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**Environmental Assessment Supporting Final Rule,  
10 CFR Part 73.1- Design Basis Threat**

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**U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation**

**September 2006**



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

The Nuclear Regulatory Commission (NRC) is amending its regulations that govern the requirements pertaining to the design basis threats (DBTs). This final rule makes generically applicable security requirements similar to those previously imposed by the Commission's April 29, 2003 DBT Orders, based upon experience and insights gained by the Commission during implementation, and redefines the level of security requirements necessary to ensure that the public health and safety and common defense and security are adequately protected. Pursuant to Section 170E of the Atomic Energy Act (AEA), the final rule revises the DBT requirements for radiological sabotage, generally applicable to power reactors and Category I fuel cycle facilities, and for theft or diversion of NRC-licensed Strategic Special Nuclear Material (SSNM), applicable to Category I fuel cycle facilities. Additionally, a petition for rulemaking (PRM-73-12), filed by the Committee to Bridge the Gap, was considered as part of this rulemaking. The NRC partially granted PRM-73-12 in the proposed rule, but deferred action on other aspects of the petition to final rule. The NRC's final disposition of PRM-73-12 is contained in this document.

ENVIRONMENTAL ASSESSMENT

Identification of the Action:

The final rulemaking makes generically applicable the supplemental requirements put in place by the Orders and revised the existing DBT requirements in § 73.1(a) and satisfies the Commission's statutory obligation under section 651 of the EAct to initiate and complete a

rulemaking revising the DBT. The final rule describes the DBTs at a level of detail comparable to the current rule. Specific details related to the threat, which include both safeguards information and classified information, are consolidated in adversary characteristics documents that include requirements consistent with those in the DBT orders. The adversary characteristics documents (ACDs) are available to those with authorized access. The final rule includes the DBTs for both radiological sabotage (applied to power reactors and Category 1 fuel cycle facilities) and theft and diversion (Category 1 fuel cycle facilities). The final rulemaking provides the Commission's consideration of the 12 factors specified in the EPA Act, the petition for rulemaking filed by the Committee to Bridge the Gap (PRM-73-12), and public comments on the proposed rule.

In all, 919 comments were received on the proposed rulemaking from the public, industry groups and public bodies. The comments covered a range of issues, some of which are beyond the scope of this rulemaking in that they are specific to protective measures but did not relate to the adversary characteristics. The final rule is reflective of the Commission's consideration and deliberation on all these comments.

The final § 73.1(a) rule language is provided below.

**§ 73.1 Purpose and scope.**

(a) *Purpose.* This part prescribes requirements for the establishment and maintenance of a physical protection system which will have capabilities for the protection of special nuclear material at fixed sites and in transit and of plants in which special nuclear material is used. The following design basis threats, where referenced in ensuing sections of this part, shall be used to design safeguards systems to protect against acts of radiological sabotage and to prevent the theft or diversion of special nuclear material. Licensees subject to the provisions of § 73.20 (except for fuel cycle licensees authorized under Part 70 of this chapter to receive, acquire,

possess, transfer, use, or deliver for transportation formula quantities of strategic special nuclear material), § 73.50, and § 73.60 are exempt from § 73.1(a)(1)(i)(E), § 73.1(a)(1)(iii), § 73.1(a)(1)(iv), § 73.1(a)(2)(iii), and § 73.1(a)(2)(iv). Licensees subject to the provisions of § 72.212 are exempt from § 73.1(a)(1)(iv).

(1) *Radiological sabotage*. (i) A determined violent external assault, attack by stealth, or deceptive actions, including diversionary actions, by an adversary force capable of operating as one or more teams, attacking from one or more entry points, with the following attributes, assistance and equipment:

(A) Well-trained (including military training and skills) and dedicated individuals, willing to kill or be killed, with sufficient knowledge to identify specific equipment or locations necessary for a successful attack,

(B) Active (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack) or passive (e.g., provide information), or both, knowledgeable inside assistance,

(C) Suitable weapons, including hand-held automatic weapons, equipped with silencers and having effective long range accuracy,

(D) Hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safeguards system, and

(E) Land and water vehicles, which could be used for transporting personnel and their hand-carried equipment to the proximity of vital areas, and

(ii) An internal threat, and

(iii) A land vehicle bomb assault, which may be coordinated with an external assault, and

(iv) A waterborne vehicle bomb assault, which may be coordinated with an external assault, and

(v) A cyber attack.

(2) *Theft or diversion of formula quantities of strategic special nuclear material.* (i) A determined violent external assault, attack by stealth, or deceptive actions, including diversionary actions, by an adversary force capable of operating as one or more teams, attacking from one or more entry points, with the following attributes, assistance and equipment:

(A) Well-trained (including military training and skills) and dedicated individuals, willing to kill or be killed, with sufficient knowledge to identify specific equipment or locations necessary for a successful attack;

(B) Active (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack) or passive (e.g., provide information), or both, knowledgeable inside assistance,

(C) Suitable weapons, including hand-held automatic weapons, equipped with silencers and having effective long-range accuracy;

(D) Hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safe-guards system;

(E) Land and water vehicles, which could be used for transporting personnel and their hand-carried equipment; and

(ii) An internal threat, and

(iii) A land vehicle bomb assault, which may be coordinated with an external assault, and

(iv) A waterborne vehicle bomb assault, which may be coordinated with an external assault.

(v) A cyber attack.

The Need for the Action:

The final action is needed to more closely align the governing regulations in § 73.1(a) pertaining to the DBTs with the DBT requirements imposed by the April 29, 2003 DBT Orders, and to satisfy the Commission's statutory obligation under section 651 of the EPAct to initiate and complete a rulemaking revising the DBT.

Environmental Impacts of the Final Action:

This environmental assessment focuses on those aspects of the § 73.1(a) rule where 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 final rule requirements for the following reasons:

(1) This rule change pertains only to security requirements, and specifically, would revise only the DBT requirements; it would not revise any of the Part 73 requirements which govern the response to the DBT requirements. The rule change is simply to more closely align the regulations with the DBT Orders which have already been imposed on licensees. As a result, the revised requirements does not change the DBT requirements from what is currently in place, and as such, there is no additional environmental impacts including any impact that could affect offsite radiological releases.

(2) The proposed revision to the requirements in § 73.1(a) does not result in changes to the design basis functional requirements for the structures, systems, and components (SSCs) or items relied on for safety (IROFS) in the facility that function to limit the release of radiological effluents during and following postulated accidents. As a result, all the SSCs and IROFS associated with limiting the releases of offsite radiological

effluents will continue to be able to perform their functions, and as a result, there will be no significant radiological effluent impact.

(3) The standards and requirements applicable to radiological releases and effluents are not affected by this rulemaking (nor by the Orders) and continue to apply to the SSCs and IROFS affected by this rulemaking. As already discussed, implementation of the rule requirements does not result in any additional actions beyond what has already been imposed by the DBT Orders, and furthermore, the DBT Orders themselves do not result in impacts to a facility related to normal operation and any associated releases.

Because the net effect of this action is to revise the governing regulations pertaining to the DBTs to make them more closely align to the previously imposed DBT Orders, the NRC has concluded that this action does not cause any impact on occupational exposure.

The action will not significantly increase the probability or consequences of accidents, nor result in changes being made 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. The basis for this conclusion is that the proposed rule requirements does not impose new requirements beyond those already imposed through the DBT Orders and Interim Compensatory Measures.

With regard to potential nonradiological impacts, implementation of the rule requirements has no impact on the environment other than what has been previously discussed. The revised requirements does not affect any historic sites, does not affect nonradiological plant effluents, and causes no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the action.

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

Alternatives to the Proposed Action:

There is only one alternative for addressing changes to the DBT requirements. As required by the EPAct, the Commission is obligated to implement regulations revising the DBT.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered by the NRC in its past environmental statements for issuance of operating licenses for power reactors.

Agencies and Persons Consulted:

The NRC staff developed the final rule and this environmental assessment. In accordance with its stated policy, the NRC staff provided a copy of the final 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 an environmental impact statement is not needed 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



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Documents Access and Management System (ADAMS) Public Library component on the NRC web site <http://www.nrc.gov> (Electronic Reading Room).

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

FOR THE NUCLEAR REGULATORY COMMISSION.

Michael J. Case, Director,  
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