

NUCLEAR REGULATORY COMMISSION

**Notice of Availability of Draft Generic Environmental Impact Statement for
In-Situ Leach Uranium Milling Facilities**

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Availability of Draft Generic Environmental Impact Statement for Uranium Milling Facilities.

SUMMARY: Notice is hereby given that the U.S. Nuclear Regulatory Commission (NRC), with the cooperation of the Wyoming Department of Environmental Quality, Land Quality Division, is issuing for public comment a Draft Generic Environmental Impact Statement (Draft GEIS) that identifies and evaluates on a programmatic basis, the potential environmental impacts from the construction, operation, aquifer restoration, and decommissioning at *in-situ* leach (ISL) uranium milling facilities located in particular regions of the western United States. The Draft GEIS addresses environmental issues common to ISL milling facilities to aid in making more efficient environmental reviews of individual site-specific ISL license applications.

The NRC anticipates that nearly 75 percent of new license applications for uranium milling received by the agency within the next several years will propose use of the ISL process. By addressing common issues associated with environmental reviews of ISL facilities, the NRC will use the GEIS to provide a starting point in the staff's National Environmental Policy Act (NEPA) analyses for site-specific license applications for new ISL facilities. Additionally, the NRC staff plans to use the GEIS, along with applicable previous site-specific environmental

review documents, in its NEPA analysis for the restart or expansions of existing ISL facilities. In its review of individual ISL license applications, the NRC would evaluate the site-specific data to determine whether relevant sections of the GEIS could be incorporated by reference into the site-specific environmental review. Additionally, the NRC would determine whether aspects of the site and/or the applicant's proposed activities are consistent with those evaluated in the GEIS or are such that additional analysis in specific topic areas would be required. As such, the subsequent site-specific NEPA reviews (i.e., either environmental assessments or environmental impact statements) will tier from the analyses of common issues evaluated in the GEIS and address the unique attributes of individual sites.

To encourage broad participation in the preparation of the GEIS, the NRC staff has scheduled a series of public meetings in potentially affected regions of the four states (Wyoming, South Dakota, Nebraska, and New Mexico) where uranium milling companies have indicated to the NRC their desire to pursue uranium recovery using the ISL process. The purpose of these meetings will be for the NRC staff to present an overview of the Draft GEIS and to accept oral and written public comments on the Draft GEIS from interested members of the public. The meeting dates, times, and locations are listed below:

Meeting Date: August 25, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Holiday Inn Hotel & Convention Center, 305 N. 27th Street, Spearfish, SD 57783, Phone (605) 642-4683.

Meeting Date: August 27, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Chadron State College, Student Center Ballroom, 1000 Main Street, Chadron, NE, 69337, Phone (308) 432-6380.

Meeting Date: August 29, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Weston Senior Center, 627 Pine Street, Newcastle, WY 82701,
Phone (307) 746-4903.

Meeting Date: September 8, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Best Western Inn & Suites, 3009 West Highway 66, Gallup, NM,
Phone (505) 722-2221.

Meeting Date: September 9, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Best Western Inn & Suites, 1501 East Santa Fe Ave., Grants, NM,
87020, Phone (505) 287-7901.

Meeting Date: September 11, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Hilton Albuquerque, 1901 University Boulevard NE, Albuquerque, NM,
Phone (505) 884-2500.

Meeting Date: September 23, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Best Western Ramkota Hotel, 800 N. Poplar, Casper, WY, Phone
(307) 266-6000.

Meeting Date: September 25, 2008, 7 p.m. to 9:30 p.m.

Meeting Location: Best Western Tower West Lodge, 109 North US Highway 14 &16,
Gillette, WY, 82716, Phone (307) 686-2210.

For each meeting, members of the NRC staff will be available for informal discussions with members of the public from 6 p.m. to 7 p.m. The formal meeting and associated NRC presentation will begin at 7 p.m. For planning purposes, those who wish to present oral comments at a particular meeting are encouraged to pre-register no later than one week (7 days) prior to the meeting by contacting either Tarsha Moon of the NRC at 1-800-368-5642, extension 7843 or Antoinette Walker-Smith of the NRC at 1-800-368-5642, Extension 6390. Interested persons also may register to speak at the meetings. Depending on the number of

speakers for a meeting, each speaker may be limited in the amount of time allocated for their comments so that all speakers will have an opportunity to offer comments.

The NRC will issue a Final GEIS after considering both oral and written public comments on the Draft GEIS.

DATES: The public comment period on the Draft GEIS begins with publication of this notice and continues until October 7, 2008. 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: Members of the public are invited and encouraged to submit comments on the Draft GEIS to the Chief, Rulemaking, Directives, and Editing Branch, Mailstop: T6-D59, U.S. Nuclear Regulatory Commission, Washington, DC. 20555-0001. The NRC encourages comments submitted electronically to be sent to NRCREP.Resource@nrc.gov. Please include "Uranium Recovery GEIS" in the subject line when submitting written comments.

FOR FURTHER INFORMATION CONTACT: For general information on the NRC's NEPA process, or the environmental review process related to the Draft GEIS, please contact James Park, Project Manager, Division of Waste Management and Environmental Protection (DWMEP), Mail Stop T-8F5, U.S. Nuclear Regulatory Commission, Washington, DC, 20555-0001, by phone at 1 (800) 368-5642, extension 6935. For general or technical information associated with the safety and licensing of uranium milling facilities, please contact William Von Till, Branch Chief, 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 0598.

The NRC maintains an Agencywide Documents Access and Management System (ADAMS), which provides text and image files of the NRC's public documents. The Draft GEIS and its appendices may be accessed through the NRC's Public Electronic Reading Room on the internet at: www.nrc.gov/reading-rm/adams.html, under the accession numbers ML082030184 and ML082000997 for Volumes 1 and 2, respectively, of the Draft GEIS. If you either do not have access to ADAMS or if there is a problem accessing documents located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1 (800) 397-4209, 1 (301) 415-4737 or by email to PDR.Resource@nrc.gov.

Information and documents associated with the Draft GEIS are also available for public review through the NRC Public Electronic Reading Room on the Internet at www.nrc.gov/reading-rm/adams.html and at the NRC's website for the GEIS, www.nrc.gov/materials/fuel-cycle-fac/licensing/geis.html. Both information and documents associated with the Draft GEIS also are available for inspection at the Commission's Public Document Room, U.S. NRC's Headquarters Building, 11555 Rockville Pike (first floor), Rockville, Maryland. For those without access to the Internet, paper copies of any electronic documents may be obtained for a fee by contacting the NRC's Public Document Room at 1-800-397-4209. The draft GEIS and related documents may also be found at the following public libraries:

Albuquerque Main Library
501 Copper NW
Albuquerque, New Mexico 87102
505-768-5141

Mother Whiteside Memorial Library
525 West High Street

Grants, New Mexico 87020
505-287-4793

Octavia Fellin Public Library
115 W Hill Avenue
Gallup, New Mexico 87301
505-863-1291

Natrona County Public Library
307 East Second Street
Casper, Wyoming 82601
307-332-5194

Carbon County Public Library
215 W Buffalo Street
Rawlins, Wyoming 82301
307-328-2618

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

Weston County Library
23 West Main Street
Newcastle, Wyoming 82701
307-746-2206

Chadron Public Library
507 Bordeaux Street
Chadron, Nebraska 69337
308-432-0531

Rapid City Public Library
610 Quincy Street
Rapid City, South Dakota 57701
605-394-4171

SUPPLEMENTARY INFORMATION:

In cooperation with the Wyoming Department of Environmental Quality (Land Quality Division), the NRC staff and its contractor, the Center for Nuclear Waste Regulatory Analyses, prepared this draft GEIS to facilitate the NRC staff's environmental review of new ISL uranium milling license applications. The NRC staff will use the GEIS to ensure a consistent approach in conducting the reviews and to focus the staff's efforts on unique site characteristics that will be addressed in the site-specific environmental evaluations as part of ISL application reviews. The Draft GEIS was prepared in compliance with the National Environmental Policy Act (NEPA) and the NRC's regulations for implementing NEPA (10 CFR Part 51).

The NRC staff published a Notice of Intent to prepare the GEIS, in the *Federal Register* on July 24, 2007 (72 FR 40344). The public scoping comment period for the GEIS closed on November 30, 2007. The NRC staff has prepared a summary report of the comments received, and this report is available through the NRC Public Electronic Reading Room on the Internet at www.nrc.gov/reading-rm/adams.html, under the accession number ML081560476.

The NRC is expecting numerous license applications for in-situ leach (ISL) uranium milling facilities in the coming 2-3 years. This Draft GEIS is intended to address the common issues associated with environmental reviews of such milling facilities located in specific regions of the western United States. Due to environmental issues common to ISL milling facilities, the NRC staff is addressing these common issues in a programmatic manner to aid in a more

efficient environmental review for each individual license application, if and when these applications are submitted.

ISL milling facilities recover uranium from low grade ores that may not be economically recoverable by other methods. In this process, a leaching agent, such as oxygen with sodium bicarbonate, is added to native ground water for injection through wells into the subsurface ore body to dissolve the uranium. The leach solution, containing the dissolved uranium, is pumped back to the surface and sent to the processing plant, where ion exchange is used to separate the uranium from the solution. The underground leaching of the uranium also frees other metals and minerals from the host rock. Operators of ISL facilities are required to restore the ground water affected by the leaching operations. The milling process concentrates the recovered uranium into the product known as "yellowcake" (U_3O_8). This yellowcake is then shipped to uranium conversion facilities for further processing in the overall uranium fuel cycle.

In the Draft GEIS, the proposed action is the construction, operation, aquifer restoration, and decommissioning at an ISL uranium milling facility in each of four identified regions in the western U.S. Implementation of the proposed action would require the issuance of an NRC license under the provisions of 10 CFR Part 40. The GEIS also addresses the no-action alternative. Under this alternative, the NRC would not approve new ISL license applications in the four regions and so new ISL uranium milling facilities would not be constructed nor operated in those regions. The no-action alternative serves as a baseline for comparison of the potential environmental impacts.

Conventional mining/milling and the heap leach process are two other methods of uranium recovery. However, inasmuch as the suitability and practicality of using these

alternative milling methodologies depends upon site-specific conditions, a generic discussion of these methodologies is not appropriate. Accordingly, the Draft GEIS does not contain a detailed analysis of alternative milling methodologies to the ISL process. A detailed analysis of such alternative milling methodologies that can be applied at a specific site will be addressed in the NRC's site-specific environmental review for individual ISL license applications.

The Draft GEIS is structured in the following manner. The NRC staff began by identifying four uranium milling regions in the western U.S. to use as a framework for discussions in the document. Two regions are found in Wyoming, one in New Mexico, and a final region encompasses portions of Nebraska, South Dakota, and Wyoming.

These regions were identified based on several considerations, including:

- Past and existing uranium milling sites are located within States where the NRC has regulatory authority over uranium recovery;
- Potential new sites are identified based on the NRC's understanding of where the uranium recovery industry has plans to develop uranium deposits using ISL technology; and
- Locations of historical uranium deposits within portions of Wyoming, Nebraska, South Dakota, and New Mexico.

Additionally, in defining these regions, the NRC considered aspects of the affected environment (e.g., regional ground water characteristics, regional demographics) such that potential future ISL milling sites within each region would more likely share those aspects for the purpose of evaluating potential environmental impacts. Therefore, the NRC considers that these regions reasonably bound the geographic scope of the Draft GEIS for describing the affected environment and for assessing potential environmental impacts within each region.

Next, the Draft GEIS provides a description of the ISL process and addresses the construction, operation, aquifer restoration, and decommissioning at an ISL facility. Financial assurance is also discussed, whereby the ISL licensee or applicant establishes a bond or other financial mechanism prior to operations to ensure that sufficient funds are available to complete aquifer restoration, decommissioning, and reclamation activities.

Then, the Draft GEIS describes the affected environment in each uranium milling region, using the environmental resource areas and topics identified through public scoping comments on the GEIS and from NRC guidance to its staff found in NUREG–1748, “Environmental Review Guidance for Licensing Actions Associated With NMSS Programs,” issued by the NRC in 2003.

Finally, the Draft GEIS provides an evaluation of the potential environmental impacts of constructing, operating, aquifer restoration, and decommissioning at an ISL facility in each of the four uranium milling regions. In essence, this involves placing an ISL facility with the characteristics described previously within each of the four regional areas and describing and evaluating the potential impacts in each region separately. Impacts are examined for the following resource areas:

- Land use
- Transportation
- Geology and soils
- Water resources
- Ecology
- Air Quality
- Noise
- Historical and cultural resource
- Visual and scenic resources
- Socioeconomic
- Public and occupational health

Following the discussion of potential environmental impacts, the Draft GEIS addresses cumulative impacts; environmental justice; practices, measures, and actions to mitigate

potential impacts; environmental monitoring activities; and the consultation process with federal and tribal entities.

As stated previously, the NRC is accepting comments on the Draft GEIS. Following the end of the public comment period, the NRC staff will publish a Final GEIS that addresses, as appropriate, the public comments on the Draft GEIS. The NRC expects to publish the Final GEIS by June 2009.

Dated at Rockville, Maryland, this 21st day of July, 2008

For the U.S. Nuclear Regulatory Commission

/RA/

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Environmental Protection and
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