



**Homeland  
Security**

**Top Officials (TOPOFF)  
Exercise Series:  
TOPOFF 2**

**After Action Summary Report  
For Public Release**

*December 19, 2003*

## Introduction

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Top Officials 2 (TOPOFF 2) was a Congressionally-mandated, national terrorism exercise that was designed to identify vulnerabilities in the nation's domestic incident management capability by exercising the plans, policies, procedures, systems, and facilities of federal, state, and local response organizations against a series of integrated terrorist threats and acts in separate regions of the country.

TOPOFF 2 was the largest and most comprehensive terrorism response exercise ever conducted in the United States. The exercise scenario, which was played out from May 12 to May 16, 2003, depicted a fictitious, foreign terrorist organization that detonated a simulated radiological dispersal device (RDD) in Seattle, Washington, and released the Pneumonic Plague (*Yersinia pestis*) in several Chicago metropolitan area locations. There was also significant pre-exercise intelligence play, a cyber-attack, and credible terrorism threats against other locations. The exercise brought together top government officials from 25 federal, state, and local agencies and departments, and the Canadian Government to test the domestic incident management in response to WMD terrorist attacks in the United States.

The first TOPOFF exercise, TOPOFF 2000, was a single, no-notice, exercise co-chaired by the Department of Justice and the Federal Emergency Management Agency (FEMA) in May 2000. Unlike TOPOFF 2000, TOPOFF 2 was designed as an "open" exercise in which participants were introduced to the exercise scenario prior to the exercise through a cycle of activity of increasing complexity that included:

- a series of seminars that explored emergency public information, RDD response, bioterrorism, and national direction and control issues; and
- the *Top Officials Seminar* that brought together top government officials from 25 FSL agencies and departments, and the Canadian Government, in a roundtable discussion to explore inter-governmental domestic incident management in response to WMD terrorist attacks on the United States.

The purpose of the open exercise design was to enhance the learning and preparedness value of the exercise through a "building-block" approach, and to enable participants to develop and strengthen relationships in the national response community. Participants at all levels stated that this approach has been of enormous value to their domestic preparedness strategies.

This Summary Report highlights the significant findings of the TOPOFF 2 exercise series with particular focus on seven special topics that crossed multiple areas of analysis or were of special significance. The special topics are:

1. Alerts and Alerting: The Elevation of the Homeland Security Advisory System Threat Condition to Red;
2. Declarations and Proclamations of Disaster and Emergency;
3. Department of Homeland Security Play in TOPOFF 2 : The Role of the Principal Federal Official;



4. Data Collection and Coordination: Radiological Dispersal Device Plume Modeling and Deposition Assessment;
5. Play Involving the Strategic National Stockpile;
6. Hospital Play in the Illinois Venue: Resources, Communications and Information Sharing during a Public Health Emergency;
7. Balancing the Safety of First Responders and the Rescue of Victims.

## Summary Findings

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### **1. Alerts and Alerting: The Elevation of the Homeland Security Advisory System Threat Condition to Red**

The TOPOFF 2 Exercise provided several opportunities to test the Homeland Security Advisory System (HSAS): it was the first time (real or notional) that the HSAS Threat Condition was raised to Red; it represented the first time for agencies to experiment with the actions associated with the Threat Condition of “Severe,” or Red; and it allowed for examination of the implications of raising specific regions or localities to Red. In addition, local jurisdictions raised their own threat levels to Red. The exercise highlighted that additional refinement of this advisory system is needed. Findings from the exercise include the following:

- Following the local threat level elevations of Seattle and King County early in the exercise, there was uncertainty as to the status of the HSAS Threat Condition of other jurisdictions. This situation was caused in part by a) a lack of awareness of local threat advisory systems; b) inconsistent or non-existent formal notification protocols of threat elevations; and c) a lack of language clarity—elevations of the HSAS are referred to as elevations of the “national threat level,” even if applied to regions or localities.
- There was also uncertainty regarding specific protective actions to be taken by specific agencies under a HSAS Severe Threat Condition Red. Many agencies lack a consistent and comprehensive understanding of the protective actions that might be taken by other agencies or jurisdictions under various threat levels.
- The federal, state, and local response to elevations of the HSAS needs to be further developed and synchronized. Participants in the TOPOFF 2 suggested the development of a tiered, operational response linked to the HSAS levels and based upon the nature of the threat. This system would be defined by a coalition of federal, state, and local agencies and would offer a comprehensive operational response framework that jurisdictions at all levels could use to help define their response plans at each HSAS Threat Condition.



## **2. Declarations and Proclamation of Disaster and Emergency**

During the exercise, several declarations of emergencies and disasters were issued. Local and state jurisdictions in both exercise venues invoked their authorities to declare emergencies, and requested federal assistance under the Stafford Act. These requests ultimately led to a Presidential Declaration of Major Disaster in Washington and a Presidential Declaration of Emergency in Illinois. The bioterrorism attack in Illinois was especially challenging as its impact involved multiple counties, the city of Chicago and the state of Illinois. In addition, the Secretary of Health and Human Services declared a Public Health Emergency in the state of Illinois under the authorities of the Public Health Service Act. This occurred before the Presidential Declaration of Emergency, enabling the activation of several response assets. Findings from the exercise include the following:

- Officials in Illinois requested a Major Disaster Declaration to obtain maximum federal assistance for the growing bioterrorism disaster. The emergency declaration in Illinois led to concerns about whether some individual assistance programs, which are specifically authorized for a disaster but not for an emergency, would be authorized.
- It is worth noting that during the exercise, the large-scale bioterrorism attack did not qualify as a Major Disaster under the Stafford Act; biological disasters are not specifically cited in the Act. It is not clear from the exercise whether the difference in declaring a major disaster would result in substantive real-world issues given the exception clauses under declarations of emergency as previously described.
- The relationships between the authorities and resources brought to bear under the Public Health Act and the Stafford Act should continue to be exercised. The exercise did not indicate confusion with activation of the Public Health Act or the declaration by the HHS Secretary of a Public Health Emergency, but additional clarity, especially regarding the authorities and resources brought to bear under both Acts, would be valuable.

## **3. Department of Homeland Security Play in TOPOFF 2: The Role of the Principal Federal Official**

The exercise was the first opportunity for the newly created DHS to exercise and experiment with its organization, functions, and assets. For example, the DHS Principal Federal Official (PFO) concept was first implemented during the exercise, which provided the opportunity to examine the role of the PFO during an emergency response. During the exercise, the PFOs in both venues facilitated integrated communications and coordinated action planning. Findings from the exercise include the following:



- The PFO was well-received and successfully integrated into the unified command structure in both venues. In Seattle, the PFO quickly instituted a unified command to manage the overall federal response and coordinate integrated communications and action planning. The PFO in Seattle also helped to prioritize and adjudicate between the often-competing needs of the crisis and consequence management sides of the response phase. In Illinois, the PFO worked within the framework of a unified command to ensure that integrated communications were achieved and that action plans were coordinated.
- Both PFOs required additional technical support beyond their deployed administrative and security details. The exercise highlighted the need for the PFO to have a dedicated staff with the flexibility and expertise to support all emergencies, natural and terrorist-related. If the Domestic Emergency Support Team is expected to support the PFO and the federal response, DHS should consider providing additional resources to staff at least one additional team in the event that more than one federal emergency occurs at the same time, as was exercised during TOPOFF 2.

#### **4. Data Collection and Coordination: Radiological Dispersal Device Plume Modeling and Deposition Assessment in Washington**

During TOPOFF 2, there were multiple federal, state, and local agencies that had responsibilities for collecting data. The data were then sent to one or more locations to be compiled and analyzed. Once the analyses were complete, information was provided to top officials to assist in their decision-making. However, there were critical data collection and coordination challenges that had significant impacts on the response to the RDD attack in Seattle and impacted the ability to get timely, consistent, and valid information to top officials. Findings from the exercise include the following:

- The coordination of on-site and off-site data collection by multiple agencies at federal, state, and local levels of government needs improvement. The exercise highlighted the many radiological data collection assets that exist at all levels of government. Federal, state, and local agencies and departments, therefore, need to be educated about the importance of coordinating the data collection process, and to work with the Federal Radiological Monitoring and Assessment Center to ensure that coordination takes place during radiological emergencies. The development of the National Response Plan and the National Incident Management Plan may help to facilitate the data collection and coordination processes in the future.
- There is a need for additional education among both responders and decision-makers as to the timing and value of the different types of information following a radiological incident. The value and limitations of plume models and other analysis products are not widely understood. Plume models provide a prediction of where the material in the explosion will travel. Once actual data from the incident are collected and evaluated, the value of plume models diminishes. Once responders learn what really is out there and where it is, predictions alone become less important.



## **5. Play Involving the Strategic National Stockpile**

The activation, requests for and deployment and distribution of the Strategic National Stockpile (SNS) were extensively played during TOPOFF 2. The exercise tested the ability of all levels of government to make decisions, allocate resources, coordinate and communicate, and inform the public regarding this critical SNS resource. The state of Illinois tested its ability to break down and secure the antibiotic stocks. Local jurisdictions tested their abilities to distribute supplies of antibiotics to their first responders and citizens. Overall, the request, receipt, breakdown, distribution, and dispensing of the SNS during the exercise were completed successfully. Findings from the exercise include the following:

- Determining a prophylaxis distribution policy for first responders and citizenry across local jurisdictions was challenging. This was due, in part, to the enormous logistical challenges of distributing medications to a large metropolitan area, as well as the very real limitation of the amount of medication that was immediately available.
- Inconsistent information was given by different jurisdictions as to who should seek prophylaxis and when, as well as the locations of the suspected plague release sites.
- The Homeland Security Council is leading an interagency effort to remedy the plume modeling process deficiencies noted during the exercise.

## **6. Hospital Play in the Illinois Venue: Resources, Communications, and Information Sharing during a Public Health Emergency**

During TOPOFF 2, 64 hospitals in the Illinois venue participated in the exercise, making it one of the largest mass casualty exercises ever undertaken. This aspect of the exercise presented an unprecedented opportunity to examine the coordinated efforts of the medical and public health communities to react to and control the spread of a disease outbreak, specifically an outbreak initiated by a bioterrorism attack. Because of the large number of participating hospitals, challenges regarding communication and the management of resource requirements were significant. Findings from the exercise include the following:

- During the exercise, the lack of a robust and efficient emergency communications infrastructure was apparent. Communications heavily relied upon telephones and faxes for data transmission. The unanticipated large call volume was the greatest problem. The phone system in at least one location was overwhelmed, requiring three HAM radio operators to maintain communications connectivity. Facsimile communications were also subject to transmission and receipt problems due to call volumes. “Blast fax transmissions” took up to two hours to complete. In addition, information was often copied manually to a form. The form was then faxed (in some cases degrading its readability) to a collection point, where it was then manually tabulated on another form, and then entered into an information system for transmission. This process increases potential errors.



- Resource demands challenged hospitals throughout the exercise. These included short supplies of isolation and negative pressure rooms, as well as staff shortages. Hospitals employed a number of solutions to these problems including activating staff phone trees to recall medical personnel; using extra conference rooms, lobbies, and Clinical Decision Units (closed units) as isolation wards; and using same day surgery, radiology, and endoscopy labs, as well as an offsite tent, as negative pressure (i.e., disease containment) rooms.

## **7. Balancing the Safety of First Responders and the Rescue of Victims**

In incidents when victim survival is dependent upon the timeliness of medical treatment, first responders typically initiate victim rescue and removal as rapidly as possible, while incident commanders manage responder safety with an ongoing risk-benefit analysis. However, when faced with an emergency that potentially involves a WMD, first responders face a greater potential of becoming casualties themselves. Given the uncertainty surrounding the simulated RDD explosion during the exercise, many of the responders artificially had the knowledge that it was a radiological incident and the incident commander had to take precautions to ensure that the responders were safe. Findings from the exercise include the following:

- Rescue operations at the RDD incident site highlighted the need for more frequent, informational communication between incident command and hospital control. Incident commanders may need to be more proactive in providing information. While hospital control was aware that radiation had been detected at the incident site, there is no indication in the data analyzed that incident command or the medical group at the incident site communicated with hospital control to explain the need to conduct a more detailed risk-benefit analysis before rescue operations could commence. In addition, hospital control was not always aware of the periodic halts to rescue operations that occurred during the initial hours of the exercise response due to both the suspected and real presence of secondary explosive devices.
- The public health and medical communities, the media, and the general public should be educated on the unique considerations that must be factored into rescue operations following a terrorist WMD attack. Considerations non-responder communities should be aware of include the need to balance responder safety and rescue efforts and the specific practices rescuers employ when responding to critical situations, such as the potential for secondary explosive devices in or around an incident scene. The public health and medical communities should be made aware of the need for incident command to conduct a detailed risk-benefit analysis prior to the start of rescue operations. Finally, a consistent message to the public from incident command, public health, and medical communities is critical.



## Conclusions

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TOPOFF 2 was an innovative, useful, and successful exercise and was the first national combating terrorism exercise conducted since DHS was established. As a result, TOPOFF 2 provided a tremendous learning experience for both the new DHS and the federal agencies now working with DHS during a response to domestic incidents. In addition, the experience in Washington and Illinois provided important lessons regarding federal, state, and local integration. These lessons are valuable to other states and localities as they work to train, exercise, and improve their own response capabilities.

### **TOPOFF 2 involved the play of new agencies and entities within DHS (e.g., the Transportation Security Administration, the PFO, and the Crisis Action Team).**

- The PFO concept was tested in both exercise venues. While this position has the potential to assist greatly with the coordination of federal activities across the spectrum of the response, TOPOFF 2 results also indicated that the roles and responsibilities of the PFO need to be clarified with respect to those of the FBI Special Agent in Charge, the FEMA RD, and the FCO. In addition, the PFO requires an emergency support team with the flexibility and expertise to provide support across the full range of homeland security operations.

### **TOPOFF 2 represented the first time (real or notional) in which the HSAS Threat Condition was raised to Red.**

- Valuable experience was gained as the Secretary of DHS, in concert with the Homeland Security Council, first raised selected areas of the country and then the whole country to Threat Condition Red. In addition, local jurisdictions raised their own threat levels to Red.

### **TOPOFF 2 involved an extraordinary sequence of two Presidential Declarations wrapped around a Public Health Emergency declaration by the Secretary of HHS.**

- The Presidential declarations were for a major disaster in the Washington venue and an emergency in the Illinois venue. These two declarations illustrated some of the subtleties of the Stafford Act that may not have been fully appreciated before the exercise; for instance, a bioterrorism attack does not clearly fit the existing definition of *disaster* as defined by the Act. The Secretary of Department of Health and Human Services (HHS), acting on authorities through the Public Health Service Act and in consultation with the region, declared a Public Health Emergency. This permitted HHS to authorize the use of federal assets (with costs covered by HHS). It appeared to lead to some uncertainty about where authority to deploy certain assets really lay, with HHS or DHS.





**Planning and development of the National Incident Management System (NIMS) should take advantage of the TOPOFF Exercise Series.**

- This comment from the TOPOFF 2000 report bears repeating: “Multiple direction and control nodes, numerous liaisons, and an increasing number of response teams complicated coordination, communications, and unity of effort.” If anything, TOPOFF 2 may have been characterized by even more teams and communication nodes.
- Communication and coordination issues drove the course and outcome of critical public policy decisions, from raising the threat level to the various disaster/emergency declarations, from the determination of exclusion zones to the re-opening of transportation systems. To the extent that there were problems in these areas, communication issues were likely the primary cause.
- TOPOFF 2 showed that how people believe communications and coordination is supposed to work based on policy is often not how they work in reality. What may appear to be clearly defined processes—such as requesting the SNS—in practice become much more difficult.

**With the active participation of 64 hospitals in the Chicago metropolitan area responding to the notional bioterrorism attack, TOPOFF 2 represented one of the largest hospital mass casualty exercises ever conducted.**

- TOPOFF 2 represented a significant experiment in communications and coordination for the public health and medical communities. In particular, the massive amounts of communication required to track resource status (beds, specialized spaces, medical equipment), and the cumbersome procedures and insufficient electronic means to do so in many cases, taxed hospital staff.
- TOPOFF 2 did not last long enough to fully explore the impacts of mass casualties on the medical system. Much less than half of the infected population was visible to the medical system at the conclusion of the exercise.
- While there were a number of attempts to estimate the potential scope of the outbreak, the focus of most activities appeared to be on the cases that were presented to the health care system. It should be noted that HHS was working actively during the exercise to identify the resources that would be required to deal with the infected population.

**TOPOFF 2 Illinois play also involved an extensive SNS request and distribution component**

- Although the actual distribution process appeared to go quite well, there was some confusion over the procedures and processes for requesting and receiving the SNS. The SNS Operations Center coordinated the stockpile deployment through the FEMA EP&R Director. Additionally, senior-level consultation occurred between DHS and HHS via video teleconference and direct communication.



- The jurisdictions in the Chicago metropolitan area were forced to confront important decisions about how the stockpile (and local assets) would be divided and who would be among the first population groups to receive prophylaxis. The discussions and decision-making involved, as well as the challenges in coordinating public information, are worthy of study by other metropolitan areas for the lessons they provide.

**DHS should consider the integration of existing response policies and plans into the NRP.**

- States are familiar with and have built their response plans to coincide with federal assets and plans using similar agency and department structures and language. Federal agencies are satisfied with the language, authorities, and relationships outlined in existing plans such as the FRERP and the NRP. As the NRP undergoes development, the integration of response plans and policies merit consideration—particularly where existing plans are considered effective for emergency response.

**TOPOFF 2 involved more sustained play by top officials than TOPOFF 2000.**

- Of particular note was the involvement of DHS (which had been in existence for only a little more than ten weeks prior to the exercise), the DHS Secretary, and other senior civilians.
- HHS operated the Secretary’s Command Center for 24 hours-a-day throughout the exercise with extensive play at the Assistant Secretary- and Operating Division Director levels. The Secretary was actively involved, and since one venue involved substantial public health play, the participation of HHS was critical to the success of the exercise.
- In both Washington and Illinois, the offices of the mayors, county executives, and governors were well-represented throughout the exercise by either the elected officials themselves or high-level policy-makers in respective administrations.

**TOPOFF 2 represents a foundational experience to guide the future development of the TOPOFF Exercise Series.**

- Because of the extensive data collection process and the effort to make TOPOFF 2 findings both well-documented and traceable through a detailed reconstruction of the exercise events, TOPOFF 2 represents a baseline upon which subsequent TOPOFF exercises can build and to which they can be rigorously compared.
- TOPOFF 2 demonstrated the value of the international, private sector, and non-profit perspectives and roles in response to WMD terrorism. Future exercises will, no doubt, expand on these elements by broadening the participation of all these sectors.
- The success of the Video News Network and widespread participant feedback regarding the desire for additional challenges in the area of public information suggest that future exercises should include a more aggressive mock-media element with a more aggressive news-gathering function that includes mock-press conferences.



## PARTICIPATING AGENCIES LIST

United States Federal Departments and Agencies
American Red Cross (ARC)
Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)
Centers for Disease Control and Prevention (CDC)
Defense Threat Reduction Agency (DTRA)
Department of Agriculture (USDA)
Department of Defense (DOD)
Department of Energy (DOE)
Department of Health and Human Services (HHS)
Department of Homeland Security (DHS)
Department of Housing and Urban Development (HUD)
Department of Justice (DOJ)
Department of Labor (DOL)
Department of Navy (DON)
Department of the Interior (DOI)
Department of State (DOS)
Department of Transportation (DOT)
Department of Veterans Affairs (VA)
Environmental Protection Agency (EPA)
Federal Bureau of Investigation (FBI) – Critical Incident Response Group (CIRG)
FBI – WMD Countermeasures Unit
Federal Aviation Administration (FAA)
Federal Emergency Management Agency (FEMA)
General Services Administration (GSA)
Institute for Security Technology Studies (ISTS)
Joint Forces Command (JFCOM)
National Aeronautics and Space Administration (NASA)
National Imagery and Mapping Agency (NIMA)
National Reconnaissance Office (NRO)
National Security Council (NSC)
National Weather Service (NWS) (Department of Commerce)
Nuclear Regulatory Commission (NRC)
Occupational Safety and Health Administration (OSHA)



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<b>United States Federal Agencies and Organizations (Continued)</b>
Postal Inspection Service (U.S. Postal Service [USPS])
Small Business Administration (SBA)
Social Security Administration (SSA)
Technical Support Working Group (TSWG)
Transportation Security Administration (TSA)
U.S. Coast Guard (USCG)
U.S. Customs Service (USCS)
U.S. Geological Survey (USGS)
U.S. Secret Service (USSS)
<b>Canadian Agencies</b>
Agriculture and Agri-Food Canada (AAFC)
British Columbia Ministry of Health EOC (BCMOH)
British Columbia Provincial Emergency Program (BCPEP)
Canadian Coast Guard (CCG)
Canada Customs and Revenue Agency (CCRA)
Canadian Food Inspection Agency (CFIA)
Canadian Nuclear Safety Commission (CNSC)
Canadian Security Intelligence Service (CSIS)
Citizenship and Immigration Canada (CIC)
Department of Justice (DOJ)
Department of Defense (DOD)
Department of Foreign Affairs and International Trade (DFAIT)
Environment Canada (EC)
Health Canada (HC)
Industry Canada (IC)
Office of Critical Infrastructure Protection and Emergency Preparedness (OC�PEP)
Privy Council Office (PCO)
Public Works and Government Services Canada (PWGSC)
Royal Canadian Mounted Police (RCMP)
Solicitor General (SGC)
Transport Canada (TC)



<b>State and Local Agencies</b>
American Red Cross of Greater Chicago (ARCGC)
Chicago Department of the Environment (CDOE)
Chicago Department of Public Health (CDPH)
Chicago Fire Department (CFD)
Chicago Office of Emergency Management and Communications (OEMC)
City of Bellevue
Cook County Sheriff's Office (CCSO)
Cook County Sheriff's Office Emergency Management Agency (CCSO EMA)
Cook County Department of Public Health (CCDPH)
DuPage County Office of Emergency Management (DCOEM)
DuPage County Health Department (DCHD)
Illinois Department of Public Health (IDPH)
Illinois Emergency Management Agency (IEMA)
Illinois Hospital Association (IHA)
Illinois Office of the State Fire Marshal
Illinois State Fire Chiefs Association
Illinois State Police (ISP)
Illinois Commerce Commission (ICC)
Illinois Department of Transportation (IDOT)
Illinois Department of Human Services (IDHS)
Kane County Office of Emergency Management (KCOEM)
Kane County Health Department (KCHD)
King County Fire Chiefs Association (KCFCA)
King County Government (KCG)
King County Office of Emergency Management (KCOEM)
King County Police Chiefs Association (KCPCA)
Public Health – Seattle and King County
Lake County Emergency Management Agency (LCEMA)
Lake County Health Department (LCHD)
Lake County Fire Department Specialized Response Team
Metropolitan Chicago Healthcare Council (MCHC)
Office of the Governor of the State of Illinois
Office of the Governor of the State of Washington
Office of the Mayor of the City of Chicago



### State and Local Agencies (Continued)

Office of the Mayor of the City of Seattle
Port of Seattle
Seattle Fire Department (SFD)
Seattle Emergency Management (SEM)
Seattle Police Department (SPD)
Washington State Department of Agriculture (WSDA)
Washington State Department of Ecology (WSDE)
Washington State Department of Health (WSDH)
Washington State Department of Information Services (WSDIS)
Washington State Department of Transportation (WSDOT)
Washington State Emergency Management Department (WSEMD)
Washington State Ferries (WSF)
Washington State Patrol (WSP)

