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NRC INSPECTION MANUAL

NSIR/DSO

MANUAL CHAPTER 0609, APPENDIX E, PART II

FORCE-ON-FORCE SIGNIFICANCE DETERMINATION PROCESS

0609EII-01 PURPOSE

The purpose of the Force-on-Force (FOF) Significance Determination Process (SDP) is to provide an objective and consistent means of evaluating findings related to licensee exercise performance associated with implementation of its protective strategy during a U.S. Nuclear Regulatory Commission (NRC)-conducted triennial FOF inspection. Findings in the security cornerstone unrelated to exercise performance associated with the licensee's implementation of its protective strategy, including issues associated with indeterminate exercises and target set findings, are evaluated using Inspection Manual Chapter (IMC) 0609, Appendix E, Part I, "Baseline Security Significance Determination Process."

0609EII-02 OBJECTIVE

The FOF inspection process is designed to assess the robustness of a licensee's protective strategy by testing the licensee's ability to adequately protect target set equipment in order to prevent significant core damage and spent fuel sabotage during an NRC-conducted FOF exercise. Generally, a licensee's protective strategy is evaluated on the basis of its ability to protect the Structures, Systems, and Components (SSCs) and credited operator actions that make up the applicable target sets for that facility. Risk models identify SSCs that must be destroyed to achieve significant core damage. The SSCs that must be destroyed to achieve spent fuel sabotage are more directly identified through general plant and system knowledge. Inspectors assess a site's protective strategy and identify potential vulnerabilities to determine which target sets will be used during each site's triennial exercise.

IMC 0609, Appendix E, Part II, evaluates the overall significance of findings associated with the ineffective implementation of a licensee's protective strategy during NRC-conducted FOF exercises. A licensee's exercise performance results in (1) effective implementation of the protective strategy, (2) ineffective implementation of the protective strategy, or (3) indeterminate performance during an exercise, where an overall determination of adequacy is not achieved. Any findings associated with an effective or indeterminate exercise performance shall be evaluated via the baseline security SDP. All findings associated with an ineffective exercise performance shall be assessed via the FOF SDP.

0609EII-03 ASSESSMENT PROCESS

The FOF SDP assesses more-than-minor exercise performance deficiencies identified during an NRC-conducted FOF exercise. When an issue of concern with a licensee's exercise performance is identified, the issue is first screened using IMC 0612, Appendix B, "Issue Screening." All performance deficiencies that meet the more-than-minor threshold will be initially assessed utilizing the FOF SDP. However, PDs that are not associated with an ineffective outcome will be redirected for assessment via IMC 0609, Appendix E, Part I. If the finding is related to ineffective exercise performance, it is screened as a Green finding.

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Inspectors will utilize the FOF SDP to determine the appropriate Re-Visit Action for ineffective and indeterminate outcomes.

When determining the appropriate Re-Visit Action inspectors should consider the extent of the performance deficiency. Specifically, for ineffective outcomes, an NRC-conducted exercise should be considered when the design and overall adequacy of the site's protective strategy is called into question, a licensee-conducted exercise(s) should be considered when only a portion of the site's protective strategy is called into question, and a corrective action measure (CAM) review should be considered for instances where individual actions by licensee personnel during exercise response are called into question.

Inspectors should consider the following when determining the appropriate Re-Visit Actions for indeterminate outcomes, an NRC-conducted exercise is required when no useable data is gathered during the exercise, other Re-Visit actions will be determined based on the inspection team's assessment and Management's input.

If the finding is in the security cornerstone but is unrelated to exercise performance associated with the ineffective implementation of the protective strategy, then inspectors will evaluate the finding using IMC 0609, Appendix E, Part I. For significant issues, Part I provides a path for escalated enforcement. The process for evaluating FOF exercise findings is described below and is depicted in Figures 1 and 2.

03.01 Determine if the licensee's exercise performance resulted in an effective exercise outcome with performance deficiencies.

- a. If the licensee's exercise performance resulted in an effective exercise outcome with associated performance deficiencies, continue to IMC 0609, Appendix E, Part I, "Baseline Security Significance Determination Process."

03.02 Determine if the licensee's exercise performance resulted in an indeterminate exercise outcome.

- a. If the licensee's exercise performance resulted in an indeterminate exercise outcome with associated performance deficiencies, continue to IMC 0609, Appendix E, Part I, "Baseline Security Significance Determination Process;" and
- b. Refer to the Re-Visit Action table in Figure 2 for the appropriate re-inspection activity.

03.03 Determine if the licensee's exercise performance resulted in an ineffective exercise outcome.

- a. If the licensee's exercise performance resulted in an ineffective exercise outcome, continue to Figure 2; and
- b. Refer to the Re-Visit action column to determine the appropriate re-inspection activity.

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03.04 FOF SDP use for re-inspection exercises.

Re-inspection is considered for all exercise outcomes resulting in an indeterminate or ineffective characterization. Refer to the Re-Visit Action column in Figure 2 for potential re-visit activities. The specific criteria for re-inspection activities for Figure 2 follow:

1. Inspections that result in an ineffective outcome require Re-Visit Action. One of the following will be applied based on the performance deficiencies demonstrated during the ineffective exercise: (1) a review of the corrective action measures (CAMs); (2) NRC observation and assessment of licensee-conducted exercise(s); or (3) one NRC-conducted exercise.
2. Inspections that result in an indeterminate outcome require Re-Visit Action. One of the following will be applied based on the quantity and nature of the observations that were gathered from the exercise relative to the implementation of the protective strategy: (1) a review of the corrective action measures (CAMs); (2) NRC observation and assessment of licensee-conducted exercise(s); or (3) one NRC-conducted exercise. Additionally, the performance deficiency(s), if any that caused the FOF exercise to result in an outcome of indeterminate shall be evaluated via the baseline security SDP.

When an issue of concern with a licensee's exercise performance is identified during re-inspection, the issue should first be screened using IMC 0612, Appendix B. If the issue is determined to be a more-than-minor performance deficiency, it is a finding. If the finding is related to ineffective or indeterminate exercise performance outcomes, use the FOF SDP. If the finding is in the security area but unrelated to the licensee's exercise performance, then evaluate the finding using IMC 0609, Appendix E, Part I.

Other factors that may be assessed and reviewed before determining the final significance of findings related to re-inspection activities include:

- a. A review of the final SDP results of the previous finding(s) related to the triennial inspection that caused the re-inspection.
- b. A review of the licensee's corrective actions implemented as a result of the triennial inspection that caused the re-inspection.
 - 1) Were the corrective actions ineffective and/or contributed to the cause of the ineffective implementation of the site's protective strategy or indeterminate exercise performance during an exercise(s)?
 - 2) Is the finding(s) during re-inspection related to new issues unrelated to the corrective actions implemented before the re-inspection activities?
- c. A review to determine the need to conduct additional inspection activities, such as the following:
 - 1) An NRC-conducted exercise;
 - 2) NRC observation and assessment of licensee-conducted FOF exercise; or
 - 3) Review of CAMs taken to resolve programmatic issues related to the finding(s) identified during the re-inspection activity.

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If the NRC becomes aware of situations that are not appropriately captured by this SDP, indicating flaws in the development or implementation of a licensee's protective strategy, NSIR management may exercise discretion to further evaluate the potential deficiency and, if validated, determine the appropriate level of regulatory oversight.

0609EII-04 REFERENCES

IMC 0609, Appendix E, Part I, "Baseline Security Significance Determination Process"

IMC 0612, Appendix B, "Issue Screening"

IP 71130.03, "Contingency Response – Force-on-Force Testing"

Regulatory Guide 5.81, "Target Set Identification and Development for Nuclear Power Reactors"

Figures:

1. Force-on-Force Significance Determination Process Flowchart
2. Force-on-Force Significance Determination Process Tabulation Table for 2 FOF Exercises

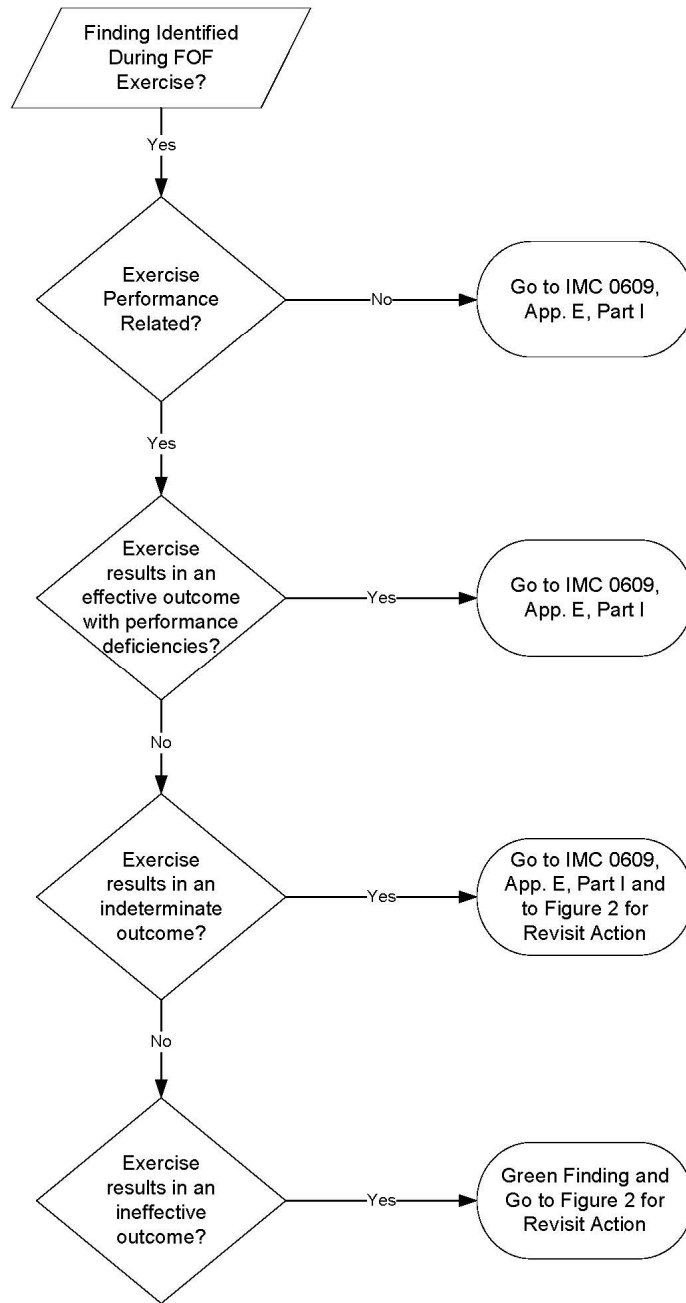
Attachment:

1. Revision History for IMC 0609, Appendix E, Part II

END

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Figure 1 – Force-on-Force Significance Determination Process Flowchart



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Figure 2 - Force-on-Force Significance Determination Process Table

Exercise	Significance	Re-Visit Action
Ineffective	Green	1) CAMs Review; 2) licensee-observed exercise(s); or 3) NRC-conducted exercise
Indeterminate	Determine via baseline security SDP	1) CAMs Review; 2) licensee-observed exercise(s); or 3) NRC-conducted exercise

Re-Visit Action Examples for Ineffective Exercise Outcomes

1. NRC-Conducted Exercise: When there are significant security response force performance issues reflecting one or more deficiencies in the physical protection program.
2. CAMs Review: When there are multiple security response force performance issues or significant controller issues.
3. Observe Licensee-Conducted Exercise: When there are individual response force issues or one or more controller issues.

Re-Visit Action Examples for Indeterminate Exercise Outcomes

1. NRC-Conducted Exercise: When the overall outcome of the exercise cannot be determined and there are no useable observations from the single NRC-conducted exercise.
2. CAMs Review: When the overall outcome of the exercise cannot be determined but useable observations can be gleaned from the single exercise; however, multiple security response force performance issues or significant controller issues were identified.
3. Observe Licensee-Conducted Exercise: When the overall outcome of the exercise cannot be determined but useable observations can be gleaned from the single exercise; however, individual response force issues or one or more controller issues were identified.

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Attachment 1 - Revision History for IMC 0609, Appendix E, Part II

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-decisional, Non-Public Information)
N/A	7/21/05	First issuance.	N/A	N/A
N/A	ML12198A157 07/27/12 CN 12-016	Revised to enhance screening tools for FOF exercise failures and incorporate criteria for marginal exercise performance.	N/A	N/A
	ML13350A408 01/15/14 CN 14-002	Entire document revised to reflect FOF program changes and incorporate 0040 format changes.	N/A	N/A
	ML xx/xx/xx	Complete re-write of the document to address program changes resulting from implementation of Commission direction in SRM-SECY-17-0100 in addition to format revisions to align with IMC 0040.		