



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2014-0080]

Low-Level Radioactive Waste Regulatory Program

AGENCY: Nuclear Regulatory Commission. **ACTION:** Draft programmatic assessment results; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is requesting comment on a draft list of prioritized low-level radioactive waste (LLW) tasks based upon the assessment updates to the strategic assessment (now called a programmatic assessment) performed in 2007. The objective of this updated assessment remains the same as the 2007 assessment; that is, to identify and prioritize tasks that the NRC staff can undertake to ensure a stable, reliable, and adaptable regulatory framework for effective LLW management, while also considering future needs and changes that may occur in the nation's commercial LLW management system.

In 2014, through public meetings, webinars, and *Federal Register* notices, the NRC staff solicited public comment on what changes, if any, should be made to the current LLW program's regulatory framework, as well as specific actions that the staff might undertake to facilitate such changes. The NRC staff considered the comments received, performed an assessment of the comments, and developed a draft list of prioritized LLW tasks.

DATES: Submit comments by **[INSERT DATE 30 DAYS FROM DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. 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 this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2014-0080. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Stephen Dembek, telephone: 301-415-2342, e-mail: Stephen.Dembek@nrc.gov; or Melanie C. Wong, telephone: 301-415-2432, e-mail: Melanie.Wong@nrc.gov, both are staff of the Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID NRC-2014-0080 when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2014-0080.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection 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. The "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program" and "Transcript of Public Workshop on Low-Level Radioactive Waste Disposal Rulemaking and Strategic Assessment of Low-Level Radioactive Waste" are available in ADAMS under Accession Nos. ML071350291 and ML14086A540.

- **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.

B. Submitting Comments

Please include Docket ID NRC-2014-0080 in the subject line of your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <http://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

II. Background

In 2007, due to developments in the national program for LLW disposal, as well as changes in the regulatory environment, the NRC's LLW 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) the need for greater flexibility and reliability in LLW disposal options; (2) increased storage of Class B and Class C LLW 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 depleted uranium (DU) from enrichment facilities; (4) increased safety

concerns; (5) the need for greater LLW program resources than were available; (6) increased security concerns related to storing LLW in general and sealed radioactive sources in particular; and (7) the 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 LLW regulatory program. Based on extensive stakeholder input during public meetings, the NRC staff received a variety of tasks 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 tasks, the NRC developed a list of 20 tasks responsive to identified programmatic needs. These tasks were assigned priorities of high, medium, or low, and ranged from narrowly focused tasks such as updating LLW storage guidance to broader tasks such as suggesting legislative changes to Congress to improve the national LLW program.

The NRC staff issued the strategic assessment in late 2007 in SECY-07-0180, "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program" (ADAMS Accession No. ML071350291). The strategic assessment identified and prioritized the NRC staff's tasks to ensure that the LLW program continued to: (1) Ensure safe and secure LLW disposal; (2) improve the effectiveness, efficiency, and adaptability of the NRC's LLW regulatory program; and (3) ensure regulatory stability, and predictability, while allowing flexibility in disposal options.

Since 2007, the NRC has completed several high priority tasks identified in the 2007 Strategic Assessment, including updating guidance for LLW storage and evaluating the disposal of DU and the measures needed to ensure its safe disposal. In addition, the NRC continues to work on the revisions to part 61 of Title 10 of the *Code of Federal Regulations* (CFR) and

implementation of the update to the Concentration Averaging and Encapsulation Branch Technical Position. In addition, the national LLW program continues to evolve.

To set the direction for the NRC's LLW regulatory program in the next several years, the NRC began developing a new strategic assessment of its LLW program (now called a programmatic assessment). The objective of this updated programmatic assessment remains the same as the 2007 strategic assessment; i.e., to identify and prioritize tasks that the NRC can undertake to ensure a stable, reliable and adaptable regulatory framework for effective LLW management, while also considering future needs and changes that may occur in the nation's commercial LLW management system.

The NRC solicited public comment on what changes, if any, should be made to the current LLW program's regulatory framework, as well as specific actions that the NRC might undertake to facilitate such changes. Specifically, the NRC requested comments at a public workshop in Phoenix, Arizona on March 7, 2014. Additionally, the NRC requested comments by issuing a *Federal Register* notice on May 15, 2014 (79 FR 27772), with a 60-day public comment period. The NRC also held webinars on June 17, 2014, and July 8, 2014, requesting comments on the proposed update to the assessment. The initial comment period was scheduled to close on July 14, 2014. However, on July 9, 2014 (79 FR 38796), the NRC extended the comment period to September 15, 2014. The NRC sought comments on developments that would affect the LLW regulatory program over the next several years and that would affect licensees and sited States and actions that the NRC could take to ensure safety, security, and the protection of the environment.

The NRC received twelve comment submissions to the *Federal Register* notices and also received numerous comments as the result of the public meeting and webinars. The comment submissions are available on the federal rulemaking Web site at <http://www.regulations.gov> under Docket ID NRC-2014-0080.

III. Updated Prioritized List of LLW Tasks

The NRC received numerous comments in response to the request for suggested updates to the programmatic assessment. Many commenters expressed similar views, but there also were conflicting comments (e.g., some commenters wanted the NRC to make it easier to dispose of Low Activity Waste (LAW) at Resource Conservation and Recovery Act sites or other disposal facilities not licensed in accordance with the NRC's regulations in 10 CFR part 61; other commenters wanted the NRC to require that disposal of LAW be done only at licensed LLW sites). Comments that were determined to be outside the scope of the programmatic assessment or comments related to tasks that have been recently completed by the NRC are not addressed in this programmatic assessment.

To evaluate and prioritize these comments, the NRC used the LLW strategic objective that was developed for the 2007 strategic assessment. Specifically, in SECY-07-0180 the NRC used the NRC's Strategic Plan to develop a strategic objective for the LLW regulatory program. To ensure the strategic objective was still current, the NRC reviewed the latest version of the NRC's Strategic Plan (Strategic Plan: Fiscal Years 2014-2018 (NUREG-1614, Volume 6, which can be found at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1614/v6/>). The NRC concluded that the strategic objective developed in SECY-07-0180 is still applicable. The strategic objective is: "The objective of the NRC's LLW regulatory program is to provide for a stable, reliable, and adaptable regulatory framework for effective LLW management, while maintaining safety, security, and protection of the environment." The NRC evaluated whether the need to complete each task was a short, medium, or long term priority. Also, the NRC considered potential costs and benefits along with consideration of the availability of disposal options.

The NRC used the list of 20 items in SECY-07-0180, as a starting point and combined, deleted, or added items based on the current LLW landscape and on stakeholder comments received in 2014.

Completed Tasks

Task 5, “Review and update guidance on extended storage of LLW for materials and fuel cycle licensees and review industry guidance for reactors.” This item was completed by the NRC by issuing Regulatory Issue Summary (RIS) 2008-12, “Considerations for Extended Interim Storage of Low-Level Radioactive Waste by Fuel Cycle and Materials Licensees,” (ADAMS Accession No. ML073330725) and RIS 2011-09 “Available Resources Associated with Extended Storage of Low-Level Radioactive Waste,” (ADAMS Accession No. ML111520042).

Task 13, “Identify new waste streams.” This item is considered completed because the proposed changes to 10 CFR part 61 (i.e., Site-Specific Analysis Rulemaking) are broad enough to include potential new waste streams that may be developed in the future.

Task 17, “Develop information notice on waste minimization.” This item is considered completed because in 2012 the NRC issued its “Low-Level Radioactive Waste Management and Volume Reduction,” policy statement that addressed this issue and no further work is anticipated by the NRC. This policy statement is available on the federal rulemaking Web site at <http://www.regulations.gov> under Docket ID NRC-2011-0183.

The completed tasks were removed from the task list:

Combined Tasks

Similar tasks were grouped together, specifically under the topics related to the revision to 10 CFR part 61. Several tasks in the 2007 assessment were related to the proposed revision to 10 CFR part 61 including, determining if disposal of large quantities of DU would change the waste classification tables; developing guidance on alternate waste classification; and implementing major revisions to 10 CFR part 61. Based on the Commission’s direction, the

NRC's efforts related to revision to 10 CFR part 61 has been limited to specifying a requirement for a site-specific analysis and associated technical requirements for unique waste streams including the disposal of significant quantities of DU. These tasks have been combined and separated into two tasks, "Complete and Implement Site-Specific Analysis Rulemaking," and "Update the Waste Classification Tables." Once the Site-Specific Analysis Rulemaking is complete, in accordance with Revised Staff Requirements-SECY-13-0001, "Staff Recommendations for Improving the Integration of the Ongoing 10 CFR part 61 Rulemaking Initiatives" (ADAMS Accession No. ML13085A318), the NRC staff plans to communicate further with the Commission on the need for a second rulemaking for revising the waste classification tables.

Deleted Tasks

Several items included in the table in SECY-07-0180 were deleted from the table in this section.

These items were:

Task 1, "Evaluate potential changes to LLW regulatory program as a result of severe curtailment of disposal capacity." This item was deleted because the anticipated curtailment of disposal capacity did not occur and is not expected to occur in the near term.

Task 8, "Examine the desirability and benefits of legislative changes." As with Task 1, this item was deleted because the anticipated curtailment of disposal capacity did not occur and is not expected to occur in the near term.

Task 15, "Develop waste acceptance criteria for LLW disposal in uranium mill tailings impoundments." The NRC anticipated that some LLW would need to be disposed in uranium mill tailing impoundments due to the diminishing capacity at LLW disposal sites. This item was deleted because the anticipated curtailment of disposal capacity did not occur and is not expected to occur in the near term.

Added Task

A new task has been added to the list, “Update NUREG/BR-0204, Rev. 2 (July 1998), “Instructions for Completing NRC’s Uniform Low-Level Radioactive Waste Manifest.” NUREG/BR-0204 provides instructions for completing the NRC’s Forms 540/540A, 541/541A, and 542/542A.” These forms are collectively known as the uniform manifest. Stakeholders and the NRC have identified items on the forms that should/need to be revised. For example, instructions for manifest reporting of the activities of hydrogen-3, carbon-14, technetium-99, and iodine-129, when their activities are below the lower limit of detection, will be clarified. Additionally, work on the 10 CFR part 61 rulemaking also identified needed revisions to the forms.

Table 1 reflects the NRC’s views on the tasks that should receive priority consideration moving forward.

Table 1: LLW Programmatic Assessment: Summary of Tasks Evaluated by NRC Staff

Task	Description	Current Ranking	Previous Ranking	Rationale for Change in Ranking
1. Complete and Implement Site-Specific Analysis Rulemaking	This task includes: developing guidance that explains how to meet the provisions of the proposed changes to 10 CFR part 61; and implementing revisions to 10 CFR part 61. This task would address changes to 10 CFR part 61 that cannot be implemented through guidance changes. This task is currently ongoing.	High	Not applicable, this is a combined task.	Not applicable, this is a combined task.
2. Update the Waste Classification Tables	This task will include: determining if the disposal of large quantities of DU would change the waste classification tables and revising the waste classification tables.	High	High	Not applicable, no change in ranking.

<p>3. Implement the Updated Concentration Averaging and Encapsulation Branch Technical Position (BTP)</p>	<p>The NRC is implementing the recently issued updated BTP. Implementation would include public information meetings and training. This task is currently ongoing.</p>	<p>High</p>	<p>High</p>	<p>Not applicable, no change in ranking.</p>
<p>4. Perform scoping study of the need to review/expand byproduct material financial assurance to account for life-cycle cost</p>	<p>This task includes identifying the need, if any, and rationale for additional financial planning for end-of-life management of radioactive sealed sources and, if necessary, other byproduct material. This would include, but not necessarily be limited to, Category 1 and 2 sources included in the 2014 Radiation Source Protection and Security Task Force Report, Recommendation 2. This task is currently ongoing.</p>	<p>High</p>	<p>High</p>	<p>Not applicable, no change in ranking.</p>
<p>5. Clarify the regulatory authority of greater-than-Class C (GTCC) waste disposal and develop licensing criteria for a GTCC disposal facility</p>	<p>This task will include: Determining the regulatory authority for licensing a GTCC waste disposal facility and developing licensing criteria for GTCC disposal in facilities other than those of the deep geologic type. This could include the identification of necessary site and waste characteristics, as well as facility baseline design criteria. Whether this task is necessary depends upon whether the U.S. Department of Energy (DOE) chooses a non-geologic repository for GTCC disposal. This task is currently ongoing.</p>	<p>High</p>	<p>Medium</p>	<p>The DOE is in the finalization stage of the final environmental impact statement for GTCC waste disposal. The NRC needs to be prepared should DOE submit a license application for GTCC waste disposal.</p>

6. Finalize internal procedure/Standard Review Plan for 10 CFR 20.2002 requests	To improve consistency and transparency, the NRC is finalizing implementation guidance for 10 CFR 20.2002, "Method for obtaining approval of proposed disposal procedures." This task is currently ongoing.	High	High	Not applicable, no change in ranking.
7. Update NUREG/BR-0204, Rev. 2 (July 1998), "Instructions for Completing NRC's Uniform Low-Level Radioactive Waste Manifest"	NUREG/BR-0204 provides instructions for completing the NRC's Forms 540/540A, 541/541A, and 542/542A. These forms are collectively known as the uniform manifest. Stakeholders and the NRC have identified items on the forms that should/need to be revised. Additionally, work on the 10 CFR part 61 rulemaking also identified needed revisions to the forms. This task is currently ongoing.	High	Not applicable, this is a new task.	Not applicable, this is a new task.
8. Develop guidance that summarizes disposition options for low-activity waste (LAW)	This task would require issuance of a regulatory issue summary that contains all of the existing staff positions on the disposal of LAW.	Medium	Medium	Not applicable, no change in ranking.
9. Update and consolidate LLW guidance into one NUREG	This task would be similar to the guidance consolidation that was conducted for the materials licensing program (resulting in NUREG-1556) and the decommissioning program (resulting in NUREG-1757).	Medium	Medium	Not applicable, no change in ranking.

<p>10. Coordinate with other agencies on consistency in regulating LAW and determine the impact of LAW disposal from radiological dispersal devices (RDD)</p>	<p>The NRC will coordinate with other government agencies to look at a broad range of issues associated with LAW. The study will consider the divergent stakeholder comments as part of this programmatic assessment, lessons learned from the revoked below regulatory concern policy statements of the NRC published in the <i>Federal Register</i> on July 3, 1990 (55 FR 27522), and August 29, 1986 (51 FR 30839), lessons learned from the Commission's 2005 disapproval of publication of a proposed rule (the "Clearance" rule) on radiological criteria for controlling the disposition of solid materials, learning from other countries with LAW disposal, and other factors to come up with a recommendation for resolving this issue. This will include work with other government agencies to evaluate the impact of large quantities of LAW that would result from cleanup after an RDD or similar device is used in the U.S. and ensure LAW resulting from such devices has a disposal pathway. The NRC would develop a memorandum of understanding with other agencies.</p>	<p>Medium</p>	<p>Medium</p>	<p>Not applicable, no change in ranking</p>
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<p>11. Promulgate rule for disposal of low-activity waste (LAW)</p>	<p>The NRC would promulgate a rule that would define the conditions under which LAW, including mixed waste, could be disposed of in Resource Conservation and Recovery Act Subtitle C hazardous waste facilities. The NRC would exempt the materials authorized for disposal.</p>	<p>Medium</p>	<p>Low</p>	<p>The NRC anticipates a higher volume of LAW from reactor decommissioning and material waste.</p>
<p>12. Develop procedures for Import/Export Review</p>	<p>The NRC would develop internal, and external guidance related to the review of applications for licenses to import or export radioactive waste. The internal procedure would include the process for vetting and resolving complex issues as well as a summary of issues previously resolved. The external guidance would include a description of the technical and regulatory analyses necessary to respond to the Office of International Programs in its processing of import/export license applications.</p>	<p>Low</p>	<p>High</p>	<p>The NRC does not anticipate a significant number of requests to export or import radioactive waste in the near future. Therefore, due to limited resources, this is being assigned a lower priority.</p>
<p>13. Examine the need for guidance on defining when radioactive material becomes LLW</p>	<p>This task will include determining whether a need exists for the NRC to provide guidance to licensees on when radioactive material becomes LLW. Radioactive material that is LLW can be subject to measures, such as storage guidance and/or financial assurance provisions that differ from</p>	<p>Low</p>	<p>Low</p>	<p>Not applicable, no change in ranking.</p>

	those for radioactive materials for which this is an intended use.			
14. Develop and implement the national waste tracking system	This task will include promulgating a regulation that would identify the data necessary to track the origin, management, and disposition of all LLW. Require the promulgation of a compatible State regulation by all Agreement States with licensees that produce LLW. By these regulations, require that licensees provide necessary information to regulatory authorities on a regular, prescribed basis.	Low	Low	Not applicable, no change in ranking.

IV. Specific Requests for Comments

The NRC is requesting comments on the updated prioritized task list as presented in section III, Table 1 of this document. In particular, the NRC is requesting any views on possible unintended consequences of finalizing the proposed task list and any tasks that commenters feel the NRC did not adequately consider.

Dated at Rockville, Maryland, this 3rd day of March , 2015.

For the Nuclear Regulatory Commission.

Andrew Persinko,
Deputy Director,
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