

Determination of a Security Bounding Time

Office of Nuclear Security and Incident Response
November 14, 2019

Agenda



- Purpose and Background
- Industry Proposal on Security Bounding Time (SBT)
- NRC Staff's Draft SBT Concept
- NRC Staff's Proposed Options
- Discussion and Questions

Purpose and Background



Purpose: To seek stakeholder input on development of a SBT

Background: SECY-19-0055, “Crediting Options for Operator Actions and Law Enforcement Response,” dated May 23, 2019.

- The staff determined that the NEI white paper methodology for determination of a SBT had merit and should be further explored.
- The staff committed to continue to engage with stakeholders to fully evaluate the proposal in the NEI white paper and develop a plan for whether and how to implement the proposal, to be provided to the Commission within 9 months.

Industry Proposal on SBT



- **September 2019 NEI white paper definition***: A SBT is the elapsed time, measured from recognition of an attack, required for the licensee to preclude adversary interference sufficiently, with the assistance of law enforcement, to allow performance of operator actions that can prevent radiological sabotage.
- NEI white paper provides a methodology for a site-specific SBT based solely on law enforcement response.

* NEI, "Determination of a Site-specific Security Bounding Time," September 2019 (ML19267A020)

NRC Staff's Draft SBT Concept



- NRC staff agrees, in part, with the industry concept described in the NEI white paper.
- The elapsed time following recognition of an attack, considering the licensee's physical protection program and a holistic approach to preclude further adversary interference and prevent radiological sabotage.
 - NRC staff's proposed options consider all associated aspects of a licensee's physical protection program rather than relying on a singular element (e.g. law enforcement).
 - It is the holistic consideration of both safety and security that support the determination of a SBT.
 - NRC staff developed a list of generic criteria that layout a framework that considers each layer of defense available to support the application of a SBT.

Generic Criteria

Criterion 1: The recognition that law enforcement support will be available at some point during an attack.

Criterion 2: The recognition that licensee physical protection programs are robust and have demonstrated reasonable assurance for protection against the DBT. It is reasonable to assume that adversary capability will decrease over time due to personnel attrition and resource depletion.

Criterion 3: The recognition that FLEX equipment is currently a required part of the licensee safety program. Some FLEX equipment that could be utilized to prevent radiological sabotage may be included in licensee target sets today.

Criterion 4: The recognition that licensees have trained and qualified operators who can perform actions to ensure continued cooling capability.

Criterion 5: The recognition that licensees have processes in place to recall off-duty security and operations personnel.

Criterion 6: The documentation of irreversible time to core damage calculations utilizing a sound methodology for target sets.

NRC Staff Proposed Options



Option 1: 8-hour generic SBT with a documentation of the overall assets (6 generic criteria) available to licensees during a Design Basis Threat (DBT) event. **(voluntary)**

Option 2: Conduct analysis for a **site-specific SBT** to include a more comprehensive documentation of the overall assets (6 generic criteria) available to licensees during a DBT event. **(voluntary)**

Option 3: Establish a SBT on the **DBT** through a change to 10 CFR 73.1. **(rulemaking)**

Option 4: Establish a SBT on the **DBT** through a change to Regulatory Guidance. **(no rulemaking)**

- Staff's current thinking is to recommend both options 1 and 2

Basis for 8-Hour Determination



- Staff considered guidance on vital equipment as a basis for a SBT.
 - During power operation, one train of equipment that provides the capability to perform the functions that are necessary to achieve and maintain hot shutdown for a minimum of 8 hours from the time of reactor trip should be protected as vital. In addition, the major components of the reactor coolant makeup system and associated support equipment necessary to achieve this goal should be protected as vital. *
- There are advantages and risks associated with this approach.
 - The advantage is that this approach eliminates challenges associated with determining the survivability of the DBT adversary. Under this approach it is not important to have a technical justification for determining whether the DBT adversary can survive more than eight hours, because at the SBT, the site will have additional resources (generic criteria) to assist in precluding adversary interference and preventing radiological sabotage.
 - Risks may include availability of equipment.

**NUREG-1178, "Vital Equipment/Area Guidelines Study: Vital Area Committee Report," published February 1988*

Discussion and Questions

Open Meeting:

- Should the NRC consider establishing a SBT as a part of a licensee's physical security program?
- Are there additional criteria NRC should consider in a SBT?
- Pros and cons of the four options or combination of options. Are there other options NRC should consider?

Closed Meeting:

- As a licensee, are you interested in implementing a SBT at your facility?
- Considering a holistic approach (use of the generic criteria) in establishing a SBT, how should a site-specific SBT be calculated?
- Pros and cons of the four options or combination of options. Are there other options NRC should consider?

Next Steps



- ✓ Regulatory Guide 5.81 published in late December/early January 2020
- ✓ Deliver paper to Commission by February 2020