

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 61**

**RIN 3150-AI92**

**[NRC-2011-0012]**

**Low-Level Radioactive Waste Disposal Rulemaking and Strategic Assessment of Low-Level Radioactive Waste Regulatory Program**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Public workshop.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) plans to conduct a public workshop to discuss proposed revisions to its Low-Level Radioactive Waste (LLRW) disposal regulations and gather information on an update to the NRC's 2007 Strategic Assessment of the LLRW regulatory program from stakeholders and other interested members of the public. The staff is also seeking comments on developments that would affect the LLRW regulatory program in the next 5-7 years, including changes to the national landscape in the LLRW area that would affect licensees and sited States in the context of safety, security, and the protection of the environment. The NRC will accept written comments at the public workshop and welcomes active participation from those attending.

**DATES:** The public workshop will be held on March 7, 2014, from 8:00 a.m. to 1:00 p.m. (registration begins at 7:30 a.m.) in Phoenix, Arizona.

**ADDRESSES:** Please refer to Docket ID **NRC-2011-0012** when contacting the NRC about the availability of information regarding this document. You may access publicly-available information related to this action by the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2011-0012**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**  
You may access publicly-available documents online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (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 ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

The public workshop will be held at the Renaissance Phoenix Downtown Hotel, 50 East Adams Street, Phoenix, Arizona 85004. The phone number for the hotel is 1-602-333-0000. The public workshop will be held immediately following the 2014 Waste Management Conference.

**FOR FURTHER INFORMATION CONTACT:** Melanie C. Wong, telephone: (301) 415-2432; e-mail: [Melanie.Wong@nrc.gov](mailto:Melanie.Wong@nrc.gov); or Tarsha Moon, telephone: (301) 415-6745; e-mail: [Tarsha.Moon@nrc.gov](mailto:Tarsha.Moon@nrc.gov). Both of the Office of Federal and State Materials and Environmental

## **I. Background**

### **Revisions to LLRW Disposal Regulations**

The Commission's licensing requirements for the disposal of LLRW in near-surface [the uppermost 30 meters (100 feet)] facilities reside in Part 61 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Licensing Requirements for Land Disposal of Radioactive Waste." These regulations were published in the *Federal Register* on December 27, 1982 (47 FR 57446). The regulations emphasize an integrated systems approach to the disposal of commercial LLRW, including site selection, disposal facility design and operation, minimum waste form requirements, and disposal facility closure. To lessen reliance on institutional controls, 10 CFR Part 61 emphasizes passive rather than active systems to limit and retard releases to the environment.

Development of the 10 CFR Part 61 regulations in the early 1980s was based on several assumptions as to the types of wastes likely to go into a commercial LLRW disposal facility. To better understand what the likely inventory of wastes available for disposal might be, the NRC conducted a survey of existing LLRW generators. The survey, documented in Chapter 3 of NUREG-0782, "Draft Environmental Impact Statement [DEIS] on 10 CFR Part 61 Licensing Requirements for Land Disposal of Radioactive Waste" (ADAMS Accession No. ML052590347), revealed that there were 37 distinct commercial waste streams consisting of 25 radionuclides of potential regulatory interest. The specific waste streams in question were representative of the types of commercial LLRW being generated at the time. Waste streams associated with the U.S. Department of Energy's (DOE's) nuclear defense complex were not considered as part of the survey, since disposal of those wastes, at that time, was to be conducted at the DOE-operated sites. Over the last several years, there have been a number of developments that

have called into question some of the key assumptions made in connection with the earlier 10 CFR Part 61 survey, including:

- The emergence of potential LLRW streams that were not considered in the original 10 CFR Part 61 rulemaking, including large quantities of Depleted Uranium (DU), and possibly incidental wastes associated with the commercial reprocessing of spent nuclear fuel;
- The DOE's increasing use of commercial facilities for the disposal of defense-related LLRW streams; and
- Extensive international operational experience in the management of LLRW and intermediate-level radioactive wastes that did not exist at the time 10 CFR Part 61 was promulgated.

In its March 18, 2009, Staff Requirements Memorandum (SRM) SRM-SECY-08-0147<sup>1</sup>, "Response to Commission Order CLI-05-20 Regarding Depleted Uranium" (ADAMS Accession No. ML090770988), the Commission directed the NRC staff to proceed with a rulemaking to amend 10 CFR Part 61 to specify a requirement for a site-specific analysis for the disposal of large quantities of DU including the technical requirements for such an analysis, and to develop a guidance document that outlines the parameters and assumptions to be used in conducting such site-specific analyses. In a second SRM, SRM-SECY-10-0043<sup>2</sup>, "Blending of Low-Level Radioactive Waste" (ADAMS Accession No. ML102861764), the Commission directed the staff to include blended LLRW streams as part of this rulemaking initiative. Following the solicitation of early public input on June 24, 2009 (74 FR 30175), the NRC staff developed a regulatory basis document to support a proposed rule (ADAMS Accession No. ML111040419), shared it with the NRC Agreement States, and developed a proposed rulemaking package. In an SRM,

---

<sup>1</sup> See <http://www.nrc.gov/reading-rm/doc-collections/commission/srm/2008/2008-0147srm.pdf>.

<sup>2</sup> See <http://www.nrc.gov/reading-rm/doc-collections/commission/srm/2010/2010-0043srm.pdf>.

dated January 19, 2012<sup>3</sup>, SRM-COMWDM-11-0002/COMGEA-11-002, “Revision to 10 CFR Part 61” (ADAMS Accession No. ML120190360), the Commission provided additional direction to the NRC staff concerning this particular rulemaking. Specifically, the Commission directed the NRC staff to amend the existing draft proposed rulemaking package to include the following:

- Allowing licensees the flexibility to use International Commission on Radiological Protection (ICRP) dose methodologies in a site-specific performance assessment for the disposal of all radioactive waste.
- Developing a two-tiered approach that establishes a compliance period that covers the reasonably foreseeable future and a longer period of performance that is not *a priori* and is established to evaluate the performance of the site over longer timeframes. The period of performance is developed based on the candidate site characteristics (waste package, waste form, disposal technology, cover technology, and geo-hydrology) and the peak dose to a designated receptor.
- Adding flexibility for disposal facilities to establish site-specific waste acceptance criteria based on the results of the site’s performance assessment and intruder assessment.
- Establishing a compatibility category for the elements of the revised rule that establish the requirements for site-specific performance assessments and the development of the site-specific waste acceptance criteria that ensures alignment between the States and Federal Government on safety fundamentals, while providing the States with the flexibility to determine how to implement these safety requirements.

On July 18, 2013, the NRC staff submitted a revised draft proposed rule and guidance for Commission review and approval, SECY-13-0075, “Proposed Rule: Low-Level Radioactive Waste Disposal (10 CFR Part 61) (RIN 3150-A192)” (ADAMS Accession No. ML13129A268).

---

<sup>3</sup> See <http://www.nrc.gov/reading-rm/doc-collections/commission/comm-secy/2011/2011-0002comgeawdm-srm.pdf>

The draft proposed rule would update the existing technical analysis requirements for protection of the general population (i.e., performance assessment); add a new site-specific technical analysis for the protection of inadvertent intruders (i.e., intruder assessment); add a new analysis for certain long-lived LLRW; and revise the technical analyses required at closure.

The draft proposed rule would also add a new requirement to develop criteria for the acceptance of LLRW for disposal based on either the results of these technical analyses or on the existing LLRW classification requirements. This would facilitate consideration of whether a particular disposal site is suitable for future disposal of DU, blended LLRW, or any other previously unanalyzed LLRW stream. Additionally, the draft proposed rule would facilitate implementation and better align the requirements with current health and safety standards.

### **Update to the 2007 Strategic Assessment of the LLRW Regulatory Program**

In 2007, due to developments in the national program for LLRW disposal, as well as changes in the regulatory environment, the NRC's LLRW program faced new challenges and issues. New technical issues related to protection of public health and the environment and security emerged. These challenges and issues included 1) need for greater flexibility and reliability in LLRW disposal options; 2) increased storage of Class B and Class C LLRW because of the potential closing of the Barnwell, South Carolina disposal facility to out-of-compact waste generators; 3) the potential need to dispose of large quantities of power plant decommissioning waste, as well as DU from enrichment facilities; 4) increased safety concerns; 5) need for greater LLRW program resources than were available; 6) increased security concerns related to storing LLRW in general and sealed radioactive sources in particular; and 7) potential for generation of new waste streams (for example, by the next generation of nuclear reactors and the potential reemergence of nuclear fuel reprocessing in the United States).

Based on these challenges and issues, the NRC staff conducted a Strategic Assessment of the NRC's LLRW regulatory program. Based on extensive stakeholder input during meetings, the NRC staff received a variety of activities to be included in the Strategic Assessment and evaluated them based on the overall strategic objectives for ensuring safety, and security, and other factors. From these solicited activities, the NRC staff developed a list of 20 activities responsive to identified programmatic needs. These activities were assigned priorities of high, medium, or low and ranged from narrowly focused activities such as updating LLRW storage guidance to broader activities such as suggesting legislative changes to Congress to improve the national LLRW program.

The NRC staff published the Strategic Assessment in late 2007<sup>4</sup> in SECY-07-0180, "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program" (ADAMS Accession No. ML071350299). The Strategic Assessment identified and prioritized the NRC staff's activities to ensure that the LLW program continued to: 1) ensure safe and secure LLRW disposal; 2) improve the effectiveness, efficiency, and adaptability of the NRC's LLRW regulatory program; and 3) ensure regulatory stability and predictability, while allowing flexibility in disposal options.

Since 2007, the NRC staff has completed several high priority activities identified in the 2007 Strategic Assessment, including updating guidance for LLRW storage, evaluating the disposal of DU and the measures needed to ensure its safe disposal, and developing a procedure for the review of low-activity waste disposal in Resource Conservation and Recovery Act (RCRA) facilities not licensed by the NRC. In addition, the NRC staff continues to work on the revisions to 10 CFR Part 61 and the 1995 Concentration Averaging and Encapsulation Branch Technical Position.

---

<sup>4</sup> See <http://www.nrc.gov/reading-rm/doc-collections/commission/secys/2007/secy2007-0180/2007-0180scy.pdf>

After 6 years, much progress has been made in completing several activities identified in the 2007 Strategic Assessment as described above. In addition, the national LLRW program continues to evolve. To set the direction for the NRC LLRW regulatory program in the next several years, the NRC staff will begin developing a new Strategic Assessment of the NRC's LLRW program. The new assessment will provide opportunities for stakeholder engagement.

## **II. NRC Public Workshop.**

The purpose of this public workshop is to discuss the status of an on-going rulemaking effort to revise 10 CFR Part 61 and gather information on the update to the 2007 Strategic Assessment of the NRC's LLRW regulatory program from interested members of the public. This overall approach is consistent with the NRC's openness policy. The March 7, 2014 public workshop will be organized into two parts. In the first part, the NRC staff will discuss the status of the proposed revisions to 10 CFR Part 61. In the second part, a panel of invited experts will discuss developments that would affect the LLRW regulatory program in the next 5-7 years, including changes to the national landscape in the LLRW area that would affect licensees and sited States in the context of safety, security, and the protection of the environment.

Following each of the two parts of the workshop, interested members of the public will have an opportunity to pose questions and comment.

Pre-registration for this workshop is not necessary. Members of the public choosing to participate in this workshop remotely can do so in one of two ways— online by webinar or via a telephone (audio) connection. This audio is the bridge line ID: 1-800-779-7381, passcode: 8375324.

For those interested members of the public that wish to attend the workshop remotely by Webinar, the Webinar workshop registration link can be found at:

<https://www1.gotomeeting.com/register/482915697>. The Webinar ID is 482-915-697. After



registering, instructions for joining the Webinar (including a teleconference number and pass code) will be provided via e-mail. All participants will be in “listen-only” mode during the presentation. Participants will have a chance to pose questions either orally after the presentation or in writing during the Webinar.

To receive a call back, provide your phone number when you join the workshop, or call the following number and enter the access code:

Call-in toll-free number (US/Canada): 1-800-779-7381. The access code is 8375324.

The agenda for the public workshop will be noticed no fewer than 10 days prior to the workshop on the NRC’s Public Meeting Schedule Web site at <http://www.nrc.gov/public-involve/public-meetings/index.cfm>.

Questions about participation in the public workshop should be directed to the point of contact listed in the FOR FURTHER INFORMATION CONTACT section of this document.

Dated at Rockville, Maryland this 14<sup>th</sup> day of January 2014.

For the Nuclear Regulatory Commission.

**/RA/**

Aby Mohseni, 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.