September 16, 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
and Environmental Management Programs

SUBJECT: PUBLIC MEETING SUMMARY

On August 20, 2013, a Public Meeting was held with Power Resources, Inc., (PRI), doing business as Cameco Resources (Cameco), Urtek, and J.R. Simplot at U.S. Nuclear Regulatory Commission Headquarters. The purpose of the meeting was to discuss licensing issues related to recovery of uranium from phosphoric acid. 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

**ML13241A386**

| OFFICE | DWMEP | DWMEP | DWMEP |
|---|---|---|---|
| NAME | DMandeville | BGarrett | DMandeville |
| DATE | 8/29 /13 | 9/4/13 | 9/16/12 |

OFFICIAL RECORD COPY

**MEETING REPORT**

DATE: August 20, 2013

TIME: 1:30 p.m. to 2:40 p.m.

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

PURPOSE: This meeting was held at the request of Urtek, Power Resources, Inc., doing business as Cameco Resources, and J.R. Simplot to discuss licensing issues related to side stream recovery of uranium from a phosphoric acid production plant.

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. Cameco has been working with Urtek to develop a process to extract uranium from phosphoric acid. Cameco and Urtek performed some initial research last summer and are continuing additional research and development work this year to refine the process. Urtek designed its demonstration plant to stay below the current limits for possession of source material under a general license in 10 CFR Part 40.22. These limits are changing, effective August 27, 2013.

DISCUSSION:

NRC staff read the opening statement for the meeting. Attendees of the meeting were asked to provide brief introductions. Cameco and Urtek, provided an overview of the discussion topics planned for the meeting. Attachment 2 contains the meeting agenda included in the original meeting notice. Cameco and Urtek also stated its opinion that its current activities related to recovery of uranium from phosphoric acid would fall under the general license provisions of 10 CFR Part 40.22(a)(2), which allows possession of up to 15.4 pounds of source material at any one time and up to 154 pounds of source material in a calendar year. Urtek proceeded with its presentation, which is included in Attachment 3. J.R. Simplot provided additional information about its facilities and production of phosphoric acid in its presentation, which is included in Attachment 4.

At the conclusion of the presentations, NRC staff, Cameco, Urtek, and J.R. Simplot discussed various aspects of the project. Discussion topics are identified below.

Cameco and Urtek re-stated their position that the current activities would fall under the general license provisions of 10 CFR Part 40.22(a)(2), when the revisions to Part 40 go into effect on August 27, 2013. Cameco and Urtek base their position on the notion that loading uranium onto ion exchange resins does not physically or chemically alter the solid source material and that uranium affixed to ion exchange resins is non-dispersible.

The NRC staff did not make a decision as to whether the activity would fall under 10 CFR 40.22(a)(1) or 10 CFR 40.22(a)(2). The NRC staff suggested that if this distinction is critical for Cameco and Urtek to proceed with its research and development activities that it submit a letter to the NRC presenting its position and request a staff determination as to which provision of the regulation is applicable.

The NRC staff pointed out that the revisions to 10 CFR 40.22(a)(1) do allow for some flexibility related to the timelines for compliance for licensees currently possessing source material in a quantity greater than the limits that go into effect on August 27, 2013. This provision of the rule is explained in the *Federal Register* Notice announcing the final version of the rule (78 FR 32310) and repeated below as follows:

> *Similarly, persons in possession of source material in excess of the limits in § 40.22(a)(1) have up to 1 year from this date to apply for a specific license for possession with the previous throughput limit applying until action is taken by NRC on their license application. If they choose not to apply for a license, they have through December 31, 2014, to reduce the quantity of source material under their possession to below the new limits.*

The NRC staff asked for the current location of the demonstration plant. Cameco and Urtek clarified that the demonstration plant is in Idaho.

The NRC staff asked for clarification as to the location in the demonstration plant where the uranium exceeds 0.05 percent by weight. Urtek stated that their testing to date indicates that uranium is concentrated above this level only on the secondary ion exchange resins.

At the conclusion of the discussion, NRC staff provided members of the public with an opportunity to ask questions. The questions or comments below were raised by members of the public.

Q1: What activities related to recovery of uranium from phosphoric acid are currently occurring at Cameco's Smith Ranch Highland facility?

A1: NRC staff stated that uranium loaded ion exchange resins are sent to the Smith Ranch Highland facility; activities at Smith Ranch Highland are limited to processing of those resins. Processing of the resins would occur in the same manner as normal operations at the facility (elution, precipitation, drying, and packaging). Shipments of loaded ion exchange resins would be limited to the maximum allowed under the general license, which is up to 15 pounds at any one time.

Q2: Where would resins used in recovery of uranium from phosphoric acid be disposed of?

A2: In the scenario discussed at this meeting, uranium loaded ion exchange resins would be sent to Cameco's Smith Ranch facility for further processing. Spent ion exchange resins used in this process that are no longer considered usable would be considered 11e.(2) byproduct material and would be disposed of in the same manner as other 11e.(2) byproduct material at Smith Ranch. Cameco currently has agreements to dispose of solid 11e.(2) byproduct material at either the White Mesa conventional mill in Utah or at the Pathfinder Shirley Basin impoundment in Wyoming.

Q3: Where are the facilities involved in this process located?

A3: During the meeting, Urtek and J.R. Simplot identified that the demonstration plant would be located in Pocatello, Idaho. Uranium would be removed from phosphoric acid and loaded onto ion exchange resins at this location. The uranium laden ion exchange resins would be shipped to Cameco's Smith Ranch Highland in situ recovery facility located near Glenrock, Wyoming.

Q4: What is the intent of the operation?

A4: Phosphate deposits often include the presence of uranium. When phosphoric acid is produced, uranium can be present and be an impurity in the final product. Urtek has developed a process to remove uranium from phosphoric acid. Once the uranium has been removed from phosphoric acid, uranium can be further processed into yellowcake. Production of yellowcake is the first step in the process of developing fuel for nuclear reactors.

ACTION ITEMS

No specific action items were identified for the staff. As discussed above, Cameco and Urtek will consider requesting a formal NRC opinion on which provision in 10 CFR 40.22(a) applies for side stream recovery of uranium from phosphoric acid production. If a request is submitted to the NRC, the staff will consider it at that time.

The meeting concluded at approximately 2:40 p.m. eastern time.

Attachments:
1. List of Attendees
2. Meeting Agenda
3. Urtek Presentation
4. J.R. Simplot Presentation

Meeting Attendees
Date: Thursday August 20, 2013
Room T8C5
1:00 pm to 2:40 pm

Topic: Licensing issues related to recovery of uranium from phosphoric acid

| NAME | AFFILIATION |
|---|---|
| Doug Mandeville | U.S. NRC |
| Elise Striz | U.S. NRC |
| Theo Warner | J.R. Simplot Company |
| Chelly Reesman | J.R. Simplot Company |
| Sheila Bush | J.R. Simplot Company |
| Bryn Jones | Urtek, LLC |
| Bill vonTill | U.S. NRC |
| Tom Grice | U.S. NRC |
| William Paul Goranson | Cameco |
| Greg Gabruch | Cameco |
| Gary Comfort | U.S. NRC |
| Dennis Sollenberger | U.S. NRC |
| Eric Freeman | U.S. NRC |
| David Cylkowski | U.S. NRC |
| Chris Pugsley | Thompson and Pugsley |
| Ron Linton | U.S. NRC |
| Jim Webb | U.S. NRC |
| Nathan Goodman | U.S. NRC |
| Sarah Fields | Uranium Watch (via phone) |

Attachment 1

| | |
|---|---|
| Ruth Thomas | Member of Public (via phone) |
| Tracey Stokes | U.S. NRC (via phone) |
| Pam Rothwell | Wyoming Department of Environmental Quality (via phone) |

MEETING AGENDA
Cameco Resources/Urtek
August 20, 2013

MEETING PURPOSE: Meeting With Cameco Resources And Urtek To Discuss Licensing Issues Related To Recovery Of Uranium From Phosphoric Acid And Processing Of Equivalent Feed.

| Time | Topic | Lead |
|---|---|---|
| 1:30 p.m. | Introductions | All |
| | Project History | Cameco/Urtek |
| | Upcoming Activities | Cameco/Urtek |
| | Issues Requiring NRC input | All |
| | Public Comment/Questions | Moderator |
| 3:30 p.m. | Adjourn | |

Attachment 2

Attachment 3:

ML13232A003

Attachment 4:

ML13232A004