

# Leveraging Exercise Programs in a New Fiscal Environment

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August 2009



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## Introduction and Purpose

Disasters can strike anytime, anywhere, with or without warning. Federal, State, local, tribal, and non-governmental agencies and organizations must be prepared to respond to natural and man-made emergencies of many different kinds including tornadoes, hurricanes, wildfires, explosions, earthquakes, floods, blizzards, pandemics, bio-security threats, and terrorist attacks. In the last decade, the preparedness of our nation to respond to these types of disasters has become a pressing concern.

Homeland security, emergency management, public health, agriculture, and other agencies and non-governmental organizations conduct and evaluate exercises to enhance preparedness. The Department of Homeland Security (DHS) helps guide and coordinate homeland security exercise programs across all levels of government. DHS provides a standardized capabilities-based methodology for exercise design and evaluation — the Homeland Security Exercise and Evaluation Program (HSEEP), administers the National Exercise Program (NEP) to coordinate exercise planning across all levels of government, and establishes systems and tools, such as the Lessons Learned and Information Sharing System (LLIS), to support exercise scheduling, design, and sharing of best practices and lessons learned.

Exercise programs are an essential component of preparedness, but is the nation getting the most value from these exercises? Are the lessons learned and the knowledge gained from these exercises being shared widely and acted upon in a systematic manner? Recent Government Accounting Office (GAO) reports and testimony, including comments from the current DHS Secretary, Ms. Janet Napolitano, who participated in a DHS-sponsored Tier 1 National Level Exercise (NLE) as a State Governor, have raised concerns about these specific issues. This paper presents some ideas to stimulate thinking on how to improve current exercise programs and how to reach a much wider audience with the knowledge gained from them.

## The Importance of Exercise Programs

The NEP provides a system for coordinating exercise scheduling, planning, and participation across all levels of government. It categorizes exercises across four tiers that range from Tier 1 – White House directed exercises that include a yearly full-scale exercise (FSE) with full participation (e.g., Federal, State, local, tribal, non-governmental) – to Tier 4, exercises that are sponsored at the local or State level.

By their nature, Tier 1 exercises are the most costly, and thus the focus of much criticism. However, with the exception of actual emergencies, Tier 1 NLEs are the only times where the national response structure is activated with all of the key players present, including Federal, State, and local leadership and emergency response assets. As such, they provide an important opportunity to test and analyze how capabilities come together vertically through all levels of government and horizontally across jurisdictions and affected regions. These exercises provide a unique insight into national readiness and how prepared we are to respond to complex, real-world disasters and emergencies.

In addition to Tier 1 exercises, jurisdictions are increasingly coming together to sponsor regional exercises and exercise programs as a result of regional funding programs such as the Urban Areas Security Initiative and other regional initiatives. These exercises provide similar opportunities to evaluate the integration of capabilities across regions.

## Challenges for Exercise Programs

Tier 1 NLEs represent valuable national learning opportunities; however, they reach only a small audience at the State and local levels, leading some to ask whether their high cost is justified. For example, Top Officials 4 (TOPOFF 4), held in 2007, involved participants in only two States and one territory. It uncovered significant national challenges with respect to the response to Radiological Dispersal Devices (RDDs), but these lessons were not widely shared until very recently.<sup>1</sup> The narrow reach of most NLEs limits the larger homeland security community's ability to gain critical, real-time learning value upon the NLEs' completion.

In part to address the issue of limited participation, NLEs are now being planned as regional activities that engage many more States and localities. Participants also have the option of participating at a “command-post” level, whereby they activate command centers and simulate the field play. The exercises are also tackling new, challenging scenarios with an Improvised

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<sup>1</sup> The After Action Report was posted to LLIS in June of 2009, more than year after the exercise was completed. The NEP did host a National After Action Conference in April 2008, where some issues and lessons learned were shared with other States, and posted the Quick Look Report on LLIS in early 2008.

Nuclear Device (IND) scenario planned for 2010 and a major earthquake for 2011. To effectively accommodate increased and varied participation as well as the challenges these scenarios pose to exercise designers, the exercises will need improved simulation and more dynamic exercise control; for example, NLE 2010 planners have the challenge of simulating widespread damage to communications systems as result of an IND electromagnetic pulse while trying to create a realistic exercise environment for player response. Regional exercise programs will have similar challenges.

Although programs for sharing lessons learned and implementing corrective actions have long been a component of emergency management and homeland security policy, similar operational problems continue to surface repeatedly during large, multi-jurisdictional exercises, like the Top Officials exercise series, and in the responses to major events such as Hurricane Katrina. Examples include breakdowns in coordination and information sharing among agencies and jurisdictions. These breakdowns often take place in the “seams” of the vertical and horizontal response structure, and typically only become visible in Tier 1 exercises. The breakdowns are often the reason why specific capabilities are not brought to bear in a timely and effective manner. As such, they reflect complex underlying issues in our national homeland security system that are challenging to fix. Their persistence also indicates that despite the large national investment in Tier 1 NLEs and similar exercises, we are not learning from these exercises in a manner that allows us to address these issues satisfactorily.

To address these concerns, we provide recommendations aimed at helping the NEP and other exercise programs continue their critical roles in national preparedness and create greater value and expanded learning in a climate of limited resources. Our focus is on large, multi-agency, multi-jurisdictional exercises like Tier 1 NLEs because of both their wide participation and high costs and the fact they provide a unique insight into national preparedness. Many of the recommendations we provide are also applicable to other exercises.

## Exercise Design and Execution

*Broadening Participation.* In coordination with Tier 1 NLEs, virtual or spin-off exercises could be hosted to incorporate additional participation by senior officials and personnel in non-host States. There are a variety of Web-based and other technologies that could be used to share components of an ongoing NLE with a larger audience. These participants could react to the decisions and actions of the host States in real time or spin off their own exercises to discuss the scenario from their perspectives. With respect to the former, participant reactions could then be incorporated back into the larger exercise. For example, State and local senior officials may react to a terrorist attack outside their jurisdiction by requesting information from the Federal

Government on threat and protective action recommendations. Relaying this request back to Federal players could increase exercise realism.

*Improving Simulation and Exercise Control.* As described earlier, improved simulation and a more dynamic form of exercise control are needed to address the challenges of increasing the focus of exercises to regions and new scenarios. As the scope of exercises expands geographically, the requirements for control and simulation increase in complexity. Realism is lost when non-participating agencies and organizations are not effectively simulated and when players are unsure of the rules of the game and how to interact with simulated entities. The National Simulation Center is a new resource for simulating Federal Government agencies, and it has the potential to help local, State, and Federal agencies incorporate other Federal Government actions into their exercises. Similar improvements in exercise control can help move exercises from overly planned and scripted events to free-play environments where players make decisions and experience the impact of those decisions. This type of environment is necessary to effectively see how well capabilities are integrated and to uncover the types of issues that are seen in the complex, real-world events.

*Testing What Matters Most.* Design of exercises should leverage existing homeland security risk assessment processes, including the ongoing development of a National Homeland Security Risk Assessment, to effectively inform identification of exercise objectives, participants, and scenario design. Designing realistic and credible risk-informed exercises will allow the sponsors to test the capabilities that are of most importance nationally for the risks that are of greatest concern. Such an approach will also greatly improve the meaning and relevance of exercise results for informing an understanding of national capabilities. Similarly, selecting the appropriate locations to test national capabilities associated with a particular risk scenario can be facilitated by an analysis of where that risk is most prevalent. The ideal locations and manner for testing those capabilities may prove to be physical in nature, as in a large field exercise, or may be virtual, using a participant's computer or mobile device.

## Evaluating Performance and National Preparedness

*Focus on the Response System.* Similar to lower tier exercises, Tier 1 NLEs provide an opportunity for individual jurisdictions or agencies to assess their capabilities and HSEEP provides a methodology for doing this. As we discussed earlier, Tier 1 NLEs and similar regional exercises also provide a critically important opportunity to assess the horizontal and vertical integration of capabilities—that is, the “system of systems” involved in prevention or response activities. Evaluations of Hurricane Katrina and previous Tier 1 exercises have shown that it is at the horizontal and vertical seams where the national response system breaks down in complex events. Analyzing this is a complicated task that is not adequately addressed in HSEEP. Thus it

can be overlooked if the national evaluation plan is not designed to specifically focus on these issues. Individual jurisdictions and agencies can continue to evaluate their own capabilities, but planners should also consider implementing an overarching methodology to assess the integration of capabilities.

*Employ Reconstruction Analysis.* The methodologies used to evaluate Top Officials 4 and the two previous TOPOFFs are starting points for this overarching evaluation approach. These evaluations applied a technique called reconstruction that is used to analyze complex, real-world operations. This technique systematically captures data on decision-making and the actions taken to implement capabilities. These data are then used to identify and understand the problems that arose, and ultimately to provide the information necessary to craft corrective actions. Quantitative measures can be used where appropriate, but it is important to recognize that exercises are essentially single realizations of experimental results, which limits the significance that can be attributed to quantitative measures.

*Analyze Performance to Understand Capabilities.* The objective of exercises should not be simply to assess performance of specific capabilities in a specific scenario, but also to develop an understanding of how those capabilities might perform in other situations. In that way, a realistic understanding can be developed of how national capabilities can be expected to perform in a different set of circumstances in the real world. Treating exercises as a way to test and analyze capability performance, and extrapolating that performance to other scenarios, provides an invaluable means for developing a true understanding of national preparedness. Such an approach allows exercise results to be integrated with findings from capability assessments and performance in real-world operations to develop a much richer picture of actual capabilities and critical capability gaps.

## Leveraging Evaluation Results to Enable Learning

*Make AARs More Accessible and More Quickly Available.* In accordance with HSEEP, After Action Reports (AARs) and Improvement Plans are produced for exercises, including Tier 1 NLEs. This information can be shared (belatedly in the case of TOPOFF 4) through the LLIS. Because of their breadth and complexity, Tier 1 NLEs result in lengthy AARs. This fact, combined with the delay in posting AARs on LLIS, means that by the time exercise lessons have been identified and widely disseminated, much of the momentum for learning from the exercise has been lost. A higher priority should be placed on speeding the identification and broad-based distribution of key exercise lessons from these significant investments. Additionally, to make key lessons and findings more accessible to a national audience, they should be broken out and posted individually on LLIS in a way that is easily searchable and retrievable.

*Create Broad-Based Learning Opportunities.* To further learning across a broader audience, the knowledge gained through conducting Tier I NLEs should be translated into learning opportunities for local, State and Federal agencies. One specific example of a translation opportunity is to leverage the reconstruction described earlier. This rich data source can be used to develop repeatable training exercises that will allow other jurisdictions to “re-play” the scenario, see the actions and decisions of Federal agencies and other jurisdictions, and examine their own decisions and actions in this complex environment. A weeklong Top Officials exercise, for example, could be effectively reduced to a half-day interactive session that would provide decision makers who did not participate in the exercise with an opportunity to replay events, consider how they might respond to the key decision points, and learn from what actually occurred. A variety of technologies could be used to host these kinds of repeatable training exercises, and such a strategy would profoundly expand the reach of existing exercises, greatly magnifying their benefit for a national audience.

*Improve Integration with Preparedness Efforts.* The NEP needs to be better integrated with ongoing national preparedness efforts, like the maintenance of the National Response Framework (NRF) and National Incident Management System, training programs, and the further development of the Target Capabilities List and National Planning Scenarios. Although the NRF evolved over the same time period as the previous three TOPOFFs, these two efforts were not integrated. For example, DHS released the NRF in January of 2008 at the same time the Top Officials 4 AAR was being finalized. No mechanism was in place to integrate these two efforts, and the NRF did not resolve the issues identified in the AAR. In the future, the Federal Government as a whole needs to develop a structured system that translates the lessons learned through NLEs into policy and program improvements that advance the preparedness of the Federal Government and its State, territorial, local, and non-governmental partners.

## Conclusion

These recommendations can help the NEP and other exercise programs to continue their critical roles in national preparedness and create greater value and expanded learning in a climate of limited resources. Exercise planners should design and evaluate exercises to maximize their potential for assessing performance and informing a better understanding of capabilities. Exercise evaluation should be better integrated with other preparedness programs, and the results should be disseminated for maximum learning.