI requested justification for the low-flow sampling methodology. The applicant provided a justification that the “traditional” method likely contributed sediment to the first sampling at UM3R thus resulting in higher uranium concentrations and that water within the well screen is an approximation to that in the aquifer due to lack of advective flow in a low conductivity formation. Staff stated that this is an open issue because this justification is insufficient.

In regard to (A), AUC responded they will fill the information gap related to well development information. Staff explained that AUC needs to document how it developed wells (e.g., document criteria such as volume of water purged, visually clearing of the water or water quality parameters). In regard to (B), staff informed AUC that the focus of the RAI was on the low-yielding wells due in large part to the fact that well UM3R was sampled by both traditional and low-flow methods and that a large portion of the sample was derived from the well bore and not the aquifer. Staff informed AUC that the low-yielding wells were generally in the underlying aquifer. Staff noted that the only statement indicating that AUC does not propose to monitor the underlying aquifer during operations occurs in the introduction section of the application. Staff also informed AUC that it needs to provide additional information (such as, estimating the long-term sustainable yield from the low-yielding wells, estimating the thickness of the intervening confining unit to the next lower sand lens) before staff can accept this argument. If AUC does not plan to monitor the underlying aquifer because there are no transmissive units below the production zone, they need to include a statement to clarify that point, and estimate the minimum thickness of the non-transmissive units between the production zone and the next underlying transmissive unit.

NRC staff expressed concerns of the proposed low-flow sampling methodology for even higher-yielding wells. Staff noted that like the low-yielding wells, at least one parameter (Oxidation Reduction Potential) did not stabilize during the sampling. Staff framed a couple questions for AUC consideration:

- Is the low-flow sampling method adequate for providing baseline data?
- Is the pump located within the middle of screen horizon for all wells (AUC responded “yes” to this question)?
- Did the purge volume exceed the volume estimate for the pump and line from the pump to the wellhead (e.g., that should be the minimum purge volume)?

Path Forward: AUC responded that they understand the open issues and will provide the requested information in its revised response to RAI-22.

RAI-62 Quality Assurance Plan

The RAI requested specific information on the Quality Assurance Plan (QAP) and the applicant’s response simply committed to develop a QAP. This response was inadequate because it lacked any information on the content of the QAP. Furthermore, NRC’s policy is to limit license conditions and a QAP is expected to be completed prior to license approval. Staff stated that it is not requesting a standard operating procedure. Rather, NRC is seeking a program description, or annotated outline, that identifies key areas to be addressed in QAP.

Path Forward: AUC committed to provide a table of contents for their QAP and include the type of information provided in STRATA’s RAI response TR RAI Admin. (L).

- **Air Quality**

RAI-AQ-3 Emission Levels

The RAI requested quantitative project emission levels for the four phases or a method to calculate this from the life cycle emission levels. In response to discussion in the October 2, 2014 public meeting, AUC provided NRC with additional air quality data for each project year. In this meeting, NRC addressed clarifying questions with respect to data in Tables A-1, A-2, and A-3. The NRC staff asked about the emissions of project phases including the construction, operation and decommissioning in addition to information regarding fugitive dust from specific equipment. Further discussions included consistency of data tables through the application documents and the rationale of assumptions used in calculations.

Path Forward: AUC committed to include this additional air quality data in its revised response to RAI-AQ-3 including updating relevant tables and providing additional details regarding assumptions and calculations.

Public Comments:

Prior to adjourning the meeting, staff solicited public comments from members of the public, but there were no public comments.

Attachments:

1. List of Attendees
2. Meeting Agenda

NRC Public meeting regarding RAI Response Package for Reno Creek Project

October 8, 2014

Attendees

NAME	AFFILIATION	EMAIL/PHONE
Jill Caverly	NRC	jill.caverly@nrc.gov
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Bob Meyer	AUC	rmeyer7@mindspring.com
Ray DeLuna	AUC	rdeluna@treccorp.com
Ronn Smith	AUC	rsmith@imlinc.com
Leland Huffman	AUC	lhuffman@auc-llc.com

PUBLIC MEETING AGENDA

FORTHCOMING MEETING WITH AUC LLC DISCUSSING THE RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR THE RENO CREEK ISR PROJECT

October 08, 2014, 10:00AM to 12:00PM

NRC Two White Flint North, T8C05-C
11545 Rockville Pike
Rockville, MD

Time	Topic	Speaker
10:00am	Welcome and Introductions	
10:10am	Summary of October 2, 2014 Public Meeting and Outstanding Issues	
10:20am	Technical Discussions-Air Quality and Remaining Resource Sections as Needed	
11:45am	Public Comments	
12:00pm	Adjourn	