

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2009-0364]**

**Notice of Availability of Draft Supplemental Environmental Impact Statement for the Moore Ranch ISR Project in Campbell County, Wyoming, Supplement to the Generic Environmental Impact Statement for *In-Situ* Leach Uranium Milling Facilities**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice of Availability.

**SUMMARY:** Notice is hereby given that the U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment a Draft Supplemental Environmental Impact Statement (SEIS) for the Moore Ranch ISR Project in Campbell County, Wyoming, Supplement to the Generic Environmental Impact Statement for *In-Situ* Leach Uranium Milling Facilities. By letter dated October 2, 2007, Energy Metals Corporation, a wholly-owned subsidiary of Uranium One (Uranium One), submitted an application to the NRC for a new source material license for the proposed Moore Ranch ISR Project, located in the Power River Basin in Campbell County, Wyoming. Uranium One is proposing to recover uranium from the Moore Ranch site using the in-situ leach (also know as the in-situ recovery [ISR]) process.

The Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978, authorize the NRC to issue licenses for the possession and use of source material and byproduct material. These statutes require that NRC license facilities, including ISR operations, are licensed in accordance with NRC regulatory requirements to protect public health and safety from radiological hazards. Under the NRC's environmental protection

regulations in the Code of Federal Regulations, Title 10, Part 51 (10 CFR Part 51), that implement the National Environmental Policy Act of 1969 (NEPA), preparation of an environmental impact statement (EIS) or supplement to an EIS (SEIS) is required for issuance of a license to possess and use source material for uranium milling (see 10 CFR 51.20(b)(8)).

In June 2009, the NRC staff issued NUREG-1910, "Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities" (herein referred to as the GEIS). In the GEIS, NRC assessed the potential environmental impacts from the construction, operation, aquifer restoration, and decommissioning of an ISR facility located in four specific geographic regions of the western United States. The proposed Moore Ranch Project is located within the Wyoming East Uranium Milling Region identified in the GEIS. The Moore Ranch Draft SEIS both supplements and incorporates by reference relevant portions of the GEIS, and uses site-specific information from the applicant's license application and other independent sources to fulfill 10 CFR 51.20(b)(8) requirements.

**DATES:** The public comment period on this draft SEIS begins with publication of this notice and continues until February 1, 2010. Written comments should be submitted as described in the **ADDRESSES** section of this notice. The NRC will consider comments received, or postmarked, after that date to the extent practical.

**ADDRESSES:** Comments may be submitted by any one of the following methods. Please include Docket ID **NRC-2009-0364** in the subject line of your comments. Comments submitted either in writing or in electronic form will be posted on the NRC website and on the Federal rulemaking website: <http://www.regulations.gov>. Because comments will not be edited to remove either identifying or contact information, the NRC cautions against including any information in your submission that you do not want publicly disclosed.

The NRC requests that any party soliciting or aggregating comments received from other persons for submission to the NRC inform those persons that the NRC will not edit their

comments to remove any identifying or contact information, and therefore, they should not include any information in their comments that they do not want publicly disclosed.

**Federal Rulemaking Website:** Go to <http://www.regulations.gov> and search for documents filed under Docket ID **NRC-2009-0364**. Comments may be submitted electronically through this website. Address questions about NRC dockets to Carol Gallagher 301-492-3668; e-mail [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).

**Mail comments to:** Michael T. Lesar, Chief, Rulemaking and Directives Branch (RDB), Division of Administrative Services, Office of Administration, Mail Stop: TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by fax to RDB at (301) 492-3446. Comments may also be submitted electronically to the following address: [MooreRanchISRSEIS@nrc.gov](mailto:MooreRanchISRSEIS@nrc.gov).

Publicly available documents related to this notice can be accessed using the following methods:

**NRC's Public Document Room (PDR):** The public may examine and have copied, for a fee, publicly available documents at the NRC's PDR, Public File Area O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

**NRC's Agencywide Documents Access and Management System (ADAMS):** Publicly available documents created or received at the NRC are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you either do not have access to ADAMS or if there are problems accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209,

301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The “Environmental Impact Statement for the Moore Ranch ISR Project in Campbell County, Wyoming – Supplement to the Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities” is available electronically under ADAMS Accession Number ML093350050.

The draft SEIS for the Moore Ranch ISR Project also may be accessed via the internet at [www.nrc.gov/reading-rm/doc-collections/nuregs/staff/](http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/) by selecting “NUREG-1910.” The draft SEIS will be Supplement 1 to NUREG-1910. Additionally, a copy of the SEIS will be available at the following public library:

Campbell County Public Library  
2101 South 4J Road  
Gillette, Wyoming 82718  
307-687-0009.

**Federal Rulemaking Website:** Public comments and supporting materials related to this notice can be found at <http://www.regulations.gov> by searching on Docket ID: **NRC-2009-0364**.

**FOR FURTHER INFORMATION CONTACT:** For information on the environmental review process related to the draft SEIS for the Moore Ranch Project, please contact Behram Shroff, Project Manager, Division of Waste Management and Environmental Protection (DWMEP), Mail Stop T-8F5, U.S. Nuclear Regulatory Commission, Washington, DC, 20555-001, by phone at 1 (800) 368-5642, extension 0666. For general or technical information associated with the safety and licensing of uranium milling facilities, please contact Stephen Cohen, Team Lead, Uranium Recovery Branch, DWMEP, Mail Stop T-8F5, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, by phone at 1 (800) 368-5642, extension 7182.

**SUPPLEMENTARY INFORMATION:** The Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978, authorizes NRC to issue licenses for the possession and use of source material and byproduct material. These statutes require NRC to license facilities in accordance with NRC regulatory requirements to protect public health and safety from radiological hazards. ISR uranium facilities must meet NRC regulatory requirements to obtain this license to operate. Under the NRC's environmental protection regulations in 10 CFR Part 51.20(b)(8), which implements NEPA, issuance of a license to possess and use source material for uranium milling requires either an EIS or a supplement to an EIS.

To help fulfill this requirement, the NRC staff and its contractor, the Center for Nuclear Waste Regulatory Analyses, in cooperation with the Wyoming Department of Environmental Quality (Land Quality Division), issued NUREG-1910, "Generic Environmental Impact Statement for In-Situ Uranium Milling Facilities" (the GEIS) in June 2009. The GEIS assessed the potential environmental impacts associated with the construction, operation, aquifer restoration, and decommissioning of an ISR facility located in four specific geographic areas of the western United States (U.S.). The proposed Moore Ranch ISR Project is located in one such region, the Wyoming East Uranium Milling Region. The GEIS evaluated the range of potential impacts in the four geographic regions and evaluated whether the potential impacts would be essentially the same for all ISR facilities or whether site-specific information and analysis would be required to determine the potential impacts. As such, the GEIS provides a starting point for NRC's NEPA analyses for site-specific license applications for both new ISR facilities and to renew or amend the applications for existing ISR licenses.

By letter dated October 2, 2007, Energy Metals Corporation, a wholly-owned subsidiary of Uranium One (Uranium One), submitted an application to the NRC for a source material license for the Moore Ranch ISR Project, located in southwest Campbell County, in south-

central Wyoming, about halfway between the Towns of Wright located 40 km (25 mi) to the northeast and Midwest-Edgerton located 39 km (24 mi) to the southwest. The City of Gillette, Wyoming, is located approximately 85 km (53 mi) to the northwest, and the City of Casper, Wyoming is located approximately 85 km (53 mi) to the southwest of the proposed site.

Planned facilities associated with the proposed Moore Ranch ISR Project include a central plant with uranium processing capabilities; two wellfields with injection, production, and monitor wells, header houses, pipeline to connect the wellfields to the central plant, and a network of access roads. The proposed license area consists of approximately 2,879 ha (7,110 ac) of remotely located private land, with about 14 percent of the surface rights being administered by the State of Wyoming. The U.S. Department of Interior, Bureau of Land Management does not administer surface rights for any portion of the proposed license area.

ISR facilities recover uranium from low grade ores that may not be economically recoverable by other methods. In the ISR process, a leaching agent (called a lixiviant), such as oxygen and sodium bicarbonate, is added to native groundwater for injection through wells into the subsurface ore body to dissolve the uranium. Before ISR operations can begin, the portion of the aquifer designated for uranium recovery must be exempted by the U.S. Environmental Protection Agency (EPA) from being an underground source of drinking water in accordance with the Safe Drinking Water Act (as implemented by EPA at 40 CFR 146.4). The injected solution now containing the dissolved uranium, is pumped back (recovered) to the surface and sent to a processing plant, where ion exchange is used to separate the uranium from the solution. The ISR process also frees other metals and minerals from the host aquifer. As a result, operators of ISR facilities are required to restore the groundwater affected by operations. In the processing plant, the recovered uranium is concentrated into the product known as "yellowcake," which is then shipped to a uranium conversion facility for further processing in the overall uranium fuel cycle.

In this draft SEIS, the NRC staff assessed the potential environmental impacts from the construction, operation, aquifer restoration, and decommissioning of the proposed Moore Ranch ISR Project. In so doing, the NRC staff evaluated site-specific data and information from the Moore Ranch ISR Project to determine if the Moore Ranch site characteristics and Uranium One's proposed activities were consistent with that evaluated in the GEIS. NRC staff then determined which relevant sections of the GEIS and impact conclusions, could be incorporated by reference. The NRC staff also determined if either additional data or analysis was needed to determine the potential environmental impacts on a specific environmental resource area. The NRC staff documented its conclusions and determinations in the draft SEIS.

In addition to the action proposed by Uranium One, the NRC staff also addressed the no-action alternative in the draft SEIS. Under this alternative, NRC would deny Uranium One's request to construct and operate an ISR facility at the Moore Ranch ISR Project. The no-action alternative serves as a baseline to compare the potential environmental impacts.

The NRC staff also considered other alternatives but eliminated them from detailed analysis. Conventional mining/milling and conventional mining/heap leach processing are two potential methods of uranium recovery at the Moore Ranch ISR Project. However, given the recognized more substantial environmental impacts of conventional mining (whether by open pit or underground techniques) and conventional milling or heap leach processing, these alternatives were not further considered. The NRC staff also evaluated alternative lixivants (acid- and ammonia-based), alternative waste disposal methods, and an alternative site location within the proposed area. For reasons discussed in the draft SEIS, these alternatives also were eliminated from further consideration.

This draft SEIS is being issued for public comment. The public comment period on the draft SEIS begins with publication of this notice and continues until February 1, 2010. Written comments should be submitted as described in the **ADDRESSES** section of this notice. The NRC will consider comments received or postmarked after that date to the extent practical.

Dated at Rockville, Maryland, this 4<sup>th</sup> day of December, 2009.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

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Patrice M. Bubar, Deputy Director  
Environmental Protection and  
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Division of Waste Management  
and Environmental Protection  
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