



AUG 16 2005

MEMORANDUM TO:

Bruce A. Boger, Chair,
DPO Ad-hoc Review Panel

FROM:

Roy P. Zimmerman, Director
Office of Nuclear Security and Incident Response

A handwritten signature in black ink that reads "Roy P. Zimmerman".

SUBJECT:

COMMENTS PERTAINING TO PANEL'S REVIEW OF THE
DPO INVOLVING FORCE-ON-FORCE CRITERIA

In accordance with NRC Management Directive 10.159, "The NRC Differing Professional Opinions Program", I have reviewed the Panel's report and am providing comments. At the outset, let me indicate that I appreciate the efforts of the Panel in thoroughly reviewing the DPO and making recommendations for areas of improvement to the NRC's Force-on-Force (FOF) Program. The FOF program is a vital component of the NRC's inspection program in assessing the licensee's ability to thwart the design basis threat, and it is important that it be an effective and safe assessment tool. I plan to issue my Director's Decision shortly and I benefitted from the Panel's work and recommendations.

The DPO program is also an important Agency process. I wish to do my part to maintain a working environment that encourages employees to make known their best professional judgements. There are frailties to this process to which I am sensitive. In addition to my sending a clear acknowledgment to the submitter for raising concerns and proposals which will improve our FOF program, I am sensitive to the message I may send to the Panel in my attached comments. Therefore, it is also important that I recognize the ad-hoc review panel for the important role it carried out in assessing the submitter's concerns and making recommendations. It is obvious from reading the Panel report that a great deal of effort, research, and thought went into the recommendations.

Although I am in general agreement with the recommendations of the Panel, I am concerned that the manner in which issues are portrayed in the body of the report may give the reader the impression that the fundamental underpinnings of the FOF program may be unsound. It is for that reason that I think it is important to document in the attachment additional information to give further context to the issues raised in the Panel's report. Again, I agree that improvements are warranted in the implementation of the FOF program, and I would like to recognize both the submitter and the Panel for their efforts in identifying weaknesses which need to be addressed.

Attachment: As stated

cc w/attachment
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Jack Davis, NSIR
James Taylor, NSIR
Glenn Tracy, NSIR
Renee Pedersen, OE
William Kane, DEDR

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General Comments:

Although I am generally aligned with many of the views of the submitter as well as the Panel's recommendations, the report itself should provide greater context in describing the NRC's Force on Force (FOF) program. This may be, in part, due to the continued development of the FOF program and its enhancements during the panel's review. Also, it is an additional challenge to perform a review of this sort without the benefit of observing a recent FOF exercise. The report has the potential to mislead readers that the current FOF program is ineffective, unsafe, and undisciplined. This is not the case, although there continues to be areas for further improvement. Discussion with the Panel Chair, subsequent to my reading the Panel's report, indicated that although improvements were considered warranted, the Panel did not have concerns with the continued implementation of the current FOF program.

Tangible and significant enhancements have been implemented over the last several years by both the NRC and nuclear industry making these exercises more realistic and effective. Drill artificialities have been reduced to a level that when exercises are conducted to the NRC's standards, the primary objective of determining whether high assurance of a licensee's ability to defend against the Design Basis Threat (DBT) is achieved.

A program of this complexity will continue to mature, incorporating lessons learned and technology advances. There are several initiatives and tasks that are being considered and implemented to better document the process and enhance the program. The fact that multiple Agency managers, executives, and Commissioners and their staffs, have consistently provided and continue to provide a high level of oversight of the program and its field implementation reflects the commitment of the Agency in its oversight and management of the program. Unsolicited feedback from observers and participants, inside and outside of NRC, consistently confirm that the program and related FOF exercises have proven to be effective and disciplined in their implementation and assessment.

Lastly, it appears that the Panel raised a number of issues and related recommendations beyond the scope of the submitter's concerns. Although views and suggested areas for improvement are desired regardless of their source, I would request you coordinate with the DPO Program Manager on how best to maintain clarity between the submitter's issues and those of the Panel.

Specific comments regarding the report include:

Bench marking the NRC FOF Program (panel recommendation):

For context, the existing NRC FOF program has already benefitted from bench-marking activities including, but not limited to:

- observation by the responsible NRC section chief of a FOF exercise by DOE on a weapons transport
- participation or observation of DOD and DOE FOF exercises by former and current responsible NRC staff
- participation in DOE adversary training by responsible NRC staff
- direct feedback and input from NRC's FOF contractors familiar with both NRC and DOE programs
- membership in the DOD Nuclear Security Policy Verification Committee

- review of MIGHTY GUARDIAN exercise, drill and scenario documentation by the responsible Division Director
- NRC FOF exercise feedback from DOE officials responsible for non-NRC licensed DOE/Naval Reactors facilities
- the current and former employment of several DOE/DOD employees familiar with FOF programs, including the current Senior Lead Security Advisor who had many years with the DOD and Air Force Nuclear Weapons Security Program and the previous incumbent who is now NNSA Associate Administrator of Defense Nuclear Security as the former, responsible NRC Senior Level Advisor
- the current employment of a former special evaluator for the USMC Tactical Exercise Evaluation Control Group, and
- the current employment of a tactical response trainer and several security managers from industry, experienced in FOF.

Composite Adversary Force Performance Attributes (Panel recommendation and page 11):

The performance attributes and standard for CAF performance have already been developed by the staff and approved by the Commission. They are formally established, distributed and are understood by the staff, industry and CAF. Complementary to that standard is the DBT, itself and related guidance. The FOF inspection procedure details specific inspection team activities and the agency's oversight of the CAF's activities in several areas. CAF performance is assessed during each FOF exercise against the existing Commission-approved standard and DBT. Oversight of CAF activities is documented in NRC inspection reports. CAF performance is discussed during the NRC team's daily debriefs and the exit meeting. Issues in CAF performance (there have been none to date since the baseline FOF inspection began in November 2004) would be documented in the related inspection report. The enhanced Significant Determination Process (SDP) accommodates FOF process issues such as CAF deficiencies or poor drillsmanship and drill control.

FOF Safety (Panel recommendation and pages 21-22 of the report):

Safety is paramount and the NRC's and industry's top priority in these complex activities. NRC managers and staff are aware of the deaths resulting from DOE and DOD FOF activities. It is the awareness of those fatalities that led to NRC's identification of the Office of Secure Transport as the contractor offering MILES equipment with the highest level of safety features. The Panel's language appears to imply safety needs to be improved or may be inadequate. NRC managers and staff continue to be vigilant in addressing safety concerns. NRC team leaders and managers and licensee management and exercise participants emphasize safety at the beginning of and throughout each drill. Close NRC oversight of shift briefings with actual responders with live weapons is provided. Specific measures are taken to reduce the inadvertent firing of live weapons by actual responders, including the insertion of chamber plugs and bands requiring additional recognition by responders with live weapons. There have been two incidents to date in this area, both involving National Guard/Naval Militia assets. Neither incident involved the actual manipulation of weapons with live ammunition and were addressed promptly and effectively by drill controllers. Subsequently, both incidents were formally investigated by state law enforcement and National Guard authorities. Although this issue appears to be one of a number of issues outside the scope of the submitter's documented concerns, responsible NRC managers welcome any additional insights or recommendations for further enhancements to this area and requests the Panel provide such insights should any exist.

Need for a Comprehensive Program Review (page 7 of the report):

This section of the Panel report and its conclusion appears to imply there may not be a basis for fundamental aspects of the FOF program. Additionally, the report could be read to imply that NRC's phased approach in re-establishing the program after 9/11 was not a comprehensive review, in and of itself. Comprehensive program reviews and improvements were conducted during 2000 and 2003-2004. Both pre-9/11 and post-9/11 FOF program development was reviewed and approved by the Commission (reference: SECY 02-0223, SECY 03-0147, SECY 03-0187, SECY 03-0208, SECY 04-0083, and SECY 04-0174 along with monthly status reports and periodic briefings to the Commission).

As acknowledged by the Panel, an "orderly phased approach" was used in the resumption of the FOF program after 9/11, benefitting from improvements that had been initiated in 2000. The above-referenced SECY papers and SRMs provide details of the post-9/11 FOF program evolution and related Commission guidance. Comprehensive and extensive evaluation of program enhancements and numerous lessons-learned have been evaluated and implemented as appropriate with industry via the Nuclear Security Working Group (NSWG), as well as licensee emergency planning, operations, and engineering staffs, and NRC contractors, throughout the phases of the formal evaluation process.

Win/Lose Paradigm (pages 7-8 of the report):

"Win/lose" is a "sound bite" type phrase and can have different meanings to different people. The objective of the FOF program is to confirm the ability of the licensee to defend against the DBT. There are three possible outcomes from exercises: Yes, No, or Indeterminate. To say "Yes" or "No," each exercise must be reviewed in detail to identify and assess the impact of artificialities, as well as to assess the effectiveness of the strategy and site security force performance. Such assessment is conducted after each exercise in the current program. The "win/lose" dichotomy appears to imply, incorrectly, that once a target set is either successfully defended or destroyed, the inspection team does not conduct a review of other aspects of the drill and observed licensee and CAF performance. The write-up can give the impression that "Win/Lose" (or "Pass/Fail") and performance-based assessments are mutually exclusive. They are not.

Although some degree of artificiality is inherent in FOF exercises, it is not to a level to negate the effectiveness of a FOF drill as the primary tool in evaluating the licensee's ability to thwart the DBT with high assurance. A properly conducted drill is the most effective tool for assessing site performance and potential artificialities can be controlled and their impact effectively assessed and dispositioned. Artificialities are assessed during the post-exercise critique and are part of the assessment of whether the exercise outcome is a valid representation of the licensee's ability to defend the target sets. The approach considers the attributes of the licensee's performance both in implementing the site's protective strategy, conducting drills, and critiquing its own performance.

Significance Determination Process (SDP) (page 8 of the report):

A revision to the FOF SDP has been issued and supports the staff's ability to process findings beyond those issues stemming from the destruction of target sets and releases greater than Part 100. This revision by the staff was under development and review before the DPO was submitted. The FOF SDP specifically accommodates the assessment of licensee performance, program and FOF process deficiencies.

Objective of the FOF (page 9 of the report):

In response to the Panel's discussion on the FOF program's objectives, the objectives are documented in the related inspection procedure, consistent with Commission guidance and uniformly applied in the field. The concept and practice of assessing the primary attributes of a site's protective strategy and security force (target sets, detection, delay, response tactics, security resources, command and control, and communications) have been a part of the NRC's FOF process since the Operational Safeguards Response Evaluation (OSRE) program. At the end of each drill in the current FOF program, the team leaders discuss these details with their inspectors including: the specific results of the drill, whether or not targets (or target sets) were destroyed, response force performance, Composite Adversary Force (CAF) performance, the overall conduct of the drill, its control and the impact of any artificialities, and other attributes of the site's protective strategy. These insights are communicated to the licensee in the daily team brief and formally summarized during the exit meeting. In addition to the formal documentation of the NRC's inspection and assessment of target sets, intrusion detection systems, response strategy, security force training and site resources, when appropriate and within the scope of the regulatory requirements and the documented inspection objectives, the subsequent FOF inspection reports address other attributes, such as tactics, command and control, and communications.

The current FOF inspection program has been designed to achieve uniform assessment within the mandated regulatory requirements and standards. NRC staff comments on performance beyond NRC regulatory requirements and standards should align with the Reactor Oversight Process criteria so as not to return the FOF program to an area it consciously evolved from in 2000. That evolution is best demonstrated by the efforts to minimize artificialities and achieve increased realism in the exercise process (e.g., explicit target sets, well-developed exercise scenarios, consistent DBT-level mock adversaries (CAF), the use of state-of-the-art MILES, and a complementary SDP). Despite their extensive background in security or tactical expertise, anecdotal and subjective observations and judgments by NRC inspectors on licensee security programs and systems should be discussed and documented consistent with the criteria in the ROP.

Confusion with NRC's Role During the Exercises (pages 10-11 of the report):

Confusion has not been demonstrated by the inspection teams in the performance of their duties during FOF exercises. Inspectors are aware of their roles and responsibilities and NRC management presence at sites has verified staff activities are consistent with Inspection Procedure 71130.03. Staff familiarity with their roles and responsibilities is specifically evaluated and confirmed before NRC FOF inspectors are qualified.

As with other NRC inspections, inspectors do not directly participate in the licensee's activity, but observe and evaluate the licensee's performance. The NRC is responsible for the programmatic implementation, ensuring licensees and the Composite Adversary Force (CAF) are notified of selected exercise dates, ensuring the CAF scenarios are realistic and challenging and are based upon the insights gleaned from NRC and NRC contractor tabletops. NRC observes licensee safety walkdowns, observes licensee controller, adversary, players, and actual on-shift security briefings, agrees to the commencement of each individual exercise (opens the "play" window), closely monitors the exercise in strategic locations, and observes each exercise critique to ensure identified concerns are addressed. The NRC inspection team evaluates the conduct of the exercise, artificialities, and potential findings/violations - including assessment of response force tactics and performance attributes as tied to program objectives

and their impact on the licensee's ability to defend against the DBT, as well as the licensee's own critique. NRC plans, observes and evaluates the exercises and NRC's "active role" means that NRC performs these tasks via close monitoring of licensee, CAF and contractor activities.

NRC Assessment during FOF Inspections (pages 12-15 of the report):

The Panel's report states that "Even violations of NRC requirements might not be considered findings unless they involved target set losses (page 14)". This statement is inconsistent with the staff's actual practice, program guidance and conflicts with the SDP. The staff is unaware that such practices exist in the FOF program.

The Panel report appears to advocate greater emphasis on Inspectors' subjective judgment in assessing security programs, which could return the FOF program to a state similar to that in 1999, which was less objective, risk-informed, understandable or predictable. In contrast, the current FOF program emphasizes performance-based inspection techniques, especially those in security, consistent with Commission guidance on the FOF program. These techniques require the inspector to identify a factual basis for his/her conclusions with a clear nexus to the Agency's requirements and existing standards. Disciplined drills, demonstrating licensee performance in defense of defined target sets provide that nexus.

The Panel's report could leave the reader with the impression that the FOF program is significantly more random than the Reactor Oversight Process (ROP). This is not the case. The ability to defend a target set against the DBT provides the basis for the FOF program, including the significance determination process, just as Probabilistic Risk Assessment (PRA) provides the bases for the ROP SDP. As in the ROP, the requirement to document issues is based on the issue's significance. A performance issue could be a minor violation or an observation, which per IMC 0612, Exhibit E, is not documented in Inspection Reports. However, some findings that did not precipitate the destruction of a target set should be documented in inspection reports. Such findings have been documented in inspections during these FOF activities, such as the use of certain patrols, security officer training, fitness for duty, and target set development. The SDP for the FOF program has been developed to accommodate exercise, process, and programmatic issues and inspection guidance refers such security issues to be evaluated under the baseline program.

Regarding a specific case that received an extensive amount of discussion within the Panel's report, there was a prompt response by NRC staff and management to pursue issues noted by the team. The activity demonstrates that the FOF program can respond in a timely fashion to effectively address issues with licensee performance.

In an effort to provide the proper context for this event, the following details are provided. Due to the FOF team's initially-reported assessment of the findings, Agency management made real-time decisions on the adequacy of the licensee's security program and planned compensatory measures. There were several questions and issues associated with the exercise dealing with the validity of the specific drills' results. NRC management and the inspection team walked through each of the scenarios in question. Despite the questions regarding the results of the drills, a programmatic issue was identified potentially impacting the effectiveness of the site's strategy. Compensatory measures were initiated as a prudent measure. The licensee promptly undertook a comprehensive review of the issues identified during the inspection. Responsible managers briefed additional Agency management, including a briefing to the Commissioner Assistants.

Contrary to statements in the Panel's report, upon a detailed review by the licensee, MILES contractor, and the inspection team, the NRC team and team leader concluded that the two drills in question were indeterminate (one of the drills had resulted in a clear defeat of the mock attack). The inspection report documented the team's basis for its decision regarding these uncertainties, which included uncertainties with the adversaries' and controllers' actions and specific MILES equipment anomalies. Because two of the drills during the exercise were deemed indeterminate, the site's protective strategy could not be validated. As a result, another FOF exercise was planned for the near term. A programmatic issue was pursued by the licensee and in addressing this issue and other program areas, the licensee determined that it would undertake a reassessment of the site's security program. This effort took approximately six months and the site was provided that period of time with Agency-level approval. Compensatory measures were retained throughout the period. Another FOF inspection was conducted at the six month point and the site's specific programmatic issue associated with its strategy development was resolved. The outcome demonstrates that the program is effective in identifying programmatic deficiencies and raising them to the licensee and the NRC in a manner that yields significantly improved performance in a timely fashion. This is a clear example of the programs success.

Regarding the determination of the significance of the finding during this inspection, the team used the Interim SDP. The assessment was provided to headquarters and regional management for their comment. The findings and issues were presented and discussed at a Security Findings Review Panel (SFRP) and supported by this cross-section of representatives from the Agency's offices and regions.

In summary, before a FOF exercise is considered to have confirmed the licensee's ability to defend against the DBT, the impact of known artificialities are assessed. The matter was handled appropriately and in accordance with Agency expectations and policies. Agency management was kept aware of the staff's and licensee's actions. Lessons-learned from this activity have been and continue to be incorporated into the licensee's, industry's and NRC's FOF programs.

Transfer of Issues Into the Baseline Program (page 15 of the report):

No specific concerns have been identified regarding the interface of FOF issues with the regions or the baseline program. There is active regional participation in the FOF exercises and FOF baseline issues have been brought forward and paneled through the SFRP, such as security officer training and range facilities.

Vision for the FOF Program and Orderly Improvements (page 16 of the report):

The Commission has been briefed periodically on the program status and its implementation. Monthly updates on the FOF program status, milestones and pending policy issues are also provided to Agency management. Senior agency executives and Commission staff are routinely briefed on the FOF program, as well as high-level government officials from other agencies and Congressional staff. FOF teams have represented the Agency well in their routine interaction with visitors observing the program in the field. In contrast, the Panel report appears to imply that the FOF program is in disarray because certain FOF staff are uncertain about possible, future changes to the program. In recognition of these concerns, meetings were conducted with responsible staff to provide insights on program expectations and pending policy matters.

Assessment of DOE Program (pages 16-21 of the report):

The Panel report could leave the reader with the impression that the Panel has conducted a sufficient analysis to recommend the NRC adopt a FOF program modeled after the DOE program. The context of the discussion appears inconsistent with the Panel's actual recommendations. It is recognized that the submitter recommended adopting a DOE-type program and it is agreed that the NRC can continue to glean insights from DOE's program (both the strengths and challenges). The Panel's report does not reflect the differences in both the strategy and complexity of the protection of NRC licensed facilities as compared to those in the DOE complex regarding the need for on-shift responders to react to an actual event.

The report does not describe the NRC security oversight program in enough detail to provide proper context. For example, the report omits descriptions of NRC's baseline inspection program which complements the FOF exercises, the oversight and use of licensee resources in the conduct of drills, the regulatory relationship between NRC and its licensees as compared to DOE entities, and other elements relevant in comparing the NRC and DOE programs.

The report repeats in this section the specific issue at one FOF exercise, making the following statement noted above: "The licensee's protective force argued that the loss of a target set was actually a win because an adversary neutralized himself. This 'win' could not be attributed to good protective force performance, yet no finding was identified. And no findings were developed to address these performance issues. As such, the NRC's assessment of the protective force's performance was ultimately determined by management decision and not by a process." This statement is out of context and omits consideration of important facts. Although the licensee pointed out that the mock adversary did in fact terminate himself (validated independently by NRC), that was not the basis for NRC declaring the drill indeterminate. The licensee did not argue this fact as a basis for inaction. As documented in the related inspection report, there were controller and MILES issues during this FoF exercise. The licensee agreed with the NRC's conclusions that although two of the drills were inconclusive (one drill resulting in the defeat of the mock attack): 1) there were apparent weaknesses in the protective strategy, 2) there was a lack of defensive margin, 3) the exercise did not allow for the NRC's validation of the site's protective strategy, and 4) compensatory measures implemented after the inspection were prudent. Upon evaluating the issues and the programmatic finding, the licensee upgraded the security program at the site. Upon review of the plan by NRC, the NRC conducted a retest validating the effectiveness of the upgrades. The Panel's report omits the context that timely action was undertaken by both NRC and the licensee and the result was enhanced security in response to the programmatic finding from the FoF exercise. The programmatic finding was reviewed and commented upon by senior Agency management and the SFRP. This example equates to an effective program. State and local government officials indicated that they considered the NRC's and licensee's actions to be responsible and timely.

Lastly, the Panel's report draws general conclusions based on this specific FOF exercise and does not reflect a more comprehensive and balanced assessment of the many exercises that have been completed to date. The report repeatedly uses the same example as representative of the whole program and this distorts the context in the report and its portrayal of the NRC's FOF program.