

# **Security Bounding Time Concepts Public Meeting**

January 23, 2020

*Office of Nuclear Security and Response*

# Agenda



- Purpose
- Key Messages
- Background Documents
- Revised Commission Paper
- Reasonable Assurance of Protection Time (RAPT)
- Revisions to Regulatory Guidance (RG) 5.76 for RAPT
- Site-Specific Security Bounding Time (SBT)

# Purpose



- Provide an update on the Commission paper and changes since the November 14, 2019 public meeting.
- NRC is seeking stakeholder insight on the staff's draft guidance for RAPT.

# Key Messages



- Physical protection of operating power reactors is comprised of integrated layers of security from the licensees' programs to Federal programs.
- In this Commission paper, the staff considered the totality of conditions, both safety and security, to support the determination of an SBT concept.
  - Staff's commitment to implement a new concept, RAPT, which recognizes existing layers of defense that are capable of independently defending against the design basis threat (DBT) at all times.
  - Staff's options and a recommendation for a site-specific SBT at operating power reactors.
- This holistic approach, for both a site-specific SBT and RAPT, is risk-informed and provides reasonable assurance that the licensee can continue to maintain physical protection of the site at all times.

# Background Documents



SECY-19-0055, "Crediting Options for Operator Actions and Law Enforcement Response," dated May 23, 2019

➤ *ADAMS Accession No. ML19080A274*

NEI white paper, "Determination of a Site-Specific Security Bounding Time," dated September 2019

➤ *ADAMS Accession No. ML 19267A020*

November 14, 2019 SBT Public Meeting Summary

➤ *ADAMS Accession No. ML 20015A319*

# Revised Commission Paper



- Staff committed to revise RG 5.76 to provide licensees guidance for applying an 8 hour RAPT.
- Staff revised the site-specific SBT options that were presented in the November 14, 2019 public meeting.
  - Option 1 – Reinterpret existing security regulations to allow for site-specific SBT.
  - Option 2 – Conduct a limited-scope rulemaking to clarify applicable rule language for a site-specific SBT.

# RAPT: Reasonable Assurance



- NRC staff determined that a RAPT which considered the many existing layers of defense would provide reasonable assurance that the licensee can independently defend against the DBT at all times.
- It is expected that licensees will have additional resources available, such as law enforcement and/or recalled off-duty personnel to provide any needed support for the licensee to continue to defend against the DBT beyond the 8 hours.

# RAPT: Technical Basis



The staff determined that 8 hours provides reasonable assurance, following recognition of an attack, based on the totality of the following factors:

- requirements for availability of vital equipment;
- timing of a reactor trip/scram;
- time required to transition to lower modes;
- target sets available at lower modes;
- decrease in adversary capability over time; and
- existing layers of defense.



# RAPT: Fundamental Elements



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There are five fundamental elements that consider each layer of defense, both safety and security, that support the application of a RAPT:

1. Law Enforcement Response;
2. Robust Licensee Strategies and Adversary Capabilities;
3. FLEX Equipment;
4. Trained and Qualified Operators; and
5. Recalled Off-Duty Security and Operations Personnel.

The five fundamental elements are satisfied by licensees' current commitments under today's regulatory framework; there would be no additional requirements for licensees to apply an 8 hour RAPT.

# RAPT: Implementation



The RAPT allows a licensee to:

- analyze target sets for which the time to core damage (irreversible) extends beyond 8 hours;
- document the justification for no longer protecting the target set or a target element within a set; and
- adjust its protective strategy accordingly.

# RAPT: Guidance Changes

## Revisions to RG 5.76 for RAPT

- Staff is committing to revise Section 1.2 of Regulatory Guide 5.76, Revision 0, “Physical Protection Program Design” to provide guidance to licensees that choose to apply the RAPT. This section of guidance will not be SGI.

[Note: Conforming changes will also be made to inspection guidance as necessary.]

## Other Revisions to RG 5.76

- Clarifies staff guidance for licensee development of physical security program content that will satisfy the general performance objective and requirements contained in 10 CFR 73.55.
- Provides a more comprehensive discussion of the objectives for ensuring that licensees develop, implement, and maintain robust physical security programs at operating power reactors.
- Updates the substantive content of licensee physical security programs.
- Incorporates lessons learned since 2009.
- Reflects changes that have been made in associated rules and guidance documents since 2009.

# RAPT: Guidance Changes



**Placeholder for discussion on revisions to RG 5.76**  
(draft changes will be provided in a separate document)

# Site-Specific SBT: Definitions



The **NEI white paper** defines the SBT as 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.

The **NRC staff** define a site-specific SBT as the elapsed amount of time following recognition of an attack (i.e., initiating event), after which further adversary interference is precluded **and additional actions** that may prevent radiological sabotage can be taken by licensees.

**Difference:** NRC staff's definition includes **possible additional actions** (e.g., operator actions such as the use of FLEX) by licensees and considers **five fundamental elements** of licensees' physical protection programs.

# Site-Specific SBT: Criteria



A site-specific SBT should be developed with a framework that demonstrates the licensees' physical protection capabilities associated with the following five criteria (same as RAPT fundamental elements):

1. Law Enforcement Response;
2. Robust Licensee Strategies and Adversary Capabilities;
3. FLEX Equipment;
4. Trained and Qualified Operators; and
5. Recalled Off-Duty Security and Operations Personnel.

# Site-Specific SBT: Calculation

- Unlike the RAPT, for a site-specific SBT licensees would need to provide a more comprehensive analysis of each element as applicable to their site.
- For example, one acceptable method for discussion of Criterion 1, Law Enforcement Response is the NEI white paper methodology.
- However, in order to meet the NRC staff's definition for a site-specific SBT a licensee would also need to account for the time it would take to perform additional actions to prevent radiological sabotage.

\*factors to consider for documentation of criteria is an Enclosure to the paper

# Site-Specific SBT: Process

- Provided Commission approves the staff's recommendations, licensees would use their normal fleet/site process for assessing changes for the impact to the physical security program.

For example:

- Licensees may revise their physical security plans in accordance with 10 CFR 50.54(p)(2).
  - Licensee may also submit a license amendment request (LAR).
- Exception: For any site-specific SBT of less than 6 hours, licensees will be required to submit a LAR.



# Questions?

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