

Security Requirements for Spent Fuel Storage Systems – 9264

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ABSTRACT

The U.S. Nuclear Regulatory Commission (Commission or NRC) requires high assurance of adequate protection of public health and safety and the common defense and security for the storage of spent nuclear fuel. Following the terrorist attacks of September 11, 2001, the NRC has achieved this requisite high assurance for all independent spent fuel storage installations (ISFSIs) through a combination of existing security regulations and the issuance of new security orders to individual licensees. However, the NRC's current security regulations for ISFSIs are quite complex and pose challenges both to NRC staff and to the regulated industry. This regulatory complexity is due to multiple factors, including: two different types of ISFSI licenses (general licenses and specific licenses) and varying applicability of regulations based upon whether the ISFSI is collocated with an operating power reactor, collocated with a decommissioning power reactor, or is located away from any power reactors. The NRC's ISFSI security regulations were last comprehensively updated in the early 1990s. Moreover, the nature and characteristics of the threat environment have evolved significantly since that time.

The Commission has directed the NRC staff to begin development of a risk-informed and performance-based update to the ISFSI security regulations which will enhance the ISFSI security regulations, while continuing to ensure the common defense and security and public health and safety are adequately protected under the current threat environment. The NRC staff is developing the technical bases supporting this ISFSI security rulemaking. The NRC's specific goals for this rulemaking are to update ISFSI security requirements to apply consistently to both types of ISFSI licensees, to improve the clarity of NRC regulations, to generically incorporate the provisions of the post-9/11 security orders, and to incorporate the Commission's direction on several specific policy issues. The Commission has directed the NRC staff to accomplish this effort in a manner to strongly encourage public and stakeholder input.

INTRODUCTION

The NRC requires high assurance of adequate protection of public health and safety and the common defense and security for the storage of spent nuclear fuel. Following the terrorist attacks of September 11, 2001, the NRC has achieved this requisite high assurance for all independent spent fuel storage installations (ISFSIs) through a combination of existing security regulations in 10 CFR Part 73 [1] and the issuance of individual security orders to general and specific ISFSI licensees [2 and 3]. The NRC issued these security orders to all ISFSI licensees, regardless of the ISFSI type. These orders ensure that a consistent overall protective strategy is in place for all ISFSIs.

However, the NRC's current security regulations for ISFSIs are quite complex and pose challenges both to NRC staff and to the regulated industry. This regulatory complexity is due to multiple factors, including: two different types of ISFSI licenses (general and specific licenses) under 10 CFR Part 72 [4] and varying applicability of regulations based upon whether the ISFSI is collocated with an operating power reactor, collocated with a decommissioning power reactor, or is located away from any power reactors. The NRC's ISFSI security regulations were last comprehensively updated in the early 1990s. Moreover, the nature and characteristics of the threat environment have evolved significantly since that time. The planned ISFSI security rulemaking will make the requirements in these orders generally applicable to all ISFSI licensees. The planned rulemaking will also address insights from the staff's

completed security assessments for several types of ISFSI storage cask designs, and will replace the existing regulations with risk-informed, performance-based criteria that will apply consistent security requirements to all ISFSI licensees, regardless of license type or location.

In policy paper SECY-07-0148 [5], the NRC staff had provided the Commission with an analysis and recommendations on several ISFSI-security policy and regulatory issues. Accordingly, the Commission, in SRM-SECY-07-0148 [6], directed the NRC staff to begin development of a risk-informed and performance-based update to the ISFSI security regulations. The Commission's SRM also directed the staff to strongly encourage public comments to ensure all stakeholders' views are considered during the rulemaking process, especially with regard to potential licensing, emergency preparedness, and security plan impacts. This paper is a component of the NRC staff's effort to ensure widespread opportunity to provide input on this rulemaking.

Additionally, the NRC staff intends to post the draft technical basis for this security rulemaking on the NRC's public Web site and to request public and stakeholder comments on the draft technical basis. The staff also plans to hold two public meetings to obtain stakeholder input on the draft technical basis. The meetings are tentatively scheduled for calendar year 2009 (or 2010 depending on potential budget impacts from the NRC's fiscal year 2009 Congressional appropriation).

Current ISFSI Security Regulatory Structure

In addition to storing spent nuclear fuel (SNF) in spent fuel pools under a reactor facility's license, spent fuel can also be safely and securely stored in facilities licensed independent of a reactor site using both wet and dry storage systems. Under the licensing regulations in 10 CFR Part 72, there are two types of ISFSI licenses (i.e., general and specific) that are available for the storage of spent fuel. Physical security requirements are located in various sections in 10 CFR Part 73 depending on the type of licensee. Additionally, the regulations in 10 CFR 72.212(b)(5) [7], require general licensees to establish a physical protection program that protects the spent fuel against the design-basis threat (DBT) for radiological sabotage (10 CFR 73.1 [8]) in accordance with the regulations for power reactor security under 10 CFR 73.55 [9]. For general-license ISFSIs, neither 10 CFR 72.212(b)(5) nor 10 CFR 73.55 impose a dose limit for security events (i.e., acts of radiological sabotage). However, certain specific-license ISFSIs are required to meet the dose limits of 10 CFR 72.106 [10] which specifies a 0.05-Sievert (Sv) (5-rem) dose limit for security-related events, resulting in a loss of control of the facility.¹

The NRC staff has developed Figure 1 below as an aid in describing the complexity and applicability of the current ISFSI licensing and security regulations under 10 CFR Parts 72 and 73, respectively.

¹ The dose criteria in 10 CFR 72.106 includes limits of 0.05 Sv (5 rem) total effective dose equivalent; 0.15 Sv (15 rem) to the lens of the eye; 0.5 Sv (50 rem) as either the sum of the deep dose equivalent and any organ dose, or the shallow dose equivalent to the skin or any extremity). Collectively, these are hereinafter referred to as the 0.05-Sv (5-rem) dose limit.

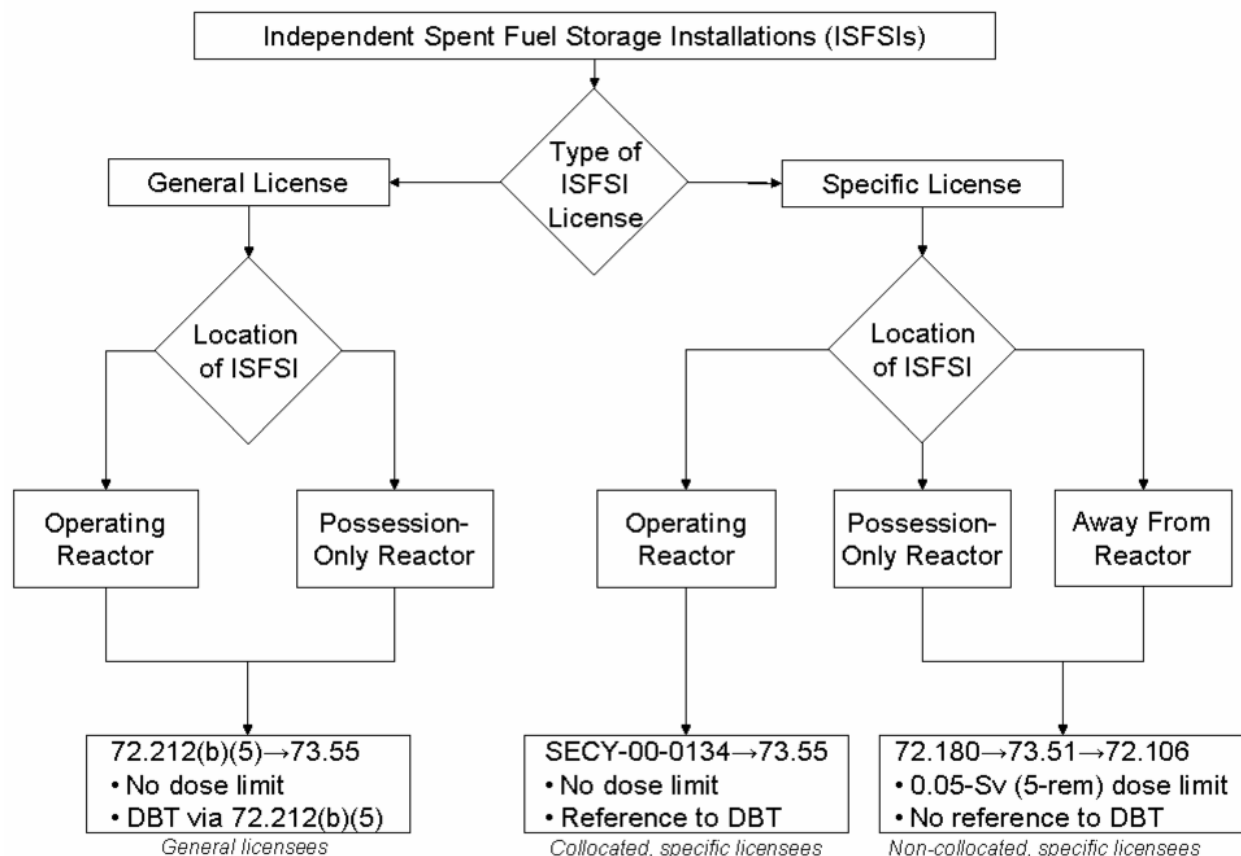


Fig. 1. Current NRC Security Regulations for ISFSIs

Based on their applicability provisions, the NRC’s regulations in 10 CFR 72.180, 10 CFR 72.182, and 10 CFR 73.51 [11, 12, and 13] currently apply to all specific-license ISFSIs without any exceptions. However, past staff practice has permitted collocated, specific licensees² to develop their ISFSI's security plans in accordance with the more stringent requirements of 10 CFR 73.55. Additionally, the statements of consideration accompanying a Part 72 final rule [14] clarifying the applicability of the various provisions of Part 72 to general licensees, specific licensees, and certificate holders indicated that specific licensees collocated at an operating 10 CFR Part 50 [15] power reactor facility are excluded from the provisions of 10 CFR 73.51.

Therefore, the staff has only subjected non-collocated, specific licensees to the requirements of 10 CFR 72.180, which states such licensees must establish, maintain, and implement a detailed plan for physical protection as described in 10 CFR 73.51. The regulations in 10 CFR 73.51 require non-collocated, specific licensees to have a physical protection system that is designed such that a loss of control of the facility (e.g., from a terrorist attack) would not result in a radiation exposure exceeding a 0.05-Sv (5-rem) dose limit at the controlled area boundary (i.e., the safety dose limits of 10 CFR 72.106). Unlike the regulations in 10 CFR 72.212(b)(5), neither 10 CFR 72.182 nor 10 CFR 73.51 includes specific language

² For the purposes of this paper, the term "collocated, specific licensee" represents a specific-license ISFSI that is collocated at a power reactor facility which has an NRC license to operate. The term "non-collocated, specific licensee" will include both a specific-license ISFSI that is collocated with a power reactor with a possession-only license and a specific-license ISFSI located away from any power reactors. This nomenclature is reflected in Figure 1.

requiring a specific ISFSI licensee to protect the spent fuel or high-level radioactive waste against the DBT for radiological sabotage.

Additionally, the scope of the NRC's recent final rule [16] revising the DBT for radiological sabotage in 10 CFR 73.1 was silent on specific-license ISFSIs (i.e., it did not specifically exclude such a class of licensees). In fact, 10 CFR 73.1 lists exceptions to certain DBT requirements for various classes of licensees. Specific-license ISFSIs had previously been identified as being exempted from certain provisions of the DBT rule, but were removed in this recent final rule [17]. This was because 10 CFR 72.182 did not contain specific language requiring protection of the spent fuel (in a specific-license ISFSI) against the DBT for radiological sabotage (i.e., the intent of the rule was for 10 CFR 73.1 to remain consistent with 10 CFR 72.182). Consequently, the NRC's current regulations do not specify whether collocated, specific-license ISFSIs are required to protect against the DBT for radiological sabotage, in contrast to the clear requirements of 10 CFR 72.212(b)(5) for general-license ISFSIs to protect the spent fuel against the DBT for radiological sabotage.

DISCUSSION

In recognition of these issues, the NRC staff developed policy paper SECY-07-0148 for the Commission which summarized this current regulatory structure, analyzed several policy and process issues to obtain Commission direction on these policy issues, and provided recommendations on the development of an ISFSI security rulemaking. A redacted version of this paper and the Commission's direction to the NRC staff in SRM-SECY-07-0148 are publicly available to support stakeholder and public understanding of the agency's proposed actions.

The Commission issued direction on the following policy issues related to ISFSI security regulations:

- Issue 1. Should a radiological acceptance criterion for security scenarios be applied consistently to all ISFSIs?
- Issue 2. Should the dose limits for acts of radiological sabotage (if any are established) be the same as the dose limits for design-basis accidents?
- Issue 3. Should the DBT for radiological sabotage be applied consistently to all ISFSIs (not just to general licensees)?
- Issue 4. Should the regulatory guidance supporting the performance-based security regulations recommended under Issue 3 be bounded by the (power reactor) adversary characteristics that support the DBT for radiological sabotage?

The following discussion summarizes these four issues and the Commission's direction to the NRC staff. The Commission's direction on these issues will shape the direction and nature of the forthcoming ISFSI security rulemaking.

Issue 1: Should a Radiological Acceptance Criterion for Security Scenarios Be Applied Consistently to All ISFSIs?

Specific-license ISFSIs are currently required by 10 CFR 73.51 to meet a 0.05-Sv (5-rem) dose limit for acts of radiological sabotage. However, the current regulations do not specify an explicit dose limit for security (radiological sabotage) events for general-license ISFSIs. The NRC staff has historically considered general licensees—which are required by 10 CFR 72.212(b)(5) to protect the spent nuclear fuel against the DBT of radiological sabotage—to have the same level of protection as required for specific licensees.

The Commission has directed the staff to apply a radiological dose criterion to all ISFSIs, and to have the licensee perform the assessments that demonstrate the ISFSI is in compliance with this dose criterion. This approach is performance-based, and affords the ISFSI licensee the greatest amount of flexibility in meeting the regulations. This approach is consistent with the historic NRC regulatory model requiring licensees to demonstrate compliance with NRC requirements, and minimizes licensee fee costs and the impact on staff resources in reviewing license applications. Additionally, this approach provides consistency for the differing types of ISFSI licensees, and also provides a metric that is independent of future fuel loading characteristics and dry-cask storage designs. The licensee's assessments that their ISFSI was in compliance with the dose limits would be subject to review and/or inspection by the NRC staff, as appropriate. The following paragraphs provide a brief assessment of some of the potential implications and impacts this may have on ISFSI licensing and inspection programs.

Under dose-based acceptance criteria, a limited number of ISFSI licensees might have to revise their current protective strategy from a "detect, assess, and communicate" protective strategy to a "denial of task" protective strategy due to site-specific limitations (e.g., the licensee is constrained by limited space between their ISFSI and their controlled area boundary; thus they cannot use distance as a means of lowering the dose at the controlled area boundary). Consequently, if a constrained licensee cannot meet the dose criterion through the use of passive security measures (e.g., the use of engineered security features or through changes to the ISFSI's design), one of the options available to the licensee would be to use active security measures (e.g., the use of a "denial" protective strategy) to prevent a successful terrorist attack. The staff envisions that only very few licensees may be sufficiently constrained (due to their physical site characteristics) so as to be unable to meet the dose criterion through the use of passive security measures and thus would be compelled to shift to a "denial of task" protective strategy. The use of a "denial of task" protective strategy raises issues of sufficient technical complexity to necessitate prior staff review and approval of a licensee's security plan.

The NRC bases this conclusion on: (1) experience gained in the calendar year 2003 - 2004 reviews of changes to reactor security plans to implement the security and DBT orders and the resultant degree of complexity and the need for interactions with licensees; and (2) a desire to maintain an appropriate independence and separation of NRC security plan review and approval relative to inspection functions. For a specific-license ISFSI, NRC prior review and approval of applicant's initial security plans is required under the current regulations. Under the NRC regulations in 10 CFR 72.44(e) [18] licensees may make certain changes to their security plan without NRC prior review and approval, if such changes do not decrease the effectiveness of the security plan. For a general-license ISFSI, the security requirements for the ISFSI are incorporated in the security plan (required under Part 50) for the associated power reactor license and are subject to inspection by NRC regional staff, not to staff prior review and approval. Similarly, reactor licensees are permitted under 10 CFR 50.54(p)(1) [19] to make certain changes to their security plan without prior NRC review and approval, provided such changes do not decrease the effectiveness of their security plan. In all likelihood, a general-license ISFSI's shift to a denial protective strategy would not decrease the effectiveness of the associated power reactor's security plan under 10 CFR 50.54(p)(1).

However, as discussed earlier and notwithstanding the provisions of 10 CFR 50.54(p)(1), the staff would revise the regulations to require a reactor licensee, associated with a general-license ISFSI who chooses to employ a "denial of task" protective strategy for the ISFSI, to submit its security plan (for protecting both the reactor and ISFSI) to the NRC for prior review and approval as a license amendment under 10 CFR 50.90 [20]. The NRC's approval of a revised security plan for the site under 10 CFR 50.90 would be a specific licensing action under the Part 50 license that would create a potential hearing right.³

³ The current Part 72 general license regulations implements provisions of the *Nuclear Waste Policy Act of 1982*, as amended (NWPA) (42 U.S.C. § 10198). Section 218(a) of the NWPA mandated that the Commission by rule

However, the staff notes that some Part 50 licenses who are currently using the Part 72 general license process have required amendments to their Part 50 license to accommodate the presence of the ISFSI, thus creating a potential hearing right under the Part 50 license. An example of this was for heavy loads issues (e.g., the use of single failure proof cranes and revised heavy load pathways). Therefore, revising the necessary regulations to require a general-license ISFSI, who was compelled to adopt a "denial of task" protective strategy, to submit the site (reactor and ISFSI) security plan to the NRC for review and approval under 10 CFR 50.90 would be consistent with the current Part 50 reactor license/Part 72 general-license ISFSI regulations of reducing licensing hearings "to the extent practicable." Consequently, the potential for hearing requests would be essentially the same as it is under the current regulations.

Issue 2: Should the dose limits for acts of radiological sabotage (if any are established) be the same as the dose limits for design-basis accidents?

In the current NRC regulations, the dose limit for security scenarios for non-located, specific-license ISFSIs is consistent with the dose limit for design basis accidents (DBAs) of 0.05 Sv (5-rem) at the controlled area boundary. As discussed in the statements of consideration accompanying the final rule [21] initially promulgating 10 CFR Part 72, this dose limit was derived from protective actions recommended by the U.S. Environmental Protection Agency (EPA) for projected doses to populations for planning purposes.

The Commission has directed the staff to revise the dose limit for radiological sabotage to keep it consistent with the dose limit for design basis accidents (i.e., a 0.05-Sv (5-rem) dose limit at the controlled area boundary. The Commission did not direct that licensees must meet a 0.01-Sv (1-rem) dose limit for both safety and security events at the site-area boundary. However, because an NRC 1995 ISFSI emergency planning final rule indicated that a release exceeding the EPA Protective Action Guidelines (PAGs) would not occur (consequently, no verification was required that doses would be less than a 0.01-Sv (1-rem) dose limit at the site area boundary), the Commission directed the staff to ensure consistency in emergency planning requirements for ISFSIs, independent of the type of ISFSI license.

For the very limited number of licensees that may face challenges in meeting the 0.05-Sv (5-rem) dose limit for security events at the controlled area boundary, several options exist for achieving regulatory compliance without increasing the distance to the controlled area boundary. Potential options would include changes to the design of the ISFSI, the use of engineered security features to protect the ISFSI, changes to the ISFSI protective strategy to a "denial" protective strategy, or changes to the ISFSI emergency planning program.

The Commission directed the NRC staff to engage stakeholders on appropriate approaches to address potential licensing, emergency preparedness, and security plan impacts stemming from this rulemaking.

Issue 3: Should the DBT for radiological sabotage be applied consistently to all ISFSIs (not just to general licensees)?

The majority of ISFSI licensees are general licensees and are already required to establish a physical protection system which protects the spent fuel against the DBT for radiological sabotage in accordance with the power reactor security requirements of 10 CFR 73.55. Changes to the DBT regulations and staff

approve technologies for the dry storage of spent fuel at civilian nuclear power reactors, "without to the extent practicable," the need for additional site specific [licensing] approvals by the Commission. Accordingly, under the current Part 72 general license regulations, no site-specific licensing actions are required to use dry storage casks to store spent fuel.

practice have resulted in regulatory questions (uncertainty) on whether a specific-license ISFSI is required to protect the spent nuclear fuel against the DBT for radiological sabotage.

The Commission has directed the NRC staff to develop new, risk-informed, performance-based security requirements applicable to all ISFSI licensees to enhance existing security requirements and to develop ISFSI-specific regulatory guidance supporting the new regulations. These requirements will not impose an existing or new DBT on ISFSIs. The "risk-informed" element would apply a vulnerability assessment methodology against ISFSIs that is informed by both the intelligence community's developed threat stream and by vulnerability information that is not restricted to the current threat environment considerations. The "performance based" element would apply specific radiological dose acceptance limits to ISFSI security activities.

This combined approach will provide licensees flexibility in crafting an appropriate security regulatory structure for ISFSIs that may be different than that used for power reactors and would provide clear and objective performance standards. This new approach would recognize that the security regulatory structure applied to ISFSIs may be appropriately different from the security regulatory structure applied to power reactors, due to significant differences in: (1) the designs of these two types of facilities; (2) the nature of their security vulnerabilities; (3) differences in the physical and regulatory approaches used to create defense-in-depth for these facilities; and (4) differences in the nature and size of a potential radiological release from these facilities. The NRC staff envisions an annual review of the threat stream to evaluate whether any changes in the adversary capabilities would differ significantly from the basis for Commission decisions underlying the security assessment frameworks or ISFSI security requirements.

In support of the new regulations, the NRC staff will develop a regulatory guidance document that describes the details of the ISFSI security-related scenarios. The scope and content of this regulatory guidance document (e.g., the use of the power reactor adversary characteristics) are discussed further in Issue 4. The radiological sabotage scenarios described in the regulatory guidance document would enable ISFSI licensees to perform an analysis to determine whether the ISFSI meets the 0.05-Sv (5-rem) dose limit criteria.

Issue 4: Should the regulatory guidance supporting the performance-based security regulations recommended under Policy Issue 3 be bounded by the (power reactor) adversary characteristics that support the DBT for radiological sabotage?

As discussed in Issue 3 above, the Commission has directed the NRC staff to develop new regulatory guidance document supporting these new risk-informed, performance-based security regulations that will be specific to ISFSIs. This regulatory guidance document would be controlled as Safeguards Information or classified information, as appropriate, and would enable ISFSI licensees to perform an analysis of their facilities against certain security scenarios. This document would be separate from the recent regulatory guidance supporting the DBT for radiological sabotage in 10 CFR 73.1 that is found in recently issued NRC Regulatory Guide 5.69 [22].

The regulations currently exempt general-license ISFSIs from some elements of the DBT for radiological sabotage (e.g., the waterborne vehicle bomb assault), thereby setting a precedent for requiring a power reactor licensee with a general-license ISFSI to address different threats which may lead to developing two protective strategies for different facilities on the same site. Since no specific regulatory guidance supporting the DBT for radiological sabotage has yet been developed for general-license ISFSIs, the staff will develop guidance for use by all (general and specific) ISFSI licensees when demonstrating compliance with the new risk-informed, performance-based security regulations. The current adversary characteristics associated with the DBT for radiological sabotage in Regulatory Guide 5.69 are focused on power reactors.

Additionally, the NRC staff sought Commission direction on whether the ISFSI security scenarios should be bounded by the adversary characteristics associated with the DBT for radiological sabotage (as applied to power reactors). The Commission directed the NRC staff to develop ISFSI regulatory guidance that would be bounded by the adversary characteristics regulatory guidance supporting the DBT for radiological sabotage associated with power reactors (i.e., Regulatory Guide 5.69). The Commission also directed the NRC staff to assess additional threat and vulnerability information in order to develop a technical basis to support inclusion of this approach or, an appropriate alternate approach in the proposed rule. That separate effort is also underway.

CONCLUSION

In response to the Commission's direction in SRM-SECY-07-0148 on these issues, the NRC staff has begun developing the technical basis supporting this ISFSI security rulemaking which will revise regulations in 10 CFR Parts 72 and 73. This rulemaking will enhance and update ISFSI security regulations to continue to ensure the common defense and security and public health and safety are adequately protected under the current threat environment. The NRC's specific goals for this rulemaking are to update ISFSI security requirements to apply consistently to both types of ISFSI licensees, to improve the clarity of NRC regulations, to generically incorporate the provisions of the post-9/11 security orders, to generically address issues raised by NRC ISFSI security inspections, and to incorporate the Commission's direction on the policy issues discussed in SECY-07-0148.

Specifically, the ISFSI security rulemaking will propose a 0.05-Sv (5-rem) dose limit at the controlled area boundary for security scenarios. This dose limit will be consistent with the existing radiological dose criterion for safety events and accidents for ISFSIs. The ISFSI licensees would have to perform the assessments that demonstrate that the ISFSI is in compliance with the regulations. Rather than imposing a DBT for radiological sabotage on ISFSI facilities, the rulemaking will contain new, risk-informed, performance-based security requirements applicable to all ISFSI licensees to enhance existing security requirements; and the NRC staff will also develop new ISFSI-specific regulatory guidance supporting these new regulations. This new regulatory guidance will be bounded by the adversary characteristics regulatory guidance supporting the DBT for radiological sabotage associated with power reactors found in Regulatory Guide 5.69.

The staff intends to post the draft technical basis for this security rulemaking on the NRC's public Web site and to request public and stakeholder comments. The staff also intends to hold two public meetings on the draft technical basis, to strongly encourage stakeholder input.

REFERENCES

1. 10 CFR Part 73 – Title 10 of the Code of Federal Regulations, Part 73, "Physical Protection of Plants and Materials."
2. 67 FR 65150, "Order Modifying Licenses (Effective Immediately)," *Federal Register*, Volume 67, Number 205, pages 65150 – 65152, October 23, 2002, Washington, DC. (Issued to general ISFSI licensees).
3. 67 FR 65152, "Order Modifying Licenses (Effective Immediately)," *Federal Register*, Volume 67, Number 205, pages 65152 – 65154, October 23, 2002, Washington, DC. (Issued to specific ISFSI licensees.)
4. 10 CFR Part 72 – Title 10 of the Code of Federal Regulations, Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste."

5. SECY-07-0148, "Independent Spent Fuel Storage Installation Security Requirements for Radiological Sabotage" (redacted), dated August 28, 2007, (see the NRC's Agencywide Document Access and Management System (ADAMS) Accession No. ML080030050).
6. SRM-SECY-07-0148, "Staff Requirements Memorandum (SRM) on SECY-07-0148, 'Independent Spent Fuel Storage Installation Security Requirements for Radiological Sabotage,'" dated December 18, 2007, (see ADAMS Accession No. ML073530119).
7. 10 CFR 72.212, "Conditions of General License Issued under § 72.210," paragraph (b)(5).
8. 10 CFR 73.1, "Purpose and Scope," paragraph (a)(1).
9. 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage."
10. 10 CFR 72.106, "Controlled area of an ISFSI or MRS."
11. 10 CFR 72.180, "Physical Protection Plan."
12. 10 CFR 72.182, "Design for Physical Protection."
13. 10 CFR 73.51, "Requirements for the Physical Protection of Stored Spent Nuclear Fuel and High-level Radioactive Waste."
14. 65 FR 50606, "Final Rule - 10 CFR Part 72, 'Clarification and Addition of Flexibility,'" *Federal Register*, Volume 65, Number 162, pages 50606 – 50617, August 21, 2000, Washington, DC. (See public comment Issue number A.1, pages 50608 – 50609.)
15. 10 CFR Part 50 – Title 10 of the Code of Federal Regulations, Part 50, "Domestic Licensing of Production and Utilization Facilities."
16. 72 FR 12705, "Final Rule – 10 CFR Part 73, 'Design Basis Threat,'" *Federal Register*, Volume 72, Number 52, pages 12705 – 12727, March 19, 2007, Washington, DC.
17. 72 FR 12705, "Final Rule – 10 CFR Part 73, 'Design Basis Threat,'" *Federal Register*, Volume 72, Number 52, pages 12705 - 12727, March 19, 2007, Washington, DC. (See public comment Issue number 5, page 12716.)
18. 10 CFR 72.44, "License Conditions," paragraph (e).
19. 10 CFR 50.54, "Conditions of Licenses," paragraph (p)(1).
20. 10 CFR 50.90, "Application for Amendment of License, Construction Permit, or Early Site Permit."
21. 45 FR 74693, "Final rule - 10 CFR Part 72, 'Licensing Requirements for the Storage of Spent Fuel in an Independent Fuel Spent Storage Installation,'" *Federal Register*, Volume 45, Number 220, pages 74693 – 74711, November 12, 1980, Washington, DC. (See public comment Issues number 20 and 21, pages 74696 and 74697).
22. NRC Regulatory Guide 5.69, "Guidance for the Application of the Radiological Sabotage Design-Basis Threat in the Implementation of a Physical Security Program that meets 10 CFR 73.55 Requirements (U)," August 2007. (Note: This regulatory guide contains Safeguards Information and is not publicly available.)

Access to These References:

1. NRC regulations may be found on the NRC's regulation Web page at: <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.
2. *Federal Register* notices may be found on the GPO-Access Web page at: <http://www.gpoaccess.gov/fr/index.html>.
3. NRC documents may be found on the NRC's ADAMS Web page at: <http://www.nrc.gov/reading-rm/adams.html>.