

Policy Issue **(Notation Vote)**

December 31, 2012

SECY-13-0001

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: STAFF RECOMMENDATIONS FOR IMPROVING THE INTEGRATION
OF THE ONGOING 10 CFR PART 61 RULEMAKING INITIATIVES

PURPOSE:

To request Commission approval of a staff proposal for improving the efficiency of the ongoing rulemaking efforts to update the 10 CFR Part 61 regulatory framework for the disposal of commercial low-level radioactive waste. If adopted, these recommendations would also improve the integration of earlier Commission direction. This paper also evaluates public comments received in response to the expanded 10 CFR Part 61 rulemaking.

SUMMARY:

The staff is proposing an integrated approach to revising 10 CFR Part 61. First, staff requests Commission approval to stop further efforts associated with SECY-10-0165. The staff believes that the current rulemaking under SRM-COMWDM-11-002/COMGEA-11-0002, which directed an amendment to the 2011 version of the draft proposed rule, accomplishes the Commission's original direction in SRM-SECY-08-0147, implements some of the options presented in SECY-10-0165, and meets the expanded direction in SRM-COMWDM-11-002/COMGEA-11-0002. The staff believes that this limited scope integrated rulemaking best accomplishes the Commission's direction with respect to 10 CFR Part 61, and a separate rulemaking would no longer be needed to address the issues raised in SECY-10-0165.

Second, the staff has evaluated public comments received in response to the expanded 10 CFR Part 61 rulemaking that the Commission directed the staff to prepare in SRM-COMWDM-11-002/COMGEA-11-0002. Based upon its review of these comments and consistent with this recommended integration effort, the staff does not believe that the current 10 CFR Part 61 rulemaking should be further expanded to include the additional issues raised in the public comments.

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The recommendations proposed in this paper would have no impact on the existing staff direction to submit a revised rulemaking package by July 2013, consistent with SRM-SECY-08-0147 and SRM-COMWDM-11-002/COMGEA-11-0002.

BACKGROUND:

Enclosure 1 illustrates the variety of directions issued to staff regarding the current proposed site-specific analysis rulemaking to revise the disposal requirements in 10 CFR Part 61, as well as future rulemaking activities pertaining to 10 CFR Part 61. Elements of this direction are described below.

SECY-10-0165: In SRM M100617B (dated July 1, 2010), the Commission directed the staff to outline an approach for a comprehensive revision to 10 CFR Part 61 that was risk-informed and performance-based, including the resources and the timeline for completing the rulemaking. In response to SRM M100617B, the staff prepared SECY-10-0165 (dated December 27, 2010) and described the need to engage stakeholders and solicit their views on whether there should be amendments to the current 10 CFR Part 61 before proceeding with any rulemaking. In the Commission paper, staff identified a number of options to develop risk-informed and performance-based low-level radioactive waste (LLW) disposal regulations:

1. Risk-inform the current waste classification framework at § 61.55.
2. Revise 10 CFR Part 61 in a comprehensive manner.
3. Develop a site-specific waste acceptance criteria (WAC).
4. Align 10 CFR Part 61 with international approaches.
5. Supersede direction given in SRM-08-0147.

The Commission subsequently directed the staff to prepare a notation vote paper summarizing the stakeholder feedback received on SECY-10-0165 by October 2014 and to provide suggestions, as well as a recommendation, for the Commission to consider. In response, the staff sponsored a series of public meetings in 2011 and 2012 on SECY-10-0165 to discuss the options presented in that paper. The 2012 meetings were conducted as joint meetings held in connection with the staff's public outreach efforts associated with SRM-COMWDM-11-002/COMGEA-11-0002 (dated January 19, 2012). The staff has collected feedback on the options presented in SECY-10-0165.

Additional Comments Received in Response to SRM-COMWDM-11-002/COMGEA-11-0002: Previously, in SRM-SECY-08-0147 (dated March 18, 2009), the Commission directed the staff to proceed with a limited rulemaking to amend 10 CFR Part 61 to include a requirement for a site-specific performance assessment for the disposal of large quantities of depleted uranium and other long-lived isotopes in a near-surface disposal facility. Although the current rule does not include an explicit site-specific performance assessment requirement, the Commission expects licensees and applicants will use performance assessment methodology to demonstrate compliance with 10 CFR Part 61. See the *1995 Probabilistic Risk Assessment*

Policy Statement at 60 FR 42627. In a second SRM, SRM-SECY-10-0043 (dated October 13, 2010), the staff was directed to include blended LLW streams as part of this rulemaking.

In 2009, the staff held a number of public meetings to solicit comments on LLW performance assessments (74 FR 30175)¹. Based on the comments received in connection with these meetings, the staff developed a technical basis document to support the rulemaking (Agency Document Access and Management System [ADAMS] Accession Number ML111040419) and shared it with the Agreement States. The draft proposed rulemaking language prepared in 2011 would have required that licensees of currently operating LLW disposal facilities and future 10 CFR Part 61 applicants conduct site-specific performance assessments to demonstrate compliance with the regulatory requirements to protect the general public from radiation doses consistent with § 61.41. In connection with the proposed performance assessment requirement, the staff also recommended that the time of compliance be specified at 20,000 years (ML111030586) to account for the presence of large quantities of long-lived isotopes that might be disposed of in a near-surface disposal facility. Additionally, the 2011 draft proposed rulemaking included a new requirement to conduct an intruder analysis under § 61.42 with a chronic exposure limit of 500 millirem/year. These analyses would identify additional restrictions or prohibitions that would be necessary at a particular disposal site for LLW with long-lived isotopes.

In addition to the rulemaking, the staff planned to prepare a separate guidance document for public review and comment. The staff then made the draft proposed rule text (ML111150205) publicly available in May 2011 and solicited public comment on it (76 FR 24831). In August 2011, the staff briefed the Advisory Committee on Reactor Safeguards (ACRS) on the draft proposed rule text, including the basis for the recommended time of compliance. In September 2011, the ACRS issued a Committee Letter Report on the draft documents (ML11256A191).

In a third SRM, designated SRM-COMWDM-11-0002/COMGEA-11-0002, and issued before the proposed rule package was sent to the Commission, the Commission directed the staff to amend the 2011 version of the draft proposed rule, and to seek public comment on the following four regulatory issues:

- Whether licensees should be allowed to use International Commission on Radiological Protection (ICRP) dose methodologies in a site-specific performance assessment for the disposal of LLW.
- Whether the regulations should incorporate a two-tiered approach that establishes a compliance period that covers the reasonably foreseeable future and a longer period of performance that is not established *a priori* but rather 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.

¹ The staff previously obtained stakeholder feedback on LLW performance assessment methods in connection with the development of NUREG-1573 ("A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities"), including sponsoring a two-day workshop in 1995.

- Whether disposal facilities should be allowed to establish site-specific Waste Acceptance Criteria (WAC) based on the results of the site's performance assessment and intruder analysis.
- Whether the provisions of the revised proposed rule that require the site-specific performance assessments and the development of the site-specific WAC, should specify a compatibility category 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.

The SRM directed the staff to provide a revised proposed rule package to the Commission within 18 months. The SRM also directed the staff to conduct public outreach meetings to seek stakeholder comments on the four regulatory issues identified by the Commission and to engage Agreement State representatives. Overall, there has been public support for amending 10 CFR Part 61 along the lines proposed by the Commission. The public comments received on the 2011 and 2012 versions of draft proposed rule language will be discussed in the Commission paper transmitting the revised proposed rule package consistent with SRM-SECY-08-0147 and SRM-COMWDM-11-002/COMGEA-11-0002.

In addition to the comments received on the four regulatory issues identified in SRM-COMWDM-11-002/COMGEA-11-0002, the staff received a number of additional public comments on the integrated 10 CFR Part 61 rulemaking.

DISCUSSION:

SECY-10-0165: In connection with the staff's 2012 public outreach effort, staff received some comments in support of Options 2, 4, and 5 of SECY-10-0165. Some of the stakeholders questioned the need for any additional rulemaking beyond the current limited-scope rulemaking, which suggests that some stakeholders prefer Options 1 and 3 (risk informing the current waste classification tables at §61.55 and developing a site-specific WAC).

Since receiving revised Commission direction in SRM-COMWDM-11-002/COMGEA-11-0002, staff has received some public feedback indicating a waning interest on commenting further on the SECY-10-0165 options. The reason given is that the intent of the Commission's direction in SRM M100617B has been fulfilled through plans to effectively complete two of the five options presented in SECY-10-0165 (specifically Options 1 and 3). For example, both staff and stakeholders recognize that implementing the WAC option, to address the disposal of large quantities of depleted uranium, blended LLW, and other waste streams containing long-lived isotopes, corresponds to Option 3 in SECY-10-0165. Stakeholders are also aware that the staff has received Commission direction to update the § 61.55 waste classification tables and in doing so, determine the classification of depleted uranium; this effort is scheduled to begin in fiscal year 2015. This action corresponds to Option 1 in SECY-10-0165.

The staff recommends that the Commission approve this integrated approach to the rulemaking and terminate efforts associated with pursuing the other options described in SECY-10-0165. Based on the comments received from stakeholders and on the staff analysis (Enclosure 2),

staff sees no compelling reason to engage in further public discussions on the other rulemaking options proposed in SECY-10-0165.

SRM-COMWDM-11-002/COMGEA-11-0002: In response to the Commission's request for feedback on the four regulatory issues identified in the January 2012 SRM, the staff participated in six events, including three public meetings sponsored by the NRC staff.² Stakeholder feedback on the four regulatory issues, including feedback from the Agreement States has been summarized in the regulatory basis document that has been developed in support of the current limited-scope rulemaking; those comments do not concern the issues discussed in this Commission paper.

In connection with those discussions, though, stakeholders also provided recommendations on five additional topics that they want the NRC to consider as part of the ongoing limited-scope rulemaking. Those stakeholder recommendations included:

- Updating the existing waste concentration tables at § 61.55 to reflect the latest ICRP dose conversion factors and dose methodologies.
- Revisiting the current regulatory basis for the duration of institutional controls at a LLW disposal facility, currently specified as 100 years in § 61.30, and extending it to 300 years.
- Revisiting earlier assumptions concerning the minimum reporting requirements for certain isotopes cited in the Part 20 Appendix G LLW shipping manifest.
- Developing criteria for the disposal of greater-than-Class C (GTCC) LLW.
- Developing clearance criteria for the disposal of low activity radioactive waste.

With respect to the first stakeholder recommendation to update the § 61.55 waste classification tables, the staff has already received direction from the Commission to budget resources to update those tables; this effort is scheduled to begin in fiscal year 2015. Further, incorporating a site-specific WAC would allow licensees to use updated dose conversion factors and dose methodologies in advance of any update to those tables. Accordingly, the goal of allowing updated dose conversion factors would be achieved through these efforts.

The staff determined that the second stakeholder recommendation to revisit the current regulatory basis for 100 years of active institutional controls is not necessary for three reasons. First, the staff is not aware of any new information that would compel it to re-examine the basis for this time period. Second, the current LLW regulations envision a period of passive controls, extending over a few hundred years following the 100-year period of custodial care, which would provide some additional protection against the disturbance of a LLW disposal site by an inadvertent intruder. Third, the active institutional control period is related to the 10 CFR Part 61 waste classification system used to define Class A LLW. Because the duration of the active institutional controls is closely tied to that system, the staff believes that discussions concerning

² Staff summaries of the NRC-sponsored public meetings can be found under the following ADAMS numbers: March 2, 2012 – ML120860043; May 15, 2012 – ML12171A179; and July 19, 2012 – ML12244A494.

the duration of institutional controls are more appropriate for the later initiative to revise and update the § 61.55 waste classification tables.

The third stakeholder recommendation concerns the reporting of certain highly-mobile radionuclides³ as required by Appendix G of 10 CFR Part 20. The staff determined that there is sufficient interest in the Appendix G LLW shipping manifest requirements pertaining to these radionuclides to warrant further discussions with stakeholders. The staff intends to engage stakeholders in separate discussions on how existing guidance found in NUREG/BR-0204, "Instructions for Completing NRC's Uniform Low-Level Radioactive Waste Manifest," might be amended to address the concerns about shipping manifest requirements. The staff is planning to conduct these discussions in Phoenix, Arizona, following the annual *Waste Management Conference*, in March 2013. Because these revisions involve a staff guidance document that is not directly related to this rulemaking, the staff does not plan to propose any changes to the shipping manifest requirements found in Appendix G of 10 CFR Part 20 at this time.

Considering the fourth stakeholder recommendation, the staff has determined that the current rulemaking is not the appropriate agency action to include the development of GTCC disposal criteria. Under the Low-Level Radioactive Waste Policy Amendments Act of 1985, Section 3(b)(1)(D), Congress assigned the Federal Government (in this case the U.S. Department of Energy) the responsibility for the disposal of GTCC waste. The existing Commission Policy is that GTCC waste shall be disposed of in a deep geologic repository (54 FR 22578) unless an acceptable disposal alternative meets with Commission approval as set forth in 10 CFR § 61.55(a)(2)(iv)).

Finally, the Commission previously decided to defer decision-making on low-activity radioactive waste and clearance levels. The staff is not aware of any significant change that would prompt reconsideration of the Commission's deferred decision.⁴ Therefore, the staff does not believe that it is necessary to revisit this topic in this rulemaking.

Based on the stakeholder comments received and on the staff analysis (Enclosure 3), the staff does not recommend that the current limited-scope rulemaking be expanded to include those stakeholder suggestions.

AGREEMENT STATE VIEWS:

As a part of the above-noted activities, staff reached-out to the Agreement States.⁵ The staff considered the Agreement States' comments when it developed the conclusions and recommendations described above. The Agreement States provided some feedback on potential revisions to 10 CFR Part 61. As part of those discussions, Agreement State representatives recommended that the staff consider the additional stakeholder-suggested regulatory changes being proposed. Some Agreement State representatives expressed the view that any revisions to 10 CFR Part 61 should not be such that they would compel the states

³ The specific isotopes in question cited in the public meeting included carbon-14, technetium-99, iodine-129, chlorine-36, and tritium.

⁴ See SRM-SECY-05-0054, "Proposed Rule: Radiological Criteria for Controlling the Disposition of Solid Materials," dated June 1, 2005.

⁵ These discussions included direct, government-to-government telephone calls with the LLW disposal facility-sited Agreement States as well as a separate meeting with NRC Agreement States on May 15, 2012, in Orlando, Florida.

to receive large quantities of depleted uranium. Views were also expressed that the current 100-year duration for active institutional controls was sufficient whereas others felt that the duration should be extended to 300 years.

COMMITMENT:

The staff will meet with stakeholders in March 2013 to examine how NUREG/BR-0204 might be updated in connection with the reporting of certain isotopes in LLW manifests that might be subject to minimum detection limits.

RECOMMENDATION:

The staff recommends ending further efforts associated with SECY-10-0165. The staff also recommends that the Commission proceed with the integrated approach to revising 10 CFR Part 61. Staff efforts would focus on implementing Commission direction through this integrated limited scope rulemaking described above.

RESOURCES

This paper does not address any resource implications.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper.

/RA by Michael F. Weber for/

R. W. Borchardt
Executive Director
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Enclosures:

1. 10 CFR Part 61 Rulemaking Assignments
2. Summary of Public Comments
3. Additional Rulemaking Recommendations

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