

June 7, 2013

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: Douglas Mandeville, Project Manager */RA/*  
Uranium Recovery Licensing Branch  
Decommissioning and Uranium Recovery  
Licensing Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
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SUBJECT: PUBLIC MEETING SUMMARY

On May 16, 2013, a Public Meeting was held with Power Resources, Inc., (PRI), doing business as Cameco Resources (Cameco) at U.S. Nuclear Regulatory Commission Headquarters. The purpose of the meeting was to discuss the staff's request for additional information on Cameco's license renewal application. A summary of the meeting is enclosed.

Docket No: 40-8964  
License No: SUA-1548

Enclosure: Meeting Summary

cc: Meeting Attendees (via email)

CONTACT: Douglas Mandeville, FSME/DWMEP  
(301) 415-0724

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DISTRIBUTION: DPersinko      BSpitzberg/RIV      LGersey/RIV      Meeting Attendees

**ML13154A323**

OFFICE	DWMEP	DWMEP	DWMEP	DWMEP
NAME	DMandeville	JPark	BGarrett	DMandeville
DATE	6/03/13	6/04/13	6/05/13	6/07/13

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## MEETING REPORT

DATE: May 16, 2012

TIME: 10:00 a.m. to 1:05 p.m.

PLACE: U.S. Nuclear Regulatory Commission  
Two White Flint North, Rockville, Maryland  
Room T8C5c

PURPOSE: This meeting was held at the request of Power Resources, Inc., doing business as Cameco Resources, to discuss the staff's request for additional information on Cameco's license renewal application.

### ATTENDEES:

See Attendees List (Attachment 1).

### BACKGROUND:

Power Resources, Inc. (PRI), doing business as Cameco Resources (Cameco), currently operates the Smith Ranch-Highland Uranium Project (SRHUP) under NRC Source Material License SUA-1548. By letter dated February 1, 2012, Cameco submitted a request to the U.S. Nuclear Regulatory Commission (NRC) to renew Source Material License SUA-1548. License SUA-1548 authorizes Cameco to perform uranium in-situ recovery (ISR) operations at SRHUP sites, consisting of the contiguous Smith Ranch, Highland, and Reynolds Ranch properties and at the related remote satellite facilities at the Gas Hills, Ruth, and North Butte properties. Cameco has requested that License SUA-1548 be renewed as a performance-based license for an additional 10-year period. The renewal, if granted, would allow for continued operations and the recovery of uranium using ISR techniques as previously licensed by the NRC. The staff's acceptance of the license renewal request is documented in a letter dated July 5, 2012 (ADAMS Accession Number ML12159A511). The staff proceeded with its review of the license renewal application and recently determined that additional information is necessary for the staff to be able to complete its review. Staff issued its request for additional information (RAI) on May 2, 2013 (ADAMS Accession Number ML13098A040).

Enclosure

## DISCUSSION:

NRC staff read the opening statement for the meeting and Cameco proceeded with a discussion of the staff's RAIs on the license renewal application. The attendance list is included in Attachment 1. Attachment 2 contains the meeting agenda included in the original meeting notice. Topics from the meeting are presented below in the order they were discussed. When referring to RAIs, staff has used the same numbering system used in the RAI package.

### Technical Report RAIs

#### RAI 32 – Gas Hills Mine Unit 5 and Umetco Alternate Concentration Limit (ACL)

Staff clarified that its primary concern is the proximity of Cameco's Gas Hills Mine Unit 5 to Umetco's mill tailings impoundment and ground water contamination that has migrated away from the impoundment. Umetco established an ACL for the ground water contamination issue and staff approved the request in 2002.

Cameco asked for the staff to provide ADAMS accession numbers for previous reviews related to the Umetco Gas Hills ACL. Staff has compiled a list of documents, which is included in Attachment 3.

Staff indicated that it may be possible to address its concern with a commitment to further evaluation prior to injection of lixiviant in Mine Unit 5.

#### RAI 10 – Potential for unconfined aquifers at Gas Hills

Staff clarified that its review of ground water level data for the Gas Hills satellite indicates that several mine units have experienced water level declines resulting from previous open pit mining operations in the vicinity. Staff is concerned that this may result in unconfined aquifer conditions within mine units at Gas Hills.

Cameco stated that additional ground water level data is available and that additional data will become available during development of individual mine units. Cameco stated that ground water levels are returning now that reclamation activities are complete; however, Cameco cannot exclude the potential for Gas Hills ore zones to have an unconfined aquifer. Staff explained that Cameco would need to address safety issues related to operations in an unconfined aquifer if any of the Gas Hills mine units had, or would experience, these conditions. Examples of the staff's analysis related to operations in unconfined aquifers can be found in the Moore Ranch SER (ADAMS Accession No. ML101310291) and the Nichols Ranch SER (ADAMS Accession No. ML102240206).

#### RAI 12 – Previously approved mine units at Smith Ranch Highland

Staff explained its concern with the discrepancy between Figure 4-1 of Appendix E to the Environmental Report and Table 3-1 of the Technical Report. Figure 4-1 shows additional proposed mine units that are not identified in Table 3-1. It is not clear to the staff if: (1) these additional mine units are proposed, and (2) if these additional mine units have been previously reviewed and approved by staff.

Staff stated it may be possible to address its concern by identifying the previous review where the additional mine units were considered. If the additional mine units were not previously considered, staff indicated a commitment to obtain a license amendment prior to development of new mine units may address its concern.

#### RAI 31 – Surface features located within 2 km of Gas Hills Mine Unit 5

Staff explained its concern that the figures and maps showing areas within 2 kilometers (km) of Gas Hills Mine Unit 5 do not include the location of the Umetco mill tailings impoundment. Disclosure of surface features (i.e., mill tailings impoundment, monitor wells, proposed long term surveillance boundary, etc.) are important aspects of staff's review of operations in Mine Unit 5.

#### RAI 58 – Stability monitoring at completion of restoration

Cameco requested clarification on the meaning of the term "statistically significant increasing trend." Staff explained that its concern is demonstration of stability of constituent concentration at the conclusion of ground water restoration. Staff stated that a commitment in the application to perform stability monitoring on a quarterly basis to demonstrate at least four consecutive quarters with no statistically significant increasing trends may be one way to address its concern. Staff identified that using a sound and defensible statistical approach to assess trends, such as that available in ProUCL 4.1, should be considered when attempting to demonstrate stability.

#### RAI 34 – Forced evaporation system at Gas Hills satellite

Staff clarified its concern that solid residues generated by a forced evaporation system are considered 11e.(2) byproduct material. Cameco agreed with the staff's view that solid residues generated by forced evaporation will be handled as 11e.(2) byproduct material. Cameco's response to this RAI should focus on the anticipated solid residue generation rate from the forced evaporation system.

#### RAI 50 – Excursion monitoring until approval of mine unit restoration

Cameco requested clarification on what activities staff considers restoration in this RAI. Staff explained that its concern in this RAI was performance of excursion monitoring until the ground water restoration activities in an individual mine unit are approved. Staff explained that it is looking for a commitment in the application to continue excursion monitoring at a technically defensible frequency until ground water restoration activities are approved.

#### RAI 28 – Exposure pathways at deep disposal wells

Staff clarified the issue raised in this RAI relates to oil and gas extraction activities in the vicinity of Cameco's deep disposal wells. Staff identified that including a map which displays existing deep disposal well locations and oil and gas wells in or near the wells' area of review may be one way to address the concern. Staff can rely on reviews performed by other agencies, so providing the deep disposal well permit approved by the Water Quality Division of the Wyoming Department of Environmental Quality may be another way to address the staff's concern.

## Environmental Report RAls

### General Comment

Cameco commented that several of the Environmental Report RAls appeared to be geared towards a review of a new ISR facility, not a facility undergoing license renewal. Cameco indicated that in many cases, various aspects of the facility have been previously reviewed and considered.

Staff stated that its intent was not to re-review previous actions, and clarified that to the extent possible, it plans to rely on previous environmental reviews as the basis for analyzing potential impacts from the proposed license renewal. The staff's focus would be on: (1) activities considered new and different; and (2) resource areas that may not have been evaluated during previous reviews in a manner consistent with current approaches. In some cases, staff has requested additional information on a particular aspect of operations to bring the staff's analysis up to current standards of practice.

### RAI GEN-1 – Plans for Ruth remote satellite

Staff requested that Cameco confirm whether or not operations will occur at the Ruth remote satellite in the next 10 years. Cameco indicated it does not currently plan to operate Ruth in that time frame. Staff indicated it may be possible to clarify future plans for Ruth through the use of a license condition similar to condition 10.2.1 in License SUA-1548.

### RAI CI-1 – Cumulative impact analysis

Cameco asked for clarification on what staff considers a reasonably foreseeable future action (RFFA), the timeframe to consider for RFFAs, and the vicinity to be considered for different resource areas. Staff considers a RFFA to be an action that has been identified in writing by a proponent. RFFAs can be identified based on currently available information and public knowledge. For this license renewal, staff requests that Cameco consider RFFAs that may occur over the next 10 to 15 years (starting in September 2011). Specifically, in regards to cumulative impacts, the staff clarified that Cameco should consider impacts that the Smith Ranch project will have on resources that will also be used by other RFFAs. For example, a RFFA that shares the same traffic routes, or the same aquifer should be considered in the analysis.

### RAI CI-2 – Assessment of impacts of proposed Ludeman project

Cameco asked for clarification for the request of an assessment of cumulative impacts of operation of the Smith Ranch Highland facility on the proposed Uranium One Ludeman project. Cameco stated that as the Smith Ranch facility has been licensed and operating for more than 20 years, the cumulative impact assessment should be performed by the Ludeman project's proponent, Uranium One. Staff stated that it would reevaluate this RAI in light of the public information available on the Ludeman Project at the time of Cameco's submittal of the Smith Ranch license renewal application.

### RAI CI-3 – Status of other ISR projects Cameco has under consideration

Cameco asked for clarification on the amount of detail required related to other ISR projects under consideration. Staff clarified that a discussion of general status would be helpful. The discussion should include: (1) location of the project; (2) an overview of activities performed to date, (3) plans for the facility; and (4) anticipated application date.

### RAI AQ-1 – Meteorological data obtained since application was submitted

Cameco asked that the staff clarify the meaning of “with the last 12 months of best-available data.” Staff recognizes that in some cases, Cameco may have decided to stop collecting meteorological data at a specific location several months ago and moved the sampling equipment to a new location. As such, staff explained that it is not seeking the last 12 months of data, rather the staff is asking for the most recently available data.

### RAI AQ-2 – Air quality data

Cameco asked the staff for clarification about which portion of the Smith Ranch project this RAI applies to. Staff explained that it is seeking site-specific data for each portion of the Smith Ranch project. Staff recommended looking at regionally available information where site monitoring information is unavailable.

### RAI EJ-3 – Hunting or gathering on Smith Ranch project sites

Cameco asked staff to clarify this RAI. Staff explained that it is seeking information on hunting and gathering at Smith Ranch project sites. Staff recognizes that Cameco may not know if hunters or gatherers are members of a low-income population. Staff stated it may be possible to address its concern by identifying Cameco’s process for granting access to hunters or gatherers.

### RAI H+S-2 – Health and safety programs in place at Smith Ranch project sites

Cameco asked the staff to clarify the level of detail necessary to address this RAI. Staff explained that broad discussion of Cameco’s approach to health and safety across the project site would be reasonable. Staff stated that it may be possible to address this RAI by describing Cameco’s worker training for occupational and radiological safety as well as standard operating procedures.

### RAI CR-1 – Summary of previous historical and cultural resource surveys conducted within Smith Ranch project boundaries

Cameco requested clarification on this RAI. Cameco explained that it had identified 21 previous cultural resource surveys, but that a number of those surveys were conducted prior to Cameco owning the site. As a result, Cameco has copies of seven surveys. Cameco stated that the State Historic Preservation Officer (SHPO) has copies of the remaining surveys. Staff explained that it is looking for a tabular summary of the previous surveys, as well as maps or drawings showing the extent of the previous surveys. Staff will contact SHPO to obtain copies of the remaining cultural resource surveys.

RAI CR-2 – Plans to address potential impacts to areas with no intensive cultural resource surveys or that were surveyed prior to 2004

Staff clarified that standards for performing cultural resource surveys changed in 2004. Areas that were surveyed prior to that time may not necessarily have been evaluated to the standards used today. For future areas of development at the Smith Ranch site and the remote satellites, staff is requesting that Cameco identify when it is relying on surveys conducted prior to 2004 and what, if any, measures will be taken if pre-2004 surveys will be relied on.

RAI CR-3 – State of Wyoming Cultural Resource Site forms

Cameco requested clarification on this RAI as the language is confusing. Staff explained that it is requesting copies of the site forms when a particular site is designated as eligible for inclusion on the National Register of Historic Places.

RAI ECO-1 – Methodologies for previous ecological surveys

Staff explained that for this RAI, staff is requesting the methodologies used to conduct previous ecological surveys. Cameco stated that this information should be contained within the actual survey documents in the appendices to the license renewal application. Staff had reviewed the appendices but did not find the requested methodologies. Staff and Cameco agreed that further discussion of this RAI was needed.

RAI ECO-2 – Local vegetation types

Staff explained that Section 3.5.1 of the environmental report indicates that an updated vegetation survey was completed. Cameco stated that the vegetation survey was completed at the time of submission, but the final written report was not available for inclusion in the environmental report. Staff stated that submission of the final report may address this RAI.

RAI ECO-3 – Updated wildlife survey

Staff explained that Section 3.5.2 of the environmental report states that additional wildlife surveys were planned for early 2011. Cameco explained that these reports were not finalized in time to be included with the license renewal application. Staff stated that submission of the updated wildlife surveys may address this RAI.

RAI GEN-4 – Status of Federal, State, and Local permitting efforts

Cameco asked for clarification on the timeframe for updating the Federal, State, and local permitting efforts. Staff and Cameco agreed that the permitting efforts should be updated to their status as of September 2011. This was the date of the pre-submission review.



#### RAI GEN-5 – Current progress on construction and operations at Smith Ranch project sites

Cameco asked for clarification on the timeframe for construction and operations at the Smith Ranch project sites. Staff and Cameco agreed that the permitting efforts should be updated to their status as of September 2011. This was the date of the pre-submission review.

#### RAI VIS-1 – Visual resources at Smith Ranch project sites

Cameco asked for clarification related to the level of detail the staff is seeking for visual resources. Cameco is uncertain as to what type of features to model: (1) larger features such as a central processing plant or satellite facility; or (2) smaller features such as a header house. Staff clarified that visual impacts should be based on the largest structure in the area, for each project site. In most cases, this would likely be a central processing plant or satellite building, depending on the location of the visual receptor at each project site. Potential receptors were identified as drivers along Ross Road and also as residents at vicinity ranch houses.

#### RAI VIS-2 – Nighttime lighting of Smith Ranch project sites

Cameco asked for clarification of this RAI. Staff explained that it is requesting some evaluation of nighttime lighting. The evaluation should be based on potential receptors at public access points, on Ross Road and at vicinity ranch houses.

#### Action Items

At the conclusion of the meeting, staff and Cameco identified four action items:

1. Staff and Cameco will arrange a time to further discuss RAI ECO-1.
2. Staff will provide additional clarification on RAI CI-2 related to the submission dates of Uranium One's license amendment application to the NRC.
3. Staff will contact the Wyoming State Historic Preservation Officer to obtain the remaining cultural resource survey reports.
4. Staff will provide references to Cameco regarding alternate concentration limits for the Umetco Gas Hills site.

The meeting concluded at approximately 1:05 p.m. eastern time. There were no questions from the public.

#### Attachments:

1. List of Attendees
2. Meeting Agenda
3. Documents related to previous Umetco Gas Hills alternate concentration limit and Cameco Gas Hills reviews

Attachment 1  
Meeting Attendees  
Date: Thursday May 16, 2013  
Room T8C5c  
10:00 am to 1:05 pm

Topics: Request for Additional Information on License Renewal

<b>NAME</b>	<b>AFFILIATION</b>
Doug Mandeville	U.S. NRC
Elise Striz	U.S. NRC
Jim Park	U.S. NRC
Varughese Kurian	U.S. NRC
Mirabelle Shoemaker	U.S. NRC
Dominic Orlando	U.S. NRC
Linda Gersey	U.S. NRC
Josh Leftwich	Cameco
Miriam Whatley	Cameco
John Schmuck	Cameco
Paul Hildenbrand	Lidstone and Associates
Chris Lidstone	Lidstone and Associates
Chester Hitchens	Lidstone and Associates
Jordan Nielson	Lidstone and Associates
Chris Pugsley	Thompson and Pugsley
Pam Rothwell	Wyoming Department of Environmental Quality

MEETING AGENDA  
Cameco Resources/Smith Ranch License Renewal  
May 16, 2013

MEETING PURPOSE: Meeting to Discuss Request for Additional Information on Smith Ranch License Renewal

MEETING PROCESS:

<u>Time</u>	<u>Topic</u>	<u>Lead</u>
10:00 a.m.	Introductions	All
	Safety Request for Additional Information	NRC
	Environmental Request for Additional Information	NRC
	Public Comment/Questions	Moderator
4:30 p.m.	Adjourn	

**Documents related to UMETCO ACL and PRI Gas Hills licensing actions:**

- (1) NRC, "Environmental Assessment Regarding the A-9 Repository Enhanced Reclamation Design for the UMETCO Minerals Corporation East Gas Hills Uranium Mill site in WY," ADAMS Accession No. ML081160159, November 17, 1999.
- (2) PRI, "Request for License Amendment, Gas Hills ISL Satellite Project," Docket No. 40-8857," ADAMS Accession No. 030300468, June 24, 1998.
- (3) UMETCO, "Gas Hills, Additional Information, ACL Application," ADAMS Accession No, ML003678198, Jan. 12, 2000.
- (4) WDEQ, "Re: Review of the UMETCO Minerals Corporation ACL Application," ADAMS Accession No. ML003706789, April 25, 2000.
- (5) UMETCO, "Final application for alternate concentration limits for Gas Hills, WY," ADAMS Accession No., ML011440258, May 11, 2001.
- (6) UMETCO, "Final application for alternate concentration limits for Gas Hills, WY, Vol. 1," ADAMS Accession No. ML011450405, May 31, 2001.
- (7) UMETCO, "Appendix K, Analysis of Impact from PRI in Situ Leach Uranium Mine Operation, in Appendices F-L , Final application for alternate concentration limits for Gas Hills , WY," ADAMS Accession No. ML021200261, May 31, 2001.
- (8) NRC, "Environmental Assessment of the Application of Alternate Concentration Limits to Groundwater at the UMETCO Minerals Corporation, Gas Hill Site," ADAMS Accession No. ML 020840234, March 24, 2002.
- (9) NRC, "Amendment 48, License SUA-648, UMETCO Minerals Corporation, Gas Hills Uranium Site, Alternate Concentration Limits, ADAMS Accession No. ML 021070805, March 29, 2002
- (10) NRC, "Environmental Assessment for the operation of the Gas Hills Project satellite In-Situ Leach Uranium Recovery facility," ADAMS Accession No. ML040070538, January 29, 2004.
- (11) NRC, "Safety Evaluation Report Assessment for the operation of the Gas Hills Project satellite In- Situ Leach Uranium Recovery facility in Fremont and Natrona Counties," ADAMS Accession No. ML040350016, January 31, 2004.