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# **Environmental Assessment Supporting Proposed Rule, 10 CFR Parts 50, 52, and 73—Security Assessment Requirements for New Nuclear Power Reactor Designs**

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**U.S. Nuclear Regulatory Commission**

**September 2006**



UNITED STATES NUCLEAR REGULATORY COMMISSION  
ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT

The Nuclear Regulatory Commission (NRC) is proposing to amend its regulations by adding security assessment requirements for future applicants for a construction permit, operating license, design certification, manufacturing license, or combined license. The requirements impacted by this proposed rulemaking include Title 10, Section 50.34, "Contents of Applications; Technical Information," of the *Code of Federal Regulations* (10 CFR 50.34); Appendices M, "Standardization of Design; Manufacture of Nuclear Power Reactors; Construction and Operation of Nuclear Power Reactors Manufactured Pursuant to Commission License," and O, "Standardization of Design: Staff Review of Standard Designs," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"; 10 CFR 52.3, "Definitions"; 10 CFR 52.47, "Contents of Applications"; 10 CFR 52.54, "Issuance of Standard Design Certification"; 10 CFR 52.79, "Contents of Applications; Technical Information"; Appendices M, "Standardization of Design; Manufacture of Nuclear Power Reactors; Construction and Operation of Nuclear Power Reactors Manufactured Pursuant to Commission License," and O, "Standardization of Design: Staff Review of Standard Designs," to 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants"; 10 CFR 73.8, "Information Collection Requirements; OMB Approval"; and 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage." In addition, the Commission is adding a new 10 CFR 73.62, "Security Assessment for Nuclear Power Plants."

Since the events of September 11, 2001, the NRC has assessed potential threats and their possible impacts to nuclear power reactors and has required upgrades of physical security measures at the Nation's fleet of operating power reactors. For new nuclear power reactors, the NRC concluded that a regulatory structure needed to be established for applicants for a construction permit, operating license, design certification, manufacturing license, or combined license to assess the design and incorporate specific security design features to support enhanced security effectiveness. Resolution of security design issues at the early stage of the regulatory review process would result in a more robust security posture requiring less reliance on operational security programs. If security is not assessed early in the design and regulatory review process, a specific security design feature could be difficult to incorporate into the facility design. Ultimately, any security design issue identified by an assessment but not addressed by a security design feature at any application stage would be identified by a security assessment parameter and required to be addressed during the development of the operational security program under the provisions of 10 CFR Part 73, "Physical Protection of Plants and Materials."

## ENVIRONMENTAL ASSESSMENT

### Identification of the Action:

The principal objective of the proposed revision to the security requirements in 10 CFR Part 73 is to add a new requirement that each applicant for a construction permit, operating license, standard design approval, design certification, manufacturing license, or combined license shall conduct a security assessment and include it with their application.

The approach proposed in this rulemaking would maintain a level of specificity in 10 CFR Parts 50, 52, and 73, that is comparable to the current regulations, while revising requirements to be consistent with Commission direction to require applications for new nuclear power reactors to include a security assessment.

The Commission is publishing this proposed rule as a supplement to the proposed rule, “Power Reactor Security Requirements,” published on XX XX, 2006 (XX FR XXXX) that would amend the current security regulations and add new security requirements pertaining to existing and new nuclear power reactors. Among other changes, the September 2006 proposed rule would update requirements for physical security plans, training and qualification plans, and safeguards contingency plans to reflect experience gained since September 11, 2001. These requirements are collectively referred to later in this document as “security operational programs.” In particular, the requirements state that the physical protection program must be designed to detect, delay, assess, and respond to threats up to and including the design basis threat of radiological sabotage (The design basis threat as defined in 10 CFR 73.1, “Purpose and Scope,” is also being revised by a separate rulemaking (70 FR 67380; November 7, 2005)). Furthermore, that proposed rule requires development of guidance and strategies to mitigate the circumstances associated with loss of large areas of the plant due to explosions or fire. The requirements in this proposed rule supplement the provisions of the XX XX, 2006, rulemaking by requiring applicants for a construction permit, operating license, standard design approval, design certification, manufacturing license, or combined license for new nuclear power reactors to conduct a security assessment and include it with their application.

#### The Need for the Action:

The proposed action is primarily needed because the Commission has determined that for new nuclear power reactors a regulatory structure should be established for applicants for a construction permit, operating license, design certification, manufacturing license, or combined license to assess the design and incorporate specific security design features to support security effectiveness enhancements. Resolution of security design issues at the early stage of

the regulatory review process would result in a more robust security posture requiring less reliance on operational security programs.

Environmental Impacts of the Proposed Action:

This environmental assessment focuses on those aspects of the proposed rulemaking in which the revised requirements could potentially affect the environment. The NRC has concluded that there will be no significant radiological environmental impacts associated with implementation of the proposed rule requirements for the following reasons:

(1) This rule change pertains only to security requirements, and specifically, would add a requirement in 10 CFR Part 73 that an application for a new nuclear power reactor include a security assessment. The proposed revision to the 10 CFR Part 73 security requirements would not result in changes to the design basis functional requirements for the structures, systems, and components in the facility that function to limit the release of radiological effluents during and following postulated accidents. As a result, all of the structures, systems, and components associated with limiting the releases of off-site radiological effluents would continue to be able to perform their functions, and as a result, there would be no significant radiological effluent impact. In this regard, the security assessment requirement (added as 10 CFR 73.62) is intended to resolve security design issues at the early stage of the regulatory review process so that a more robust security posture results that requires less reliance on operational security programs.

(2) The standards and requirements applicable to radiological releases and effluents are not affected by this rulemaking and continue to apply to the new nuclear power

reactors affected by this rulemaking. Implementation of the rule requirements do not result in impacts to a facility related to normal operation and any associated releases.

The principal effect of this action would be to revise the governing regulations pertaining to the security of nuclear power reactors by requiring each applicant for a construction permit, operating license, standard design approval, design certification, manufacturing license, or combined license to conduct a security assessment and include it with their application. None of the proposed revisions have an impact on occupational exposures, consequently the NRC has concluded that this action would cause no impact on occupational exposure.

For the reasons discussed above, the action will not significantly increase the probability or consequences of accidents, nor result in changes in the types of any effluents that may be released off-site, and there would be no significant increase in occupational or public radiation exposure.

With regard to potential nonradiological impacts, implementation of the rule requirements would have no impact on the environment. The revised requirements would not affect any historic sites, would not affect nonradiological plant effluents, and would have no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the action.

Accordingly, the NRC concludes that there would be no significant environmental impacts associated with the action.

#### Alternatives to the Proposed Action:

As an alternative to the rulemakings described above, the NRC considered not taking the action (i.e., the “no-action” alternative). Not revising the security regulations would result in no change in current environmental impacts since the proposed requirements have no

environmental impact and taking no action therefore results in no net change to the environment. However, the no-action alternative would leave the governing security regulations for new power reactors the way they are, and the regulations would not reflect the need to assess and incorporate security design features into the facility and site design early in the regulatory review process. In addition, not taking action to require applicants to conduct a security assessment would cause consideration of security design features at a later stage when it could be more difficult to incorporate the features. The NRC has concluded that requiring an application for a construction permit, operating license, standard design approval, design certification, manufacturing license, or combined license to include a security assessment is a desirable regulatory process, and has rejected the no-action alternative.

Alternative Use of Resources:

This action would not involve the use of any resources not previously considered by the NRC in its past environmental statements for issuance of construction permits, operating licenses, standard design approvals, design certifications, manufacturing licenses, or combined licenses for power reactors.

Agencies and Persons Consulted:

The NRC developed the proposed rule and this environmental assessment. In accordance with its stated policy, the NRC provided a copy of the proposed rule to designated liaison officials for each State. No other agencies were consulted.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the action.

Documents may be examined and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System Public Library component on the NRC Web site at <http://www.nrc.gov> (Electronic Reading Room).

Dated at Rockville, Maryland, this   th day of           , 2006.

FOR THE NUCLEAR REGULATORY COMMISSION.

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