

NUCLEAR REGULATORY COMMISSION

Docket No. 40-9073

[NRC-2009-0364]

Uranium One Incorporated; Moore Ranch In-Situ Recovery Project

New Source Material License Application

Notice of Intent to Prepare a Supplemental Environmental Impact Statement

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Intent (NOI).

SUMMARY: Uranium One Incorporated (Uranium One) submitted an application for a new source material license for the Moore Ranch *In-Situ* Recovery (ISR) Project to be located in Campbell County, Wyoming, approximately 50 miles south-southwest of Gillette, Wyoming and approximately 45 miles north-northeast of Casper, Wyoming. The application proposes the construction, operation, and decommissioning of ISR, also known as *in-situ* recovery, facilities and restoration of the aquifer from which the uranium is being extracted. Uranium One submitted the application for the new source material license to the U.S. Nuclear Regulatory Commission (NRC) by a letter dated October 2, 2007. A notice of receipt and availability of the license application, including the Environmental Report (ER) and opportunity to request a hearing was published in the *Federal Register* on January 25, 2008 (73 FR 4642).

The purpose of this notice of intent is to inform the public that the NRC, as part of its process to determine whether Uranium One's license request should be granted, will be

preparing a site-specific Supplemental Environmental Impact Statement (SEIS). The SEIS will tier off of the Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities (ISR GEIS). In addition, as outlined in 36 CFR 800.8, "Coordination with the National Environmental Policy Act" (NEPA) the NRC plans to use its environmental review process to coordinate compliance with Section 106 of the National Historic Preservation Act.

FOR FURTHER INFORMATION CONTACT: For general information on the NRC NEPA or the environmental review process related to the Moore Ranch ISR Project application, please contact the NRC Environmental Project Manager, Behram Shroff, at (301) 415-0666 or Behram.Shroff@nrc.gov.

Information and documents associated with the Moore Ranch ISR Project, including the license application, are available for public review through our electronic reading room: <http://www.nrc.gov/reading-rm/adams.html> and on the NRC's Moore Ranch Site Web page: <http://www.nrc.gov/info-finder/materials/uranium/apps-in-review/moore-ranch-new-app-review.html>. Documents may also be obtained from NRC's Public Document Room at the U.S. Nuclear Regulatory Commission Headquarters, 11555 Rockville Pike (first floor), Rockville, Maryland.

SUPPLEMENTARY INFORMATION:

1.0 Background

Uranium One submitted the application for the new source material license to the NRC for ISR facilities by a letter dated October 2, 2007. A notice of receipt and availability of the license application, including the ER, and opportunity to request a hearing was published in the *Federal Register* on January 25, 2008 (73 FR 4642). No requests for hearing were submitted.

Relying on the ISR GEIS, the NRC originally planned to document its site-specific environmental evaluations by publishing draft Environmental Assessments (EAs) for comment.

However, during the development of the final ISR GEIS, NRC decided to prepare an SEIS that will tier off of the ISR GEIS for applications to license new ISR facilities. Accordingly, draft and final SEISs will now be prepared for the Moore Ranch ISR Project. NRC staff met with Federal (Bureau of Land Management – Cheyenne, Casper, Buffalo; Bureau of Indian Affairs – Fort Washakie; Fish & Wildlife Service - Buffalo), State (Wyoming Department of Environmental Quality – Cheyenne, Sheridan; State Engineer’s Office; Governor’s Planning Office; State Historic Preservation Office) and local government agencies (City of Casper Planning Office; City of Gillette Planning Department, Town of Wright, and City of Douglas) and public organizations (Campbell County Economic Development Corporation; Wyoming Community Development Authority; Converse Area New Development Organization) in January 2009 as part of a site visit to gather site-specific information to assist in the preparation of the Moore Ranch ISR Project environmental review. NRC also contacted potentially interested tribes and local public interest groups via e-mail and telephone to gather additional information.

The NRC has begun evaluating the potential environmental impacts associated with the proposed ISR facility in parallel with the safety review of the license application. The NRC is required by 10 CFR 51.20 (b)(8) to prepare an Environmental Impact Statement (EIS) or a supplement to an EIS for the issuance of a license to possess and use source material for uranium milling. The ISR GEIS and the site-specific SEIS fulfills this regulatory requirement.

2.0 Moore Ranch ISR Facilities

The facilities, if licensed, would include a central processing plant, accompanying wellfields, and ion exchange columns. The milling process involves the dissolution of the water-soluble uranium from the mineralized host sandstone rock by pumping oxidants (oxygen or hydrogen peroxide) and chemical compounds (sodium bicarbonate) through a series of production and extraction wells. The uranium-rich solution is transferred from the production

wells to the central processing plant for uranium concentration using ion exchange columns. Final processing is conducted in the central processing plant to produce yellowcake for use in manufacturing commercial nuclear fuel for use in power reactors.

3.0 Alternatives to be Evaluated

Alternative 1: The license review process analyzes the Construction, Operation, Aquifer Restoration, and Decommissioning with Disposal via Deep Well Injection (Proposed Action). The proposed federal action is to issue a 10 CFR Part 40 license authorizing the possession and use of source material at the proposed ISR facilities. The NRC staff will analyze the construction, operation, and decommissioning of the proposed ISR facilities, and the restoration of the aquifer from which the uranium would be extracted. The ISR facilities would be located in Campbell County, Wyoming, approximately 50 miles south-southwest of Gillette, Wyoming and approximately 45 miles north-northeast of Casper, Wyoming.

Alternative 2: No Action. The no-action alternative would be not to issue the license. Under this alternative, the NRC would not approve the license application for the proposed ISR facilities. This serves as a baseline for comparison.

Other alternatives not listed here may be identified through the environmental review process.

4.0 Environmental Impact Areas to be Analyzed

The following areas have been tentatively identified for analysis in the SEIS:

Land Use: Plans, policies, and controls;

Transportation: Transportation modes, routes, quantities, and risk estimates;

Geology and Soils: Physical geography, topography, geology, and soil characteristics;

Water Resources: Surface and groundwater hydrology, water use and quality, and the potential for degradation;

Ecology: Wetlands, aquatic, terrestrial, economically and recreationally important species, and threatened and endangered species;

Air Quality: Meteorological conditions, ambient background, pollutant sources, and the potential for degradation;

Noise: Ambient, sources, and sensitive receptors;

Historical and Cultural Resources: Historical, archaeological, and traditional cultural resources;

Visual and Scenic Resources: Landscape characteristics, manmade features and viewshed;

Socioeconomics: Demography, economic base, labor pool, housing, transportation, utilities, public services/facilities, and education;

Environmental Justice: Potential disproportionately high and adverse impacts to minority and low-income populations;

Public and Occupational Health: Potential public and occupational consequences from construction, routine operation, transportation, and credible accident scenarios (including natural events);

Waste Management: Types of wastes expected to be generated, handled, and stored; and

Cumulative Effects: Impacts from past, present, and reasonably foreseeable actions at and near the site(s).

This list is not intended to be all inclusive, nor is it a predetermination of potential environmental impacts.

5.0 The NEPA Process

The SEIS for the Moore Ranch ISR Project will be prepared pursuant to the NRC's NEPA Regulations at 10 CFR Part 51. The NRC and its contractor will prepare and publish a draft SEIS for comment. NRC currently plans to have a 45-day public comment period for the draft SEIS. Availability of the draft SEIS and the dates of the public comment period will be

announced in the *Federal Register* and the NRC website: www.nrc.gov. The final SEIS will include responses to public comments received on the draft SEIS.

Dated at Rockville, Maryland, this 12th day of August, 2009.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Patrice M. Bubar, Deputy Director
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs