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United States Nuclear Regulatory Commission
Preliminary Proposed Rule Language
Part 73 of Title 10 of the Code of Federal Regulations (10 CFR)
[NRC-2017-0227]

The NRC is proposing to amend the following sections as indicated by text in **red**:

10 CFR 73.55 - Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.

(a) Introduction.

(1) By March 31, 2010, each nuclear power reactor licensee, licensed under 10 CFR part 50, shall implement the requirements of this section through its Commission-approved Physical Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Cyber Security Plan referred to collectively hereafter as “security plans.” Current applicants for an operating license under 10 CFR part 50, or combined license under 10 CFR part 52 who have submitted their applications to the Commission prior to the effective date of this rule must amend their applications to include security plans consistent with this section.

(2) The security plans must identify, describe, and account for site-specific conditions that affect the licensee's capability to satisfy the requirements of this section.

(3) The licensee is responsible for maintaining the onsite physical protection program in accordance with Commission regulations through the implementation of security plans and written security implementing procedures.

(4) Applicants for an operating license under the provisions of part 50 of this chapter or holders of a combined license under the provisions of part 52 of this chapter, shall implement the requirements of this section before fuel is allowed onsite (protected area).

(5) ~~[Reserved]The Tennessee Valley Authority Watts Bar Nuclear Plant, Unit 2, holding a current construction permit under the provisions of part 50 of this chapter, shall meet the~~

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~~revised requirements in paragraphs (a) through (f) of this section as applicable to operating nuclear power reactor facilities.~~

(6) Applicants for an operating license under the provisions of part 50 of this chapter, or holders of a combined license under the provisions of part 52 of this chapter that do not reference a standard design certification or reference a standard design certification issued after May 26, 2009 shall meet the requirement of § 73.55(i)(4)(iii).

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(b) General performance objective and requirements.

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(3) ~~For a licensee holding an operating license under the provisions of part 50 of this chapter or a combined license under the provisions of part 52 of this chapter for a light water reactor, other than a small modular reactor, as defined in § 171.5 of this chapter, the physical protection program must be designed to prevent significant core damage and spent fuel sabotage. For a small modular reactor licensee or a non-light-water reactor licensee licensed under part 50 of this chapter or part 52 of this chapter, the physical protection program must be designed to prevent a significant release of radionuclides from any source.~~ Specifically, the program must:

- (i) Ensure that the capabilities to detect, assess, interdict, and neutralize threats up to and including the design basis threat of radiological sabotage as stated in § 73.1, are maintained at all times.
- (ii) Provide defense-in-depth through the integration of systems, technologies, programs, equipment, supporting processes, and implementing procedures as needed to ensure the effectiveness of the physical protection program.

* * *

(9) The licensee shall establish, maintain, and implement an insider mitigation program and shall describe the program in the Physical Security Plan.

- (i) The insider mitigation program must monitor the initial and continuing trustworthiness and reliability of individuals granted or retaining unescorted access authorization to a protected or vital area, and implement defense-in-depth methodologies to minimize the

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potential for an insider to adversely affect, either directly or indirectly, the licensee's capability to prevent:

(A) For light-water reactors, other than small modular reactors, as defined in § 171.5 of this chapter, significant core damage and spent fuel sabotage.

(B) For small modular reactors, as defined in § 171.5 of this chapter, or for non-light-water reactors, a significant release of radionuclides from any source.

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(e) **Physical barriers.** Each licensee shall identify and analyze site-specific conditions to determine the specific use, type, function, and placement of physical barriers needed to satisfy the physical protection program design requirements of § 73.55(b).

* * *

(10) **Vehicle control measures.** Consistent with the physical protection program design requirements of § 73.55(b), and in accordance with the site-specific analysis, the licensee shall establish and maintain vehicle control measures, as necessary, to protect against the design basis threat of radiological sabotage vehicle bomb assault.

(i) **Land vehicles.** Licensees shall:

(A) Design, construct, install, and maintain a vehicle barrier system, to include passive and active barriers, at a stand-off distance adequate to protect personnel, equipment, and systems necessary to prevent ~~significant core damage and spent fuel sabotage against the effects of the design basis threat of radiological sabotage land vehicle bomb assault.~~

(1) For light-water reactors, other than small modular reactors, as defined in § 171.5 of this chapter, significant core damage and spent fuel sabotage against the effects of the design basis threat of radiological sabotage land vehicle bomb assault.

(2) For small modular reactors, as defined in § 171.5 of this chapter, or for non-light-water reactors, a significant release of radionuclides from any source

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against the effects of the design basis threat of radiological sabotage land vehicle bomb assault.

(B) Periodically check the operation of active vehicle barriers and provide a secondary power source, or a means of mechanical or manual operation in the event of a power failure, to ensure that the active barrier can be placed in the denial position to prevent unauthorized vehicle access beyond the required standoff distance.

(C) Provide periodic surveillance and observation of vehicle barriers and barrier systems adequate to detect indications of tampering and degradation or to otherwise ensure that each vehicle barrier and barrier system is able to satisfy the intended function.

(D) Where a site has rail access to the protected area, install a train derailer, remove a section of track, or restrict access to railroad sidings and provide periodic surveillance of these measures.

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(k) Response requirements.

(1) The licensee shall establish and maintain, at all times, properly trained, qualified and equipped personnel required to interdict and neutralize threats up to and including the design basis threat of radiological sabotage as defined in § 73.1, to prevent ~~significant core damage and spent fuel sabotage.~~

(i) For light-water reactors, other than small modular reactors, as defined in § 171.5 of this chapter, significant core damage and spent fuel sabotage.

(ii) For small modular reactors, as defined in § 171.5 of this chapter, or for non-light-water reactors, a significant release of radionuclides from any source.

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(s) Alternative physical security requirements.

(1) General requirements.

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(i) **Applicability.** An applicant or licensee of a small modular reactor, as defined in § 171.5 of this chapter, or non-light-water reactor that is licensed under part 50 of this chapter or part 52 of this chapter may elect one or more of the specific alternative physical security requirements in § 73.55(s)(2) provided that the applicant or licensee meets the requirements in § 73.55(s)(1)(ii) and (iii).

(ii) **Identification.** The applicant or licensee must identify the specific alternative physical security requirement(s) it intends to implement as part of its physical protection program.

(iii) **Analysis.** The applicant or licensee must perform a site-specific analysis to evaluate the potential offsite radiological consequences and demonstrate how the performance requirements set forth in § 73.55(b)(3) are met when selected alternatives are used. The licensee must maintain the analysis until the certifications required by § 50.82(a)(1) of this chapter or § 52.110(a) of this chapter have been docketed by the NRC.

(2) Specific alternative physical security requirements.

(i) **Alternative requirement for armed responders.** A licensee that meets § 73.55(s)(1)(i) is relieved from the requirement for the minimum number of armed responders in § 73.55(k)(5)(ii).

(ii) **Alternative requirements for interdiction and neutralization.** A licensee that meets § 73.55(s)(1)(i) and has no armed response personnel onsite whose primary duty is to respond to, interdict, and neutralize acts of radiological sabotage:

(A) May rely on law enforcement or other offsite responders to fulfill the interdiction and neutralization functions required by § 73.55(b)(3)(i).

(1) The licensee must maintain the capability to detect and assess threats required by § 73.55(b)(3)(i).

(2) The licensee must provide adequate delay to enable law enforcement or other offsite responders to fulfill the interdiction and neutralization functions for threats up to and including the DBT of radiological sabotage.

(3) The licensee must provide necessary information about the facility and make available periodic training to law enforcement or other offsite responders to fulfill

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the interdiction and neutralization functions for threats up to and including the DBT of radiological sabotage.

(4) The licensee must fully describe in the safeguards contingency plan the role that law enforcement or other offsite responders will play in the licensee's protective strategy when relied upon to fulfill the interdiction and neutralization capabilities required by § 73.55(b)(3)(i). The description must provide sufficient detail to enable the NRC to determine that the licensee's physical protection program provides high assurance of protection against threats up to and including the DBT of radiological sabotage.

(5) The licensee must identify criteria and measures to compensate for the degradation or absence of law enforcement or other offsite responders and propose suitable compensatory measures that meet the requirements of § 73.55(o)(2) and (3) to address this degradation.

(B) Is relieved from:

(1) Applying the requirements in § 73.55(k)(3) through (7) and the requirement in § 73.55(k)(8)(ii) to law enforcement responders.

(2) The training and qualification requirements related to armed response personnel in 10 CFR part 73, appendix B, section VI, for law enforcement responders, except for the performance evaluation program requirements related to armed response personnel in 10 CFR part 73, appendix B, section VI.C.3, which the licensee shall continue to satisfy for all armed response personnel, including law enforcement.

(3) The requirement in 10 CFR part 73, appendix C, section II.B.3.c.(iv) related to armed responders.

(iii) **Alternative requirements for physical barriers.** A licensee that meets § 73.55(s)(1)(i) may utilize means other than physical barriers and barrier systems to satisfy the physical protection program design requirements of § 73.55(e). Acceptable means can be any method(s) that accomplishes the delay and access control functions necessary to allow the licensee to implement its physical protection program.

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(iv) Alternative requirements for onsite secondary alarm stations. A licensee that meets § 73.55(s)(1)(i):

(A) May have one alarm station located offsite notwithstanding the requirement in § 73.55(i)(2) to have at least two alarm stations located onsite. The central alarm station must remain onsite.

(B) With a secondary alarm station located offsite, is relieved from the requirement in § 73.55(i)(4)(iii) to construct, locate, and protect the offsite alarm station to the standards for the central alarm station. The licensee is not relieved from the requirement in § 73.55(i)(4)(iii) that both alarm stations shall be equipped and redundant, such that all functions needed to satisfy the requirements of § 73.55(i)(4) can be performed in both alarm stations.

(v) Alternative requirements for vital areas. A licensee that meets § 73.55(s)(1)(i):

(A) Is relieved from the requirement in § 73.55(e)(9)(v)(D) to designate an offsite secondary alarm station as a vital area.

(B) Is relieved from the requirement in § 73.55(e)(9)(vi) to locate the secondary power supply systems for an offsite secondary alarm station in a vital area.

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Appendix B to Part 73 - General Criteria for Security Personnel

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VI. Nuclear Power Reactor Training and Qualification Plan for Personnel Performing Security Program Duties

A. General Requirements and Introduction

1. For light-water reactors, other than small modular reactors, as defined in § 171.5 of this chapter, ¶ the licensee shall ensure that all individuals who are assigned duties and responsibilities required to prevent significant core damage and spent fuel sabotage, implement the Commission-approved security plans, licensee response strategy, and implementing procedures, meet minimum training and qualification requirements to ensure each individual possesses the knowledge, skills, and abilities required to effectively perform the assigned duties and responsibilities. For small modular reactors, as defined in § 171.5 of this chapter, or for non-light-water reactors, the licensee shall ensure that all individuals who are assigned duties and responsibilities required to prevent a significant release of radionuclides from any source, implement the Commission-approved security plans, licensee response strategy, and implementing procedures, meet minimum training and qualification requirements to ensure each individual possesses the knowledge, skills, and abilities required to effectively perform the assigned duties and responsibilities.

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Part 50 of Title 10 of the Code of Federal Regulations (10 CFR)

The NRC is proposing to amend the following sections as indicated by text in red:

10 CFR 50.54 - Conditions of licenses.

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(p)

(1) The licensee shall prepare and maintain safeguards contingency plan procedures in accordance with appendix C of part 73 of this chapter for affecting the actions and decisions contained in the Responsibility Matrix of the safeguards contingency plan. The licensee may not make a change which would decrease the effectiveness of a physical security plan, or guard training and qualification plan, or cyber security plan prepared under § 50.34(c) or § 52.79(a), or part 73 of this chapter, or of the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, Responsibility Matrix) contained in a licensee safeguards contingency plan prepared under § 50.34(d) or § 52.79(a), or part 73 of this chapter, as applicable, without prior approval of the Commission. A licensee desiring to make such a change shall submit an application for amendment to the licensee's license under § 50.90.

(2) The licensee may make changes to the plans referenced in paragraph (p)(1) of this section, without prior Commission approval if the changes do not decrease the safeguards effectiveness of the plan. The licensee shall maintain records of changes to the plans made without prior Commission approval for a period of 3 years from the date of the change, and shall submit, as specified in § 50.4 or § 52.3 of this chapter, a report containing a description of each change within 2 months after the change is made. Prior to the safeguards contingency plan being put into effect, the licensee shall have:

- (i) All safeguards capabilities specified in the safeguards contingency plan available and functional;
- (ii) Detailed procedures developed according to appendix C to part 73 of this chapter available at the licensee's site; and

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(iii) All appropriate personnel trained to respond to safeguards incidents as outlined in the plan and specified in the detailed procedures.

(3) The licensee shall provide for the development, revision, implementation, and maintenance of its safeguards contingency plan. The licensee shall ensure that all program elements are reviewed by individuals independent of both security program management and personnel who have direct responsibility for implementation of the security program either:

(i) At intervals not to exceed 12 months; or

(ii) As necessary, based on an assessment by the licensee against performance indicators, and as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect security, but no longer than 12 months after the change. In any case, all elements of the safeguards contingency plan must be reviewed at least once every 24 months.

(4) The review must include a review and audit of safeguards contingency procedures and practices, an audit of the security system testing and maintenance program, and a test of the safeguards systems along with commitments established for response by local law enforcement authorities. The results of the review and audit, along with recommendations for improvements, must be documented, reported to the licensee's corporate and plant management, and kept available at the plant for inspection for a period of 3 years.

(5) A licensee that makes changes to or becomes aware of a change to plant features or offsite support resources described in the site-specific analysis must consider the effect of the change(s) on the analysis required by § 73.55(s)(1)(iii) of this chapter. The licensee must amend the information in the physical security plan as required by § 50.34(c)(4) or § 52.79(a)(35)(iii) to describe how the plant features or offsite support resources continue to meet the requirements in § 73.55(s)(1)(i) of this chapter.

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