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**NRC Issues SRM re Final Rule for Low-Level Radioactive Waste Disposal (10 CFR Part 61)**

On September 8, 2017, the U.S. Nuclear Regulatory Commission (NRC) issued a Staff Requirements Memorandum (SRM) in response to SECY-16-0106, which sought Commission approval to publish a final rule in the *Federal Register* that would amend Title 10 of the Code of Federal Regulations (10 CFR) Parts 20, “Standards for Protection Against Radiation,” and Part 61, “Licensing Requirements for Land Disposal of Radioactive Waste.”

*The SRM can be found online at* [*https://www.nrc.gov/docs/ML1725/ML17251B147.pdf*](https://www.nrc.gov/docs/ML1725/ML17251B147.pdf)*.*

**SRM Direction**

In the SRM, the Commission approved certain substantive revisions to the draft final rule and its subsequent publication as a supplemental proposed rule for a 90-day public comment period. Specifically, prior to its publication as a supplemental proposed rule, the SRM states that the draft final rule should be revised to incorporate the following changes:

1. reinstate the use of a case-by-case basis (i.e., "grandfather provision") for applying new requirements to only those sites that plan to accept large quantities of depleted uranium for disposal;

2. reinstate the 1,000 year compliance period from the proposed rule with a specific dose limit of 25 mrem/year and adopt a longer period of performance assessment—the period of which would be based on site-specific considerations and a "reasonable analysis," as defined in SRM-SECY-13-0075, “Proposed Rule: Low-Level Radioactive Waste Disposal (10 CFR Part 61) (RIN 3150-AI92))—and apply the 1,000 year compliance period to the inadvertent intruder performance objective in 10 CFR 61.42 and the site stability performance objective in 10 CFR 61.44;

3. clarify that the safety case consists of the quantitative performance assessment, as supplemented by consideration of defense-in-depth measures;

4. modify the draft final rule text addressing defense-in-depth to narrow its consideration solely to providing additional assurance in mitigating the effects of large uncertainties that are identified during the performance assessment; and,

5. be informed by broader and more fully integrated, but reasonably foreseeable, costs and benefits to the United States waste disposal system resulting from the proposed rule changes, including pass-through costs to waste generators and processors.

The SRM states that the associated guidance documents should be revised and should be made publicly available, concurrent with the comment period on the supplemental proposed rule.

The Commission also directed that the revised *Federal Register* notice prepared as a result of the direction in the SRM should be provided to the Commission for its information no later than 10 business days prior to its transmittal for publication.

Finally, the SRM notes that the timing for the staff to prepare a regulatory basis for the disposal of Greater-than- Class C (GTCC) waste as directed in SRM-SECY-15-0094, “Historical and Current Issues Related to Disposal of Greater-Than-Class C Low-Level Radioactive Waste,” should be changed from the previous direction of within six (6) months of the completion of the ongoing 10 CFR Part 61 rulemaking to six (6) months after the publication of the supplemental proposed rule.

**SECY-16-0106 Overview**

On October 3, 2016, NRC published SECY-16-0106. (See *LLW Notes,* September/October 2016, pp. 1, 32-38.) Subsequently, at the request of the Subcommittee on Radiation Protection and Nuclear Materials of the Advisory Committee on Reactor Safeguards (ACRS), the agency published the staff’s draft final Part 61 guidance document (Guidance for Conducting Technical Analyses for 10 CFR Part 61) to support a public meeting with the full ACRS that was held on November 3, 2016. (See *LLW Notes,* September/October 2016, p. 27)  In addition, NRC published a redline/strikeout version of the draft final rule language.

In releasing the documents, NRC stressed that the comment period on the rulemaking was closed and that the staff was not soliciting comments on the draft final guidance and the draft final rule language.

*The proposed final Part 61 final rule and associated documents are available on the NRC website at* [*http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/uw-streams.html*](http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/uw-streams.html)*.*

**Summary** As issued in October 2017, SECY-16-0106 recommended that the final 10 CFR Part 61 rule would do the following:

•  revise the existing technical analysis for protection of the general public to include either a 1,000-year compliance period or a 10,000-year compliance period depending on the quantities of long-lived radionuclides that have been or plan to be disposed at the site;

•  add a new technical analysis for the protection of inadvertent intruders that would include a compliance period and a dose limit;

•  add a new post-10,000-year performance period analysis for disposal sites that have low-level radioactive waste containing significant quantities of long-lived radionuclides;

•  add a new requirement to update the technical analyses at site closure;

•  add a new requirement to develop site-specific criteria for the future acceptance of low-level radioactive waste for disposal based on the results of the technical analyses, the existing low-level radioactive waste classification requirements, or a combination of both;

•  add a new description of safety case and a new requirement to identify defense-in- depth protections and describe their capabilities; and,

•  facilitate implementation and better align the requirements with current safety standards.

SECY-16-01016 states that “[t]hese amendments ensure that the … [low-level radioactive waste] streams that are significantly different from those considered during the development of the existing 10 CFR Part 61 regulations will be disposed of safely and meet the performance objectives for land disposal of … [low-level radioactive waste].”

**Discussion** In SECY-16-0106, NRC staff proposed amendments to 10 CFR Part 61 to:

•  require low-level radioactive waste disposal licensees and license applicants to conduct updated and new technical analyses, as well as develop site-specific low-level radioactive waste acceptance criteria;

•  add new definitions and concepts; and,

•  introduce amendments to facilitate implementation and better align the requirements with current health and safety standards (i.e., 10 CFR Part 20 requirements).

The technical analyses required by the amendments would include:

•  an updated analysis to demonstrate protection of the general population (i.e., performance assessment), which would use a defined compliance period;

•  a new analysis to demonstrate protection of inadvertent intruders (i.e., inadvertent intruder assessment), which would also use a defined compliance period; and,

•  a new performance period analysis, to evaluate how the disposal system could mitigate the risk from the disposal of significant quantities of long-lived radionuclides after the compliance period.

The technical analyses would also need to be periodically reviewed and updated (e.g., at each renewal, with any application to amend the license for closure, and as necessary to update waste acceptance criteria). In addition, the rule would add a new description of safety case and incorporate a new requirement to identify defense-in-depth protections and describe their capabilities.

*For detailed information regarding the contents and provisions of SECY-16-0106, please see LLW Notes, September/October 2016, pp. 1, 32-38.*

**Background**

The regulations for the disposal of commercial low-level radioactive waste in land disposal facilities are set forth in 10 CFR Part 61. NRC originally adopted these regulations in 1982. Although the NRC has never licensed any land disposal facilities under this part, the Agreement States that currently or plan to license low-level radioactive waste land disposal facilities must adopt compatible versions of these regulations.

In SECY-13-0075, dated July 18, 2013, the NRC staff provided the Commission with a proposed rule to amend 10 CFR Part 61. The Commission approved publication of the proposed rule in SRM-SECY-13-0075, dated February 12, 2014. After making Commission directed changes, the NRC published the proposed rule for an initial 120-day comment period in the *Federal Register* on March 26, 2015. The public comment period closed on July 24, 2015. After receiving extension requests, the staff reopened the comment period, which then closed on September 21, 2015.

The NRC received 2,401 comment letters (including approximately 2,300 form letters) representing individuals, public interest groups, Native American Tribal Governments, industry groups, licensees, and state and federal agencies. The comments encompassed a wide variety of viewpoints that are summarized and responded to in Section IV, “Public Comment Analysis,” of the *Federal Register* notice for the final rule (Enclosure 1).

The NRC staff briefed the ACRS Radiation Protection and Nuclear Materials Subcommittee and full committee eight times before publication of the proposed rule. The staff is scheduled to brief the ACRS subcommittee in October 2016 and the full committee in November 2016 on the final rule. (The ACRS requested that the meetings occur after the draft final rule would be publicly available in order to keep the meetings open to the public.) Shortly after the November 2016 meeting, the ACRS provided a letter report with recommendations and conclusions directly to the Commission.

*For additional information on the Part 61 final rule and associated documents, please contact either Gary Comfort at (301) 415-8106 or at* [*Gary.Comfort@nrc.gov*](mailto:Gary.Comfort@nrc.gov) *or Stephen Dembeck at (301) 415-2342 or at* [*Stephen.Dembek@nrc.gov*](mailto:Stephen.Dembek@nrc.gov)*.*