



POLICY ISSUE

(Information)

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SECY-21-0057

FOR: The Commissioners

FROM: Margaret M. Doane
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SUBJECT: RESULTS OF THE VERY LOW-LEVEL WASTE SCOPING STUDY

PURPOSE:

The purpose of this paper is to provide the Commission with the results of the staff's very low-level waste (VLLW) scoping study. The purpose of the scoping study was to identify possible approaches to improve and strengthen the U.S. Nuclear Regulatory Commission's (NRC's) VLLW regulatory framework. The main external driver for the timing of the scoping study was the anticipated increase of early nuclear power plant (NPP) closures. NPP decommissioning could generate large volumes of VLLW waste. This paper does not address any new commitments or have resource implications.

SUMMARY:

In 2018, the staff initiated a scoping study to identify potential options to improve and strengthen the regulatory framework for VLLW disposal.¹ For this study, the staff sought stakeholder input, evaluated lessons learned from prior initiatives to address VLLW, reviewed domestic and

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¹ The term "VLLW" does not have a statutory or regulatory definition, but it is generally understood as material created during the conduct of NRC- or Agreement State-licensed activities that contains some residual radioactivity, including naturally occurring radionuclides, that may be safely disposed in hazardous or municipal solid waste landfills. VLLW represents a small fraction of the hazard of waste at the Class A limits in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 61, "Licensing requirements for land disposal of radioactive waste."

international practices, and examined applicable literature and other information developed in the study. In addition, the staff considered VLLW initiatives in 2019 and 2020 that also generated relevant stakeholder feedback. Based on these activities, the staff evaluated the NRC's regulation of VLLW and concluded that the current regulatory framework is robust, effective, continues to provide adequate protection of public health and safety, and provides sufficient disposal options for waste generators.

BACKGROUND:

In 2007, the NRC performed a strategic assessment of its low-level radioactive waste (LLRW) program.² This was in response to developments including an industry desire for greater flexibility and reliability in LLRW disposal options; increased generator storage of Class B and Class C waste at generator sites due to the potential closing of the Barnwell, SC, disposal facility to out-of-compact waste generators in 2008; and the anticipated increase in the generation of large quantities of decommissioning waste and depleted uranium from enrichment facilities. The strategic assessment identified and prioritized the NRC's tasks 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. Of the 20 tasks the staff identified in the strategic assessment, three related to low-activity waste (LAW) or VLLW.³ Those three tasks and their levels of priority were (1) coordinating with other agencies on consistency in regulating VLLW disposal (Task 10, medium priority), (2) developing guidance that summarizes disposition options for low-end (i.e., VLLW) materials and waste (Task 11, medium priority), and (3) promulgating a rule for the disposal of VLLW (Task 15, low priority).

In a subsequent 2016 programmatic assessment, the staff conducted a new evaluation of the LLRW program and focused on the remaining tasks that were not completed from the 2007 strategic assessment (including the three VLLW-related tasks).⁴ The programmatic assessment analyzed the progress of the regulatory program since 2007, identified new challenges, and was used to optimize the use of staff resources going forward. As a result of stakeholder input, this programmatic assessment combined the three VLLW-related tasks into one task. This new task, "Perform LAW Scoping Study," was later renamed the "VLLW Scoping Study," consistent with terminology used in the international community. In the programmatic assessment, the staff designated performing the scoping study as a medium-priority item. Of note, the 2016 programmatic assessment deleted three tasks from the 2007 assessment related to a potential curtailment of disposal capacity. In April 2012, Waste Control Specialists LLC began operating its newly licensed LLRW disposal facility. This resulted in a change in the LLRW disposal landscape since the 2007 strategic assessment. This opening enhanced opportunities and provided additional access for safe and secure LLRW disposal; as a result, the potential curtailment of disposal capacity did not occur and was not expected to occur in the near term.

² The NRC published the 2007 strategic assessment in SECY-07-0180, "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program," dated October 17, 2007 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML071350291).

³ LAW is synonymous with VLLW. The international community uses the term VLLW, and the NRC informally adopted the use of VLLW versus LAW in 2018. For ease of understanding, this document uses the abbreviation VLLW for tasks previous to 2018 where LAW was used.

⁴ The NRC published the 2016 programmatic assessment in SECY-16-0118, "Programmatic Assessment of Low-Level Radioactive Waste Regulatory Program," dated October 11, 2016 (ADAMS Accession No. ML15208A305).

DISCUSSION:

In 2018, as a result of the anticipated large volumes of VLLW (e.g., waste associated with the decommissioning of NPPs), the staff began the scoping study. On February 14, 2018, the staff issued a *Federal Register* (FR) notice (Volume 83 of the FR, page 6619 [83 FR 6619]) requesting public input.⁵ The VLLW scoping study focused on possible actions that the NRC could take to strengthen its regulatory framework for VLLW, as informed by (1) stakeholder views, (2) accumulated domestic and international waste management experience, and (3) past work such as the 1986 and 1990 below regulatory concern (BRC) policy statements (55 FR 27522, July 30, 1990; 51 FR 30839, August 29, 1986), and the 2005 decision to discontinue a proposed rule for LLRW disposal other than under 10 CFR Part 61 (Controlling the Disposition of Solid Materials proposed rule, also known as the “clearance rule”). The staff’s VLLW scoping study focused on disposal; it did not consider issues such as possible clearance or other types of release, reuse, or recycling of radioactive materials by licensees.

The staff’s specific VLLW scoping study activities are discussed in detail below.

Stakeholder Engagement on the Very Low-Level Waste Scoping Study

In light of the possibility of large volumes of VLLW that could be generated in the near term, principally from NPP decommissioning, the staff sought stakeholder input on actions the NRC could take to improve or strengthen the VLLW regulatory framework. The information received would inform the NRC’s decision on any potential changes in its regulatory approach. In the February 14, 2018, FR notice, the staff requested public comments for the scoping study. Specifically, the staff requested stakeholders to respond to nine questions on such topics as developing a VLLW regulatory definition, revising waste classification categories, expanding existing guidance, managing risk, and considering economic factors. In addition, the staff conducted two public meetings, in Rockville, MD, and Phoenix, AZ, in March 2018. In its meeting presentations, the staff discussed potential outcomes of the scoping study, including rulemaking, guidance development, further coordination with other agencies, further analysis, or no action.

The staff received several hundred comments as a result of the public meetings and approximately 60 comment letters, and the staff reviewed and considered all of them. Several comments supported the existing framework, while others looked to expand the VLLW disposal options. Commenters also noted that while the current framework covers VLLW disposal adequately, defining it explicitly could be helpful, but that this would need to be done via rulemaking. The staff also received several comments related to the LLRW disposal compact structure and concerns that VLLW program changes could result in unintended consequences to that structure.

The staff reviewed the comments and organized them according to five major comment themes: (1) Defining VLLW, (2) New Waste Class and Possible Impacts, (3) Guidance Development, (4) Regional Compact Authority, and (5) Waste Analysis Requirements. The staff considered the five themes, along with the individual comments, when determining the possible outcomes of the study. For example, the staff considered comments related to defining VLLW in

⁵ The FR notice indicated that the scoping study would consider the disposal of VLLW from alternative waste streams that may be created by operating reprocessing facilities or radiological events. The staff did not address these types of waste, as it received no stakeholder comments on these waste streams. For the purpose of this scoping study, the staff considered the volume of VLLW independent of its source.

determining whether to pursue rulemaking to formally define VLLW. Furthermore, the staff considered comments related to potential impacts to the licensed facilities and compacts when evaluating whether to pursue rulemaking. The enclosure to this paper summarizes these stakeholders' inputs and the staff consideration of them within the context of the proposed approaches discussed below.

Staff's Review of Current Very Low-Level Waste Disposal Practices in the United States and Related Technical Reports

In order to understand evolving aspects of the current VLLW disposal landscape from multiple perspectives and to properly evaluate any potential changes to the VLLW disposal regulatory framework as a result of the anticipated large volume of VLLW expected in the near term, the staff considered how VLLW is currently being disposed under 10 CFR 20.2001, "General requirements," including transfer to a licensed LLRW facility under 10 CFR Part 61, transfer to a licensed waste processor under 10 CFR 20.2001, or through alternative disposal requests (ADRs) under 10 CFR 20.2002, "Method for obtaining approval of proposed disposal procedures." Under 10 CFR 20.2002, generators of all types of radioactive waste have used facilities other than those licensed under 10 CFR Part 61 or Agreement State equivalents, such as Resource Conservation and Recovery Act (RCRA) facilities, particularly hazardous waste facilities, for VLLW disposal. Limited VLLW disposal options and the cost of disposal have been factors in the use of these facilities, which are generally not licensed by the NRC or an Agreement State under the Atomic Energy Act of 1954, as amended (AEA), but are instead principally regulated under RCRA by the States in which they are located and by the U.S. Environmental Protection Agency (EPA).⁶

Next, the staff analyzed a variety of other information sources (e.g., reports and technical papers from the NRC, EPA, National Academy of Sciences, Electric Power Research Institute, Low Level Waste Repository Ltd., Health Physics Society, Nuclear Energy Agency, and International Atomic Energy Agency (IAEA); see ADAMS Accession No. ML21032A094 for a complete list of the documents the staff reviewed) to identify any new approaches to improve the VLLW regulatory framework. In the 2007 strategic assessment, a detailed literature review of the recommendations and discussions from these sources resulted in the development of the three VLLW-related tasks discussed in the Background section above. The staff reviewed more recent literature, such as the National Academy of Sciences' Nuclear and Radiation Studies Board report on VLLW, which offered recommendations for improving the existing practices for regulating, treating, and disposing of VLLW; an Electric Power Research Institute report that provided insights on different disposal approaches accompanied by a cost-benefit analysis of a domestic VLLW application; and a Low Level Waste Repository Ltd. report that provided insights on international approaches to radioactive waste classification.

Overall, the staff found that current practices provide licensees opportunities to dispose of waste using a risk-informed, performance-based approach that considers the characteristics of the waste, while ensuring that material is disposed in a safe and secure manner. Furthermore, the staff's literature review confirmed the current efficacy of the NRC's VLLW regulatory program

⁶ Such disposal facilities must still either: (1) hold a license to receive and dispose of the material under 10 CFR Part 61 or the Agreement State equivalent or (2) receive another approval, usually in the form of an exemption, to receive and dispose of the material.

and did not identify any specific new approaches that would meaningfully improve upon the current approach in 10 CFR Part 20, “Standards for protection against radiation,” Subpart K, “Waste Disposal,” and 10 CFR Part 61. This review supports the staff maintaining the current VLLW regulatory framework.

Staff’s Review of Very Low-Level Waste Disposal Internationally

The staff reviewed the VLLW management programs of other countries. This review provided practical examples of VLLW management that informed the NRC’s decision on potential approaches. The most significant difference between VLLW disposal in the United States and the IAEA approach used by other countries is that the United States has no floor, or minimum activity, in the 10 CFR Part 61 waste classification system for Class A waste. Because VLLW is explicitly defined, the IAEA approach provides a common standard of VLLW classification of waste, and it can be successfully implemented, as demonstrated in France⁷ and Spain.⁸ France and Spain are examples of countries that have near-surface landfill disposal facilities for their waste category analogous to VLLW. Their approach derives from European Union Directives and uses the VLLW⁹ framework derived from the IAEA General Safety Guide No. GSG-1, “Classification of Radioactive Waste,” issued 2009.

However, while some countries have been able to implement a separate VLLW disposal category and develop licensed disposal facilities, the majority have not. Similar to the situation in the United States, there is high public interest levels globally associated with VLLW disposal. Overall, the staff’s review of VLLW disposal internationally showed that while it is possible to develop the regulatory framework and VLLW disposal facilities, public resistance to dispose of the material in a facility other than an LLRW disposal facility is a significant risk to the success of any potential rulemaking, especially when safe disposal options already exist.

Review of Historical Approaches (Below Regulatory Concern and Clearance)

As part of the VLLW scoping study, the staff reviewed past policy decisions related to VLLW; specifically, the staff reviewed actions related to issuing a BRC policy statement and amending 10 CFR Part 20 to include criteria for the disposition of solid materials with very small amounts of residual radioactivity (i.e., clearance). In 1986 (51 FR 30839), the NRC issued and then supplemented in 1990 (55 FR 27522), its BRC policy statement, which established an implementation plan “to exempt specific radioactive waste streams from regulation due to the presence of radionuclides in sufficiently low concentrations or quantities as to be below regulatory concern.” The Commission intended that its BRC policy would apply to consumer products containing small amounts of nuclear materials and other sources of very low levels of radiation that could be disposed in sanitary landfills safely. The policy also provided a framework for making future decisions to largely exempt small quantities of LLRW materials from existing regulatory controls. Therefore, if the BRC policy had been implemented, it would have been relevant for disposing large quantities of decommissioning VLLW. For this reason,

⁷ The report for France is available at https://www.iaea.org/sites/default/files/documents/review-missions/final_artemis_france_report_.pdf.

⁸ The report for Spain is available at <https://energia.gob.es/nuclear/OrganismosInternacionales/Documents/Informe-IRRS-ARTEMIS-Spain-2018.pdf>.

⁹ GSG-1 defines VLLW as waste that does not necessarily meet the criteria of exempt waste, but that does not need a high level of containment and isolation and, therefore, is suitable for disposal in near-surface landfill-type facilities with limited regulatory control. Such landfill-type facilities may also contain other hazardous waste. Typical waste in this class includes soil and rubble with low levels of activity concentration. Concentrations of longer-lived radionuclides in VLLW are generally very limited.

the staff reviewed the history of the BRC policy statement to identify any relevant lessons that could inform the scoping study. While the staff reviewed the BRC historical work for applicable insights and lessons, the staff had no intention to reopen or revisit the NRC's previous decisions surrounding BRC policy.

The BRC policy statement provided a framework for considering regulatory exemption decisions for LLRW disposal or reuse, including (1) the release for unrestricted public use of lands and structures containing residual radioactivity, (2) the distribution of consumer products containing small amounts of radioactive material, (3) the disposal of VLLW at sites other than licensed disposal sites, and (4) the recycling of slightly contaminated equipment and materials. However, as part of the Energy Policy Act of 1992, the NRC's BRC policy statement was revoked, and the NRC formally withdrew the BRC policy statement in 1993.

Similarly, the staff reviewed the NRC's development and consideration of the clearance rule for applicable insights and lessons for VLLW, without an intent to reopen or revisit the NRC's decisions on the clearance rule. In March 2005, the staff proposed to amend 10 CFR Part 20 to include criteria for the disposition of solid materials with very small amounts of residual radioactivity. The staff proposed to establish an alternative to the 10 CFR Part 61 approach for the release from licensed control of solid material meeting a 0.01-millisievert per year (1-millirem per year) dose criterion. The staff noted that the clearance rule was similar in concept and technical justification (1 millirem per year) to the IAEA standards enabling clearance. In June 2005, the Commission disapproved publication of the proposed rule, stating the following:

The Commission's decision is based on the fact that the Agency is currently faced with several high priority and complex tasks, that the current approach to review specific cases on an individual basis is fully protective of public health and safety, and that the immediate need for this rule has changed due to the shift in timing for reactor decommissioning.

The regulation governing these specific case reviews appears in 10 CFR 20.2002. The Commission ultimately discontinued this rulemaking effort in SRM-SECY-16-0021, "Staff Requirements—SECY-16-0021—Discontinuation of Rulemaking Activities," dated May 19, 2016 (ADAMS Accession No. ML16141A044).

The staff observed that the NRC's past experience with BRC and clearance underscores the complexity and high interest levels associated with changing the current policies or implementing new regulations on VLLW. While both of these activities would have resulted in a threshold in which some VLLW would be released from regulatory control, and this scoping study is focused on disposal of VLLW material, the staff ascertained that there was considerable public objection to any perceived relaxation of the existing LLRW regulatory framework. This review supports the staff consideration for maintaining the current VLLW regulatory framework. The staff finds that the current regulatory framework provides reasonable assurance of adequate protection of public health and safety and sufficient flexibility to enable effective disposal.

Review of Recent Related Very Low-Level Waste Initiatives

In addition to its past VLLW assessments, including the VLLW scoping study, the staff has continued to develop, propose, and issue guidance relevant to existing approaches for VLLW disposal. The staff considered these initiatives and the stakeholder views provided during their development, as detailed below.

Recently Updated Very Low-Level Waste Disposal Guidance

The staff finalized guidance related to ADRs under 10 CFR 20.2002. The 2016 programmatic assessment identified this VLLW initiative as high-priority Task 5. The NRC issued a draft version of the guidance in 2017 (ADAMS Accession No. ML17229B588) and requested public comment on the revised draft guidance in an FR notice (82 FR 48727; October 19, 2017). Before completion of the scoping study, the staff issued the updated guidance on ADRs under 10 CFR 20.2002.¹⁰ This guidance is for reviews and approvals of VLLW disposals in non-10 CFR Part 61 facilities. Licensees and Agreement States already used the ADR process before the NRC issued this revised guidance to provide additional clarity on the agency's process for reviewing ADRs.

The staff considered the issuance of additional guidance as one of the potential outcomes of the VLLW scoping study. Although the development of ADR guidance was a separate initiative from the VLLW scoping study, ADRs are a key pathway for VLLW disposal in non-10 CFR Part 61 facilities. The staff, therefore, views the issuance of the ADR guidance as relevant to the consideration of potential improvements to the VLLW regulatory framework.

Proposed Reinterpretation of the Phrase "Authorized Recipient" in 10 CFR 20.2001

In parallel with the scoping study, the NRC's inspection program identified an NPP that obtained Agreement State (disposal facility regulator) approval to dispose of VLLW at an unlicensed facility but did not obtain NRC approval under 10 CFR 20.2002.¹¹ As part of its broader review of such practices, the staff proposed an interpretive rule in March 2020 that would have authorized an additional method of VLLW transfer and disposal. Specifically, the staff's proposed interpretive rule would have expanded the meaning of "authorized recipient" in 10 CFR 20.2001 to include certain hazardous and solid waste disposal facilities with regulatory approval to dispose of VLLW, but not an NRC or Agreement State license, and therefore would have permitted another transfer and disposal pathway under 10 CFR 20.2001 under certain circumstances.

The staff received approximately 200 individual comment submissions and approximately 15,000 form-letter submissions on the proposed interpretive rule. Almost all of the comments received opposed the proposed interpretive rule. The major comment themes included (1) the need to define VLLW in the regulations using the formal rulemaking process, (2) support for the

¹⁰ The NRC's "Guidance for the Reviews of Proposed Disposal Procedures and Transfers of Radioactive Material under 10 CFR 20.2002 and 10 CFR 40.13(a)," issued April 2020 (ADAMS Accession No. ML18296A068), provides guidance for the staff and describes the process under 10 CFR 20.2002 and 10 CFR 40.13, "Unimportant quantities of source material," for documenting, reviewing, and dispositioning (on a case-by-case basis) requests received from licensees and applicants to dispose of material.

¹¹ See the letter from the NRC to South Texas Project Nuclear Operating Company, "South Texas Project, Units 1 and 2—Response to the August 14, 2018, Letter on the Disposal of Very Low-Level Radioactive Material and Exercise of Enforcement Discretion (EPID L-2018-LR0-0032)," dated October 31, 2018 (ADAMS Accession No. ML18260A250).

current low-level waste disposal requirements, (3) public involvement during the exemption review process that would evaluate a disposal facility request to become an authorized recipient, (4) environmental impact considerations, (5) explanation of implementation details, and (6) impacts on existing State and low-level waste compact requirements. In addition, the Organization of Agreement States Board and 10 individual Agreement States provided comments that did not support the expanded definition of “authorized recipient.” Many Agreement State comments cited the restrictions in individual States that would prevent them from implementing the expanded definition.

The staff assessed that the potential main benefit of the proposed interpretive rule—the potential for fewer regulatory approvals related to disposal at an authorized disposal site—would not outweigh the costs of implementing the proposed interpretive rule, especially given the lack of Agreement State support and the limited number of potential users. Therefore, the staff withdrew the proposed interpretation of “authorized recipient” related to the requirements in 10 CFR 20.2001 on December 17, 2020 (85 FR 81849).

The staff assessed the comments received on the revised ADR guidance and the proposed interpretive rule, as well as those received during the scoping study, and determined that the comments do not indicate that additional guidance is warranted as an outcome of the scoping study. In addition, the staff took into account public concerns about any perceived relaxation of the VLLW regulatory framework—consistent with sentiment on BRC and clearance—in its consideration for maintaining the current VLLW regulatory framework and the limitations on program changes that can be made outside the rulemaking process.

Scoping Study Outcome and Alternative Approaches Considered

As a result of analyzing comments and reviewing historical and current domestic and international practices and activities and the availability of current options to dispose of VLLW, the staff did not identify new approaches to VLLW disposal that could be developed and implemented absent investment of significant NRC and external stakeholder resources that would be disproportionate to the risks VLLW presents. Accordingly, the staff evaluated three alternative approaches for next steps, as discussed below, against three criteria: (1) ensuring safe and secure LLRW disposal, (2) improving the effectiveness, efficiency, and adaptability of the NRC’s LLRW regulatory program, and (3) ensuring regulatory stability and predictability while allowing flexibility in disposal options.

Approach 1—Recommend Initiation of a Very Low-Level Waste Rulemaking

The NRC would initiate a rulemaking, beginning with the development of a rulemaking plan for Commission consideration, to define VLLW in 10 CFR Part 61¹² and create a new VLLW class with associated disposal requirements. The rulemaking would define the conditions for safe disposal of VLLW and would define the types of facilities that could dispose of VLLW, which

¹² The scoping study was placed on hold until completion of the proposed reinterpretation of the phrase “authorized recipient” in 10 CFR 20.2001 described above. The staff believed that the reinterpretation could improve and strengthen the regulatory framework for VLLW disposal without the need for traditional rulemaking. If the NRC had finalized the reinterpretation, the need for this rulemaking option would have decreased. The NRC received several comments on the proposed reinterpretation that it considered in this scoping study. While not supportive of the proposed interpretative rule, some commenters favored a traditional rulemaking that would define a new category of radioactive waste for VLLW for inclusion in 10 CFR Part 61. The commenters noted this would be a more transparent process. The comments received in support of rulemaking were consistent with the comments received during the outreach for the scoping study.

may or may not be NRC- or Agreement State-licensed LLRW facilities. Some advantages of this approach are that it provides a high degree of clarity about VLLW disposal, provides for openness and extensive opportunities to participate in the development of a new VLLW regulatory framework that would reflect many years of accumulated experience, could align domestic regulations more closely with international standards, and could provide options for more efficient disposal of large quantities of VLLW consistent with its safety hazard. The staff would coordinate this effort with the 10 CFR Part 61 rulemaking and the Commission direction to consider a potential rulemaking to update the waste classification tables in 10 CFR 61.55, "Waste classification," after the 10 CFR Part 61 rulemaking concludes.¹³ Consistent with SRM-SECY-13-0001 (Revised), the staff could consider a VLLW waste category during this potential rulemaking.

The primary disadvantage of this approach is the significant resources that would be necessary for an expected complex and high-visibility rulemaking, with only incremental safety benefits due to existing safe VLLW disposal options. Another potential disadvantage to Approach 1 is the concern identified by disposal compacts and Agreement State regulators that it may impact the availability of current 10 CFR Part 61 disposal capacity by diverting waste streams currently disposed in such facilities, as noted in stakeholders' comments (see the enclosure to this paper). In addition to the NRC's rulemaking, this approach also may require EPA actions or rulemaking activities to address disposal in RCRA facilities that were not previously analyzed for the disposal of large quantities of AEA material.¹⁴

As part of Approach 1, the staff also considered a similar rulemaking limited to NPP VLLW, as suggested by a VLLW scoping study commenter. The staff did not see a significant benefit in proceeding with a limited-scope rulemaking because the safety arguments should be independent of the type of licensee, and this potential rulemaking would have similar advantages and disadvantages to those mentioned above.

¹³ In SRM-SECY-13-0001, "Revised Staff Requirements—SECY-13-0001—Staff Recommendations for Improving the Integration of the Ongoing 10 CFR Part 61 Rulemaking Initiatives," dated March 26, 2013 (ADAMS Accession No. ML13085A318), the Commission gave the following direction to the staff:

After the limited rulemaking is complete, the staff should provide a Commissioners' Assistants (CA) note to the Commission on the second rulemaking effort for the waste classification tables. The CA note should outline the objectives and timeline for developing the regulatory basis of this second rulemaking, in consideration of the outcome of the near-term limited rulemaking that will precede it. The CA note to the Commission should identify the specific comments that have been received on the need for a second rulemaking, and clearly articulate the basis in accepting or dismissing their comments.

In SECY-20-0098, "Path Forward and Recommendations for Certain Low-Level Radioactive Waste Disposal Rulemakings," dated October 21, 2020 (ADAMS Accession No. ML20143A164), the staff provided the Commission with options and a recommendation for the path forward on this proposed rulemaking. The staff recommended combining this 10 CFR Part 61 proposed rulemaking with a proposed rulemaking to promulgate requirements for the near-surface disposal of greater-than-Class-C waste in one consolidated and integrated rulemaking.

¹⁴ On November 18, 2003, the EPA published an advanced notice of proposed rulemaking to collect public comment on alternatives for the disposal of waste containing low concentrations of radioactive material (i.e., VLLW) in RCRA sites (<https://www.epa.gov/radiation/low-activity-radioactive-wastes>). The EPA did not develop a proposed rule. The EPA received over a thousand comments, with the majority opposing any potential rulemaking. In 2003, comments submitted by the compacts, the States, and public stakeholders were very similar to public comments received on the scoping study: (1) no need for a rule to be established, (2) potential implementation concerns with NRC and EPA dual regulations, (3) potential effects to compacts, and (4) impacts to State programs.

Approach 2—Further Analysis of Very Low-Level Waste

In this approach, the staff would plan and invest resources to conduct specific analyses of VLLW disposal issues in addition to the ongoing, routine monitoring of VLLW disposal practices. As part of strategic planning and projecting workloads based on the changing external environment, the staff would focus on large-scale disposals of decommissioning waste from the increasing number of NPPs that have recently begun active decommissioning. This would include, after a period of time, soliciting additional stakeholder views on potential VLLW disposal improvements based on the latest experience gained from disposing large quantities of waste from decommissioning NPPs. As improvements to increase the effectiveness and efficiency of the NRC's VLLW regulatory program are identified, they can be referred for rulemaking or other action as appropriate. The advantage of further analyzing VLLW would be to further engage Agreement States, the EPA, the U.S. Department of Energy, and other stakeholders, including industry, to better inform the staff before any specific future changes are proposed.

The disadvantage of this approach, in addition to possible resource costs, is that stakeholders may view it as an unwarranted, ongoing study of longstanding issues, thereby resulting in additional regulatory uncertainty without a meaningful opportunity for improving the VLLW regulatory framework, given the history of past VLLW assessments.

Approach 3—Continue with Current Regulatory Framework

In this approach, the staff would continue to operate under the existing framework. As noted above, the staff observes that licensees have adequate flexibility with the current disposal options from a safety perspective. The staff's recently updated 10 CFR 20.2002 alternative disposal guidance further supports this flexibility. Although both Approach 2 and Approach 3 include monitoring the external environment for trends and signposts that warrant changes to the existing VLLW regulatory framework, Approach 2 would allow the staff to actively invest near-term dedicated resources to support developing VLLW disposal options, and Approach 3 would require the staff to rely on existing, broader mechanisms such as the annual workload projections for budget formulation, strategic workforce planning environmental scan, and the ongoing work to support the agency's strategic plan. The advantage of this approach is the current framework has been proven over time to provide for adequate protection of public health and safety, and it allows NRC and industry resources to focus on higher priority work activities in the decommissioning and low-level waste business line that have more direct impacts on safety (e.g., reviews for an increasing number of licensing applications related to accelerated NPP decommissioning schedules). Currently, VLLW disposals are performed using a risk-informed, performance-based approach at 10 CFR Part 61 facilities or through the 10 CFR 20.2002 process. The staff has not seen delays in NPP or material site decommissioning due to a lack of VLLW disposal options. A disadvantage of this approach is the continued regulatory burden associated with 10 CFR 20.2002 case-by-case review process, which some stakeholders view as inefficient.

CONCLUSION:

The staff plans to implement Approach 3. This approach provides adequate protection of public health and safety while providing licensees with flexibility under a risk-informed, performance-based framework. This approach would not result in diverting NRC or industry resources from higher priority decommissioning and LLRW activities. The staff will continue to evaluate potential enhancements within the existing VLLW regulatory framework as part of the current regulatory process. Based upon the results of the VLLW scoping study, the staff does not currently intend to develop a separate VLLW waste category as part of its response to SRM-SECY-13-0001 (Revised).

COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection.

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Executive Director
for Operations

Enclosure:
Stakeholder Engagement
on the Very Low-Level Waste Scoping
Study

SUBJECT: RESULTS OF THE VERY LOW-LEVEL WASTE SCOPING STUDY.
 DATED: June 1, 2021

ADAMS Accession No.: ML21132A296 (Pkg); ML20303A308 *Concur via email

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