Cost and Schedule Considerations

This document provides the cost and schedule considerations associated with the four rulemaking options presented in the paper. After analyzing these considerations, the staff determined that Options 2–4 have high costs with no offsetting quantifiable benefits.

Summary of Cost and Schedule Considerations

Option	Costs	Schedule
1	Discontinuing the rulemaking imposes no incremental costs on licensees or the U.S. Nuclear Regulatory Commission (NRC)	N/A
2	NRC costs of $1 million to $2 million Low industry implementation costs	12 months following Commission direction to complete proposed rule
3	NRC costs of $2 million to $3 million Industry costs of $3 million to $4 million	36 months following Commission direction to complete proposed rule
4	Costs for a rulemaking resulting from the reassessment would be similar to Option 3	24 to 36 months following Commission direction to complete a paper and a new draft regulatory basis

Option 1: Discontinue the rulemaking to revise security requirements for facilities storing spent nuclear fuel (SNF) and high-level waste (HLW).

Under this option, the staff would discontinue the Commission-directed rulemaking to develop new risk-informed and performance-based security requirements for facilities storing SNF and HLW using a dose-based approach. Discontinuing the rulemaking imposes no incremental costs on licensees or the staff. As for operational costs to the NRC, the staff would continue to address appropriate security requirements for any new license applicants for independent spent fuel storage installations (ISFSIs) case by case. However, every reactor site (operating and decommissioning) but one has an available ISFSI. The remaining reactor site is not likely to need an ISFSI in the foreseeable future, if at all, due to the uniquely large capacity of its spent fuel pool.

Option 2: Proceed with the ISFSI security requirements rulemaking with the exclusive scope of codifying the requirements of the post-9/11 security orders.

Under this option, the staff would codify the security orders issued after September 11, 2001 (post-9/11 security orders) to ISFSI licensees. The staff estimates that the proposed rule would be completed 12 months following Commission direction. The principal benefits of this option are that it would impose no incremental costs on licensees and that it would promote openness and clarity for licensees and applicants. Codifying the post-9/11 security orders would provide an opportunity for public comment and engagement and would provide some qualitative benefits

such as openness and transparency for future applicants and the public. The quantifiable benefits of this option depend on the number and timing of new ISFSI applications. However, there are currently no foreseeable new ISFSI licensees.

The NRC would incur costs to conduct rulemaking and to reissue orders containing sensitive information that the rule does not address. In particular, the staff would need to separate sensitive information for codification and reissuance of orders. The staff estimates that the costs to complete these activities would be between $1 million and $2 million. The staff estimates that this option would carry low industry implementation costs because security requirements for existing licensees would not change. The operational costs for this option would arise from the staff's continued case-by-case assessment of appropriate security requirements for new ISFSI license applicants. The staff has not identified any quantitative benefits of this option.

To obtain detailed quantitative costs for this option, the staff would need to determine the number of hours necessary to ensure that codifying the orders would not result in any additional requirements or burden to licensees beyond the existing requirements in the orders. The staff would also need to research how the proposed rule would affect the security requirements for a general license (Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste," Subpart K, "General License for Storage of Spent Fuel at Power Reactor Sites") and for a specific license (10 CFR 72.24, 72.26, and 72.44).

Option 3: Proceed with the Commission-directed rulemaking to develop new risk-informed and performance-based requirements for ISFSI security, implementing a dose-based approach, as approved in SRM-SECY-07-0148.

Under this option, the staff would continue the 2007 Commission-directed rulemaking to develop new risk-informed and performance-based security requirements, using the dose-based approach, to address staff concerns deriving from the post-9/11 security assessments for ISFSIs and to increase the clarity and consistency of security requirements for ISFSIs. The staff would also codify the post-9/11 security orders. The staff would harmonize the schedule for this rulemaking with any Commission direction on the decommissioning rule and the potential rulemaking to enhance security for special nuclear material. The schedule would also depend on the time needed to develop a viable methodology to implement the dose-based approach, as well as the time needed to engage with and provide clearances to stakeholders to share classified information. The staff estimates that the proposed rule would be completed 36 months following Commission direction to continue this rulemaking.

The benefits of this option are that it would provide a consistent set of security requirements for all ISFSIs and promote openness and clarity for licensees and applicants. While it may also enhance security, the staff has no quantitative information to measure this benefit, and the cost of measuring the benefit may exceed the value of any increase in site security.

The implementation costs of this option include staff effort to further develop the dose-based approach, staff costs for developing the rule and updating associated regulatory guides, and the costs for codification of orders. These efforts could cost the NRC anywhere from $2–3 million. Licensees would incur costs to understand the proposed amendments and changes to guidance, as well as to develop the necessary procedures and calculations to ensure that their ISFSI complies with any new dose limit. They would also have the recurring costs of recalculating the boundary dose before each spent fuel loading campaign (for loading spent fuel into casks for storage), which would be ongoing over the life of the ISFSI to ensure continued

compliance. The industry would also incur the costs of obtaining security clearances to participate in stakeholder engagement activities. The staff estimates industry costs of $3–4 million.

For the benefits of this option to equal its estimated $6 million cost, assuming a total of 79 ISFSI licensees and using a conversion factor of $5,200 from NUREG-1530, “Reassessment of NRC’s Dollar per Person-Rem Conversion Factor Policy,” Revision 1, issued February 2022 (Agencywide Documents Access and Management System Accession No. ML22053A025), an average of 15 rem would need to be averted at each ISFSI site over these facilities’ remaining license terms, assuming the security event occurred. However, in Enclosure 1 of SECY-07-0148, the staff noted that most ISFSIs would likely meet the dose requirements for security events because of the type of fuel being loaded and because of the distance between the ISFSI and the controlled-area boundary.

To obtain detailed quantitative costs for this option, the staff would need to quantify the reduction in radiation dose received by ISFSI employees and the public and changes in estimated licensee operational costs imposed by the dose-based approach, since licensees may need to conduct measurement and verification to meet new limits.

Option 4: Perform a future reassessment to identify rulemaking options for alternatives to the dose-based approach.

Under this option, the staff would perform a future reassessment (including engaging with stakeholders) to identify alternative technical approaches for a rulemaking to revise security requirements for facilities storing SNF and HLW, with the goal of providing greater assurance that public health and safety is protected in the event of malevolent attacks against ISFSIs, and of increasing the clarity and consistency of the ISFSI security requirements.

The staff would expect to conduct this reassessment at a time when it could consider insights affecting ISFSI security from the ongoing decommissioning rulemaking and Commission direction on the potential rulemaking on special nuclear material. The reassessment schedule would also depend on the time and resources needed to conduct additional studies to validate the information from the spent fuel vulnerability assessment reports, which would be coordinated with a parallel effort to obtain clearances for stakeholders (typically requiring 9–12 months) to share classified information. The staff estimates that, following Commission direction to pursue this option, it would take 24–36 months to complete a paper providing any rulemaking options resulting from the reassessment, along with a new draft regulatory basis.

The staff has not identified any specific quantitative benefits in performing a future reassessment, and the quantitative costs for this option, if it resulted in a rulemaking proposal, would likely include many of the costs from Option 3.