

SPENT FUEL STORAGE AND TRANSPORTATION ISSUE RESOLUTION PLAN

Issue Number: I-20-01

Performance Margins Recommendations: III-3 (Cat 2), V-1 (Cat 3), V-2 (Cat 3), VI-1 (Cat 1), VI-2 (Cat 3)

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Note: This document is DRAFT and the positions noted therein are preliminary NRC staff positions. This DRAFT is being made publicly available to support discussions at a July 2020 public workshop.

Title: Risk-informing Part 72 CoC shielding reviews

I. Summary of Resolution Plan

The NRC is engaged in developing strategies to make review and approval of CoCs for spent fuel dry storage systems more efficient with respect to shielding and dose rate evaluations. The NRC staff is evaluating the following industry recommendations in the Nuclear Energy Institute's (NEI's) Spent Fuel Performance Margin White Paper (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19318D971) "Defining Spent Fuel Performance Margins," to see if it can address the NEI concerns through its efforts:

- III-3 – NRC should perform a less detailed review when conservative modeling is used
- V-1 – NRC should revise guidance to use representative rather than bounding dose rates
- V-2 – NRC should revise shielding review guidance to use industry experience showing conservatism within analyses
- VI-2 – NRC and industry should align fuel qualification with practice in current operating reactors
- VI-1 – CoC holders should amend CoCs to use the graded approach method to reduce TS volume

These recommendations are related to Recommendations III-1 and III-2 in the Nuclear Energy Institute's (NEI's) Spent Fuel Performance Margin White Paper ADAMS Accession No. ML19318D971). In Recommendation III-1 and III-2, industry is exploring whether applicants could apply more realistic assumptions in their source term calculations when other conservatisms are included. As part of those recommendations, the industry will develop a conservatism "roadmap" to demonstrate what uncertainties are currently included in models for understanding and relative ranking based on importance.

In parallel with industry's activities on Recommendations III-1 and III-2, the NRC staff plans to identify and evaluate transformative approaches and develop review guidance based on known conservatisms and appropriate level of review within the defined source terms. The guidance would also describe how the review would consider conservatisms identified in Recommendations III-1 and III-2.

The NRC staff will lead this activity by taking the following actions. The NRC staff will seek and incorporate external stakeholder feedback (i.e., industry and public) as noted and at additional intervals as appropriate and identified during this activity.

- Develop alternative licensing approaches
- Conduct a public workshop to discuss alternatives and receive feedback from stakeholders
- Use public feedback and develop draft review guidance
- Evaluate and incorporate, as appropriate, the specific recommendations made in Recommendations III-1 and III-2 into draft review guidance.
- Pilot the approach on an appropriate application
- Conduct public meetings to inform and obtain feedback from the stakeholders, including the general public, the general licensees, and the cask vendors, on the potential changes in the regulating approach
- Conduct a public meeting(s) to present major conclusions and potential resolutions of the RIRP issues from pilot review
- Update NRC review guidance, as appropriate, and make revised guidance publicly available.

II. Proposed Actions and Due Dates

ACTION	RESPONSIBLE PARTY	DUE DATE
1. Develop alternative licensing strategy	NRC	June 23, 2020 (COMPLETED)
2. Conduct a public workshop to provide additional details and receive feedback from stakeholders	All	July 28, 2020
3. Incorporate feedback from stakeholders and develop draft review criteria	NRC	Fall 2020
4. Await conclusions of spent fuel performance margins white paper Recommendations III-1 and III-2, V-2.	All	December 2020 (assumption)
5. Review results of Recommendations III-1 and III-2, and incorporate into draft review guidance to address V-2	NRC	February 2021
6. Conduct public meeting to present revised guidance	All	April 2021
7. Select pilot application to apply risk-informed review method.	NRC/Industry	May 2021
8. Gather lessons learned on pilot review	NRC/Industry	TBD
9. Conduct a public meeting to review lessons learned/modify approach as needed	NRC	TBD
10. Update NRC review guidance to incorporate risk insights	NRC	TBD
11. Hold public meeting on draft guidance	NRC	TBD
12. Finalize review guidance and utilize for upcoming reviews	NRC	TBD