



Assessment of the U.S. Nuclear Regulatory Commission Security Baseline Inspection Program

IAEA International Conference on Physical Protection
of Nuclear Material and Nuclear Facilities
13 – 17 November 2017

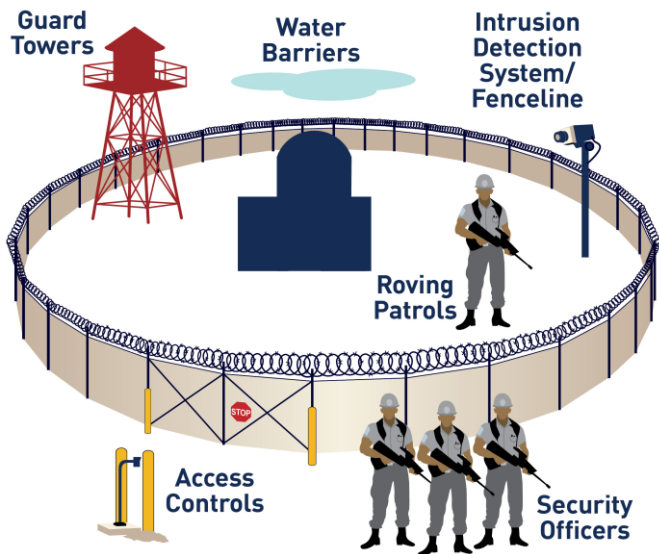
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Purpose

Overview of the U.S. Nuclear Regulatory Commission (NRC) staff's assessment of the Security Baseline Inspection Program, including Force-on-Force (FOF)

Security Components



Content

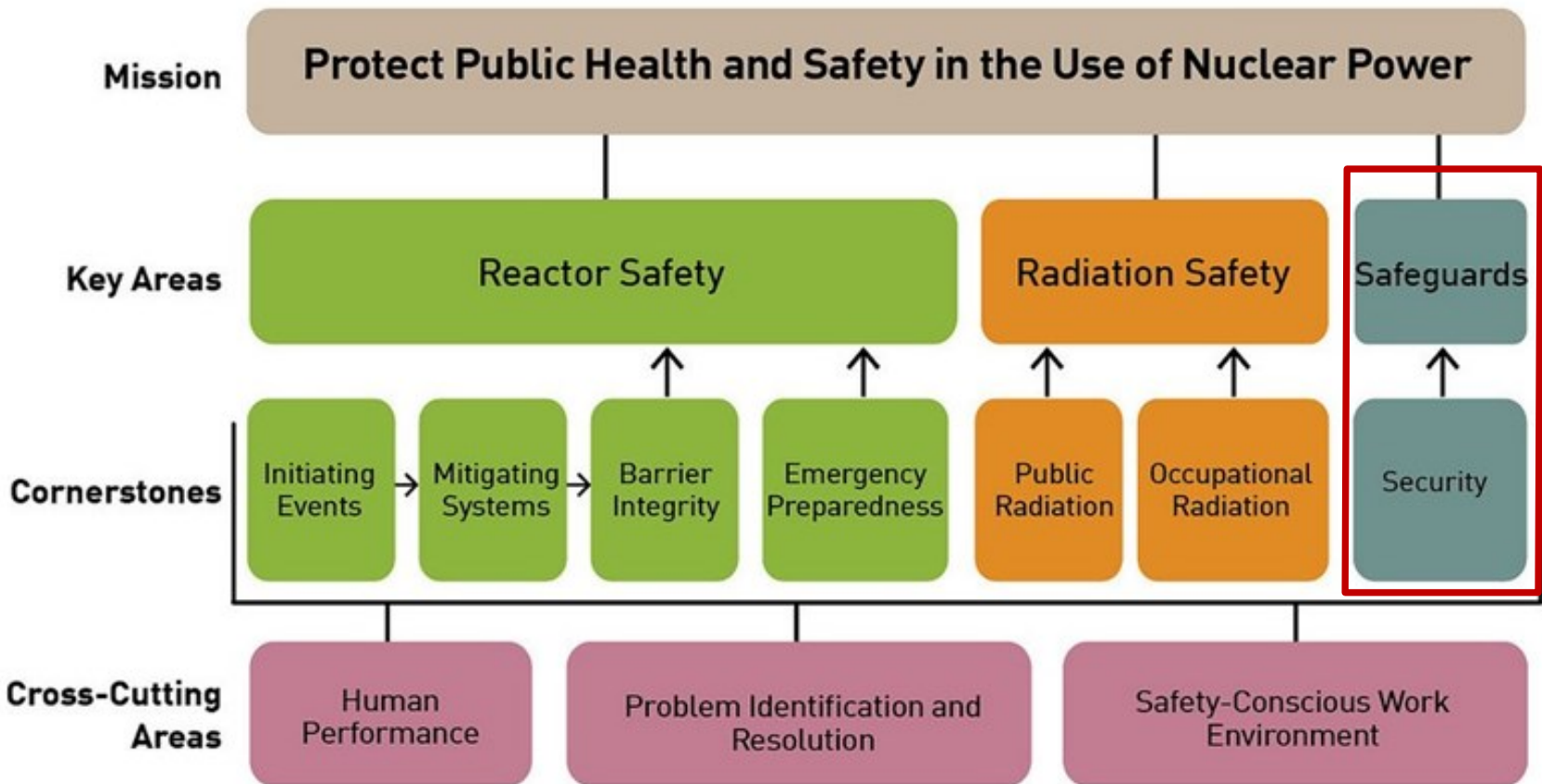
- Background
- Assessment of the Security Baseline Inspection Program
- Assessment of the Force-on-Force Inspection Program
- Options for the Force-on-Force Inspection Program
- Status/Next Steps



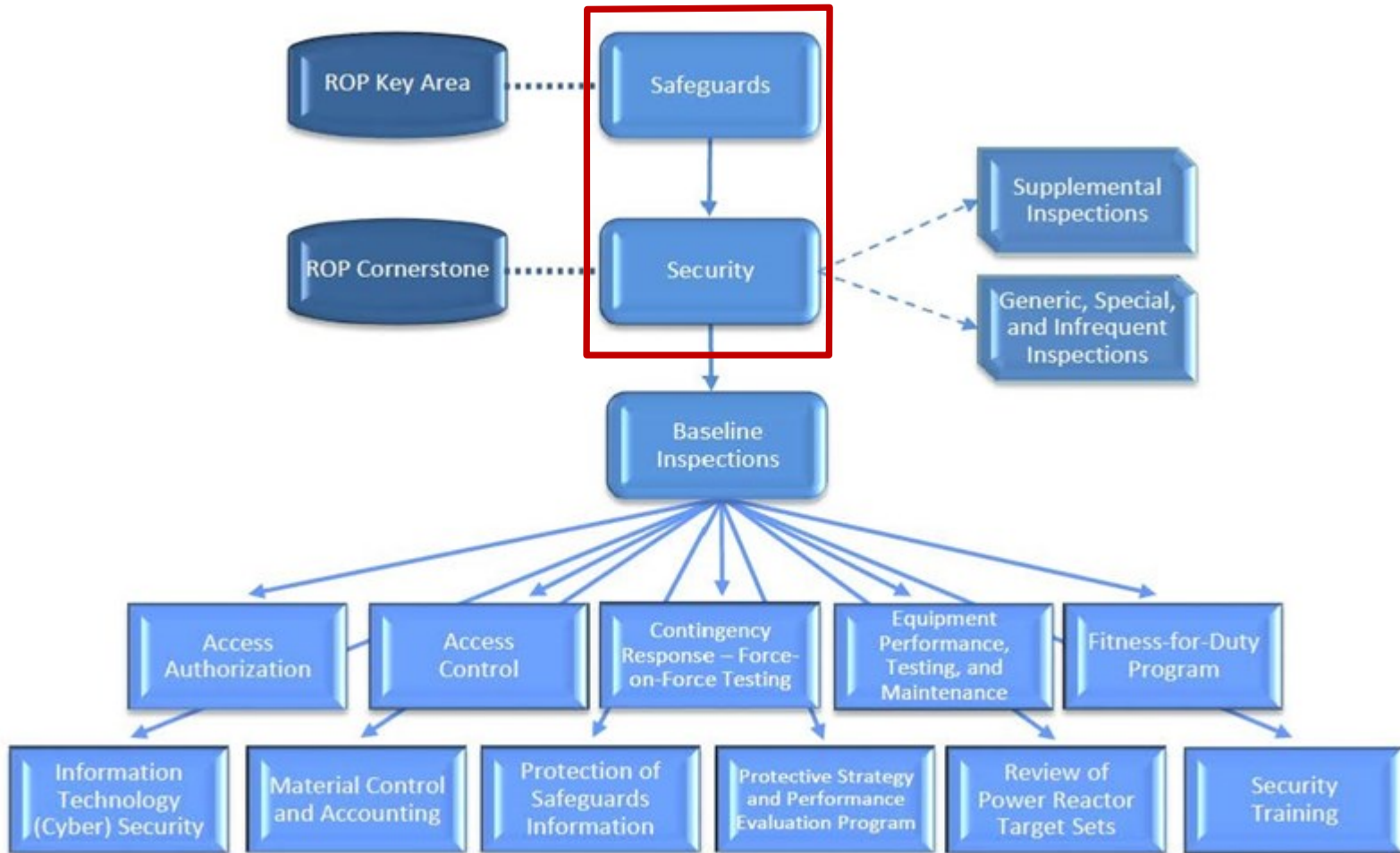
Background

- Section 170D of the Atomic Energy Act of 1954, as amended, requires the NRC to conduct security evaluations at licensed facilities, as the Commission considers to be appropriate, at least once every 3 years, including FOF exercises.
- In October 2016, the Commission directed NRC staff to Conduct an assessment of the Security Baseline Inspection Program, including FOF
 - Avoid a fundamental redesign of the program
 - Limit the evaluation to areas most likely to yield improvements and efficiencies
 - Be mindful that “high assurance” of adequate protection in security regulations is equivalent to “reasonable assurance”
- NRC staff submitted results of the assessment to the Commission in October 2017 in SECY-17-0100, “Security Baseline Inspection Program Assessment Results and Recommendations For Program Efficiencies” (<https://www.nrc.gov/docs/ML1724/ML17240A360.html>)

Security is one of the Cornerstones of the Reactor Oversight Process



Security Inspections Review a Cross-Section of Licensee Activities



NRC Assessed the Security Baseline Inspection Program



- Formed an Inspection Procedure Review Team consisting of policy staff and security inspectors from NRC headquarters and regions
- Focused on power reactor Security Baseline Inspection Program
- Conducted an in-depth review of the security Inspection Manual Chapter and inspection procedures, including evaluation of
 - Inspection periodicity
 - Redundant inspection items
 - Minimum sampling ranges for each inspection procedure
 - Improve/streamline inspection schedule coordination
- Reviewed and analyzed security inspection results
- Reviewed staff effort and resources required for each inspection procedure

The Assessment Identified Efficiencies and Improvements



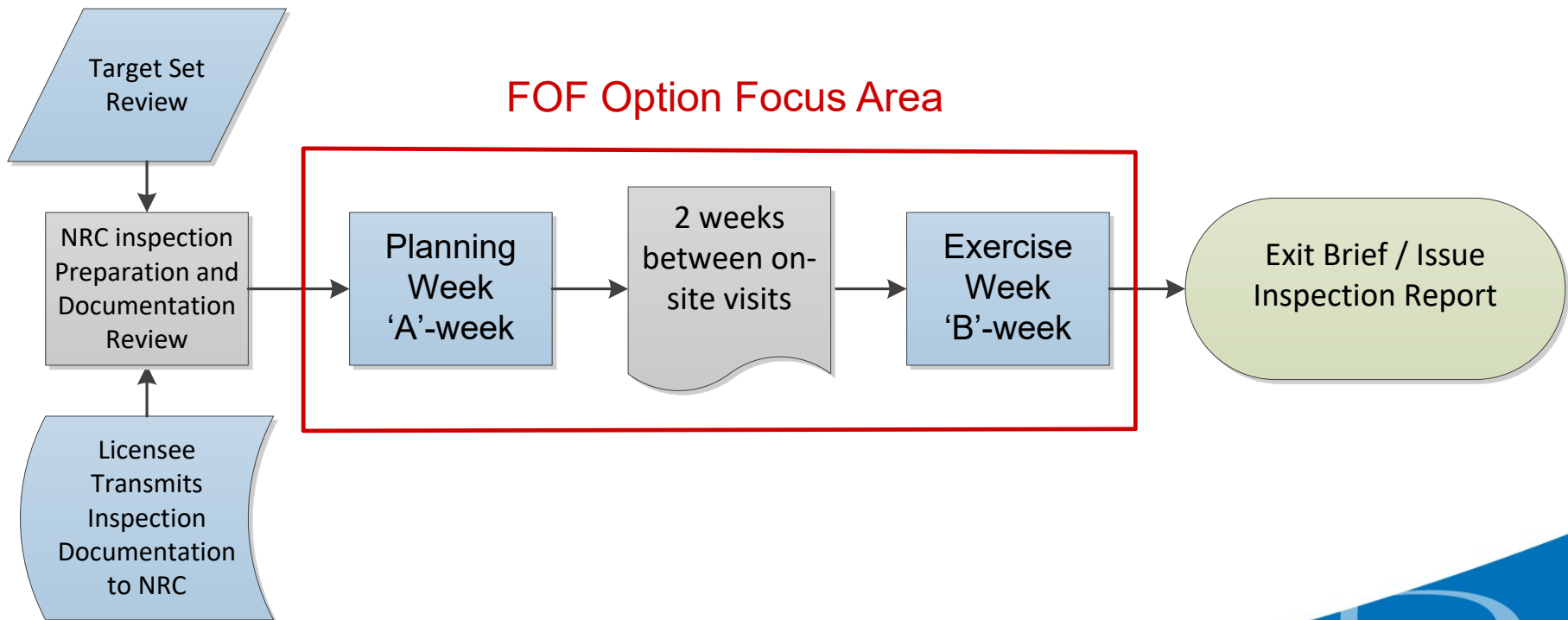
- Inspection Procedure Revision
 - Identified and eliminated redundant inspection items
 - Identified opportunities for increased inspection efficiency
 - Initiated task to revise all security inspection procedures, accordingly
- Initiated task to update the security significance determination processes (SDPs), with a focus on “reasonable assurance”
- Force-on-Force Inspections
 - Identified simple enhancements to the FOF inspection process that could improve inspection efficiency (i.e., reduce inspection hours)
 - Identified more significant FOF program adjustments that could further improve efficiency and provide a different perspective for evaluating FOF exercises

Overview of the NRC Force-on-Force Inspection Process



- Purpose: Verify and assess the licensee's protective strategy to ensure it has been appropriately developed, is being effectively implemented, and provides assurance of protecting equipment and personnel from the Design Basis Threat (DBT)
- FOF inspections include both tabletop drills and performance-based FOF inspection exercises, which simulate combat between the a mock adversary force (composite adversary force (CAF)) and a licensee's security force
- Specifically, the NRC inspection team verifies that the licensee (1) knows what targets to protect, (2) has a strategy to protect those targets, and (3) can effectively implement their strategy
- Significant deficiencies in the protective strategy identified during the exercises are reviewed and corrected by the licensee or, if necessary, compensatory measures outlined in the licensee security plans are put in place

Overview of the NRC Force-on-Force Inspection Process (Cont'd)



The NRC Identified Enhancements to the FOF Inspection Process



Proposed enhancements / efficiencies that could be implemented for each of the FOF inspection procedure options

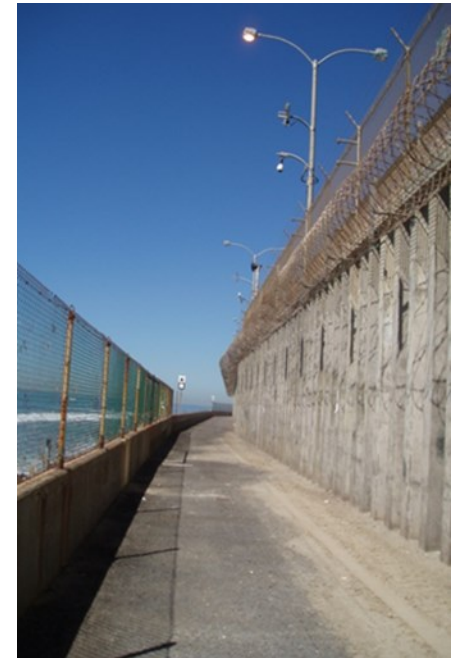
- Add an extra week between the planning and exercise portions of the FOF inspection to permit licensees and staff more time to prepare for the exercise
- Embed the Composite Adversary Force Director with the NRC staff during the planning week to streamline the scenario development process
- The Composite Adversary Force can arrive on-site earlier to allow for training during normal work hours and minimize after-hours or weekend sessions



The NRC Staff Developed Options for FOF Inspection Program Adjustments



- **FOF Option 1:** Implement process improvements and maintain the current program of two NRC-conducted FOF exercises at each nuclear power reactor facility on a triennial basis
- **FOF Option 2:** Revise the FOF inspection program to include one NRC-conducted FOF exercise, followed by a defense-in-depth exercise if the licensee's performance on the first FOF exercise is rated effective or a second NRC-conducted FOF exercise if it is not
- **FOF Option 3:** Revise the FOF inspection program to include one NRC-conducted FOF exercise and an enhanced NRC inspection of a licensee-conducted annual FOF exercise



FOF Option 1

FOF Option 1: Maintain the current program of two NRC-conducted FOF exercises at each nuclear power reactor facility on a triennial basis, and implement process improvements

- Planning week – Plan two FOF exercise scenarios
- Exercise week – NRC evaluation of licensee performance during the two exercises
- Provides program stability while implementing the Inspection Procedure Review Team recommendations
- Smallest resource savings of the three options



FOF Option 2

FOF Option 2: Revise the FOF inspection program to include one NRC-conducted FOF exercise, followed by a defense-in-depth exercise if the licensee's performance on the first FOF exercise is rated effective or a second NRC-conducted FOF exercise if it is not

- A defense-in-depth exercise is a reduced scope FOF inspection that begins testing at or inside the protected area boundary in order to evaluate the internal layers of the licensee's protective strategy
- Maintain the planning week as in Option 1; however, NRC inspection team would include a placeholder in the plan for the second exercise from which a defense-in-depth exercise would begin
- During the exercise week, If the licensee's initial exercise outcome was effective, the NRC would evaluate a defense-in-depth exercise instead of the second full-scope FOF exercise.
- Provides opportunity for the NRC to perform a specific evaluation of a licensee's internal protective strategy
- For licensees that have an effective first FOF exercise, there may be greater resource savings for both the NRC and the licensee than those estimated under option 1
- Risk of unintended consequences if a licensee has an otherwise effective external protective strategy

FOF Option 3

FOF Option 3 - Revise the FOF inspection program to include one NRC-conducted FOF exercise and an enhanced NRC inspection of a licensee-conducted annual FOF exercise

- NRC would plan and inspect one exercise as outlined in Option 1
- NRC will conduct an enhanced inspection of a licensee-conducted annual FOF exercise
 - Licensee developed exercise scenario
 - Adversary force composed of licensee personnel
 - NRC will review and evaluate the performance of the adversary force and the development and implementation of the exercise scenario
- Provides a new perspective for evaluation of licensee implementation of its protective strategy
- Allow NRC to better assess the licensee's understanding of tactics, techniques and procedures that could be used by real world adversaries
- Provide NRC with data to inform potential future program changes and evaluate if licensee-conducted exercises can mitigate conflicts of interest
- Elimination of one FOF exercise will reduce planning time and one day of on-site time
- May result in inspection scheduling complexities and increased travel costs

Status and Next Steps

- Revisions to security inspection procedures and significance determination processes in progress
- NRC staff submitted the assessment to the Commission in October 2017 (<https://www.nrc.gov/docs/ML1724/ML17240A360.html>)
- NRC staff recommended FOF Option 3, and is awaiting Commission decision
- Estimated time to develop an inspection program:
 - Option 2: 18 Months after Commission decision
 - Option 3: 12 Months after Commission decision

Questions?

