

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC-2010-0267]

**Draft Regulatory Basis for a Potential Rulemaking on Spent Nuclear Fuel
Reprocessing Facilities**

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule; public meeting and request for comments.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC or the Commission) plans to conduct a two-day public meeting in Augusta, Georgia, to solicit input on issues associated with the development of a draft regulatory basis document for a potential rulemaking on spent nuclear fuel reprocessing facilities.

DATES: The public meeting will be held on June 21 and 22, 2011, from 9:00 a.m. to 5:00 p.m. See **ADDRESSES** section for public meeting location. Submit comments on the issues and questions presented in this document and discussed at the meeting by July 7, 2011. Comments received after this date will be considered if it is practical to do so.

ADDRESSES: The public meeting will be held at the Hilton Garden Inn Augusta, 1065 Stevens Creek Road, Augusta, GA 30907; telephone: 706-739-9990. Please include Docket ID NRC–2010–0267 in the subject line of your comments. Comments submitted in writing or in electronic

form will be posted on the NRC Web site and on the Federal rulemaking Web site, www.regulations.gov. Because your comments will not be edited to remove any identifying or contact information, the NRC cautions you against including any information in your submission that you do not want to be 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. You may submit comments by any one of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for documents filed under Docket ID NRC-2010-0267. Address questions about NRC dockets to Carol Gallagher; telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov.
- **Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.
- **E-mail comments to:** Rulemaking.Comments@nrc.gov. If you do not receive a reply e-mail confirming that we have received your comments, contact us directly at 301-415-1677.
- **Hand deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 am and 4:15 pm Federal workdays. (telephone: 301-415-1677).
- **Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.

You can access publicly available documents related to this document 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, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.
- **NRC's Agencywide Documents Access and Management System (ADAMS):** Publicly available documents created or received at the NRC are available online in the NRC Library 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 the NRC's public documents. If you do not have access to ADAMS or if there are problems in 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.
- **Federal Rulemaking Web Site:** Public comments and supporting materials related to this proposed rule can be found at <http://www.regulations.gov> by searching on Docket ID NRC-2010-0267.

FOR FURTHER INFORMATION CONTACT: Raj Iyengar, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-492-3174; e-mail: Raj.Iyengar@nrc.gov or John Sulima, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-492-3180; e-mail: John.Sulima@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

The Commission directed the NRC staff, in a staff requirements memorandum, SRM-SECY-07-0081(ML071800084), to perform a gap analysis to identify what changes in regulatory requirements would be necessary to license a reprocessing facility. The staff was also directed

to provide a technical basis document with recommended options on a path forward and an associated rulemaking plan, if appropriate, for licensing facilities associated with reprocessing of spent nuclear fuel. The staff provided the Commission with information on the regulatory structure for spent fuel reprocessing (SECY-08-0134, ML082110363) and an update on the reprocessing regulatory framework (SECY-09-0082, ML091520280 and ML091520365). In May 2010, the staff provided, in a memorandum to the Commission, an annual update on reprocessing activities and stated that it anticipated that it could complete the draft regulatory basis (formerly referred to as “technical basis”) by September 2011.

The NRC has the authority under the Atomic Energy Act to license commercial spent fuel reprocessing facilities. Currently, Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, “Domestic Licensing of Production and Utilization Facilities,” provides the licensing framework for production and utilization facilities. Although a reprocessing facility is one type of production facility, its industrial processes are more akin to fuel cycle processes. This framework was established in the 1970’s to license the first U.S. reprocessing facilities. The policy decision by the Carter Administration to cease reprocessing initiatives was based, in part, on the proliferation risks posed by the early reprocessing technology. While that policy was reversed during the Reagan Administration, until recently there was no commercial interest in reprocessing and, hence, no need to update the existing reprocessing regulatory framework in 10 CFR Part 50.

Although commercial reprocessing interest waned, the Department of Energy (DOE) continued to pursue reprocessing technology development through the National Laboratories. The DOE has sought to decrease proliferation risk and spent fuel high-level waste through developing more sophisticated reprocessing technologies.

During the Bush Administration, the Global Nuclear Energy Partnership (GNEP) renewed interest in commercial reprocessing. The GNEP sought to expand the use of civilian nuclear power globally and close the nuclear fuel cycle through reprocessing spent fuel and

deploying fast reactors to burn long-lived actinides. In response to these initiatives, the Commission directed the staff to complete an analysis of 10 CFR 50 to identify regulatory gaps for licensing an advanced reprocessing facility.

In mid-2008, two nuclear industry companies informed the NRC of their intent to seek a license for a reprocessing facility in the U.S. An additional company expressed its support for updating the regulatory framework for reprocessing, but stopped short of stating its intent to seek a license for such a facility. At the time, the NRC staff also noted that progress on some GNEP initiatives had waned and it appeared appropriate to shift the focus of the NRC staff's efforts from specific GNEP-facility regulations to a more broadly applicable framework for commercial reprocessing facilities.

In SECY-08-0134, the staff discussed the shift in its approach to developing the regulatory framework for commercial reprocessing facilities. The staff noted that it would defer additional work on regulatory framework development efforts for advanced recycling reactors and focus on the framework revisions necessary to license a commercial reprocessing facility. As a result of this shift, an additional review of the initial gap analysis was warranted.

The NRC staff further refined the regulatory gap analysis by focusing on commercial reprocessing and recycling using existing reactor technology. The staff summarized this analysis in SECY-09-0082. The staff's gap analysis identified 14 "high" priority gaps that must be resolved to establish an effective and efficient regulatory framework. The NRC staff's regulatory gap analysis considered several documents in its analysis, including: NUREG-1909, a white paper authored by the Advisory Committee on Nuclear Waste and Materials, titled "Background, Status and Issues Related to the Regulation of Advanced Spent Nuclear Fuel Recycle Facilities," issued June 2008; correspondence from the Union of Concerned Scientists titled, "Revising the Rules for Materials Protection, Control and Accounting;" and a Nuclear Energy Institute white paper titled, "Regulatory Framework for an NRC Licensed Recycling Facility."

Building on the gap analysis, efforts are currently underway to develop a regulatory basis (formerly known as “technical basis”) to pursue rulemaking that would enable the effective licensing and regulation of reprocessing facilities. The status of the regulatory basis development and estimated schedule for completing the reprocessing regulatory framework development are summarized in the May 14, 2010, memorandum to the Commission (ADAMS ML101110444).

Stakeholder perspectives have provided significant input into the development process through the two public workshops which occurred on September 8, 2010, in Rockville, Maryland, and on October 19, 2010, in Albuquerque, New Mexico. The NRC staff considered the stakeholders’ feedback in the development of the regulatory framework. The proposed workshop in Augusta, Georgia is intended to further enhance the development of the regulatory framework and to continue the pursuit of an open and transparent regulatory process.

The NRC develops a foundation for a rulemaking before beginning the process to develop the rule. An adequate regulatory basis forms the foundation for a rule. The regulatory basis provides the justification for rulemaking as the appropriate path forward, describes the technical, legal, or policy information that supports the direction and content of the rulemaking, and provides a basis for informed decisions to be made as the rulemaking process continues. A regulatory basis may include background information and a listing of documents that supported or addressed the current regulation or policy, or that support staff positions in the regulatory basis.

The NRC staff is using the gaps and their resolution as the framework for the regulatory basis for a potential rulemaking for licensing a spent nuclear fuel reprocessing facility. The NRC staff is in the process of completing an initial draft of the regulatory basis. To facilitate stakeholder involvement and obtain comments on the NRC’s approach and rationale for resolving the regulatory gaps, the staff is compiling summaries of the initial draft text for each gap. The gap summaries, as appropriate, will include questions where the NRC staff is seeking

input that will assist in completing the draft regulatory basis. During any potential rulemaking, the NRC staff will consider the need for and the development of associated guidance. Thus, the NRC staff is compiling a list of potentially pertinent guidance documents. The summary documents for the gaps and a listing of potentially pertinent guidance documents will be made available at <http://www.regulations.gov> under Docket ID NRC-2010-0267 no later than 15 days prior to the meeting on June 21-22, 2011.

The agenda for the public meeting will be noticed ten (10) days prior to the meeting on the NRC's public meeting schedule Web site at <http://www.nrc.gov/public-involve/public-meetings/index.cfm>. Please refer to the Section II of the **SUPPLEMENTARY INFORMATION** section for additional information on the issues proposed for discussion at the public workshops. Members of the public may provide feedback at the transcribed public meeting or may submit comments on the issues discussed in this document by any method provided in the **ADDRESSES** section.

The NRC plans to consider these stakeholder views in the development of the draft regulatory basis. During the June 21-22, 2011, public meeting, the NRC staff will invite representatives of interested stakeholders, in a "roundtable" format, to provide input, comments, and perspectives on the issues being considered in the development of the draft regulatory basis for a potential rulemaking on spent nuclear fuel reprocessing facilities. In order to have a manageable discussion, the number of participants around the table will be limited. The NRC will attempt to ensure broad participation by the spectrum of interests affected by the potential rulemaking, including citizen and environmental groups, nuclear industry interests, State, and local governments, and experts from academia and other Federal agencies. Other members of the public are welcome to attend and participate. Those not seated at the tables, including individual members of the public, will have the opportunity to provide feedback on each of the issues slated for discussion by the roundtable participants. Questions about

participation in the roundtable discussion may be directed to the points of contact listed in the **FOR FURTHER INFORMATION CONTACT** section.

II. ISSUES FOR DISCUSSION

During the public meeting, the NRC plans to solicit stakeholder comments and feedback during separate discussion sessions, which will broadly cover four main areas of the regulatory basis for licensing commercial reprocessing facilities: (1) regulatory framework, (2) waste management and environmental considerations, (3) safety, risk, and licensing considerations, and (4) security considerations and materials control and accounting. Each area includes the gaps related to that topic.

In the summary documents posted at <http://www.regulations.gov>, specific questions related to the gaps will be included. These questions will shape the public meeting discussion and the feedback obtained will be considered in the resolution of the gaps.

As part of the potential rulemaking, the NRC staff will consider the need for and development of associated guidance. The listing of potentially pertinent guidance documents will be made available prior to the meeting on June 21-22, 2011, at <http://www.regulations.gov> under Docket ID NRC-2010-0267. This list will include standard review plans that may be applicable to the potential rulemaking.

Furthermore, in developing options for a potential rulemaking the NRC staff seeks information on what timeline should be considered for rulemaking. Is there a point when it becomes critical for this rulemaking to become effective?

Dated at Rockville, Maryland this 6th day of June, 2011.

For the Nuclear Regulatory Commission.

/RA/

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