

Public Meeting

**February 10, 2010
Glen Echo Room
Bethesda North Marriott
Hotel & Conference Center
(ADAMS ML-100200694)**

Housekeeping items

- Safety first
 - Emergency egress from the room
- Restrooms
- Please put your cell phones & pagers on vibrate
- One break in the Agenda

Agenda for today

- Opening Remarks—NRC Management
- Background Information on the Topic of Discussion—NRC staff
- Discussion of Proposed Enhancements to the FOF Inspection—All
- **BREAK**

Agenda- continued

- Continued Discussion of Proposed Enhancements to the FOF Inspection Program—All
- Closing comments—NRC Management

Options for participation today

- Category 3 means a time for questions
- Multiple ways to participate today-
 - In-Person
 - “Viewing” using the Internet
 - “Listening” using the Toll-free 800#

Please
use the Microphone when speaking

For those participating remotely...

- Out of respect for other listeners:
 - Please mute your phone (*6)
 - Don't forget to un-mute (*6) to ask your question

For everyone who asks a question...

- Please state your name, organization and your comment or question for the panel



Proposed Enhancements For The Force-on-Force Significance Determination Process

Office of Nuclear Security
and Incident Response

Division of Security Operations

Topics of Discussion

- Statutory Basis for Force-on-Force (FOF) Exercises
- The FOF Inspection Process
- Functional Elements of the Adversary Force
- Functional Elements of the Security Force
- Significance Determination Process
- Industry Proposal
- FOF Program Enhancements

Statutory Basis

Atomic Energy Act of 1954 As Amended,
Subtitle D – Nuclear Security, Section 170D,
Security Evaluations

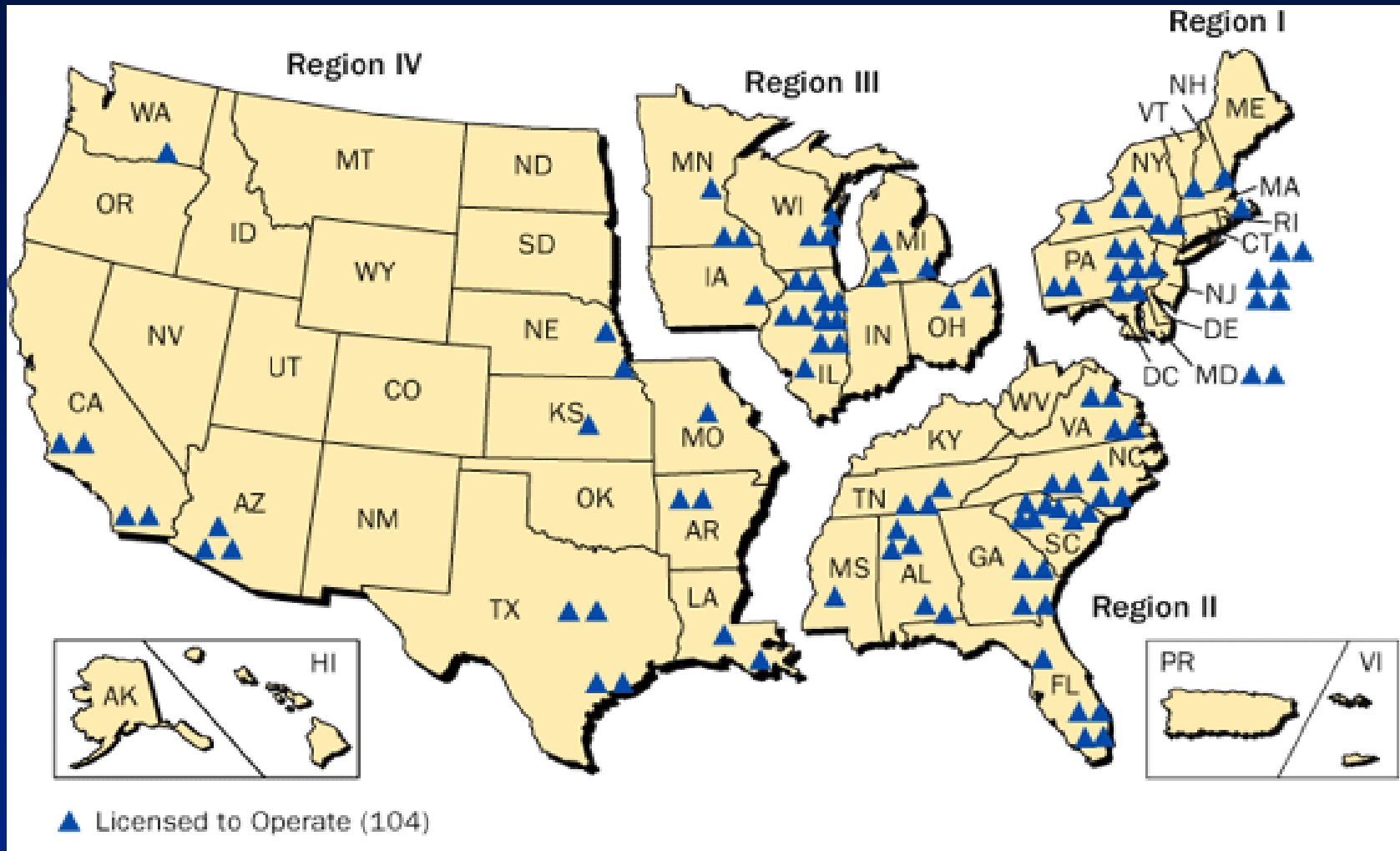
- Mandates that FOF exercises are conducted every three years to assess a licensee's ability to defend against the design basis threat (DBT).
- Exercises must simulate threats to the maximum extent practicable.

Statutory Basis (cont.)

- Exercises must ensure licensees correct defects in performance, if identified.
- Exercise results and corrective actions must be reported annually to Senate and House oversight committees.

FOF Inspection Process

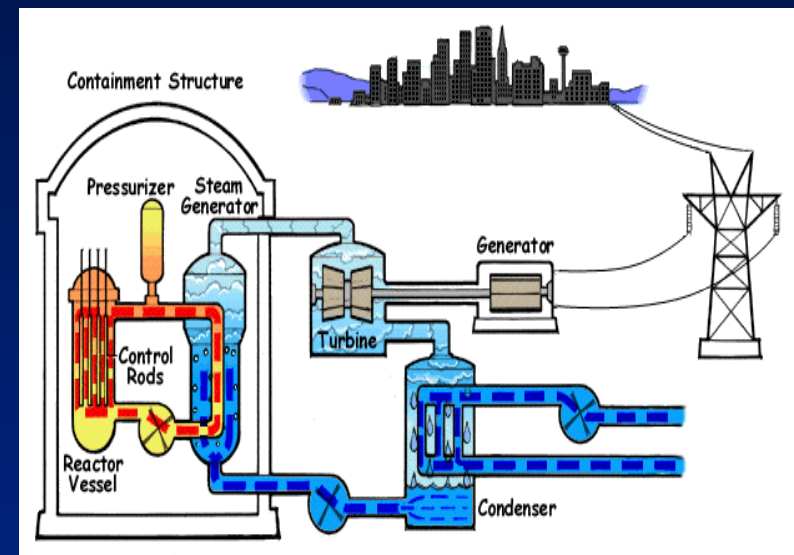
- 10 CFR 73.55 (b)(5) states in part that licensees shall demonstrate the ability to meet the Commission's requirements.
- Current program verifies and assesses the ability of licensee's physical protective strategy to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security of the facilities, and do not constitute an unreasonable risk to public health and safety.
- The current program has proven to be highly effective in evaluating licensee's ability to defend against the DBT.



65 Power Reactor Sites

Target Set Review

- 10 CFR 73.55(f), Target Sets. This paragraph provides requirements for the development, documentation, and periodic re-evaluation of target sets.
- Target sets are a minimum combination of equipment which if prevented from performing their intended safety function or prevented from being accomplished, would likely result in significant core damage (e.g. , non-incipient, non-localized fuel melting, and/or core destruction) or a loss of coolant and exposure of spent fuel.



Verify that the licensee knows what to protect

Planning Week Inspection

- Select Most Attractive Target Sets for Exercise Scenarios
- Observe Protective Strategy Briefs
- Conduct OCA, PA, VA, and Target Set Tours
- Assess Table Top Demonstrations
- Perform Intrusion Detection System Testing
- Review the Licensee's Controller Training Program
- Develop the Concept Of Operation for the Exercise Scenarios

Verify that the licensee has a strategy to protect

FOF Exercise Week Inspection

- Observe Safety Walk-downs
- Observe Safety Briefings
- Observe Controller Briefing
- Observe Adversary Player Briefing
- Observe Licensee Player Briefing
- Observe On Duty Shift Briefing
- Observe MILES Equipment Briefing
- Typically Conduct Three Exercises
- Observe Post Exercise Critiques

Verify that the licensee can execute the strategy

10 CFR 73.1 Design Basis Threat

- Determined violent external assault
 - Stealth
 - Deception
 - Diversion
- Capabilities
 - Single group
 - Multiple groups
 - Combination
- Attributes
 - Well trained
 - Active or passive insider
 - Suitable weapons
 - Hand-carried equipment
 - Land and Water vehicles



Composite Adversary Force (CAF)

- A credible, well-trained, consistent mock adversary force is essential in providing licensees challenging threat scenarios.
- Exercise mission narratives, developed in conjunction with CAF directors, describe the tactics and actions adversary elements utilize in the exercise scenarios.



Planning Considerations



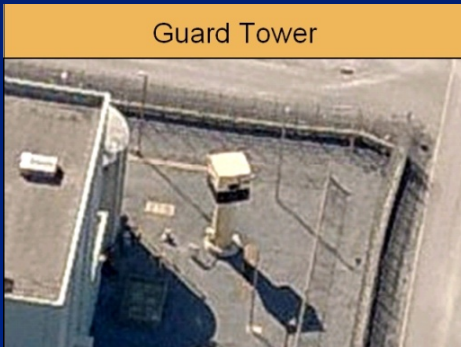
Avenues of Approach

Key Terrain

- *Mission hit time*
- *Weather conditions*
- *Target*
- *Task Organization*
- *Equipment*
- *Concept of Operation*
- *Special Instructions*

Obstacles

Observation and Fields of Fire



Cover and Concealment

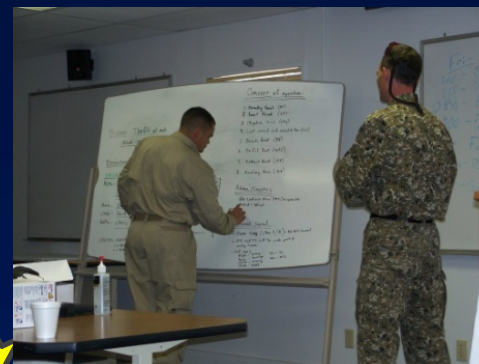


Phased Operation



Exfiltration

Assembly Point



Insertion Point



Objective Area



Interior Tactics

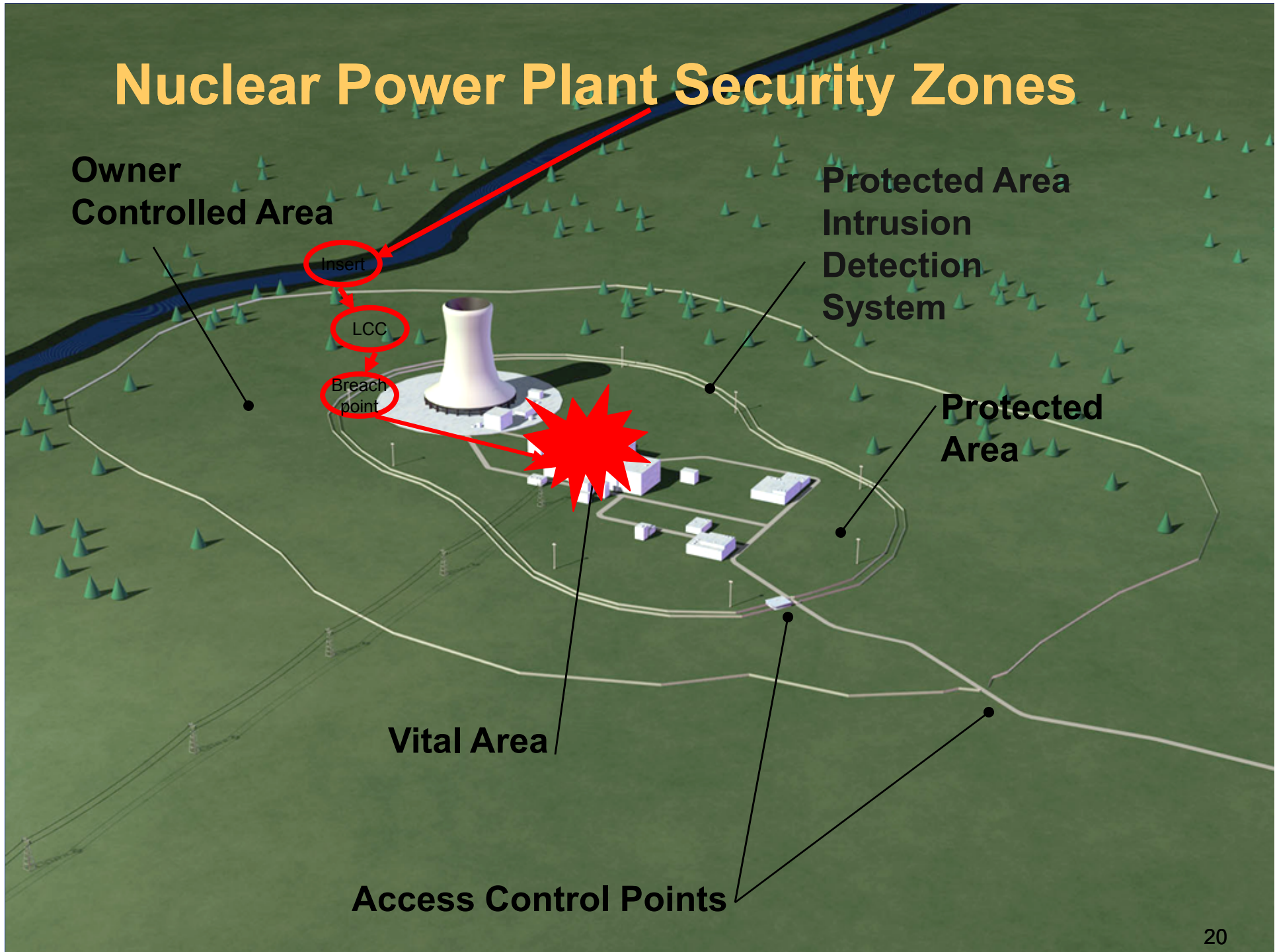
Breach Point



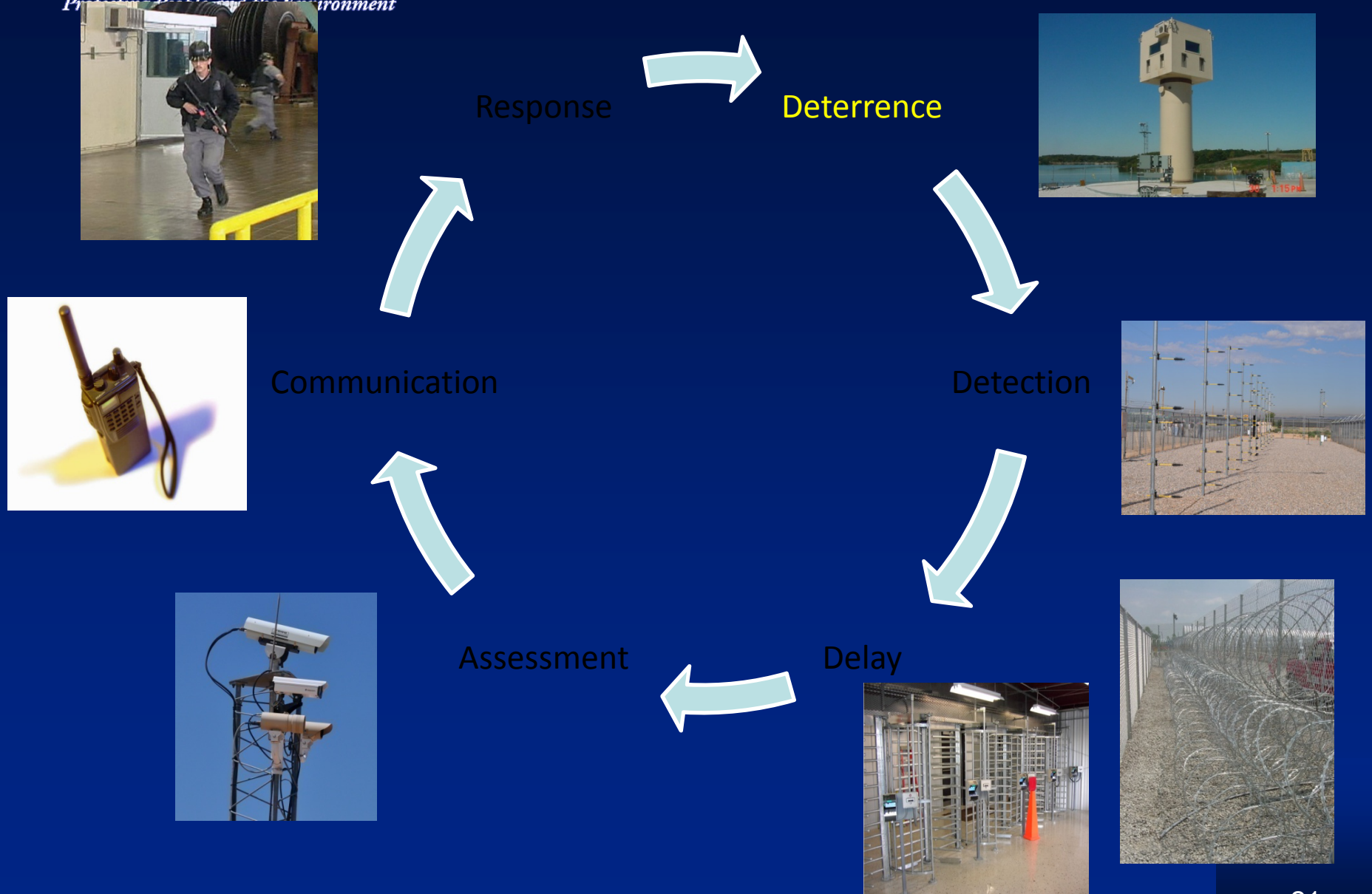
Last Covered & Concealed Position



Nuclear Power Plant Security Zones



Functional Elements of Security



Significance Determination Process

- The purpose of the FOF Significance Determination Process (SDP) is to provide an objective and consistent means of evaluating findings identified during the implementation of a triennial FOF assessment of a licensee's protective strategy.
- The SDP will be used to evaluate the projected outcome of a simulated attack and the compensatory measures that must be implemented as a result of the simulated attack.

Current SDP Flow Chart

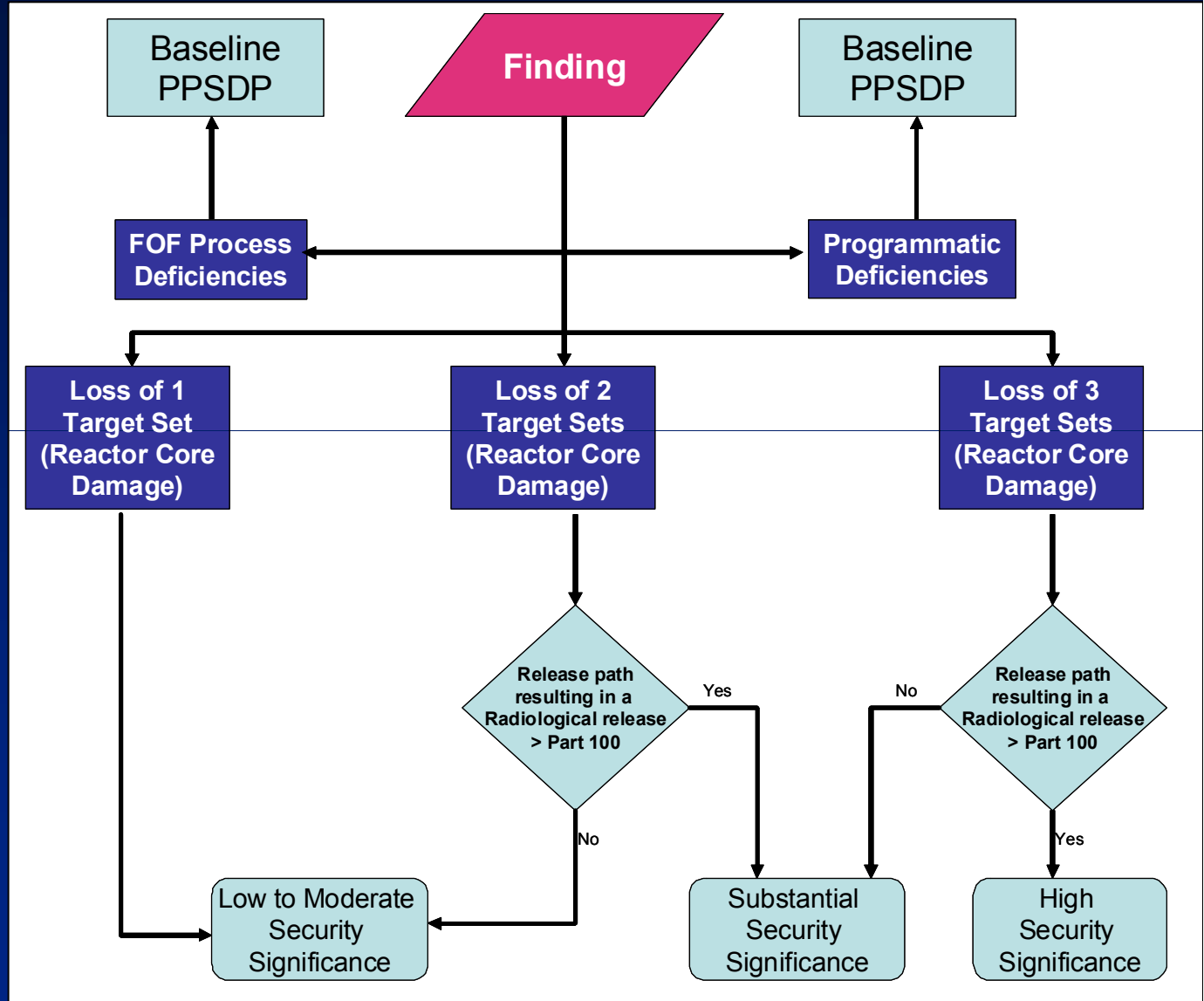


EXHIBIT 2 Security Cornerstone Action Matrix

		Response Bands				
		Licensee Response	Regulatory Response	Degraded Cornerstone	Repetitive Degraded Cornerstone	Unacceptable Performance
X		All assessment inputs (performance indicators and inspection findings) green; cornerstone objectives fully met	One white input; cornerstone objective met with minimal reduction in security performance	Multiple white inputs or 1 yellow input; cornerstone objective met with moderate degradation in security performance	Multiple yellow inputs or 1 red input; cornerstone objective met with longstanding issues or significant degradation in security performance	Overall unacceptable performance; unacceptable margin for security
Regulatory Performance Meeting	None	Branch chief (BC) or division director (DD) meets with licensee	DD or regional administrator (RA) (or designee) meets with senior licensee management	EDO or DEDR meets with senior licensee management	EDO or DEDR meeting with senior licensee management	
Licensee Action	Licensee corrective action	Licensee root cause evaluation and corrective action with NRC oversight	Licensee cumulative root cause evaluation with NRC oversight	Licensee performance improvement plan with NRC oversight		
NRC Inspection	Risk-informed baseline inspection program	Baseline and supplemental Inspection Procedure 95001	Baseline and supplemental Inspection Procedure 95002	Baseline and supplemental Inspection Procedure 95003		
Regulatory Actions ¹	None	Supplemental inspection only	Supplemental inspection only. Plant discussed at AARM if conditions met	10 CFR 2.204 DFI 10 CFR 50.54(f) letter CAL/order Plant Discussion at AARM	Order to modify, suspend, or revoke licensed activities Plant discussion at AARM	
Assessment Letters	BC or DD reviews, signs assessment report (w/inspection plan)	DD reviews, signs assessment report (w/inspection plan)	RA reviews, signs assessment report (w/inspection plan)	RA reviews, signs assessment report (w/inspection plan)		
Annual Assessment Meeting	SRI or BC meets with licensee	BC or DD meets with licensee	RA (or designee) discusses performance with senior licensee management	EDO or DEDR discusses performance with senior licensee management		
External Stakeholders	None	State Governors	State Governors, DHS, Congress	State Governors, DHS, Congress	State Governors, DHS, Congress	
Commission Involvement	None	None	Possible commission meeting if licensee remains for 3 years	Commission meeting with senior licensee management within 6 months	Commission meeting with senior licensee management	

INCREASING SIGNIFICANCE 

FOF Program Review

- In late 2008 through the first quarter of 2009, following the completion of the first cycle of triennial FOF inspections, NSIR staff conducted a review of the Force-on-Force (FOF) Inspection Program.
- The review of program elements incorporated lessons learned and industry best practices and also included an independent audit by the NRC Office of Inspector General (2009).

FOF Program Review (cont.)

- Based upon the results of the review, the staff began to consider ways to broaden the data set included in the SDP for the FOF inspection program.
- NSIR staff presented a conceptual overview of the enhancements to the power reactor industry initially at the February 2009 FOF workshop and at subsequent workshops/meetings through the first and second quarter of 2009.

Industry Proposal For Enhancements

The industry proposal provided standards, objectives, and demonstration criteria in three focus areas that can be used in aggregate to provide a significantly improved evaluation methodology to determine response effectiveness.

The focus areas include:

- Security Performance Evaluation Program
- Protective Strategy
- Triennial FOF exercises

Industry Proposal Objective

- Provide a broader evaluation base that focuses on continuous improvement in the effective implementation of the overall security protective strategy through a comprehensive evaluation program.
- The NRC proposed enhancements address this industry objective for the evaluation program by adding protective strategy and training attributes for consideration during the FOF inspection.

Industry Proposal Concepts

- The industry is proposing the merging of elements of the current FOF inspection process with the new Performance Evaluation Program required by 10 CFR 73 Appendix B, in order to provide additional opportunities to assess data across a broader range of activities.
- The NRC is reviewing other regional based Security Baseline Inspection Procedures such as NRC Inspection Procedure 71130.05 “Protective Strategy Evaluation” and considering some merging of inspection elements to assess a broader range of activities.
- However, the NRC proposed enhancements for merging of inspection elements may not be as extensive as those changes proposed by the industry.

Industry Proposal Discussion

- The industry proposal recommends that parts of the FOF inspection program be modeled after the established and highly effective Emergency Preparedness Program.
- The staff view is that there is merit to some aspects of the industry proposal, however, the proposal, as discussed, did not consider or reflect all aspects and differences of the NRC EP oversight program in relation to the FOF inspection program.

FOF Program Versus EP Program

- The EP program inspectors observe an exercise or drill that is developed and controlled by the licensee.
- The EP inspection team then ensures the licensee conducts an adequate critique of the exercise/drill and appropriately identifies and evaluates opportunities related to the exercise/drill.
- For FOF, the NRC leads and orchestrates the inspection/exercise activities based on established inspection objectives using a dedicated Composite Adversary Force and includes target set analysis and scenario/exercise planning and selection.

NRC Proposed Enhancements

- During the FOF inspection, which occurs over several weeks, a wide range of licensee activities are inspected and evaluated.
- Although the current FOF SDP tool has been effective at facilitating the assessment of the results of triennial FOF exercises, the tool does not consider some aspects of the licensee's overall security programs which are reviewed during the FOF inspection process.

Proposed Process For Program Enhancements

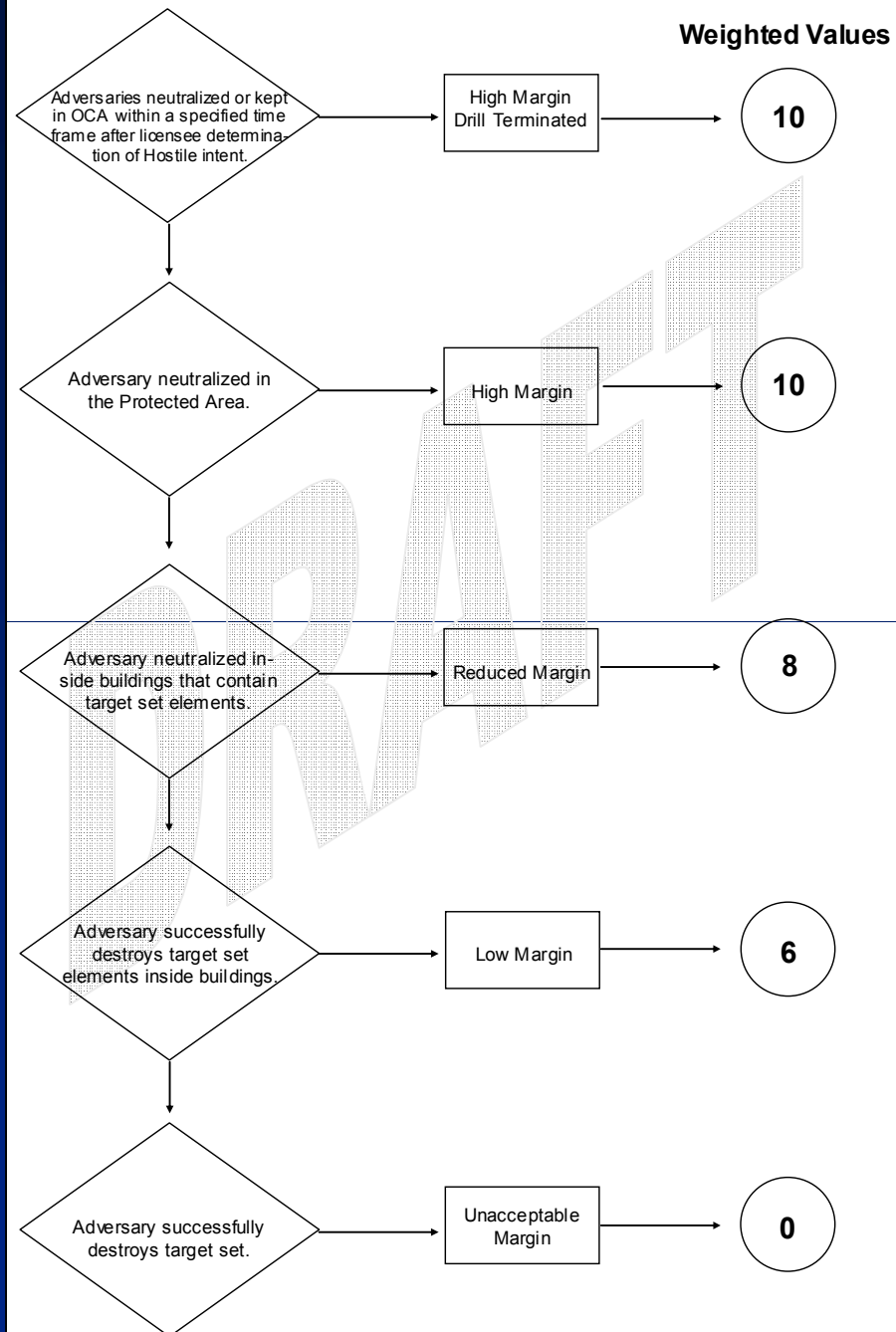
- Licensee performance during the NRC conducted triennial exercises will remain the core program element to be assessed during FOF inspections.
- The enhancement process will evaluate inspection objectives and activities associated with the current program.

Exercise Margin Assessment Tool

- A newly developed “*Exercise Margin Assessment Tool*” will also be used to make an assessment of the licensee demonstration of their protective strategy during the triennial NRC-evaluated exercises.

Exercise Margin Assessment Tool Flow Chart

Force on Force Margin Assessment



Security Performance Assessment

- NRC is developing specific protective strategy and training attributes such as: *Target Set Development, Preparation-Planning Visit (Controller Training), Scenario Matrix Development, Drill Execution (Controller Performance) and Licensee Exercise Performance*, which will be assessed over the course of the FOF Inspection.
- The enhancement program also includes an NRC observation and assessment of licensee performance during the conduct of a at least one required annual FOF exercise that is planned and orchestrated by the licensee.

Security Performance Assessment

Scenario Development Assessment

Area	Annotation	Weight	Assessment Guidelines	Score	Weighted Score
Were there any issues identified related to Trusted Agents maintaining the confidentiality of the Scenarios?	10 CFR 73.21; IP 71130.03	20	No issues identified related to Trusted Agents, score=3 No issues identified related to Trusted Agents, score=0		0
Did the final matrices include sufficient detail, including development of appropriate planned timeouts and anticipation of tactical adversary movement?	10 CFR 73.55 App. B VI (C)(3)(k)	15	Matrices accounted for appropriate timeouts and adversary movement, score =3 NRC intervention required to ensure appropriate changes to matrix, score = 0		0
Did the controller matrices (sequence of events) include all essential mission elements?	10 CFR 73.55 App. B VI (C)(3)(k)	12	Included all essential mission elements, score 3 Did not include all essential mission elements, score = 0		0
Did the licensee provide a cooperative insider to assist in CAF planning?	10 CFR 50.9, IP 71130.03	10	Insider provided appropriate information to CAF; score=3 Insider provided limited or inaccurate information to CAF, score = 0		0
Did the final matrices give appropriate controller responses for earned information and actions for other conditions (e.g, no MILES play areas)?	10 CFR 73.55 App. B VI (C)(3)(k)	10	Matrices include appropriate information and action, score =3 Matrices did not include appropriate information and action, score = 0		0
Did the licensee resolve all exercise conduct issues or utilize the escalation process prior to the beginning of exercise week?	10 CFR 73.55 App. B VI (C)(3)(k); IP 71130.03	10	All issues resolved or identified using escalation process prior to exercise week, score=3 Issues neither resolved nor identified using escalation process prior to exercise week, score=0		0
Did the licensee complete in-processing and badging of CAF team in a timely manner?	Notification Letter, IP 71130.03	8	CAF in-processing and badging completed in a timely manner, score=3 CAF in-processing and badging not completed in a timely manner, score=0		0
Did the licensee ensure appropriate facilities and materials/supplies for the CAF Team?	Notification Letter, IP 71130.03	8	CAF facilities well maintained and appropriate to CAF duties , score=3 CAF facilities poorly maintained and/or moved frequently, score=0		0
Did the licensee provide an appropriate intelligence package to the CAF upon their arrival?	10 CFR 50.9; IP 71130.03	8	Licensee provided complete package to the CAF upon arrival, score=3 Licensee intel package required NRC intervention, score 0		0
Were licensee controller matrices provided to the NRC for timely review?	IP 71130.03	5	Matrices provided to the NRC for timely review, score 3 Matrices not provided to the NRC for timely review, score 0		0
Total Weighted Score:					0
Overall Score:					0.00%

Security Performance Assessment

Overall assessment and significance determination:

- The results of the inspection will be the summation of the results from the three exercises combined with an overall score from “weighted” values for each of the protective strategy and training attributes.

Overall Assessment

- Exercise Margin Assessment Evaluation.
- Security Assessment Score
- Proposed Outcome Significance
 - No Significance
 - Very Low Significance

Exercise Performance Result ¹	Points Gained from FOF Margin Assessment (No of Points)	Security Assessment Score (Expected = > 80%)	Proposed Outcome
3 High Margin	30	Expected	Non FoF Significance (NFS)
3 High Margin	30	Degraded	NFS
2 High Margin 1 Reduced Margin	28	Expected	NFS
2 High Margin 1 Reduced Margin	28	Degraded	NFS
2 Reduced Margin 1 High	26	Expected	NFS
2 High Margin 1 Low Margin	26	Expected	NFS
2 Reduced Margin 1 High	26	Degraded	NFS
2 High Margin 1 Low Margin	26	Degraded	NFS
3 Reduced Margin	24	Expected	NFS
1 High Margin 1 Reduced Margin 1 Low Margin	24	Expected	NFS
3 Reduced Margin	24	Degraded	Very Low Security Significance
1 High Margin 1 Reduced Margin 1 Low Margin	24	Degraded	Very Low Security Significance
2 Reduced Margin 1 Low Margin	22	Expected	Very Low Security Significance
2 Reduced Margin 1 Low Margin	22	Degraded	Very Low Security Significance
2 Low Margin 1 High	22	Expected	Very Low Security Significance
2 Low Margin 1 High	22	Degraded	Very Low Security Significance

Overall Assessment

- Exercise Margin Assessment Evaluation.
- Security Assessment Score
- Proposed Outcome Significance
 - Very Low Significance
 - Low to Moderate Significance

Exercise Performance Result	Points Gained from FOF Margin Assessment (No of Points)	Security Assessment Score (Expected = > 80%)	Proposed Outcome
2 Low Margin 1 Reduced	20	Expected	Very Low Security Significance
2 Low Margin 1 Reduced Margin	20	Degraded	Very Low Security Significance
2 High Margin 1 Unacceptable Margin	20	Expected	Very Low Security Significance
2 High Margin 1 Unacceptable Margin	20	Degraded	Low to Moderate Security Significance
1 High Margin 1 Reduced Margin 1 Unacceptable Margin	18	Expected	Low to Moderate Security Significance
1 High Margin 1 Reduced Margin 1 Unacceptable Margin	18	Degraded	Low to Moderate Security Significance
3 Low Margin	18	Expected	Low to Moderate Security Significance
3 Low Margin	18	Degraded	Low to Moderate Security Significance
1 High Margin 1 Low Margin 1 Unacceptable Margin	16	Expected	Low to Moderate Security Significance
1 High Margin 1 Low Margin 1 Unacceptable Margin	16	Degraded	Low to Moderate Security Significance
2 Reduced Margin 1 Unacceptable Margin	16	Expected	Low to Moderate Security Significance
2 Reduced Margin 1 Unacceptable Margin	16	Degraded	Low to Moderate Security Significance
1 Reduced Margin 1 Low Margin 1 Unacceptable Margin	14	Expected	Low to Moderate Security Significance

Overall Assessment

- Exercise Margin Assessment Evaluation.
- Security Assessment Score
- Proposed Outcome Significance
 - Substantial Security Significance
 - High Security Significance

Exercise Performance Result	Points Gained from FOF Margin Assessment (No of Points)	Security Assessment Score (Expected = > 80%)	Proposed Outcome
1 Reduced Margin 1 Low Margin 1 Unacceptable Margin	14	Degraded	Low to Moderate Security Significance
2 Low Margin 1 Unacceptable Margin	12	Expected	Low to Moderate Security Significance
2 Low Margin 1 Unacceptable Margin	12	Degraded	Substantial Security Significance
2 Unacceptable Margin 1 High Margin	10	Expected	Substantial Security Significance
2 Unacceptable Margin 1 High Margin	10	Degraded	Substantial Security Significance
2 Unacceptable Margin 1 Reduced Margin	8	Expected	Substantial Security Significance
2 Unacceptable Margin 1 Reduced Margin	8	Degraded	Substantial Security Significance
2 Unacceptable Margin 1 Low Margin	6	Expected	Substantial Security Significance
2 Unacceptable Margin 1 Low Margin	6	Degraded	Substantial Security Significance
3 Unacceptable Margin	0	Expected	High Security Significance
3 Unacceptable Margin	0	Degraded	High Security Significance

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Commission Involvement	None	None	Possible commission meeting if licensee remains for 3 years	Commission meeting with senior licensee management within 6 months	Commission meeting with senior licensee management	

INCREASING SIGNIFICANCE

Next Steps

- Evaluate comments from public meeting participants.
- Continue to refine the process and conduct a technical session at the 22nd Annual Regulatory Information Conference March 9 – 11, 2010
- Inform the Commission on the recommended approach for enhancements to the FOF Inspection Program.
- Conduct feasibility assessments in parallel with FOF inspections (1st and 2nd CY 2010) comparing the current FOF SDP to the proposed enhancements for a revised FOF SDP.
- Consider implementation of the program enhancements during the conduct of the FOF Inspection Program in Calendar Year 2010.