

February 8, 2013

Mr. John Callen  
Department of Natural Resources  
P.O. Box 94676  
Lincoln, NE 68509

SUBJECT: REQUEST FOR INFORMATION REGARDING RESOURCES POTENTIALLY  
AFFECTED BY THE PROPOSED CROW BUTTE RESOURCE, INC. LICENSE  
AMENDMENT APPLICATION FOR THE MARSLAND EXPANSION AREA  
IN-SITU URANIUM RECOVERY SATELLITE FACILITY, IN DAWES COUNTY  
AND SIOUX COUNTY, NEBRASKA (DOCKET NO. 40-8943)

Dear Mr. Callen:

By letter dated May 16, 2012, the U.S. Nuclear Regulatory Commission (NRC) received an application from the Crow Butte Resources, Inc. (CBR) to amend source materials license SUA-1534 to authorize CBR to construct and operate an in-situ uranium recovery (ISR) satellite facility at the Marsland Expansion Area in Dawes County and Sioux County Nebraska. The proposed facility would be located approximately 11 miles south southeast of the main CBR Central Processing Facility and approximately 4.5 miles northeast of Marsland, Nebraska. A map showing the proposed project location is enclosed (See Enclosure). The facility, if licensed, would use ISR technology to extract uranium at the 4,622.3-acre project site.

As established in Title 10 *Code of Federal Regulations* Part 51 (10 CFR 51), the NRC regulation that implements the National Environmental Policy Act of 1969, as amended, the agency is preparing an Environmental Assessment (EA) for the proposed action. To support the environmental review, the NRC requests that your office provide information, comments or concerns you consider appropriate with regard to environmental resources of interest to your agency that may be affected by an amendment to the CBR license. Any information you provide will be used to enhance the scope and quality of our review in accordance with 10 CFR 51.

The ISR process, also known as in-situ leach milling, is used to recover uranium from low-grade ores or deeper deposits that are not economically recoverable by conventional mining and milling techniques. In this process, a leaching agent, such as oxygen with sodium carbonate, is injected through wells into the underground ore body to dissolve the uranium. The mineral-laden solution is pumped to the surface through ion exchange columns. The uranium in the solution adheres to resin beads in the columns. The resin beads are then transported to a processing plant where the uranium is washed off the beads and dried. The resultant product, a mixture of uranium oxides also known as "yellowcake," is placed in drums prior to shipment offsite for further processing. Eventually, this processed material can be used to make fuel for nuclear power plants and other products.

For additional information regarding the proposed project, CBR's license application is publicly available from the NRC's Agency Wide Documents Access and Management System (ADAMS). The ADAMS Public Electronic Reading Room is accessible at: <http://www.nrc.gov/reading-rm/adams.html>. The NRC found the application acceptable for commencement of review on October 5, 2012. The accession number for the Marsland source material amendment application is ML121650565, and is available online through ADAMS.

Please submit any information or comments that you may have regarding this environmental review within 30 days of the receipt of this letter to the NRC Attn: Mr. Kevin Hsueh, Mail Stop T-8F05, Washington, DC 20555. If you have any questions, please contact Ms. Jean Trefethen of my staff by telephone at 240-751-5358 or by email at [Jean.Trefethen@nrc.gov](mailto:Jean.Trefethen@nrc.gov). Thank you for your assistance.

Sincerely,

**/RA/**

Kevin Hsueh, Chief  
Environmental Review Branch  
Environmental Protection and Performance  
Assessment Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Docket No.: 40-8943

Enclosure:  
Marsland Proposed Area Map

cc: Tom Hayden  
Field Office Supervisor  
P.O. Box 787  
Bridgeport NE 69336

For additional information regarding the proposed project, CBR's license application is publicly available from the NRC's Agency Wide Documents Access and Management System (ADAMS). The ADAMS Public Electronic Reading Room is accessible at: <http://www.nrc.gov/reading-rm/adams.html>. The NRC found the application acceptable for commencement of review on October 5, 2012. The accession number for the Marsland source material amendment application is ML121650565, and is available online through ADAMS.

Please submit any information or comments that you may have regarding this environmental review within 30 days of the receipt of this letter to the NRC Attn: Mr. Kevin Hsueh, Mail Stop T-8F05, Washington, DC 20555. If you have any questions, please contact Ms. Jean Trefethen of my staff by telephone at 240-751-5358 or by email at [Jean.Trefethen@nrc.gov](mailto:Jean.Trefethen@nrc.gov). Thank you for your assistance.

Sincerely,

Kevin Hsueh, Chief  
Environmental Review Branch  
Environmental Protection and Performance  
Assessment Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Docket No.: 40-8943

Enclosure:  
Marsland Proposed Area Map

cc: Tom Hayden  
Field Office Supervisor  
P.O. Box 787  
Bridgeport NE 69336

DISTRIBUTION:  
TLancaster

**ML12334A460**

| OFC  | DWMEP      | DWMEP         | DWMEP    | OGC       | DWMEP  |
|------|------------|---------------|----------|-----------|--------|
| NAME | JTrefethen | AWalker-Smith | NGoodman | JOlmstead | KHsueh |
| DATE | 11/30/12   | 11/30/12      | 1/30/13  | 1/30/13   | 2/8/13 |

OFFICIAL RECORD COPY