POLICY ISSUE
(Notation Vote)

May 23, 2019 SECY-19-0055

FOR: The Commissioners

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: CREDITING OPTIONS FOR OPERATOR ACTIONS AND LAW ENFORCEMENT RESPONSE

PURPOSE:

The purpose of this paper is to recommend new approaches to crediting operator actions, the use of FLEX equipment, and law enforcement response as part of the U.S. Nuclear Regulatory Commission (NRC)'s security inspection program. This paper responds, in part, to Staff Requirements Memorandum (SRM)-SECY-17-0100, "Security Baseline Inspection Program Assessment Results and Recommendations for Program Efficiencies," dated October 9, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18283A072). Other aspects of SRM-SECY-17-0100 are addressed in COMSECY-19-0006, "Revised Security Inspection Program Framework in Response to SRM-17-0100."

SUMMARY:

This paper explores ways to give credit to power reactor licensees in three main areas: operator actions, FLEX equipment, and law enforcement response.

With respect to crediting a broader range of operator actions, this paper presents planned updates to Regulatory Guide (RG) 5.81, "Target Set Identification and Development for Nuclear Power Reactors," dated November 2010 (ADAMS Accession No. ML102720056, not publicly available) to further risk-inform NRC's approach. Additionally, this paper describes staff's efforts to further evaluate the level of insider knowledge that is assumed for inspection planning and identification of target sets.

CONTACT: F. Scot Sullivan, NSIR/DSO
(301) 287-3624

Enclosures 1 and 3 transmitted herewith contain Official Use Only – Security-Related Information. When separated from Enclosures 1 and 3, this transmittal document is decontrolled.

With respect to credit to licensees for FLEX equipment, this paper describes staff's approach to developing a security bounding time (SBT). The SBT is defined 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 significant core damage or spent fuel sabotage. Under certain conditions, after the SBT, FLEX equipment could be used by operators under an assumption that law enforcement assistance would sufficiently preclude adversary interference.

With respect to further crediting law enforcement, beyond what is assumed at this time, this paper presents three strategies: Strategy 1 - establishing a generic set of SBTs; Strategy 2 - establishing site-specific SBTs using a methodology developed by industry; and Strategy 3 - establishing site-specific SBTs using a methodology developed by staff that weighs licensee's demonstrated level of coordination with law enforcement. In addition, Strategy 1 includes two options: one based only on law enforcement response, and a second that considers both law enforcement response and decreasing effectiveness of the adversary over time.

The staff recommends that the Commission approve Strategy 1, Option 2—establishing a generic set of SBTs to risk inform scenario selection within force-on-force (FOF) exercises, which consider both law enforcement response and decreasing effectiveness of the adversary over time. The staff also commits to continue to explore Strategy 2 as a means to implement further credit for law enforcement response.

Additionally, the staff recommends that the Commission approve the staff's request to stop providing semi-annual updates on the Integrated Response Program, as required by SRM-COMSECY-13-0005, "Integrated Law Enforcement Response at Nuclear Power Plants," (ADAMS Accession No. ML13155A576, not publicly available) in order to focus the staff's efforts on the evaluation and implementation of the SBT approach for crediting law enforcement.

BACKGROUND:

Operator Actions

Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 73.55(f), "Target Sets," requires licensees to document and maintain the process used to develop and identify target sets. The NRC issued RG 5.81 to provide guidance to licensees for target set development. RG 5.81 defines a target set as the "minimum combination of equipment or operator actions which, if all are prevented from performing their intended safety function or prevented from being accomplished, would likely result in radiological sabotage" (i.e., significant core damage or spent fuel sabotage).

Operator actions within a target set are actions performed by licensee personnel to prevent radiological sabotage in response to an adversary attack. Actions that mitigate the effects of radiological sabotage are not considered target set elements. As discussed in SECY-17-0100, "Security Baseline Inspection Program Assessment Results and Recommendations for Program Efficiencies," dated October 4, 2017 (ADAMS Accession No. ML17223A279), the current guidance in RG 5.81 is to include operator actions in target sets if they meet the following criteria: (1) sufficient time is available to implement actions; (2) environmental conditions allow access; (3) adversary interference is precluded; (4) equipment is available and ready for use;

(5) approved procedures exist; and (6) training is conducted on the existing procedures under conditions similar to the scenarios assumed.

A periodic review of RG 5.81 was underway at the time of issuance of SRM-SECY-17-0100. The staff planned to revise RG 5.81 to: (1) add partial endorsement of Nuclear Energy Institute (NEI) 13-05 "Target Set Template: [Site] Security Target Sets," dated March 27, 2014 (ADAMS Accession No. ML14121A387, not publicly available) for the target set development process; (2) include additional guidance on how to handle critical digital assets; (3) expand existing guidance on the target set development process; and (4) make formatting and layout changes to reflect the latest regulatory guide template. On August 14, 2018, the staff issued a draft revision to RG 5.81 for comment to industry stakeholders with a need to know. As described in the below discussion, the staff adjusted its work on RG 5.81 upon receiving the additional direction in SRM-SECY-17-0100.

FLEX Equipment

In response to the lessons learned at Fukushima and the NRC's Near-Term Task Force Recommendations, the NRC issued Order, Enforcement Action (EA) 12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML12054A735). The NRC later endorsed the industry proposed safety strategy described in NEI 12-06, "Diverse and Flexible Coping Strategies," or "FLEX" (ADAMS Accession No. ML12221A205). All licensees have currently committed to follow NEI 12-06 to meet the requirements of EA 12-049. FLEX strategies consist of an initial phase using installed plant equipment and resources; a transition phase using onsite, in some cases portable, FLEX equipment; and a final phase obtaining sufficient offsite resources to sustain the strategy indefinitely. The intent of FLEX equipment is to maintain long-term core and spent fuel cooling and containment integrity. Most FLEX equipment requires an operator action to align equipment for use.

Under today's regulatory framework, FLEX equipment that could be utilized to prevent radiological sabotage may be included in licensee target sets. However, licensees typically do not identify or include all FLEX equipment as target set elements. When specific FLEX equipment is identified as a target set element, it is analyzed in the physical protection program. Including FLEX equipment in a target set means that an adversary would need to render the FLEX equipment unavailable to operators, in addition to eliminating each of the other elements of the target set in order to achieve radiological sabotage.

Response by Local, State, and Federal Law Enforcement

NRC regulations for power reactor security provide that licensees are responsible for protecting the facility against the DBT. Specifically, in accordance with 10 CFR 73.55(b)(3)(i), the physical protection program must "[e]nsure that the capabilities to detect, assess, interdict, and neutralize threats up to and including [the DBT], are maintained at all times." The licensee must "establish and maintain" the personnel who implement the physical protection program, including the armed responders required to interdict and neutralize the DBT, and ensure that these personnel are trained and qualified in accordance with NRC requirements (10 CFR paragraphs 73.55(d)(3) and (k)(1)). The regulations address law enforcement by requiring licensees to maintain agreements with law enforcement agencies "to include *estimated* [emphasis added] response times and capabilities," but only "[t]o the extent practicable" (10 CFR 73.55(k)(9)). Because law enforcement agencies are outside the NRC's regulatory

jurisdiction, the NRC lacks the authority to compel these agencies to enter into agreements with licensees or to respond within specific timelines.[1]

In the DBT final rule (72 FR 12705; March 19, 2007), the Commission stated that "[t]he DBT rule reflects the Commission's determination of the composite set of adversary features against which private security forces should reasonably have to defend (72 FR 12708)." In defining the DBT in this way, the Commission recognized that "[t]he defense of our nation's critical infrastructure is a shared responsibility between the NRC, the Department of Defense, the Department of Homeland Security (DHS), Federal and State law enforcement and other Federal agencies (72 FR 12714)." The Commission further explained the complementary roles of the licensee and law enforcement: "The Commission is confident that a licensee's security force would respond to any threat no matter the size or capabilities that may present itself. The Commission expects that licensees and State and Federal authorities will use whatever resources are necessary in response to both DBT and beyond-DBT events (72 FR 12714)." However, in response to concerns about the time required for outside help to arrive during an attack, the Commission stated that "[t]he capabilities of off-site responders are beyond the scope of [the DBT rule]" (72 FR 12720). Similarly, in the Statement of Considerations for the Power Reactor Security Requirements final rule (74 FR 13926; March 27, 2009), the Commission stated that "a licensee's ability to defend against the DBT of radiological sabotage is not dependent on the availability of offsite responders" (74 FR 13940).

More recently, in SRM-SECY-17-0100, in directing the staff to include recommendations for providing credit for response by local, State, and Federal law enforcement in our security inspection program, the Commission directed that the staff "should take into consideration that the NRC has already codified its recognition of 'the reality that in an actual emergency, state and local government officials will exercise their best efforts to protect the health and safety of the public' in 10 CFR 50.47(c)(1)(iii)(B)." In the context of emergency planning, 10 CFR 50.47(c)(1)(iii)(B) reflects a presumption that state and local responders will generally follow a licensee emergency plan.

DISCUSSION:

The staff considered how to further credit operator actions, FLEX equipment, and law enforcement response within the current regulatory framework. Each of these areas is discussed in turn below.

Crediting Operator Actions

In response to the direction in SRM-SECY-17-0100, the staff expanded its review of RG 5.81 to consider ways to credit a broader set of operator actions within the security inspection program. Currently, RG 5.81 guidance for identifying target sets assumes that adversary timelines only consider the delay imposed by passive features of the licensee's physical protection system and the distance traveled by the adversary. The staff identified that more operator actions could be included within a target set by considering the effect of the licensee's response and how active engagement affects adversarial force movement and timelines. The increase in adversary

[1] In the Statement of Considerations for the 2009 Power Reactor Security rule, the Commission acknowledged that "in some cases a local, State, or Federal law enforcement agency cannot or will not enter into a written agreement with a licensee, and in such cases the Commission's expectation is that the licensee will make a reasonable effort to pursue liaison with these agencies to the extent practicable and that this liaison is documented" (74 FR 13945).

travel time could result in additional time for operators to arrive and perform actions needed to prevent significant core damage or spent fuel sabotage. The staff plans to pursue the concept of increased adversary timelines (due to active engagement by the licensee) while developing its planned Revision 1 to RG 5.81.

In addition to these changes to RG 5.81, the staff will look at whether changes to other related guidance documents may be necessary to also consider the level of insider knowledge available to an adversary. Specifically, the staff will evaluate whether the current practice regarding operator actions assumes that the adversary has the appropriate level of insider knowledge. The staff will evaluate whether the level of assumed insider knowledge affects adversary timeline calculations, mission planning, and target set selection and whether additional operator actions can be included in target sets as a result. While this effort is separate from the RG 5.81 revision, the staff plans to complete its initial evaluation of insider knowledge by the end of CY 2019 to provide timely insights for the RG 5.81 update and other, relevant guidance documents.

The staff held a public meeting on May 15, 2019, to discuss these concepts in support of completing Revision 1 to RG 5.81 by the end of the first quarter of CY 2020. At this meeting, the staff will seek feedback on the concepts above (along with feedback on any other changes that could be made to RG 5.81 to further credit operator actions), as well as other revisions to RG 5.81 proposed by NEI in January 2019 (ADAMS Accession No. ML19024A499).

Crediting FLEX Equipment

Generally, licensees will have FLEX equipment and other plant equipment (such as equipment identified in the severe accident mitigation guidelines) available in some manner for use during or following an adversary attack. This equipment may allow the licensee to take additional actions to prevent or mitigate the effects of radiological sabotage.

The NRC regulation in 10 CFR 73.5(b)(4) requires that licensees consider site-specific conditions in the design of their physical protection programs, which could potentially include FLEX equipment; however, physical protection of FLEX equipment is not specifically required. Current staff practice, which has not been documented in guidance or procedures, is that NRC inspection teams do not develop FOF scenarios where the adversary either eliminates FLEX equipment or uses FLEX equipment as part of the attack against the plant, if the FLEX equipment is not included in a target set. For example, FLEX equipment such as pumps and generators that are specifically needed to mitigate the effects of significant core damage have not been targeted if a licensee does not identify the equipment in target sets.

This practice is based on the expectation that an adversary will solely focus on the plant itself, rather than use its limited resources to attack or commandeer redundant FLEX equipment that was installed to help plants mitigate the effects of extreme external events. Licensees store FLEX equipment in one of the following three ways, which would provide some protection during a security event: (1) in a robust building outside the protected area; (2) in safety-related structures in the protected area; or (3) in some combination of (1) and (2). Should an adversary choose to take actions against this equipment in the owner-controlled area, there is the potential that the site would be able to engage, or be aware of, the adversary earlier. The staff plans to reflect this position on the use of FLEX equipment in FOF exercises in the next update to Inspection Procedure 71130.03, "Contingency Response—FOF Testing."

FLEX equipment could be even further credited as discussed below in the section on credit for law enforcement. The staff will explore if, by further crediting law enforcement response, a licensee could assume additional ways to add operator actions and components, and further credit the use of FLEX equipment.

Credit for Law Enforcement Response

The staff has identified three strategies to provide credit to licensees for law enforcement response by establishing an SBT. The staff defines an 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.

Each of the strategies discussed below would allow the staff to risk-inform the scenario selection process used during FOF inspections by focusing on licensee target sets that, if eliminated, would lead to core damage prior to the SBT. Strategies 2 and 3 could provide further credit for law enforcement response by allowing licensees to modify their target sets by adding operator actions that can be performed following the SBT, or by removing target sets that have a time to core (TTC) damage greater than the SBT.[2] Under Strategies 2 and 3, licensees could revise their protective strategies to reflect these changes to their target sets.

Establishing an SBT using Strategies 2 or 3 would change how target sets are identified. Currently, when developing target sets using RG 5.81 for crediting operator actions, a licensee considers six factors (as described above). For operator actions that could occur after the time an SBT is applied, a licensee would only consider five of the factors from RG 5.81. Preclusion of adversary interference (factor three) is assumed to be achieved at the SBT.

The concept of target sets has served well as a conservative approach to ensuring the prevention of significant core damage. The staff's current practice in FOF exercises is to assume that the loss of a target set will likely lead to significant core damage. The staff recognizes that for some scenarios with a lengthy TTC damage, operator actions can be realistically credited when other target set components are compromised. These operator actions may provide additional assurance that a licensee will meet the requirement in 10 CFR 73.55(b)(3) to "prevent significant core damage." Because the regulatory requirements regarding target sets are broad, target sets historically have been and continue to be developed and modified based on appropriate guidance and verified by inspection.[3] As part of its further evaluation of Strategy 2, the staff plans to identify guidance that would need to be developed or updated to address a licensee's voluntary adoption of an SBT for the purpose of modifying target sets. Some staff have concerns (see Enclosure 3) that licensees could effectively eliminate target sets by crediting operator actions that may or may not be performed following an SBT; however, other staff take the position that this concern can be effectively addressed by clear guidance and inspection.

---

[2] Currently, there is no prescribed methodology to determine a standardized TTC damage, and the staff has observed variations in these calculations.

[3] The regulations do not define "target set" nor do they specify how target sets are to be identified. Instead, 10 CFR 73.55(f)(1) requires licensees to document and maintain the process used to develop and identify target sets. Further, 10 CFR 73.55(b)(4) requires licensees to account for target sets in the design of the physical protection program.

Strategy 1 - Generic security bounding times within FOF exercises

Strategy 1 would establish a fixed SBT for each licensee site based on proximity to local, State, and Federal law enforcement agency tactical response resources. The NRC would use this SBT to risk-inform which target sets would be selected to be tested during a FOF exercise; it would not be used by licensees to make changes to target sets. Two options to implement this strategy are described below. If the Commission approves one of these options, the staff would not develop FOF exercise scenarios that include target sets with a TTC damage that is longer than the applicable SBT for the site being inspected.

For example, if a licensee determined that target set *X* has a TTC damage of 12 hours, and the applicable SBT is 6 hours, the staff would not select target set *X* as a scenario to test during an NRC-conducted FOF exercise. Those target sets that are not tested in a FOF exercise (i.e., target sets with a TTC damage longer than the established SBT) would still be identified by licensees and subject to inspection via the remainder of the security baseline inspection program. This would continue to ensure that the NRC maintains appropriate oversight related to each site's protection of target set components. Further, this approach would allow for a more efficient use of NRC and licensee resources by focusing on the most risk-significant target sets during FOF exercises.

Given the variations in proximity to law enforcement across all licensee sites, the staff established two generic groupings of SBTs. The purpose of the groupings is to allow sites closer to law enforcement to benefit from shorter SBTs rather than setting a single, longer SBT for all sites. The proposed SBTs represent the amount of time the staff considers reasonable to assume law enforcement would be able to assist the licensee in neutralizing elements of the DBT adversary within an owner-controlled area and outside of a site protected area. For this strategy, the staff only considered law enforcement response in the owner-controlled area because the strategy would not assume additional familiarization or training activities between licensees and law enforcement in the protected area, beyond what is currently done. To determine the appropriate groups of SBTs, the staff started with the response times reported in the FBI's consolidated assessment of tactical teams' capabilities for every operating reactor site, which is Annex A, "FBI Tactical Take-back Analysis," in the DHS Comprehensive Review Rollup Report titled, "Comprehensive Reviews of the Nation's Commercial Nuclear Reactors and Associated (Spent Fuel Storage) Facilities," dated June 2008 (Secure LAN and Electronic Safe No. NS124664). The staff then estimated the additional time it would take law enforcement to muster, plan, and execute missions. Because this strategy would not require licensees to conduct familiarization or training activities with law enforcement in order to take advantage of the generic SBT, the staff conservatively assumed any law enforcement response would have little or no prior site familiarity and would be facing an adversary with capabilities beyond those for which law enforcement traditionally trains.

The staff developed two options for implementing this strategy. Both options assume the existing level of law enforcement preparedness will assist the licensee in neutralizing those elements of the DBT adversary that are present (in the owner-controlled area) within fixed timeframes. Option 1 would establish an SBT based on the time for law enforcement to arrive at the site and plan and execute missions. Option 2 would further reduce the SBTs by recognizing that adversary capability will likely decrease over time due to personnel attrition, resource depletion, and the potential for engagement with law enforcement responders. Option 2 applies staff subject-matter expertise to inform this additional time reduction. The staff acknowledges that on rare occasion, the Mock Adversary Force has been able to increase its capabilities during FOF exercises by acquiring licensee equipment and weapons, including

enhanced weapons; however, the duration of FOF exercises were not appreciably extended when this occurred. Notwithstanding this infrequent occurrence, Option 2 reasonably assumes adversary capability is inversely related to the duration of an attack.

Table 1: Proposed SBT Ranges for Options 1 and 2

Expected Law Enforcement Response Time	Option 1 SBT Range Based on Law Enforcement Response	Option 2 SBT Range Based on Law Enforcement Response and Adversary Capability
2 hours or less	8 hours	6 hours
Greater than 2 hours	10 hours	8 hours

To implement either Option 1 or 2, the staff would revise Inspection Procedure 71130.03 to establish groupings for all power reactor sites based on expected response times (represented by the first column of Table 1) and then use the corresponding SBT in FOF scenario selection. The staff expects that the inspection procedure could be revised in 6 months following Commission approval. The revision would include the addition of an addendum that would provide an SBT for each site. In the process of revising the inspection procedure, the staff would again consult with stakeholders such as FBI and industry. The times in the above table are provided as a proposed concept and may vary slightly as staff continues to engage with stakeholders and revises the inspection procedure.

Option 1 and 2 Advantages

Options 1 and 2 recognize that in an actual emergency, Federal, State, and local government officials will exercise their best efforts to protect the health and safety of the public. Both options may be implemented within the current security inspection program framework. Licensees would not need to create, maintain, or transfer any additional information or documentation for law enforcement use or NRC inspection. A licensee would not need to implement or expand familiarization or training for law enforcement responders. Additionally, Options 1 and 2 could both be implemented without changes to the current regulations and would further risk-inform the security inspection program by focusing FOF inspection resources on those target sets with a shorter TTC damage. Target sets that are not the focus of FOF inspections would continue to be subject to oversight through the baseline inspection program. Option 2 would add additional realism to the SBTs by considering a decrease in adversary effectiveness that would typically occur over time.

Option 1 and 2 Disadvantages

Options 1 and 2 would limit NRC evaluation, during FOF exercises, of licensees' protective strategies for target sets with a TTC damage longer than the established SBT. The generic ranges of SBTs in Options 1 and 2 are based only on the distance between the licensee site and law enforcement and do not consider the differences in law enforcement capabilities across sites. Additionally, the lack of a consistent licensee methodology for calculating TTC damage may result in inconsistency across industry where some target sets may be excluded from performance-based inspections. Further, Options 1 and 2 would not provide an incentive for licensees to enhance coordination with law enforcement. Finally, Option 2 assumes adversary capability always decreases over time; however, as noted above, there have been infrequent occasions during FOF exercises where the adversary capability increased.

Strategy 2 – Security Bounding Time Based on the NEI White Paper Methodology

As discussed above, one way to provide further credit could be the methodology described in NEI's white paper, "Determination of a Site-Specific Security Bounding Time." Further evaluation is needed, however, to assess whether all or part of this methodology should be used. The staff will continue to engage with stakeholders to fully evaluate the proposal in the NEI white paper and will develop a plan for whether and how to implement the proposal, to be provided to the Commission within 9 months, which may include a pilot application of the white paper methodology.

The NEI white paper describes a process that a licensee may follow to receive credit for law enforcement tactical support through the determination of an SBT. Specifically, the NEI proposal describes a process whereby a licensee would (1) develop a site-specific SBT using the methodology described in the white paper; (2) use the SBT to determine the allowable credit for a tactical response by a law enforcement agency (i.e., in the development of target sets); and (3) consider this credited response in the design and evaluation of the physical protection program required by 10 CFR 73.55 (i.e., in the development of the protective strategy).

In its white paper, NEI describes a detailed, multi-step methodology that licensees would use to establish a site-specific SBT for law enforcement tactical team activities. The site-specific SBT would differ among licensees mainly due to variations in law enforcement tactical team response times as well as whether a licensee assumes that law enforcement personnel would provide support in the owner-controlled area only or if they would enter the protected area to provide support. As expected benefits, NEI states that the law enforcement tactical response credited through the SBT process could: (1) allow a licensee to include an action (i.e. operator actions) within a target set if the action can be performed after the SBT and prior to the irreversible onset of radiological sabotage; (2) be considered during the control and evaluation of tactical response drills and FOF exercises, which NEI states would enhance the realism of these activities; (3) assist a licensee with crediting use of beyond-design-basis event response strategies and equipment (i.e. FLEX equipment) in mitigating the loss of a target set; and (4) lead to enhanced planning and response coordination between a licensee and law enforcement agencies. NEI's proposed methodology includes the development of a tactical response plan and supporting procedures to address coordination between the licensee and law enforcement personnel. NEI proposes that the plan and procedures would be verified and validated by conducting drills that could be observed by the NRC staff, including tabletop drills as well as practice drills with the law enforcement tactical teams that would provide the credited support. Finally, the licensee and law enforcement agency would prepare and sign a Letter of Agreement or Memorandum of Understanding to document the agreed-upon actions and activities that would form the basis for the SBT. NEI notes that the SBT process is not intended to create an integrated response plan but is instead focused on developing a tactical plan to facilitate performance of an operator action.

The staff has determined that this SBT methodology has merit and should be further explored. The methodology presents a realistic set of planning considerations for crediting law enforcement assistance, such as helping to ensure site assistance would be available to law enforcement tactical teams during mission planning and execution, conveying mission objectives that support sites' public health and safety priorities, addressing potential communications challenges, and facilitating law enforcement knowledge of, and measures to operate in, the expected environmental conditions at the site. The methodology would also provide licensees the flexibility to determine, through the target set identification process, the law enforcement support for which they would like to receive credit, if any. The white paper

methodology provides for tabletop exercises and practice drills as a means of verifying and validating the role of law enforcement to protect the site. The staff's view is that exercises to assess licensee coordination with law enforcement and the capabilities of law enforcement responders can be conducted using approved guidance and verified through inspection.

Based on the staff's current understanding of the white paper, the staff's position is that providing certain credit for law enforcement response to support a licensee's efforts to interdict and neutralize elements of the DBT can be compatible with the current regulatory framework. Consistent with this position, the staff's view is that crediting some law enforcement assistance using the white paper SBT methodology can be accomplished without a rule change. The staff would work with stakeholders to clarify the proposal in order to determine which aspects of the proposal could be implemented without rulemaking; currently, the staff does not intend to recommend a rulemaking to implement the methodology in the white paper. As explained in Enclosure 3, some staff take the position that rulemaking would be necessary to implement the SBT concept described in the industry proposal.

Providing credit to licensees for law enforcement assistance in defending against the DBT would be a significant change from prior agency practice and the views expressed in some prior Commission statements. Such a change, if implemented, would need to be sufficiently explained and justified. As part of its evaluation of the white paper methodology, the staff will consider developing guidance to credit aspects of law enforcement assistance that would preserve the licensee's ultimate responsibility to meet NRC regulations and defend against the DBT. The staff will also evaluate whether a reinterpretation of existing regulations may be needed through a Commission policy statement.

In developing a plan for whether and how to implement the white paper methodology within the existing regulatory framework, the staff will consider applicable regulatory language as well as prior Commission statements. For example, the current regulatory framework places the responsibility upon the licensee to provide adequate defense against the DBT at all times (see 10 CFR 73.55(b)(3)(i)). The staff understands this provision to preclude the use of an SBT such that a licensee would no longer need to defend the site after a given period of time (i.e. rely solely on law enforcement after, for example, 8 hours). However, the staff's view is that, consistent with the "at all times" requirement, a licensee could consider the credited law enforcement response as a component of its physical protection program, so long as the licensee retains the ultimate responsibility to defend the site against the DBT.

The regulations also currently include prescriptive training and qualification requirements that apply to individuals who implement the physical protection program or defend against the DBT (see 10 CFR paragraphs 73.55(d)(3) and (k)(1), and Appendix B to 10 CFR Part 73). The staff will consider whether appropriate guidance could explain how these requirements would apply to law enforcement responders credited in the physical protection program.

Regarding the Commission's prior statements that "[t]he capabilities of off-site responders are beyond the scope of" the DBT rule, and "a licensee's ability to defend against the DBT of radiological sabotage is not dependent on the availability of offsite responders," the staff intends to consider ways to provide credit such that licensees could credit some operator actions based on law enforcement support. Accordingly, the staff will consider, as part of its plan for this strategy, whether reconsideration of these statements is necessary. Furthermore, the staff will continue to consider that the NRC has already codified its recognition of "the reality that in an actual emergency, state and local government officials will exercise their best efforts to protect the health and safety of the public" in 10 CFR 50.47(c)(1)(iii)(B)." As noted above,

10 CFR 50.47(c)(1)(iii)(B) addresses emergency planning requirements. The staff will evaluate whether a similar presumption should be applied to a licensee physical security plan that includes expected law enforcement response.

The above regulatory and policy considerations apply to implementation of the white paper methodology without rulemaking. A rulemaking approach, although a lengthier and more resource-intensive process, would allow the staff to revise the current regulatory framework and could provide a more straightforward path to implementation of the white paper methodology. A rulemaking would also enable robust stakeholder interaction and could promise more transformational change. For example, a rulemaking could define the complementary roles of the licensee security force and law enforcement by, for example, setting a generic SBT, after which, due to the robust nature and timely response of law enforcement, a site would no longer need to be solely responsible for the defense of the site. Although the staff does not intend to recommend a rulemaking, the staff will continue to evaluate the most appropriate means of providing additional credit for law enforcement response.

As part of its commitment to further evaluate this strategy, the staff will engage stakeholders on whether implementation of the white paper methodology should be limited to law enforcement response in the owner-controlled area or could be applied within the site protected area as proposed. In the public meetings, there was a significant focus on the benefits of law enforcement response within the owner-controlled area. If law enforcement assistance is to be credited within the site protected area, more coordination may be needed between the licensees and law enforcement to ensure the Federal, State, and local officials have sufficient familiarization with the site to be effective in their response to an attack in the protected area.

Further interaction with stakeholders is also needed to evaluate the viability of applying the SBT in enabling licensees to modify their protective strategies (the white paper states that licensees could add to and delete elements from target sets to include actions following the SBT). Staff plans to engage with stakeholders to develop a consistent methodology for identifying target sets when applying an SBT.

The staff plans to continue engaging with stakeholders to fully evaluate the process described in NEI's white paper and will determine whether the process can be endorsed and implemented by the NRC as proposed or in a modified form. The staff estimates it will take 9 months to complete this evaluation and provide a plan to the Commission, which may include a pilot application of the white paper methodology.

Strategy 3 – Credit Using a Sliding Scale of Law Enforcement Capabilities

This strategy involves a staff-developed methodology for crediting law enforcement response. This methodology would allow licensees to establish a site-specific SBT based on the level of demonstrated licensee and law enforcement capabilities. Determination of the SBT would be based on a sliding scale that focuses on two primary factors: (1) the level of coordination, planning, and training between licensees and law enforcement responders; and (2) the site area (owner-controlled area, exterior portions of a protected area, or inside the power block) in which law enforcement assistance would be needed. The second factor is based on the fact that the level of coordination and effort necessary to prepare law enforcement to successfully support site operations increases as one moves from the owner-controlled area to the power block. The staff would evaluate the licensee and law enforcement interactions using factors like those presented in the diagram in Enclosure 2, "Strategy 3 Additional Implementation Detail." Strategy 3 accounts for the fact that, with the proper knowledge, equipment, and training, law

enforcement represents a readily available resource that could help licensees prevent or mitigate the consequences of radiological sabotage. The general principle is the greater coordination a licensee demonstrates, the better prepared law enforcement will be, and the shorter the SBT for the licensee. This methodology provides assurance that law enforcement would be able to provide the support licensees request, because credit would be tied directly to demonstrated law enforcement capabilities.

Strategy 3 would build on the generic SBTs discussed in Strategy 1 and would further distinguish the default SBTs among each of three site areas: owner-controlled area, exterior portions of the protected area, or inside site industrial structures (e.g., the power block). Licensees would have the flexibility to add operator actions and components, including FLEX equipment, to target sets and potentially revise their protective strategies due to law enforcement assistance. By crediting law enforcement response in specific areas of the site or for specific roles within the licensee protective strategy, this option would enable licensees to focus their coordination, planning, and training efforts on specific activities rather than preparing law enforcement to provide generalized support throughout an entire site area. Compared with Strategy 2, the staff-developed crediting methodology provides for a level of credit based on an estimation of the effectiveness of law enforcement. This strategy would recommend a recurring frequency for practice drills to demonstrate licensee and law enforcement capabilities and coordination. Further, this strategy would use standardized, performance-based criteria to reduce the risk of relying on assumed law enforcement effectiveness. A potential enhancement provided by this strategy is that data from implementation may inform a generic assessment of the effectiveness of law enforcement measures as part of the Adversary Characteristics Screening Process.[4]

As with Strategy 2, additional engagement with stakeholders would be needed to fully explore this strategy. Consideration would include: (1) whether rulemaking would be needed; (2) whether to apply the SBT in FOF exercises only versus allowing the licensee to modify its protective strategy; and (3) whether credit should be applied for law enforcement response only in the owner-controlled area or also in the protected area.

Strategy 3 is likely to take the greatest amount of time and effort of industry and staff to implement. Because the amount of credit a licensee receives would be based on demonstration, both licensee and NRC resources would be increased to ensure adequate planning, training, and drilling. Based on initial feedback received from industry, this approach is the least likely to be adopted by licensees. Therefore, the staff does not intend to move forward with further development of Strategy 3.

Staff's Consideration of the Three Strategies

Strategy 1 provides a near-term approach to crediting response by law enforcement in the security inspection program. The staff requests that the Commission approve Option 2. This would provide a means of implementing Strategy 1 to establish SBTs that would be applied in FOF inspections. Both Strategies 2 and 3 could further credit law enforcement response in the design of licensees' physical protection programs. There are significant similarities between

---

[4] SRM-SECY-07-0114, "Staff Recommendations for Revisions to the Adversary Characteristics Screening Process," dated December 4, 2007 (ADAMS Accession No. ML073381044), directed the staff to include "in a generic fashion, an assessment of the integrated effectiveness of applicable existing National, State, and local measures (i.e., such assessment need not be plant-specific)" as step four in the five-step Adversary Characteristics Screening Process.

Strategies 2 and 3, and both are included to provide the Commission with the benefit of the staff's thinking in developing this paper. The staff commits to continue to explore Strategy 2 as a means of implementing this further credit. Therefore, the staff will continue engaging with stakeholders to fully evaluate the NEI white paper methodology as described in Strategy 2 and provide a plan for whether and how to implement the methodology to the Commission within 9 months.

The staff also considered lessons learned from implementing the Integrated Response Program to inform establishing an SBT to credit law enforcement response. Integrated response activities are voluntary efforts, which seek to establish or leverage existing tactical law enforcement capabilities to effectively respond to nuclear power plant sites, so that local, State and Federal governments can effectively meet their responsibility for beyond-DBT incidents.[5] Enclosure 1 provides a history of the Integrated Response Program and lessons learned. SRM-COMSECY-13-0005, requires semi-annual updates to the Commission on implementation of the Integrated Response Program. The staff proposes that this paper serve as the staff's final update to the Commission in response to SRM-COMSECY-13-0005. The staff submits that it is now more efficient and effective to focus staff efforts on the evaluation and implementation of the SBT approach for crediting law enforcement.

Interactions with Stakeholders

The NRC staff sought external stakeholder views on the concepts discussed in this paper during public meetings on November 13, 2018 (ADAMS Accession No. ML19121A246, not publicly available) and December 17, 2018 (ADAMS Accession No. ML19109A195). During these meetings, the staff presented ideas for providing credit for operator actions, FLEX equipment, and law enforcement response.

The staff invited the Federal Bureau of Investigation (FBI) to both meetings to gain its perspective. The FBI provided estimates of travel times for its tactical teams for the various reactor sites. The FBI also explained the difference between familiarization and training with regard to coordination between law enforcement and the reactor site. Familiarization provides an awareness of what needs to be done in response to an attack against the site and the hazards that may be encountered. Training provides opportunities to develop and practice skills under conditions that are like those expected during a real-world attack. The FBI stressed that familiarization is not a substitute for training and that the level of training and drilling is an essential consideration in assuring that tactical teams would be prepared to provide effective support to licensees during attacks.

The Union of Concerned Scientists stated that they were opposed to providing any additional credit for operator actions, FLEX equipment, or law enforcement response beyond what is allowed in current guidance and that the NRC should maintain the policy that licensees are solely responsible for protection against the DBT.

NEI presented views that were generally aligned with its white paper, "Determination of a Site-Specific Security Bounding Time," submitted on January 10, 2019 (ADAMS Accession Nos. ML19078A127 (publicly available version), and ML19010A373 (not publicly available)). The methodology proposed in the NEI white paper is the foundation for the staff's second strategy for crediting law enforcement. A summary of the NEI white paper is included in the

[5] COMSECY-13-0005, "Integrated Response at Nuclear Power Plants," dated February 7, 2013 (ADAMS Accession No. ML12305A419, not publicly available).

discussion of that strategy below. NEI also responded to NRC staff questions posed during the December 17, 2018, meeting and suggested revisions to Regulatory Guide 5.81 in a letter dated January 9, 2019 (ADAMS Accession No. ML19024A499).

Industry stakeholders acknowledged that they have the primary responsibility to defend against the DBT adversary. Many licensees indicated that law enforcement could reasonably be expected to assist in neutralizing adversaries in the owner-controlled area, based on the recognition that, in an actual emergency, State and local government officials will exercise their best efforts to protect the health and safety of the public. Some industry stakeholders stated that protracted scenarios involving adversaries in the owner-controlled area could currently preclude operator actions, resulting in the licensee needing to add additional elements to a target set (such as secondary system components). NEI and industry representatives asked the staff to consider establishing generic SBTs for all power reactor sites. Industry stakeholders voiced diverse views regarding whether they would seek credit for law enforcement support within the protected area or only outside of the protected area.

COMMITMENTS:

1. Staff will issue Revision 1 to Regulatory Guide 5.81 by the end of the first quarter of CY 2020. Along with other changes, the staff will consider accounting for the delay provided by both active and passive measures in determining adversary timelines.

2. Staff will continue ongoing efforts to explore ways to further credit response by local, State, and Federal law enforcement through the NEI white paper methodology (Strategy 2) and provide the staff's plan for whether and how to implement the methodology to the Commission within 9 months.[6] This plan will be consistent with the following staff positions:

    a. Crediting some law enforcement assistance can be accomplished without a rule change. However, the "at all times" provision of 10 CFR 73.55(b)(3)(i) would preclude the industry from stating that they no longer need to defend the site after a given period of time.

    b. Tabletop exercises and practice drills to assess licensee coordination with law enforcement and the capabilities of law enforcement responders can be conducted using guidance and verified through inspection.

    c. Through guidance, and within the current regulatory framework, the staff can address how licensees may include law enforcement response within the physical protection program to assist in defending against the DBT. The staff will consider whether prior Commission statements regarding the scope of the NRC's security regulations need to be reconsidered, and will continue to consider that the NRC has already codified its recognition of "the reality that in an actual emergency, state and local government officials will exercise their best efforts to protect the health and safety of the public" in 10 CFR 50.47(c)(1)(iii)(B).

    d. For some scenarios with a lengthy TTC damage, operator actions can be realistically credited to assist when other target set components are

[6] Some staff in the Office of Nuclear Security and Incident Response (NSIR) do not support this approach to develop further credit for law enforcement response. These staffs' views are described in more detail in Enclosure 3.

compromised (i.e., maintain sufficient margin to ensure that the requirement in 10 CFR 73.55(b)(3) to "prevent significant core damage" is met).

RECOMMENDATIONS:

The staff recommends that the Commission:

1. Approve the staff's request to stop providing semi-annual updates on the Integrated Response Program, as required by SRM-COMSECY-13-0005, in order to focus the staff's efforts on the evaluation and implementation of the SBT approach for crediting law enforcement.
2. Approve Strategy 1, Option 2 to crediting response by local, State, and Federal law enforcement in the security inspection program. The staff will notify the Commission prior to implementing the changes to the inspection procedures.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

Margaret M. Doane

Margaret M. Doane
Executive Director
for Operations

Enclosures:
1. Integrated Response Program: History, Status, and Lessons Learned (OUO-SRI)
2. Strategy 3: Sliding Scale for Law Enforcement Response
3. Summary of Views of Some Staff on Strategies 2 and 3 (OUO-SRI)

CREDITING OPTIONS FOR OPERATOR ACTIONS AND LAW ENFORCEMENT RESPONSE
DATED: May 23, 2019

ADAMS Accession No.: Pkg ML19080A274 * email

OFC	DPCP	DSO	NRR	Region II
NAME	SHelton	MBailey (DCurtis for)	BMcDermott	LDudes
DATE	3/11/19	3/11/19	3/16/19*	3/19/19*
OFC	OGC	Tech Editor	NSIR	EDO
NAME	JMaltese	CRaynor	BHolian (MBailey for)	MDoane
DATE	4/30/19	5/02/19	5/02/19	5/23/19

OFFICIAL RECORD COPY