

7/20/07

MEMORANDUM TO: Michael T. Lesar, Chief
Rules Review and Directives Branch
Division of Administrative Services
Office of Administration

FROM: Gregory Suber, Branch Chief **/RA/**
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

SUBJECT: NOTICE OF INTENT TO PREPARE GENERIC
ENVIRONMENTAL IMPACT STATEMENT FOR URANIUM
MILLING FACILITIES

Enclosed please find one signed original, four copies, and an electronic version on a 3.5-inch diskette of the subject *Federal Register* Notice for transmittal to the Office of the Federal Register for publication.

ADM/DAS/RDB has been given owner's rights to the Notice in the Agency-Wide Document and Management System (ADAMS) (ML071940208). Publicly available U. S. Nuclear Regulatory Commission (NRC) documents referenced in the Notice have been finalized in ADAMS and profiled for public release. ADAMS accession numbers for all such documents are provided in the text under Further Information.

Copies of this Notice and the documents being made available for public comment have been forwarded to the Office of the Chief Information Office staff at WEBWORK@nrc.gov for posting to the NRC public Web site.

CONTACT: James Park FSME/DWMEP
(301) 415-6935

Enclosures:

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2. One 3.5-inch diskette (electronic version) of *Federal Register* Notice

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NUCLEAR REGULATORY COMMISSION

**Notice of Intent to Prepare a Generic Environmental Impact Statement
for Uranium Milling Facilities**

AGENCY: United States Nuclear Regulatory Commission (NRC)

ACTION: Notice of Intent (NOI)

SUMMARY: The NRC announces its intent to prepare a Generic Environmental Impact Statement (GEIS) in accordance with the National Environmental Policy Act (NEPA) and NRC's NEPA implementing regulations contained in 10 CFR Part 51. The GEIS will assess the potential environmental impacts associated with uranium recovery at milling facilities employing the in-situ leach (ISL) process. The GEIS may also assess the potential environmental impacts of alternative methods of uranium recovery (including the conventional milling process).

DATES: The public scoping process required by NEPA begins with publication of this NOI and continues until September 4, 2007. Written comments submitted by mail should be postmarked by that date to ensure consideration. Comments mailed after that date will be considered to the extent possible.

NRC will conduct two public meetings to assist in defining the appropriate scope of the GEIS, including the significant environmental issues to be addressed. The meeting dates, times and locations are listed below:

Meeting Date: August 7, 2007, 7:00 p.m. to 9:30 p.m.

Meeting Location: Parkway Plaza Hotel and Convention Center
123 West E Street
Casper, WY 82601
Phone (307) 235-1777

Meeting Date: August 9, 2007, 7:00 p.m. to 9:30 p.m.

Meeting Location: Hilton Albuquerque
1901 University Boulevard NE,
Albuquerque, New Mexico, 87102
Phone: (505) 884-2500

For both meetings, members of the NRC staff will be available for informal discussions with members of the public from 6:00 p.m. to 7:00 p.m. The formal meeting and associated NRC presentation will begin at 7:00 p.m. For planning purposes, those who wish to present oral comments at the meeting are encouraged to pre-register by contacting Carol Walls of the NRC by telephone at 1-800-368-5642, Extension 8028, or by email at CAW@nrc.gov no later than August 3, 2007. Interested persons may also register to speak at the meetings. Depending on the number of speakers, 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.

ADDRESSES: Members of the public and interested parties are invited and encouraged to submit comments to the Chief, Rules Review and Directives Branch, Mail Stop T-6D59, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Due to the current mail situation in the Washington, D.C. area, the NRC encourages comments to be submitted electronically to nrcprep@nrc.gov. Please refer to the "Uranium Recovery GEIS" when submitting comments.

FOR FURTHER INFORMATION CONTACT: For general information on the NRC NEPA process, or the environmental review process related to this GEIS, please contact: James Park, Environmental 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, or by email at JRP@nrc.gov. For general or technical information associated with the safety and licensing of uranium milling facilities, please contact: William Von Till Environmental, 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, or by email at RWV@nrc.gov.

Information and documents associated with the GEIS are available for public review through the NRC electronic reading room: <http://www.nrc.gov/reading-rm/adams.html>.

Documents may also be obtained from the NRC Public Document Room at U.S. Nuclear Regulatory Commission Headquarters, 11555 Rockville Pike (first floor), Rockville, Maryland, 20852-2738.

SUPPLEMENTARY INFORMATION:

1.0 Background

The NRC is expecting numerous license applications for in-situ leach (ISL) uranium milling facilities in the coming 2-3 years. This GEIS is intended to address the common issues associated with environmental reviews of such milling facilities located in the western United States. Because there are environmental issues common to ISL milling facilities, the NRC staff will be addressing these common issues generically to aid in a more efficient environmental review for each separate 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.

One alternative to ISL milling is the conventional uranium milling process that extracts uranium from mined ore. At conventional mills, the ore arrives via truck and is crushed, ground, and leached. In most cases, sulfuric acid is the leaching agent, but alkaline leaching can also be done. The leaching agent not only extracts uranium from the ore but also several other constituents (e.g., vanadium, selenium, iron, lead, and arsenic). Conventional mills extract 90 to 95 percent of the uranium from the ore. These mills are typically in areas of low population density, and they typically process ores from mines within 50 kilometers (30 miles). Conventional mills may also produce significant quantities of waste materials, known as mill tailings, from the ore processing. These tailings are contained in impoundments which can be as large as 250 to 300 acres in extent. It is estimated that roughly 95% of the incoming ore ends as mill tailings. These mill tailings contain most of the radioactive progeny of uranium and may be a significant source of radon and radon progeny releases to the environment.

The GEIS will focus on the construction, operation, and decommissioning of ISL mills and also assess alternative methods of uranium recovery. It is noted that the hardrock mining associated with conventional uranium milling is regulated by other entities (e.g., the U.S. Bureau of Land Management, and various state agencies)

For more information on the uranium fuel cycle, please see Regulating Nuclear Fuel, NUREG/BR-0280, Rev. 1, (which can be found online at: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0280/>).

2.0 Alternatives to be Evaluated

No action -- The no-action alternative would be to not build nor license potential uranium milling facilities. Under this alternative the NRC would not approve future license applications. This alternative serves as a baseline for comparison of the potential environmental impacts.

Proposed action -- The proposed action is the construction, operation, and decommissioning of an ISL uranium mill. Implementation of the proposed action would require the issuance of an NRC license under the provisions of 10 CFR Part 40.

Alternatives -- The conventional milling process is one alternative. Other alternatives not listed in this notice may be identified through the scoping process.

3.0 Environmental Impact Areas to be Analyzed

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

- *Public and Occupational Health:* addressing the potential public and occupational consequences from construction, routine operation, transportation, and credible accident scenarios (including natural events), and decommissioning;
- *Waste Management:* addressing the types of wastes expected to be generated, handled, stored and subject to re-use or disposal;
- *Land Use:* addressing land use plans, policies and controls;
- *Transportation:* addressing the transportation modes, routes, quantities, and risk estimates;
- *Geology and Soils:* addressing the physical geography, topography, geology and soil characteristics;
- *Water Resources:* addressing the surface and ground water hydrology, water use and quality, and the potential for degradation;
- *Ecology:* addressing wetlands, aquatic, terrestrial, economically and recreationally important species, and threatened and endangered species;
- *Air Quality:* addressing meteorological conditions, ambient background, pollutant sources, and the potential for degradation;
- *Noise:* addressing ambient noises, sources, and sensitive receptors;
- *Historical and Cultural Resources:* addressing historical, archaeological, and traditional cultural resources
- *Visual and Scenic Resources:* addressing landscape characteristics, man-made features and viewshed;

- *Socioeconomics*: addressing the demography, economic base, labor pool, housing, transportation, utilities, public services/facilities, education, recreation, and cultural resources;
- *Environmental Justice*: addressing the potential disproportionately high and adverse impacts to minority and low-income populations; and
- *Cumulative Effects*: addressing the impacts from past, present, and reasonably foreseeable actions at and near the site.

The examples under each resource area are not intended to be all inclusive, nor is this list an indication that environmental impacts will occur. The list is presented to facilitate comments on the scope of the GEIS. Additions to, or deletions from, this list may occur as a result of the public scoping process.

4.0 Scoping Meetings

This NOI is to encourage public involvement in the GEIS process and to solicit public comments on the proposed scope and content of the GEIS. NRC will hold public scoping meetings as described above to solicit both oral and written comments from interested parties.

Scoping is an early and open process designed to determine the range of actions, alternatives, and potential impacts to be considered in the GEIS, and to identify the significant issues related to the proposed action. Scoping is intended to solicit input from the public and other agencies so that the analysis can be more clearly focused on issues of genuine concern.

The principal goals of the scoping process are to:

- Identify public concerns;
- Ensure that concerns are identified early and are properly studied;
- Identify alternatives that will be examined;
- Identify significant issues that need to be analyzed; and
- Eliminate unimportant issues.

The scoping meetings will begin with NRC staff providing a description of NRC's role and mission followed by a brief overview of NRC's environmental review process and goals of the scoping meeting. The bulk of the meeting will be allotted for attendees to make oral comments.

5.0 Scoping Comments

Written comments should be mailed to the address listed above in the ADDRESSES section. The NRC staff will prepare a scoping summary report in which it will summarize public comments. The NRC will make the scoping summary report and project-related materials available for public review through its electronic reading room:

<http://www.nrc.gov/reading-rm/adams.html>. Further, an NRC website will be established in the near future to keep the public abreast of the current schedule and to post important documents.

6.0 The NEPA Process

The GEIS will be prepared according to NEPA and NRC's NEPA implementing regulations contained in 10 CFR Part 51.

After the scoping process is complete, the NRC will prepare a draft GEIS. The draft GEIS is scheduled to be published by April 2008. A 45-day comment period on the draft GEIS is planned, and a public meeting(s) to receive comments will be held approximately three weeks after publication of the draft GEIS. Availability of the draft GEIS, the dates of the public comment period, and information about the public meeting will be announced in the *Federal Register*, on NRC's web page, and in the local news media. The final GEIS is expected to be published in January 2009 and will incorporate, as appropriate, public comments received on the draft GEIS.

Dated at Rockville, Maryland this 20th day of July, 2007.

For the Nuclear Regulatory Commission.

/RA/

Gregory Suber, Branch Chief
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Environmental Protection and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
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