

# LOW-LEVEL RADIOACTIVE WASTE FORUM, INC.

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## ***U.S. Nuclear Regulatory Commission***

### **Comment Period Open re Proposed Changes to LLW Disposal Regulations *in re Proposed Amendments to 10 CFR Parts 20 & 61 and Associated Technical Guidance***

On March 26, 2015, the U.S. Nuclear Regulatory Commission published a proposed rule to amend 10 CFR Parts 20 and 61, "Licensing Requirements for Land Disposal of Radioactive Waste," in the *Federal Register* (80 *Federal Register* 16,081) for public comment.

NRC also published a notice of availability of associated guidance, "Guidance for Conducting Technical Analyses for Low-Level Radioactive Waste Disposal," for public comment in the *Federal Register* (80 *Federal Register* 15,930).

Comments for both the proposed rule and the conforming technical guidance documents should be submitted by July 24, 2015. Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before the due dates.

The proposed rule can be accessed online at <http://www.gpo.gov/fdsys/pkg/FR-2015-03-26/pdf/2015-06429.pdf>. The associated technical guidance can be accessed online at <http://www.gpo.gov/fdsys/pkg/FR-2015-03-26/pdf/2015-06536.pdf>.

### **Proposed Rule re 10 CFR Parts 20 & 61**

**Summary** NRC is proposing to amend its regulations that govern low-level radioactive waste disposal facilities to require new and revised site-specific technical analyses, to permit the development of site-specific criteria for low-level radioactive waste acceptance based on the results of these analyses, to facilitate implementation, and to better align the requirements with current health and safety standards. The proposed rule would affect low-level radioactive waste disposal licensees or license applicants that are regulated by the NRC or the Agreement States.

**Major Provisions** Major provisions of the proposed rule include changes to:

- revise the existing technical analysis for protection of the general population to include a 1,000-year compliance period;
- add a new site-specific technical analysis for the protection of inadvertent intruders that would include a 1,000-year compliance period and a dose limit;
- add new analyses that would include a 10,000-year protective assurance period and annual dose minimization target;
- add a new analysis for certain long-lived low-level radioactive waste that would include a post-10,000-year performance period;

- add new analyses that would identify and describe the features of the design and site characteristics that provide defense-in-depth protections;
- add a new requirement to update the technical analyses at closure; and,
- add a new requirement to develop site-specific criteria for the future acceptance of low-level radioactive waste for disposal based on either the results of these technical analyses or the existing low-level radioactive waste classification requirements.

**Purpose** The proposed rule anticipates a need to dispose of large quantities of depleted uranium from newly licensed uranium enrichment facilities. "Depleted uranium actually becomes more radioactive as it decays over centuries, and the current regulations did not anticipate large quantities of it being disposed of commercially as Class A low-level waste (the least radioactive classification)," states NRC. "In addition, the industry anticipates blending some Class A waste with more-radioactive Class B and Class C wastes that currently lack a disposal path. Blending could create large quantities of Class A waste near the upper classification limit of radioactivity. The current regulations anticipated only a small amount of waste near the upper limit."

According to NRC, the proposed amendments would ensure that low-level radioactive waste streams that are significantly different from those considered during the development of the current regulations (i.e., depleted uranium and other unanalyzed waste streams) can be disposed of safely and meet the performance objectives for land disposal of low-level radioactive waste. NRC believes that the proposed amendments would also increase the use of site-specific information to ensure performance objectives are met that are designed to provide protection of public health and safety.

### **Submitting Comments**

**Proposed Rule** Public comments on the proposed rule will be accepted until July 24, 2015. They may be submitted using any of the following methods:

- via the federal government's rulemaking web site at [www.regulations.gov](http://www.regulations.gov) using Docket ID NRC-2011-0012;
- via facsimile to (301) 415-1101;
- via email to [Rulemaking.Comments@nrc.gov](mailto:Rulemaking.Comments@nrc.gov); or,
- via mail to Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001, ATTN: Rulemaking and Adjudications Staff.

Public comments on the associated technical guidance will also be accepted until July 24, 2015. They may be submitted either of the following methods:

- via the federal government's rulemaking web site at [www.regulations.gov](http://www.regulations.gov) using Docket ID NRC-2015-0013; or,
- via mail to Cindy Bladey, Office of Administration, Mail Stop 3WFN-06-A44M, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

## Background

On July 18, 2013, NRC staff requested Commission approval to publish a proposed rule in the *Federal Register* that would amend 10 CFR Part 61. (See *LLW Notes*, July/August 2013, pp. 1, 32-38.) As originally proposed, the amendments would revise 10 CFR Part 61 to require low-level radioactive waste disposal licensees and license applicants to conduct updated and new site-specific analyses and to permit the development of criteria for future low-level radioactive waste acceptance based on the results of these analyses. The July 2013 proposed rule would update the existing technical analysis requirements for protection of the general population (i.e., performance assessment) to include a 10,000-year compliance period; add a new site-specific technical analysis for the protection of inadvertent intruders (i.e., intruder assessment) that would include a 10,000-year compliance period and a dose limit; add a new analysis for certain long-lived low-level radioactive waste (i.e., performance period analysis) that would include a post-10,000 year performance period; and, revise the technical analyses required at closure. NRC also proposed the addition of a new requirement to develop criteria for the acceptance of low-level radioactive waste for disposal based on either the results of these technical analyses or on the existing low-level radioactive waste classification requirements. This would facilitate consideration of whether a particular disposal site is suitable for future disposal of depleted uranium, blended low-level radioactive waste, or any other previously unanalyzed low-level radioactive waste stream.

On February 12, 2014, the Commission approved publication of the proposed rule and draft guidance for public comment subject to listed comments and changes. (See *LLW Notes*, January/February 2014, pp. 1, 32-33.) The comments and changes included, among other things, the following: the proposed rule should be revised to include a regulatory compliance period of 1,000 years; the proposed rule should be published with a compatibility category “B” applied to the most significant provisions of the revised rule including the Period of Compliance, the Protective Assurance Analysis Period and its analytical threshold, and the Waste Acceptance Criteria; the site-specific analysis for protection of the general public within the 1,000-year compliance period should set a specific dose limit of 25 mrem/yr; and, the proposed rule should clearly indicate that the intruder assessment should be based on intrusion scenarios that are realistic and consistent with expected activities in and around the disposal site at the time of site closure. The Commission also directed that the proposed rule should include a clear statement that licensing decisions are based on defense in depth (DID) protections, such as siting, waste forms and radionuclide content, engineered features, natural geologic features of the disposal site, and on performance assessment (PA) goals and insights, as well as scientific judgment.

*For additional information on the 10 CFR Parts 20 and 61 proposed rule, please contact either Gary Comfort at (301) 415-8106 or at [Gary.Comfort@nrc.gov](mailto:Gary.Comfort@nrc.gov) or Andrew Carrera at (301) 415-1078 or at [Andrew.Carrera@nrc.gov](mailto:Andrew.Carrera@nrc.gov).*

*For additional information on the associated technical guidance document, please contact either Priya Yadav at (301) 415-6667 or at [Priya.Yadav@nrc.gov](mailto:Priya.Yadav@nrc.gov) or Stephen Dembek at (301) 415-2342 or at [Stephen.Dembek@nrc.gov](mailto:Stephen.Dembek@nrc.gov).*

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**March 26, 2015**

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