

September 1, 2015

MEMORANDUM TO: Michael Layton, Director  
Division of Security Operations  
Office of Nuclear Security and Incident Response

FROM: Dr. Ralph Way, Senior Technical Advisor /RA/  
Division of Security Operations  
Office of Nuclear Security and Incident Response

SUBJECT: SUMMARY OF AUGUST 25, 2015, CATEGORY 2 PUBLIC MEETING  
ON FORCE ON FORCE - TACTICS, TECHNIQUES AND  
PROCEDURES WORKING GROUP (BACKGROUND, TASKS,  
ACTIONS AND PRODUCTS UPDATE)

The following is a summary of the Category 2 Public Meeting held on August 25, 2015. The meeting was chaired by Dr. Ralph Way, Senior Technical Advisor for Security, U.S Nuclear Regulatory Commission (NRC), Office of Nuclear Security and Incident Response (NSIR).

Dr. Way opened the meeting and introduced himself, Mr. Arnold Meyen, Physical Security Inspector Region IV, Mr. Dave Kline of the Nuclear Energy Institute (NEI), Mr. Richard Speer of NEI, Mr. A.J. Clore of NEI, and Dr. Edwin Lyman, Senior Scientist for Union of Concerned Scientists (UCS). Dr. Way directed the meeting participants' attention to a panel of technical staff and introduced them to the audience. The staff members in attendance represented the the Force-on-Force (FOF) Working Group that had been assembled to respond to the Staff Requirements Memorandum (SRM) SRM-SECY-14-0088. The NRC technical staff in attendance were Adam Gendelman, Office of the General Counsel (OGC); Steven Orth, Region III; Juan Peralta, Office of Nuclear Reactor Regulation (NRR); Merritt Baker, Office of Nuclear Materials Safety and Safeguards (NMSS); Rupert Rockhill, NSIR; Daniel Cardenas, NSIR; David Furst, Office of Enforcement (OE); Andrew Letourneau, NSIR; Oleg Bukharin, NSIR; Joseph Willis, NSIR; James Whitney, NSIR; Melissa Ralph, NSIR; Jill Grose, NSIR; and Raymond Gibson, NSIR.

Dr. Way went over the agenda and stated the objective of the meeting was to provide open dialog with industry and public stakeholders. Dr. Way then began his briefing.

Dr. Way presented a background of the NRC FOF Performance Inspection Program, a description of the FOF Tactics, Techniques and Procedures Working Group (TTP WG), FOF TTP WG taskings and commitments, and status of FOF TTP WG products and the next steps.

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Dr. Way discussed SRM COMGEA/COMWCO-14-0001, issued February 11, 2014. By this SRM, the Commission directed the NRC staff to undertake a lessons-learned review of the NRC's FOF performance inspection program. A working group was formed and completed the review. The working group staff provided recommendations with options to the Commission as and identified a number of commitments. The Commission gave staff direction regarding the recommendations and authorized the staff to proceed with the identified commitments. The Commission directed that the staff:

1. Establish an NRC working group to determine how to better integrate knowledge of adversary training methodologies and actual attacks with the tactics, techniques, and procedures used by the NRC composite adversary force, using a formal change control process with stakeholder input;
2. Ensure that FOF exercises continue to be realistic and consistent with the design basis threat;
3. Provide to the Commission with recommendations regarding the need to continue its [the FOF TTP WG's] research and, if the study is complete, any revisions to be made to Composite Adversary Force (CAF) TTPs;
4. Coordinate, through the Nuclear Security Working Group, to fully evaluate the pros and cons of implementing changes to the current configuration to the Multiple Integrated Laser Engagement System (MILES) used during NRC FOF performance inspections and if it would result in an overall enhancement to FOF exercises; and
5. Evaluate the NRC requirements for unattended openings.

Dr. Way further discussed SRM SECY-14-0001 and the Commission Direction on Staff Commitments:

1. Continue working with industry to review and reduce the number of extensive simulations used in developing and executing FOF scenarios by identifying, validating, and benchmarking mechanisms, such as the use of simulation software, to evaluate potential vulnerabilities that may be inappropriate for performance testing during an NRC-conducted FOF exercise;
2. Review and update the physical protection significance determination process (for evaluating the security significance of unattended openings);
3. Issue a generic communication to licensees to clarify the NRC's expectations regarding the implementation of compensatory measures; and
4. Enhance guidance, training, and inspection program documents in the effort to improve the realism and effectiveness of FOF exercises.

Dr. Way described the FOF TTP WG. The working group was formed to determine how to better integrate knowledge of adversary training methodologies and actual attacks with the TTPs used by the NRC CAF. The Working Group is a multi-disciplinary group of NRC staff from NSIR, NRR, NMSS, OGC, OE, and Regions I, II, III, and IV. The Steering Committee is composed of NRC management at the Deputy Office Director and Deputy Regional Administrator level. The FOF TTP WG and Steering Committee were established for an initial period of 18 months.

Dr. Way continued to discuss the status of the FOF TTP WG actions and products and provided the current status of the staff's actions. The FOF TTP WG has completed analyses of adversary training and TTPs, CAF TTPs, and has conducted a gap analysis. Next the FOF TTP WG will solicit and evaluate stakeholder input to formulate its recommendations. The FOF TTP WG expects to provide recommendations to NRC management by December 2015.

The FOF TTP WG was also tasked with evaluating the configuration of the NRC's MILES equipment. Dr. Way stated the status is that staff is collecting information on the MILES equipment being used by licensees. When this is completed, the staff will conduct an analysis to determine the pros and cons on whether to restore MILES to its original configuration. The staff will develop proposals for industry engagement during the process. The staff expects to provide a recommendation to NRC management in June 2016.

Dr. Way described the commitment by the staff to issue a generic communication to licensees to clarify the NRC's expectations regarding the implementation of compensatory measures following the identification of security vulnerabilities during FOF exercises. The staff is formulating a Regulatory Issue Summary (RIS) to communicate the NRC's expectations. The staff expects the RIS to be issued in February 2016.

Dr. Way discussed the commitment to enhance guidance, training, and inspection program documents in the effort to improve the realism and effectiveness of FOF exercises. There are currently no training requirements or guidelines in some performance evaluation program areas. The staff is conducting analyses of the FOF inspection process to determine the need for enhancement and/or the development of guidance or documentation. To date, five potential areas have been identified for guidance development and/or training: simulation control, controller training and guidance, adversary training guidance, mission planning guidance (for planners and evaluators) and formal self-critique guidance. The staff will provide recommendations to NRC management by December 2015

Dr. Way explained Guidance for Potential Enhancement or Development:

1. Simulation Control

- Purpose: To provide a common set of simulations and/or controls for acceptable methods in performance based exercises (e.g., fence breaches).
- Current methods are highly variable from licensee to licensee.

Options:

1. Development of a new regulatory guide specific to simulations.
2. Development of a new regulatory guide on FOF implementation

2. Controller Guidance

- This should address knowledge and skills necessary to be a controller and/or evaluator for performance based exercises.
- Would consolidate NEI 05-05 and NRC's Inspection Procedure IP 71130.03 Addendum 5 guidance.

Options:

1. Would need to be coordinated closely with current revision to RG 5.75, "Training and Qualification of Security Personnel at Nuclear Power Reactor Facilities."
2. Development of a new regulatory guide for controller training and guidance.
3. Development of a new regulatory guide on force-on-force implementation.

3. Adversary Training Guidance

- Purpose: To provide clear expectations and consistency in the training and qualification of mock adversary forces.

- There are currently no clear specific guidelines on training and qualification of mock adversary forces which in some cases has led to large disparities between industry and NRC adversaries.

Option: Preliminary work done in current revision to RG 5.75, Training and Qualification of Security Personnel at Nuclear Power Reactor Facilities.

#### 4. Mission Planning Guidance

- Purpose: To define the training and qualifications of mission planners as well as define how to plan missions (expectations).
- There are currently no training requirements or guidelines on mission planning for adversary forces.

Options:

1. Revise RG 5.75, Training and Qualification of Security Personnel at Nuclear Power Reactor Facilities.
2. Develop a new regulatory guide focused on mission planning by adversary forces.
3. Development of a new regulatory guide on force-on-force implementation.

#### 5. Formal Self-Critique Guidance

- Purpose: To provide guidance on the formal self-critique process and documentation expectations. This would also expand the process to include the licensee-conducted FOF exercises in accordance with staff commitments in SECY-14-0088.
- There is currently no guidance on how to perform this activity, when to perform this activity and what the NRC expectations are.

Options:

1. May be incorporated into a future revision of RG 5.75.
2. Development of a new regulatory guide on force-on-force implementation

Dr. Way highlighted the staff's commitment to review and update the physical protection significance determination process (SDP). The staff is conducting a review of the security baseline SDPs and is in the final stages of completing a revision to the SDP to address unattended openings. The staff also plans to update the SDPs for target sets and physical protection. The staff expects to complete these revisions by early 2016.

Dr. Way concluded his presentation with the next steps for the Working Group. They entail continued work with stakeholders, evaluating stakeholder feedback, completing an analyses, and formulating recommendations for response to SRM SECY-14-0088. The final recommendations will be presented to NRC management by December 31, 2015

Dr. Way then introduced Mr. Dave Kline, Mr. Richard Speer, and Mr. A.J. Clore of NEI to present industry's comments.

Mr. Dave Kline commented on adversary training and TTPs. He stated that NEI has a task force that is ready and willing to engage the FOF TTP WG and that they have had limited interface to date. He described the annual National CAF training and how NEI is training

licensee CAF teams. He emphasized the need for realism of TTPs, the NRC's use of professional planners (many are former advisors), and the impact of negative training.

Mr. Richard Speer and Mr. A.J. Clore reiterated that NEI task force is ready and willing to engage with the Working Group. They stated that the sites are not military settings and therefore not subject to the same application of MILES. They recommended the Working group consider cost savings by utilizing licensee certified MILES (i.e. vehicles, trailers, equipment and personnel).

Mr. Dave Kline discussed NEI's systematic approach to guidance and training. Mr. A.J. Clore discussed NEI's plans to revise NEI 03-11 (to include critique guidance) and NEI 05-05. Mr. Richard Speer discussed the CAF training courses and Mr. A.J. Clore explained that CAF members provide training back to their home stations when they rotate back after completing their assignment to the CAF.

NEI emphasized stakeholder comment timeframes and requested that the FOF TTP consider the workload increases from guidance revisions including, procedure updates and training on revised guidance. NEI commented that excessive simulations detract from the value of an exercise and increase the difficulty of controlling and exercise. NEI asked the FOF TTP WG to consider standard program inputs from Sandia UCNI and DOE for simulation software. They stated a need for realistic, predictable and repeatable SDP's. NEI plans on providing feedback to the FOF TTP WG, revising NEI documents, and conducting workshops.

Dr. Way introduced Dr. Edwin Lyman, of the Union of Concerned Scientists to present his perspective. Dr. Lyman spoke to FOF inspections and public confidence. He stated that, unlike safety inspections, there is little public information about the results of security inspections. Inspection report cover letters, color findings (either green or "greater than green"), and an annual compilation of security inspection findings are all that is released to the public. He commented that, in order for the public to have confidence in nuclear plant protection, there must be high confidence in the process for security oversight. For example, how to explain the apparent lack of visible security at the owner controlled area boundary (OCA) at some plants?

Dr. Lyman went on to speak to the integrity of FOF inspections, stating that UCS welcomes the findings of the lessons-learned review (SECY-14-0088, with redacted Enclosure 1). The current policies and practices for NRC-conducted FOF inspections are consistent with all legal and regulatory requirements, guidance, and Commission direction and no instances were found where licensees were evaluated against an adversary force in excess of the Design Basis Threat (DBT), contrary to NEI assertions. The tactics and techniques utilized by the CAF are in accordance with the DBT and Adversary Characteristics Document.

Dr. Lyman further talked about issues that could affect public confidence. He asked why have members of licensee senior management not have been fully engaged in addressing FOF inspection findings. Why does the NRC no longer make public the FOF SDP? The release of Enclosure 1 of SECY-14-0088 has revealed that a recent SDP revision has reduced the significance of a simulated loss of a complete target set from White to Green in some cases.

Dr. Lyman discussed force-on-force versus baseline security inspections. He stated UCS does not agree with NEI's proposal that the NRC eliminate NRC-conducted FOF inspections and rely instead only on evaluation of licensee-run FOF exercises. UCS also opposes diluting the

significance of FOF inspection findings by combining them with those of other security inspections or adjusting them based on the outcomes of other security inspections. He stated that FOF inspections provide fundamentally different information than the results of baseline security inspections, including licensee-run drills and exercises "... the working group found that licensees' self-assessment programs have not challenged many sites..." – SECY-14-0088, Enclosure 1 (redacted). He went on to say it is important that FOF inspections remain distinct from other security inspections and, in particular, that associated findings are separately considered in the Reactor Oversight Process.

Dr. Lyman discussed TTPs. He stated to maintain public confidence in FOF inspections, assurances are needed that they simulate real attacks to the maximum extent possible while maintaining site safety and security. He stated that the element of surprise must be preserved by creative use of all TTPs consistent with DBT and that it is not only fair but essential for the CAF to utilize novel TTPs to assess the flexibility of licensee contingency response to respond to unfamiliar scenarios. He pointed out that SECY-14-0088, Enclosure 1 (redacted) notes that "licensees are not always prepared to deal with tactics that NRC does not frequently employ during regulated exercises"

On tactics challenged by licensees, Dr. Lyman indicated that SECY-14-0088 Enclosure 1 (redacted) lists a number of CAF tactics that have been challenged by individual licensees (i.e. throwing a rock instead of a grenade, scaling walls without including the time to don safety harnesses (an OSHA requirement) and throwing objects from elevated positions). Dr. Lyman stated that it appears from SECY-14-0088, Enclosure 1 (redacted) that in some cases, FOF scenarios have been challenged because of controller or simulation issues (e.g. use of gas grenades). He stated that credible TTPs should not be excluded merely because they are difficult to simulate, control or evaluate. SECY-14-0088 also makes clear that licensee controller training needs improvement, especially to reduce unplanned timeouts and to address the problem of a "leaning forward" exercise posture. The staff makes a very compelling case for restoring MILES to original condition and he indicated that it is not clear why the Commission referred resolution of that issue to the Working Group. The licensees' concerns about certain TTPs being unfair or beyond the DBT do not appear to be justified. The TTP working group should focus on ensuring that TTPs are challenging and fully take into account real-world events, with appropriate consideration of emerging threats (e.g. so that they are not only reactive, but proactive).

Dr. Way informed the audience this concluded the three briefings and offered the opportunity for the audience to ask questions.

There were no questions or comments and the meeting was adjourned. Dr. Lyman discussed force-on-force versus baseline security inspections. He stated UCS does not agree with NEI's proposal that the NRC eliminate NRC-conducted FOF inspections and rely instead only on evaluation of licensee-run FOF exercises. UCS also opposes diluting the significance of FOF inspection findings by combining them with those of other security inspections or adjusting them based on the outcomes of other security inspections. He stated that FOF inspections provide fundamentally different information than the results of baseline security inspections, including licensee-run drills and exercises "... the working group found that licensees' self-assessment programs have not challenged many sites..." – SECY-14-0088, Enclosure 1 (redacted). He went on to say it is important that FOF inspections remain distinct from other security

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