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

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

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UNITED STATES NUCLEAR REGULATORY COMMISSION

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is proposing to revise the requirements in 10 CFR 73.1. Specifically, the proposed rule would revise the design basis threat (DBT) requirements for both radiological sabotage, which are generally applied to power reactors and Category I fuel cycle facilities, and theft or diversion of NRC-licensed Strategic Special Nuclear Material (SSNM), which are generally applied to Category I fuel cycle facilities. Radiological sabotage specifically applies to facilities that use special nuclear material. However, current Category I facilities do not typically possess or use nuclear/radioactive materials that would constitute a radiological sabotage threat. Theft or diversion applies to facilities that receive, acquire, possess, use, or transfer formula quantities of SSNM. The DBTs are used by these licensees to form the basis for site-specific defensive strategies implemented through security plans, safeguards contingency plans, and guard training and qualification plans. The rulemaking also considered a petition for rulemaking filed by the Committee to Bridge the Gap on July 23, 2004, (PRM-73-12) that pertains to the DBT.

ENVIRONMENTAL ASSESSMENT

Identification of the Action:

~~The principal objective of the proposed revision to the § 73.1(a) DBT rule is to consolidate the supplemental requirements put in place by the April 29, 2003, DBT orders with the existing DBTs requirements in § 73.1(a).~~ The proposed rule would amend 10 CFR 73.1(a) to, among other things, make generically applicable the security requirements previously

imposed by the Commission's April 29, 2003 DBT orders, which applied to existing licensees, and redefine the level of security requirements necessary to ensure that the public health and safety and common defense and security are adequately protected .

The approach proposed in this rulemaking would maintain a level of specificity in § 73.1(a) rule language that is comparable to the current regulation, while revising DBT attributes to be consistent with the requirements imposed by the April 29, 2003, DBT orders. The revised approach would keep certain specific additional details, which are both safeguards and classified information, in separate, non-publicly-available adversary characteristics documents.

A Petition for Rulemaking, PRM-73-12, filed by the Committee to Bridge the Gap, was considered as part of this proposed rulemaking, would be dispositioned as described in the notice of proposed rulemaking. The petition requests that the NRC amend its regulations to upgrade the DBT regulations (in terms of numbers, teams, capabilities, planning, willingness to die and other characteristics of adversaries) to a level that encompasses, with a sufficient margin of safety, the terrorist capabilities demonstrated during the attacks of September 11, 2001. The petition also requests that security plans, systems, inspections, and force-on-force exercises be revised in accordance with the amended DBT. Finally, the petition requests that a provision be added to Part 73 to require licensees to construct shields against air attack (referred to as "beamhenge"), so that nuclear power plants would be able to withstand an air attack from a jumbo jet similar to the September 11, 2001 attacks. PRM-73-12 was published for public comment in the *Federal Register* on November 8, 2004 (69 FR 64690). The public comment period expired on January 24, 2005. There were 845 comments submitted on PRM-73-12, of which 528 were from letters. Many of the comments were submitted after the comment period expired, however the staff reviewed and considered all of the comments. Comments were received from nine state attorney generals, approximately 20 public interest

groups, a U.S. Congressman from Massachusetts, and six industry groups and licensees. In addition, two U.S. Senators and a U.S. Representative (all from New Jersey) requested an extension to the comment period. The bulk of the comments either supported the petition, requested a stronger DBT, or requested that NRC give consideration to the petition. All the comments from industry and licensees opposed the petition and indicated that the supplemental DBT requirements imposed (by order) to date were adequate. The staff reviewed both the petition and the comments on the petition to determine whether the DBTs should be revised as the petitioner requests. Based on this review, the NRC staff determined that PRM-73-12 should be granted in part and ~~denied~~ deferred in part (see Section V of the proposed rule notice for more details).

The proposed § 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.

(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.

The Need for the Action:

The proposed action is needed to, among other things, make generically applicable the security requirements previously imposed by the Commission's April 29, 2003 DBT orders, which applied to existing licensees, and redefine the level of security requirements necessary to ensure that the public health and safety and common defense and security are adequately

protected . ~~more closely align the governing regulations in § 73.1(a) pertaining to the DBT with the DBT requirements imposed by the April 29, 2003, DBT orders.~~

Environmental Impacts of the Proposed Action:

This environmental assessment focuses on those aspects of the § 73.1(a) proposed rulemaking 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 proposed 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 would not change the DBT requirements from what is currently in place, and as such, there would be no additional environmental impacts including any impact that could affect offsite radiological releases.

(2) The proposed revision to the requirements in § 73.1(a) would not result in changes to the design basis functional requirements for the structures, systems, and components (SSCs) in the facility that function to limit the release of radiological effluents during and following postulated accidents. As a result, all the SSCs associated with limiting the releases of offsite radiological effluents would continue to be able to perform their functions, and as a result, there would 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

affected by this rulemaking. As already discussed, implementation of the rule requirements would 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 would be to revise the governing regulations pertaining to DBT to make them more closely align to the previously imposed DBT orders, the NRC has concluded that this action would cause no 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 would not impose new requirements beyond those already imposed through the DBT orders.

With regard to potential nonradiological impacts, implementation of the rule requirements would have no impact on the environment other than what has been previously discussed. 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 staff 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 staff considered not taking the action (i.e., the “no-action” alternative). Not revising the DBT regulations would result in no change in current environmental impacts since the DBT requirements have already been

imposed and not taking the proposed regulatory would therefore, not change the current DBT requirements. However, the no action alternative would leave the governing DBT regulations as they are, and the regulation would not reflect the actual requirements governing DBT. The NRC staff concluded that leaving the governing DBT regulations unaligned with order requirements is not a desirable regulatory practice. In addition, the Commission directed the staff to revise the DBT regulations in a Staff Requirements Memorandum dated August 23, 2004.

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 operating licenses for power reactors.

Agencies and Persons Consulted:

The NRC staff developed the proposed rule and this environmental assessment. In accordance with its stated policy, the NRC staff 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 (ADAMS) Public Library component on the NRC web site http://www.nrc.gov (Electronic Reading Room).

Dated at Rockville, Maryland, this th day of , 2005.

FOR THE NUCLEAR REGULATORY COMMISSION.

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