

SPILL OF NATIONAL SIGNIFICANCE EXERCISE

SONS07

**Spill of National Significance 2007
Exercise (SONS 07)**

After Action Report

Phase 1: June 19 – 21, 2007

Phase 2: June 26 – 28, 2007

Phase 3: August 1, 2007

DECEMBER 18, 2008

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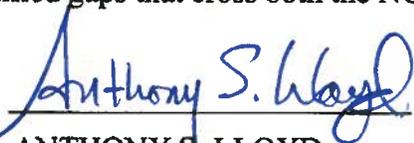
To: SONS 2007 Sponsors

The Spill of National Significance (SONS) 2007 Exercise After Action Report was prepared jointly by representatives of the U.S. Environmental Protection Agency and U.S. Coast Guard.

This report captures the essential elements of this three-part exercise series which included a three-day full scale exercise, the first ever SONS Response and (Long Term) Recovery Workshop and a Senior Leaders' Seminar. Diverse Federal, state, local and private sector participation in both exercise design and execution, directly resulted in the SONS 07 exercise series' high success.

The exercise series combined a response under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) with an Emergency Support Function 10 response under the National Response Plan (now the National Response Framework, NRF). The observations and recommendations outlined in this report provide an opportunity to improve preparedness by bridging identified gaps that cross both the NCP and NRF.

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TABLE OF CONTENTS

Executive Summary	i
Section 1: Full-Scale Exercise (Phase 1) and Response and Recovery Workshop (Phase 2)	1
Section 1.1: Phase 1 Full-Scale Exercise Design Summary	3
1.1.1 Purpose	3
1.1.2 Description	3
Section 1.2: Phase 2 Response and Recovery Workshop Design Summary	5
1.2.1 Purpose	5
1.2.2 Description	5
Section 1.3: Phase 1 and Phase 2 Exercise Observations and Results	9
1.3.1 Laws and Authorities	9
1.3.2 Hazard Identification, Risk Assessment, and Hazard Management	12
1.3.3 Resource Management	13
1.3.4 Planning	16
1.3.5 Direction, Control, and Coordination	18
1.3.6 Communications and Warning	22
1.3.7 Operations and Procedures	24
1.3.8 Crisis Communications, Public Education, and Information	25
1.3.9 Finance and Administration	28
Section 2: Phase 3 Senior Leaders' Seminar	31
Section 2.1: Phase 3 Seminar Design Summary	31
Section 2.2: Phase 3 Senior Leaders' Seminar Observations and Results	31
2.2.1 Topic 1: SONS and INS—Are they the Same?	32
2.2.2 Topic 2: Cooperative Approach to Preparedness	36
2.2.3 Topic 3: Communications and Information Management	38
Section 3: Conclusion – SONS 07 As Part of Overall SONS Program	41
Appendix A: Exercise Design	43
Appendix B: Phase 1 and Phase 2 Recommended Action Items	47
Appendix C: Participating Organizations for the FSE, Response and Recovery Workshop, and SLS	55
Appendix D: Contact Information	61
Appendix E: Acronyms and Abbreviations	63

LIST OF FIGURES

Figure 1: Overview of SONS 07 Exercise Phases ii
Figure 2: Map of SONS 07 Impact Area 3
Figure 3: Final SONS 07 Response Organization 19
Figure 4: Coordination Structures: EPA and USCG Interface 33
Figure 5: NRF and NCP Organization Structures..... 34

EXECUTIVE SUMMARY

The Spill of National Significance 2007 (SONS 07) Exercise was sponsored by the U.S. Environmental Protection Agency (EPA) and U.S. Coast Guard (USCG). It was designed to demonstrate the ability of Federal participants to respond to an incident categorized as both a SONS under the National Oil and Hazardous Substances Pollution Contingency Plan (the National Contingency Plan -- NCP) and an Incident of National Significance (INS) under the National Response Plan (NRP) (updated by the National Response Framework -- NRF).¹ The exercise tested and validated national level contingency plans and the nation's readiness to respond to an oil and hazardous material (HAZMAT) catastrophic event under the NRF, while focusing on Emergency Support Function 10 (ESF-10). The exercise also tested the readiness of Federal organizations to support and/or coordinate functions within their respective ESF-10 areas of response at local, regional, and national levels.

As part of the National Preparedness for Response Exercise Program, the USCG and the EPA conduct regular preparedness exercises at the local level and conduct larger scale regional SONS exercises approximately once every three years. The majority of these exercises are conducted both internally and in partnership with other Federal government agencies, state and local governments, industry, and volunteer organizations.

SONS 07 was the fifth and largest exercise in the Congressionally mandated National Response System (NRS) exercise series. It was the first national or regional oil and HAZMAT exercise that focused on the critical inland rivers system and the Great Lakes rather than coastal areas. The exercise concentrated on simultaneous national, regional, and local issues pertaining to the potential catastrophic oil and hazardous substance releases from a major New Madrid Seismic Zone (NMSZ) earthquake encompassing the Ohio, Missouri, and Mississippi River valleys and a category F4 tornado on Lake Michigan.

Exercise Sponsors provided the following national level exercise objectives for SONS 07:

1. Evaluate the nation's ability to implement the National Incident Management System (NIMS) and the NRF.
2. Evaluate the effectiveness of inter-agency and private sector coordination in response to a USCG/EPA-managed SONS involving multiple regions, states and local jurisdictions.
3. Assess the viability, compatibility and coordination mechanisms of all appropriate plans, including the NRF and the NCP, to support a SONS response.
4. Evaluate the availability and adequacy of government and private sector resources at the national, regional, and local level in accordance with appropriate response plans and procedures.

¹ The Department of Homeland Security (DHS) revised the National Response Plan (NRP) during the same time frame as the SONS exercise was developed and played. In the summer of 2007 DHS released the new National Response Framework (NRF). "Incidents of National Significance" are not included in the new NRF. The remainder of this report refers to NRF in all cases because it is now the operative document, and because except for the INS concept, the NRP structures used during SONS07 were preserved unchanged in the NRF.

5. Assess the ability to conduct response, remediation and infrastructure restoration.
6. Evaluate the effectiveness of the nation's and individual agency's notification and communication systems, processes and procedures.

The SONS 07 Exercise Planning Team developed a three-phase exercise series summarized in Figure 1. SONS 07 participants included approximately 250 organizations from Federal, state, and local governments, private and public sector industry partners, and universities, notably the National Response Team's (NRT) 16 primary participating Federal agencies, four Federal Regions (Regions 4, 5, 6, and 7), two USCG Districts (Districts 8 and 9), USCG Atlantic Area (LANTAREA), ten states, 60 industry partners, and seven Non-Governmental Organizations (NGOs).

Figure 1: Overview of SONS 07 Exercise Phases



SONS 07 successfully achieved its objectives and identified 24 major issues from the Full Scale Exercise (FSE) and Response Recovery Workshop (RRW) (Phase 1 and Phase 2) (see Appendix B). Additional lessons were learned during the Senior Leadership Seminar (Phase 3).

SONS Program Goals

After the NCP was amended to include a section addressing a SONS incident, the USCG developed a SONS Exercise Program for responses to oil and hazardous substance spills. This program focuses on exercising the entire NRS at the local, regional, and national levels using large-scale, high-probability oil and hazardous material incidents resulting from unintentional

causes, such as maritime casualties and natural disasters. SONS 07 met the SONS program goals by:

- Increasing the preparedness of the entire response organization from the field level up to agency heads in Washington, DC;
- Exercising the NRS at the local, regional, and national levels using a series of large-scale, high consequence oil and hazardous material incidents;
- Providing an environment for an unprecedented level of cooperation throughout all levels of government, private sector, and NGOs; and
- Offering broad opportunities to validate and improve plans and procedures.

Strengths, issues, and gaps identified during the response were discussed during intra-organizational debriefs held after the exercise at all levels of the exercise organizational chain, and captured in participant and controller evaluation forms. This After Action Report (AAR) presents the major successes and issues that have NRS implications and is intended to drive improvements to the national prevention, preparedness, and response systems. It assists organizations striving for preparedness excellence by analyzing exercise results through:

- Highlighting response organization strengths to be benchmarked and built upon;
- Highlighting potential areas for improvement; and
- Recommending exercise follow-up and Improvement Action Planning.

The exercise provided the opportunity to identify multiple expectations and problem areas amongst industry, local, state, and federal governments. The overall success of the SONS 07 exercise will ultimately depend on the timely resolution of the observed issues.

Overview of Report

The report consists of the following chapters:

- **Section 1** addresses Phase 1 and 2 of the response, including a detailed exercise description, issues identified, and recommendations to resolve the issues.
- **Section 2** addresses Phase 3 of the response, including a detailed description of the seminar, description of the three issue topics discussed, and recommendations to resolve the issues.
- **Section 3** provides a conclusion of how the SONS 07 exercise met the overall SONS program goals.
- **Appendix A** summarizes lessons learned and recommendations from the design of the exercise.
- **Appendix B** summarizes the 24 action items from Phase 1 and Phase 2 of the exercise.
- **Appendix C** presents a list of participating organizations for the SONS 07 exercise.
- **Appendix D** provides a list of contact names and information related to this report.
- **Appendix E** provides a list of acronyms and abbreviations used throughout the report.

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SECTION 1: FULL-SCALE EXERCISE (PHASE 1) AND RESPONSE AND RECOVERY WORKSHOP (PHASE 2)

KEY OBJECTIVES

- Evaluate the nation's ability to implement NIMS and the NRP.
- Evaluate the effectiveness of inter-agency and private sector coordination in response to a USCG/EPA-managed SONS involving multiple regions, states, and local jurisdictions.
- Assess the viability, compatibility, and coordination mechanisms of all appropriate plans, including the NRF and the NCP, to support a SONS response.
- Evaluate the availability and adequacy of government and private sector resources at the national, regional, and local level in accordance with appropriate response plans and procedures.
- Assess the ability to conduct recovery, remediation, and infrastructure restoration.
- Evaluate the effectiveness of the nation's and individual agency's notification and communication systems, processes, and procedures.

The SONS 07 exercise was designed to be a combined NCP and NRF exercise in response to a catastrophic earthquake in NMSZ and an oil spill in the Great Lakes on the same day.² SONS 07 focused on short- and long-term responses to oil and hazardous substance releases as they relate to the coordination between EPA, USCG, other National Response Team (NRT) and Regional Response Teams (RRTs) agencies, other national-level coordinating bodies, affected state and local jurisdictions, and industry partners as they pertain to the NCP in alignment with the NRF. The overall exercise scenario used the New Madrid earthquake as a cause of the oil and HAZMAT releases, but the emergency response to earthquake damage was not played out in the national scenario. However, several states independently participated in parallel full-spectrum response exercises to the earthquake.

SONS 07 participants included approximately 250 organizations from Federal, state, and local governments, private and public sector industry partners, and universities, notably the NRT's 16 primary participating Federal agencies, four Federal Regions (Regions 4, 5, 6, and 7), two USCG Districts (Districts 8 and 9), USCG Atlantic Area (LANTAREA), 10 states, 60 industry partners, and seven Non-Governmental Organizations (NGOs). Appendix B provides the full list of participants.

Additionally, individual Federal agencies, states, local jurisdictions, and industry partners developed their own internal objectives that supported the national objectives. To accomplish the exercise objectives, the SONS 07 Exercise Planning Team developed the following three-phase exercise series:

² The Department of Homeland Security (DHS) revised the National Response Plan (NRP) during the same time frame as the SONS exercise was developed and played. In the summer of 2007 DHS released the new National Response Framework (NRF). are not included in the new NRF. The remainder of this report refers to NRF in all cases because it is now the operative document, and because, except for the "Incidents of National Significance" concept, the NRP structures used during SONS07 were preserved unchanged in the NRF.

Phase 1. A three-day full-scale exercise (FSE) conducted June 19-21, 2007 in 10 states, four regions, and two Coast Guard Districts, with over 60 industry partners and nearly 30 Federal and regional agencies. In total, over 3,000 participants representing more than 240 organizations participated in this phase of SONS 07.

Phase 2. A three-day Response and Recovery Workshop conducted June 26-28, 2007 in Chicago, Illinois included over 170 participants representing more than 60 organizations. SONS 07 was the first SONS exercise that had a focus on long-term response and recovery issues. The workshop comprised four tracks: (1) Emergency Response and Environmental Recovery, (2) Waterways Management, (3) Potable Water Issues, and (4) Information Management. Each track focused on anticipated operations and planning covering the following time periods: 14 days, 90 days, six months, and two years following the catastrophic event.

Phase 3. A half-day Senior Leaders Seminar (SLS) held August 1, 2007 in Washington, D.C. included nearly 60 senior leaders from Federal agencies and senior executives from industry. Participants discussed national-level issues related to the SONS 07 FSE and Response and Recovery Workshop.

Primary Federal Plans Tested

Although each participating exercise partner had its own plans, agreements, and standard operating procedures (SOPs) to be tested, the primary focus was to test and validate the following plans:

- NCP (40 CFR Part 300)
- NRF
- Regional Contingency Plans (RCPs)
- Area Contingency Plans (ACPs)
- USCG COMLANTAREA Contingency Response Plan OPLAN 9700-02
- USCG CCGDEIGHT Contingency Response Plan OPLAN 9780
- USCG CCGDNINE Contingency Response Plan OPLAN 9790
- USCG Incident Management Handbook (IMH), Commandant Publication P3120.17A
- NIMS, March 1, 2004
- NRT Joint Information Center (JIC) Model, January 2000

The following sections provide a detailed description of the purpose and scenario design for Phase 1 and Phase 2 of the exercise. Phase 3 is described in Section 2 of the report.

SECTION 1.1: PHASE 1 FULL-SCALE EXERCISE DESIGN SUMMARY

1.1.1 Purpose

Sponsored by the EPA and USCG, the SONS 07 exercise was designed to test participating organizations' ability to respond to a SONS event as defined by the NCP. This was intended to be a no-fault exercise that focused on validating and evaluating plans and processes, and did not focus on individual performance.

The scenario was purposely robust, including a high number of oil and chemical spills that might result from a major earthquake in the Midwest and a tornado on the Great Lakes. This approach enabled officials from government agencies and the private sector to identify gaps in current policy and to test new concepts that were developed out of lessons learned from the response to Hurricanes Katrina and Rita. Players were not expected to resolve all the spill events during the three-day exercise, but rather to demonstrate their ability to organize, prioritize the spills, and apply limited resources where they were most needed.

1.1.2 Description³

At 0100 on Tuesday, June 19, 2007, severe weather in northeast Illinois produced several tornados. One tornado measuring F4 on the Fujita Scale struck Naval Station Great Lakes.

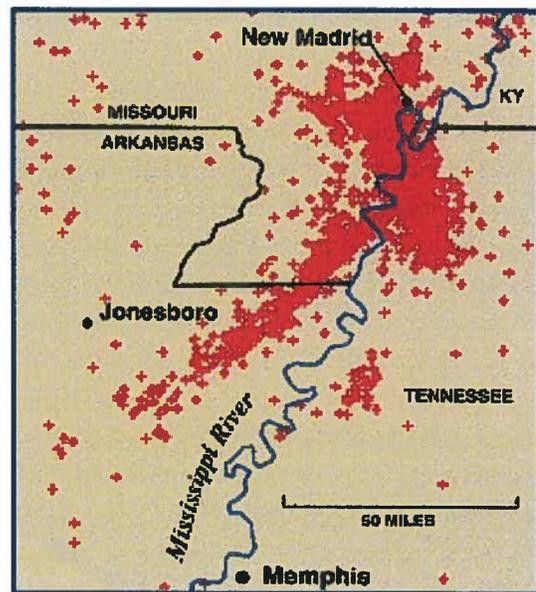
Following the tornado, at 0900 an earthquake having a moment magnitude (M) of 7.7 rocked the central U.S. The main shock lasted 34 seconds. The shaking came from a rupture of the southern (SW) arm of the New Madrid seismic zone at a depth of 6.1 miles below the earth's surface. The line of rupture extended from Marked Tree, AR to near Dyersburg, TN.

A series of aftershocks of varying intensity were felt throughout the region over the course of the next few days. The first aftershock occurred at 0800 on June 20, 2007 with a magnitude (M) of 6.3 near Reelfoot Lake in northwest Tennessee.

As a result of the tornado, the following damage was reported:

- Significant structural damage to fuel storage facilities; and
- Spill of two million gallons of #2 fuel oil (heating oil) into Lake Michigan.

Figure 2. Map of SONS 07 Impact Area



³ Note: all times are CDT.

As a result of the earthquake, extensive damage was reported as far away as Jackson, MS, a distance of about 330 miles from the epicenter, and strong shaking could be felt over a 10,000 square mile area. Significant damage extended from north of St. Louis, MO, south into Alabama, Mississippi, and Arkansas, east to Louisville, KY, and west to Joplin, MO (see Figure 2). Specifically, the following damage was reported:

- 21 spills from private sector partners.
- 400 oil and chemical spills.
- Significant infrastructure damage.
- Rivers changing course and flooding (with levy/dam failures adding to flooding problems).
- Large scale evacuations due to the flooding.
- Disruption of telephone communications.

SECTION 1.2: PHASE 2 RESPONSE AND RECOVERY WORKSHOP DESIGN SUMMARY

1.2.1 Purpose

The SONS 07 Response and Recovery Workshop was designed to accomplish the following:

- Validate the SONS 07 FSE issues as they apply to mid- and long-term recovery and restoration.
- Discuss, test, and validate suitability of existing plans and agreements regarding mid- and long-term response and recovery operations stemming from a catastrophic event.
- Collate and consolidate workshop discussion responses and provide feedback to the participants on issues raised during the workshop.
- Identify longitudinal linkages between like issue topics during response and recovery.
- Identify possible national level policy issues to be presented at the August 1, 2007 SLS.
- Discuss cross-cutting issues, and assess current plans and policies, regarding environmental response and recovery operations.

1.2.2 Description

The Response and Recovery Workshop built on the scenario from the Phase 1 FSE. The workshop focused on the response and recovery issues anticipated at different timeframes following the incident as they related to environmental, industrial, maritime safety, security, and restoration. Participants explored these issues in four workshop tracks, described below:

- The **Emergency Response and Environmental Recovery** track explored environmental emergency response and recovery priorities and issues, such as long-term contamination, debris management, and the mobilization of response assets after the earthquake.
- The **Waterways Management** track focused on reopening of the waterways, assessing the safety and security of damaged ports and facilities, and discussing natural resource issues.
- The **Water Issues** track explored the short-term resolutions and long-term recovery of drinking water and wastewater infrastructure, and “how clean is clean” drinking water.
- The **Information Management** track examined methods that would be employed, during a response for information collection, documentation and quality assurance, management, analysis, and dissemination; the successes and challenges involved in obtaining data and in using, sharing, and securing it; Geographic Information Systems (GIS) capabilities and challenges; and the need to document incidents for use in future decision-making.

The timeframes considered during the workshop included 14 days, 90 days, six months, and two years following the initial tornado and earthquake event, described below.

- 14 Days** After-shocks continued (several over magnitude 5.5) causing:
- Additional liquefaction along the Mississippi River, between Memphis, Tennessee and Charleston, Missouri.
 - River shifts in a few sections of the Mississippi and Ohio Rivers, and damaged roads, bridges, railroads, buildings, and airports.
 - Structural damage to storage tanks and facilities handling non-hazardous and hazardous cargo, such as fertilizers, phosphates, and petroleum.
- As a result of this damage:
- Hazardous substances and oil spilled into the Missouri, Cumberland, Ohio, and Mississippi Rivers.
 - Unsecured debris as well as contaminated waste and drinking water posed a health hazard to communities.
 - Certain communities did not have power or wired communications, and efforts at restoration were hampered as a result of damaged roadways.
 - Companies were forced to close and daily services were delayed.
 - Cleanup was ongoing along the Illinois and Wisconsin shorelines, contaminated with oil.
 - There were more than 4,000 fatalities and over 65,000 injuries.
- 90 Days**
- Debris-filled landfills had reached capacity and communities were concerned about residents' health as a result of this nearby waste.
 - Wireless communication was difficult, and other services such as natural gas and oil had not been repaired.
 - The affected waterways were obstructed from bridges, vessels, cargo and matter that had fallen into the river during the earthquake. There was discussion about clearing the waterways, but questions about authorities and funding sources continued.
 - Certain communities did not have functioning wastewater management systems or access to safe drinking water. There were also difficulties with reparations and discrepancies between cleanup standards among states. As a result, many residents were still unable to return home. Those that returned were under controversy over whether it was environmentally safe.
 - Residents dealt with problems involving insurance companies that refused to pay for damages, delayed mailing services, and shortages of vital goods.
 - The death toll rose to over 4,300, and cities and counties suffered hardships from lost business and rising costs.
 - The media continued to play scenes of the earthquake's effects and the hardships the communities faced.
 - Federal, state, and local response agencies faced challenges in prioritizing among incidents—whose sheer volume created resource shortages.
- 6 Months**
- Many buildings, particularly in poorer neighborhoods of cities and towns, were still under repair, and debris removal continued in less-frequented areas.
 - Although reconstruction of public buildings began, it was slow in older buildings due to problems with asbestos.
 - Communication improved with the construction of new telephone towers, but certain

- 6 Months (continued)**
- areas still remained without service.
 - There continued to be infrastructure concerns based on damage to levees, locks, and dams. Much obstruction had been removed, but marine debris remained in the rivers. Waterways were partially open, benefiting commerce.
 - There was still much concern about the proper disposal of waste in areas near the public and marine life. In particular, EPA worked to clean up the affected environment including fisheries, plant life, and rivers. The agency also tested the water supply, yet there was still no consensus about its safety for human consumption. The lengthy time to rebuild the water and waste treatment facilities led to increased costs to the Federal government. Residents were forced to drink water from other sources.
 - Some residents returned to their towns, but their homes were damaged, and debris remained in the surrounding areas.
 - Businesses also faced hardships competing for scarce resources, and many were forced to relocate or close. The oil industry in particular suffered from high clean-up costs, and the American public was greatly affected. Repairs to bridges, roadways, waterways, and airports were slow due to high costs and conflicting policies relating to building standards. Thus, many residents did not have the quality of life that existed before the earthquake.
 - Funds were still limited, and Federal programs were reaching their end as Federal agencies began to hand over more power to state and local officials.
 - The media continued to cover stories about contaminated drinking water and the pollutants in the area caused by the earthquake.
- 2 Years**
- Life had improved for many of the residents, although some people feared the effects of future earthquakes.
 - Poorer neighborhoods had still not been rebuilt since the earthquake, or had been rebuilt only partially. Similarly, certain neighborhoods were simply beyond repair as a result of flood damage along the rivers. In other areas, there were efforts to attract new residents with the development of new houses and the creation of job opportunities.
 - Ninety percent of the debris had been removed, but in some areas debris and waste remained. Residents continued to protest about the landfills, and the local governments did not respond to their requests for their removal.
 - The waterways were completely open and obstructions had been removed.
 - Critical infrastructure such as levees and dams had been rebuilt to the appropriate standards. Many bridges were reconstructed with a higher surge capacity, and there continued to be money appropriated for reconstruction efforts in areas hit by the earthquake.
 - Studies had been conducted explaining the vulnerabilities of industries affected by the earthquakes, and had concluded that certain industries needed contingency plans.
 - Water was declared safe to drink nine months after the incident, but the public considered this too long a time.
 - Reports had been created to highlight strengths and areas for improvement in the plans and procedures for the Federal and state agencies' response effort. Certain plans and MOAs had been created to strengthen future response efforts for earthquakes.
 - Relief and industry costs still affected Americans. Oil costs in particular remained high, as many refineries were not reconstructed.

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SECTION 1.3: PHASE 1 AND PHASE 2 EXERCISE OBSERVATIONS AND RESULTS

Following the exercise, the USCG and USEPA Exercise Design Team reconvened and identified issues encountered during Phase 1 and Phase 2 as strengths or areas for improvement. The issues were identified from the following three separate but related evaluation activities:

- (1) Trained evaluators were assigned to the various exercise venues. These evaluators observed exercise activities, compared what actually happened with anticipated activities (based on a review of exercise objectives and existing plans and procedures), and submitted their written observations to those responsible for overall exercise evaluation.
- (2) Exercise controllers held "hot washes" at specific venues immediately after exercise play, inviting each player to identify a short list of what went well and what needed improvement.
- (3) Each exercise participant had the opportunity to fill out and submit a form listing his or her observations and recommendations.

ISSUE CATEGORIES

- 1.3.1 Laws and Authorities
- 1.3.2 Hazard Identification, Risk Assessment, and Hazard Management
- 1.3.3 Resource Management
- 1.3.4 Planning
- 1.3.5 Direction, Control, and Coordination
- 1.3.6 Communications and Warning
- 1.3.7 Operations and Procedures
- 1.3.8 Crisis Communication, Public Education, and Information
- 1.3.9 Finance and Administration

The results from all three evaluation activities were collected in a spreadsheet and then grouped into the nine categories presented in this report. No effort was made to quantify the significance of each comment. Rather, this report reflects a qualitative judgment about the frequency and significance of the numerous comments.

The recommendations and responsible organizations presented for each issue are proposed to adjust practices and policies to improve the national response structure. Responsible organizations are those agencies or entities that are believed to have oversight of the recommendation. It will be up to each responsible organization to determine whether or not to take action on any recommendation that is presented in this report.

1.3.1 Laws and Authorities

1. *Federal agencies have different interpretations concerning authority to access private property.*

Observations

There is no consistency in authorities for accessing private property, which is an important issue for due diligence. Additionally, authorities are interpreted differently from agency to agency without a standard format for documenting private property access.

Recommendation

- 1.1 Establish a working group with legal representatives from various agencies to examine conflicting interpretations concerning authorities to access private property, and to develop a common understanding and deconflicted approach to the issue.

Responsible Organization(s)

NRT

2. *There was a lack of clarity regarding what is considered “marine debris” and who has authority for removing debris and vessel obstructions in the waterway.*

Observations

As discussed during the Response and Recovery workshop, when clearing the waterways after a large-scale incident, there will often be large-scale obstructions, such as bridges, blocking the waterway. Clarification is needed regarding who has authority for removing or ordering the removal of such obstructions. For example, which agency should order a bridge owner to remove a collapsed bridge that is obstructing a waterway? What if the owner fails to take appropriate or timely action?

Additionally, a universal definition of marine debris does not exist that defines the debris type and its location. For example, does marine debris include items such as a refrigerator that is located within a waterway? Does it include vessels that were once in the waterway but due to the incident are now on dry land?

Recommendation

- 2.1 Develop procedures and a unified approach for determining authorities, funding sources, and lead and sponsor agencies responsible for determining an appropriate resolution for debris that are in navigable waters as a consequence of an incident. Include roles and responsibilities for coordination, authorities for removing debris, funding sources, and technical support.

Responsible Organization(s)

Primary and coordinating ESF-3 agencies

3. *The inland rivers were not universally treated as a “system,” which hindered coordination and resulted in multi-jurisdictional response issues.*

Observations

The cross-jurisdictional response to the Inland River system was complicated by the location and non-alignment of the Federal, state, and local boundaries. River sections may lie in one state or in multiple states; they are also within the regional boundaries of multiple Federal agencies that correspond to one, or a combination of, political and functional structures that do not align with each other. The myriad of non-aligned and overlapping jurisdictional boundaries and responsibilities caused significant confusion for ACs, EPA, USCG, states, and locals with

respect to funding, resource and staffing allocation, applicable authorities, and responsibilities for response and recovery on the river system.

The Inland Rivers are managed by the USCG and USACE within their respective functional areas of responsibility as an interstate system. This system is not aligned with the civil sector boundaries of state and local jurisdictions, and also does not align with EPA and FEMA regional boundaries. Yet, response and recovery of the system is somewhat related to response and recovery across various jurisdictions. Incident management for the Inland River system must therefore correlate, and when necessary, adjudicate, interstate waterways management across the authorities, responsibilities, and resources of multiple jurisdictions in order to be effective.

Currently, the ICS structures for waterways management are primarily the responsibility of Federal agencies and do not typically align their boundaries with civil jurisdictional boundaries that otherwise typify the ICS organization. Thus, the effects of a river-oriented incident will straddle Principal Federal Official (PFO) and JFO areas of responsibility, as well as unified and area commands for terrestrial response and recovery. The absence of clear lines of communication and coordination will confuse incident management unless remedied, and will also confuse pathways for JFO support to waterways incident management activities.

Recommendations

- 3.1. Share with FEMA a recommendation to create Mission Assignments that are not state-specific but provide unified criteria for local sponsor cost shares and mission performance when an affected water body contains multiple jurisdictional boundaries.
- 3.2. Share with DHS Critical Infrastructure Protection the need to recognize the unique character of the marine transportation system (MTS) in the Inland Rivers system and to provide appropriate linkages and pathways for waterways incident management.
- 3.3. USCG and USACE have developed and implemented a Waterways Action Plan (WAP) for the Inland Rivers to address river stages and flooding. Share with FEMA the suggestion that this plan could potentially be adapted or serve as a model for all-hazard waterways ICS structures with appropriate linkages to NIMS and NRF structures.

Responsible Organization(s)

EPA and USCG

4. There is no standardized or coordinated approach to prioritization of key critical infrastructure issues across all levels of government and industry.

Observations

Phases 1 and 2 of SONS both highlighted the interdependencies between the various critical infrastructure / key resources (CI/KR) sectors, as well as hinted at prospective difficulties in determining priorities when there are competing demands for restoration and resources. Phase 2 exercise discussions also suggested that local and regional priorities, not necessarily involving CI/KR, may determine the extent to which national priorities could be effectively implemented at local and regional levels. The scope, scale, and thrust of international, national, regional, and local priorities and the method with which conflicts should be assessed and adjudicated relative to catastrophic incidents were beyond the scope of the exercise, and were not resolved during

discussion sessions. For example, would national priorities relative to waterways management issues and restoration of trade be in the form of targets, or would they be prescriptive in character? Regardless, prioritization of waterways recovery will have a large impact on economic revival.

Recommendation

- 4.1 Share with DHS Critical Infrastructure Protection the need for national policy that provides clear expectations and sets guidelines for priority setting.

Responsible Organization(s)

EPA and USCG

1.3.2 Hazard Identification, Risk Assessment, and Hazard Management

5. *Although OSHA provided outstanding response support and developed an excellent Health and Safety Plan template for use by state and Federal agencies, there was inconsistent HASP implementation, and Health and Safety Officers did not always access the technical expertise available to them.*

Observations

Several safety officials from OSHA participated in the exercise and provided excellent subject matter expertise across all venues. A safety plan that adequately addressed oil spill hazards was quickly developed. Having OSHA participate in this manner proved extremely helpful and should be a practice that is repeated in future exercises. However, given the magnitude of the scenario, the overall response organization did not have a team of safety representatives that could adequately handle all health and safety issues and create HASPs for priority incidents. Technical assistance provided by safety officials did not always appear to be considered by the ACs, nor were health and safety issues frequently given priority.

Recommendation

- 5.1 Develop an NRT fact sheet to address HASP issues; include information on the technical expertise that is available to responders and Safety Officers from other agencies and organizations.

Responsible Organization(s)

NRT

6. *It was unclear to the response organizations conducting assessments how to protect their responders from unknown hazards.*

Observations

As noted during Phase 2 of the exercise, within the first two weeks of an earthquake incident, responders may not have a full grasp of all security and health and safety issues, or the future seismic potential. Clarification is needed to determine if and when it is safe for responders to be

in the field. This concern includes not only response professionals but volunteer workers as well. Better planning is needed for using and ensuring the safety of volunteer workers.

Phase 2 participants collectively agreed that within two weeks of an earthquake incident, initial response crews should be changed out, mental health services should be provided, and adequate site security should be addressed. Additionally, Safety Officers should accompany engineers to look at structural stability issues in order to identify safe areas for responders to operate. Only when the responders are able to work in teams, are able to conduct frequent communication checks with the incident command post, possess survival kits with adequate first aid supplies and extra food, and can follow solid procedures for signing in and out, as developed by Safety Officers (or Resource Unit Leaders), will responders be set up for success.

Recommendations

- 6.1 Agencies should improve readiness by developing “survival kits” for its first responders to ensure that they are self-sustaining during the early response stages when resources will be limited (for example: tents, cots, Meals Ready to Eat [MREs]).
- 6.2 Share this information with FEMA and suggest that they create an earthquake-specific support appendix for HAZMAT assessment and response support in the Health and Safety Annex of the NRF.

Responsible Organization(s)

NRT with OSHA (Recommendation 6.1)

EPA and USCG (Recommendation 6.2)

1.3.3 Resource Management

7. There were unclear or undefined processes and procedures for resource tracking, prioritization, allocation, and ordering at all levels of the response and among various agencies, leading to resources being improperly assigned.

Observations

Requests/Ordering

At multiple venues, participants were not experienced, trained, or placed in the correct positions, resulting in resource and staffing requests not being answered in a timely fashion.

Without a clearly defined process for obtaining critical resources, confusion ensued on who was supplying the resources, and who was supposed to obtain them (ACs or ICPs). Often, resource requests from onsite EPA/USCG representatives went up the chain of command but did not produce responses. At some venues, the EPA Regional EOCs and USCG Districts filled the requests they were able to, and requests to fill gaps were sent directly to their own agencies or the MAC, bypassing the ACs. In others, critical resources were appropriately identified within the AC, but communication issues delayed the appropriate ordering. Internal coordination problems at the ACs, as well as the MAC also delayed requests and caused confusion for all parties involved.

In some ACs, resource shortfalls were not immediately identified or elevated to the appropriate authority. When shortfall notifications were made to the AC, there was confusion regarding who was responsible for acquiring the resources for the field.

Resource Tracking

Resource tracking and assessments could have been more efficient, and critical resource lists should have been updated more regularly. There was no process in place for record-keeping of initial response equipment listed in the response plan that ensured that these resources were not already assigned, and thus unavailable. As a result, the common operating picture lacked precision, and resource tracking efficiency and accuracy were diminished.

Coordination/Allocation

Appropriate support could have been better maintained at the ICP and AC levels. Coordinating resources outside the impacted area was not considered, and combining assets from multiple regions within most ACs proved to be problematic. Additionally, coordination of industry resource requests did not occur, and the general lack of available resources in the impacted area hindered the response.

Insufficient Trained Personnel

Appropriate personnel were designated in the formation of ACs, but there were insufficient staff members to manage an incident of this magnitude. Back-up personnel that were brought in to support regional or district personnel were not familiar with regional-specific processes, resources, and personnel. This posed organizational challenges for response and resource management.

Prioritization

In most ACs, critical resources were eventually identified and prioritized, but coordination was slow among USCG and EPA HQ, MAC, ACs, and regions. While critical resource identification, ordering, and allocation were disjointed, most ACs showed improvement as the exercise progressed, even though at times the critical resource issue was not effectively elevated to the MAC. The MAC should have assessed the severity of incidents across all venues rather than singularly assessing each AC's priorities, which resulted in response delays.

Recommendations

- 7.1 Ensure resource listings in the ACPs and RCPs are aligned with the National Preparedness for resource typing.
- 7.2 Ensure that people in the Area Command are appropriately trained and have appropriate experience for their roles in ICS at all levels.
- 7.3 Look for opportunities to exercise Area Command concept within the National Exercise Program.

Responsible Organization(s)

NRT/RRTs

- 8. *There is a general lack of awareness of other agencies' capabilities, available resources, and ability to access those resources, hindering response operations.***

Observations

Federal, state, and local agencies were not fully aware of capabilities, response tools, and assets available outside their own agencies, or from the private sector, such as GIS imaging and mapping. Access to the USCG Response Resource Inventory (RRI) was not available, which caused a delay in resource identification. There is currently no usable common national pollution resource database to share information across agencies and affected areas to coordinate resources. No true national preparedness resource inventory system exists.

Recommendations

- 8.1 Develop a list of existing resource tracking systems and establish links to agency/organizational systems that are currently in development.
- 8.2 Consult the NRT to ensure that the updated design of the OPA 90 RRI (maintained by CG) adequately meets interagency resource tracking needs for oil and HAZMAT.
- 8.3 Examine the NRT Special Teams handbook to determine if it needs to be updated.
- 8.4 Develop a special resource handbook focusing on mapping and imaging resources.

Responsible Organization(s)

NRT/RRTs and Area Committees

- 9. *Some of the facilities that housed the Command Posts did not meet the administrative and technical needs of the participants and co-location with different levels of the response organization proved to be troublesome.***

Observations

The AC facilities were limited in both size and resources, hindering response efforts for efficient information management and coordination. Co-location of command structures allowed personnel to involve themselves in matters outside of their position descriptions.

Recommendation

- 9.1 Create an NRT fact sheet to address ICP design, location, and logistical considerations.

Responsible Organization(s)

NRT

- 10. *Drinking and wastewater systems capable of handling the additional capacity that would be required to establish temporary housing villages after a catastrophic incident should be pre-identified and incorporated into appropriate plans.***

Observations

All ESFs have interdependencies that rely on water, which must be considered when contemplating how best to simultaneously execute multiple ESFs. Because it is not possible to

restore all systems at once, prioritization will be necessary. Advanced planning is key to enable quick identification and prioritization.

Additional planning is needed in pre-identifying drinking water and wastewater facilities that are able to handle additional demands after a catastrophic incident. Temporary water and wastewater systems and potable purification units must be on hand in order to support the response effort. However, it would be helpful to have a comprehensive list or database of those water and wastewater facilities that already possess the additional capacity. Currently, the agency that would be responsible for this effort is unclear.

Recommendations

- 10.1 Assess capacities of existing systems across the country to determine whether they can bear the additional burden of temporary housing villages. Pre-identify potential housing sites across each state using this information, and determine whether the community would accept a potential temporary housing village should the need arise. Add this assessment information to appropriate planning documents.
- 10.2 Share this issue with FEMA and recommend that they clarify which agency is responsible for ensuring the adequacy of water and wastewater utilities under the NRF.

Responsible Organization(s)

EPA, and ESF 3 and 14 agencies (Recommendation 10.1)

EPA in conjunction with FEMA (Recommendation 10.2)

1.3.4 Planning

11. When used during the exercise, focused Marine Transportation System (MTS) Recovery Planning Units and Essential Elements of Information (EEIs) proved to be valuable.

Observations

Exercising Marine Transportation System (MTS) recovery and implementation of MTS Recovery Units (MTSRU) for planning was a start towards a systematic approach to MTS Recovery building on EEIs for maritime infrastructure. During the exercise, the ICP and the MTSRU leaders were effective in drawing in private sector/industry and other Federal stakeholders to evaluate and move towards coordinated recovery of the affected area. Preliminary EEIs available from the Coast Guard at the beginning of the exercise were further developed to determine the extent of local area infrastructure damage and implications.

External stakeholders who participated as advisors in the MTSRUs played a vital role in the effectiveness of the MTSRU, drawing on an excellent knowledge of MTS Recovery and critical systems within local/affected area. Although the field exercise was not structured to engage in system-wide MTS recovery planning, this need, including the pre-incident need to develop baseline EEI data as the foundation for recovery planning, was addressed during SONS Phase 2. MTS recovery was presented as a subset of the overall need for cross-sector, forward-looking recovery planning to facilitate and support the transition from response to a coordinated recovery process for progressive restoration of functions and services.

Recommendation

11.1 Adapt the MTS recovery planning concepts, including pre-incident development of baseline EEIs, as a unified, cross-boundary approach for coordinated recovery planning.

Responsible Organization(s)

USCG working with FEMA

12. Plans, procedures, MOUs and MOAs were not always comprehensive, consistent, up-to-date, or in existence beyond draft format. They did not adequately address long-term recovery, including mitigation, modernization, innovative technology, or restoration. Also, the jurisdictional authorities in this multi-jurisdictional response caused confusion to the response organizations.

Observations

Many participants and evaluators observed that response plans were not immediately available or used in decision-making, and limited use of pre-disaster-established MOUs and MOAs slowed the response. When communicating, personnel at ICPs and ACs should have referred to response plans or agreements with more frequency. One venue had great success by making plans available to participants by using portable thumb drives.

When plans were consulted, there was often little time to extract in-depth information from them due to the extreme scope of the response. Specifically, while state and local agencies were contacted during establishment of the ACs, it was clear that RCPs, ACPs, and the ESF-10 SOP were not always examined as part of the decision-making process. In many venues, industry, local, state, and Federal response plans were not available in electronic or hardcopy format for review during the response.

Informational gaps in response plans were exposed, with the latest updates to such plans often not fully disseminated. While some ACs had a good working knowledge of their RCPs, ACPs, the NCP, and the NRF, it was apparent that recent changes to area and regional plans had not been universally distributed.

Many states' plans were not yet aligned with the NRF.

Preparedness and planning for recovery is not effectively addressed in the revisions to NIMS and the NRF. The issue of recovery when a JFO is stood up is not currently addressed by the NRF. Training, a recovery-focused exercise regime, pre-coordinated stakeholder SMEs, points of contact, and the EEIs are all needed to fully understand the problems as the situation unfolds.

In addition, **confusion exists over recovery terminology.** The term "mitigation" within the Federal government is used differently by agencies and a definition has not been agreed upon. FEMA uses the "mitigation" to mean long-term recovery. For EPA and USCG, "mitigation" is the term used for response activities. For funding purposes, states and locals are aligned with FEMA's terminology. States and locals responders perform a significant amount of "mitigation" after disasters and have placed "mitigation" under the Planning Section. Additionally, confusion exists over the terms "recovery" and "restoration." These terms were not well defined in the

NRF. The distinctions between restoration, recovery, and long-term recovery need to be determined and formalized. Is restoration the same as long-term recovery and mitigation?

Industry's role in long-term recovery is unclear. It is uncertain what industry will do (or is capable of doing) to assist in recovering the waterway, associated transportation infrastructure, and restoring and re-establishing economic activity during recovery.

Focus should be placed on planning for MTS recovery within the NRF. There is also a corresponding need to include MTS recovery as a specific, forward-looking planning function within ICS structures for recovery of maritime CI/KR, distinct from response. The MTSRUs that functioned within the Planning Sections at selected unified commands during the FSE were able to focus on recovery issues, including supply chain disruptions resulting from disruption of water transportation, associated economic effects, and to some extent, cross CI/KR sector dependencies. The need for such focus was explored taking into consideration the incident effects on infrastructure, trade, supporting services (e.g., utilities and logistics, such as fuel for vessels), risk management and security, and other factors. However, there is a broader need for focused, forward-looking recovery planning and inclusion of a recovery unit with a cross-sector focus in the ICS Planning Section. Should such a construct be adopted, the MTSRU could be folded into the larger unit.

Recommendations

- 12.1 Review current status of ACPs, RCPs, MOUs, and MOAs to ensure they are being regularly updated.
- 12.2 For multi-jurisdictional responses in the Inland River system, coordinate development of plans (RCPs, ACPs, and AMSPs) or develop a joint plan to treat the Inland Rivers as one system with security and economic interdependencies.
- 12.3 Include Maritime Transportation System Recovery as part of the NRF located within the Planning Section of NIMS ICS. Consider including recovery as a distinct functional requirement within the NRF and NIMS.

Responsible Organization(s)

NRT/RRTs (Recommendation 12.1 and 12.2)

USCG with NIMS Integration Center (Recommendation 12.3)

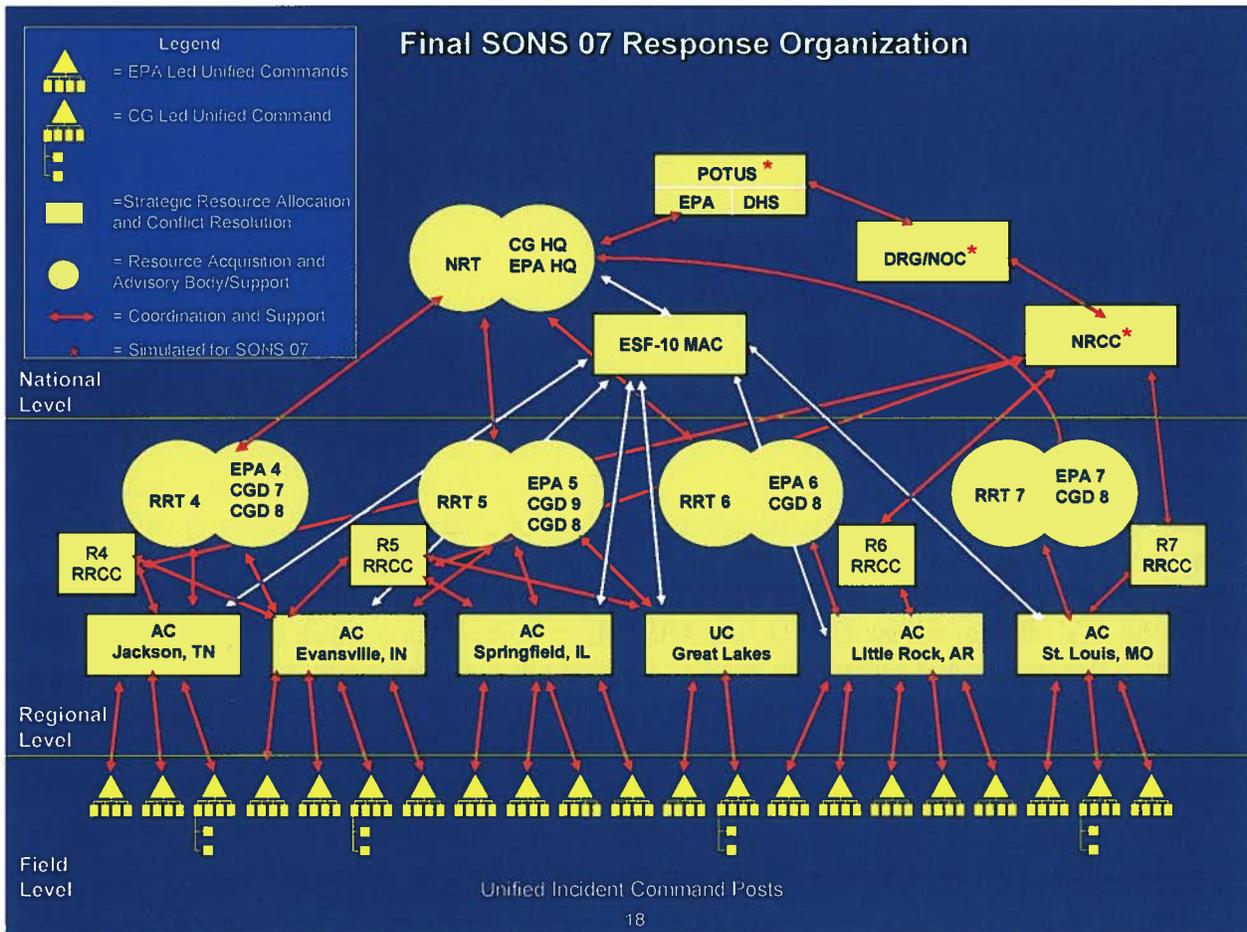
1.3.5 Direction, Control, and Coordination

13. Although strengths were displayed in the Unified Coordination structure of the MAC, including successful interagency interaction and a very strong Planning Section, roles, responsibilities, and inter-agency relationships were not clearly defined for a catastrophic incident and long-term response.

Observations

Although SONS 07 was initiated before Hurricane Katrina, the exercise planning team was able to incorporate Lessons Learned from the White House Report on Hurricane Katrina. Figure 3 illustrates the SONS 07 response organization.

Figure 3⁴: Final SONS 07 Response Organization



ESF-10 Component of the Primary JFO/MAC

Due to the complexity of the scenario and limited play of RRCCs, the Senior Agency Officials (SAOs), using NIMS ICS and USCG’s IMH as a guide, created an organizational response structure that provided the command, control, and coordination structure from the ICPs through the ACs, the MAC, and its agency leadership. The new organizational structure (MAC) assumed the role of the ESF 10 component of the primary JFO serving the needs of the subordinate ACs while maintaining its direct coordination to the EPA and USCG service chiefs. The MAC was embedded within the primary JFO, but maintained its legal authorities and requirements to report

⁴ The exercise design team, working closely with EPA and CG program personnel, spent considerable advance effort trying to design an incident response structure that would align the longstanding NCP processes with the National Response Plan (NRP). This was challenging in part, because most NCP events and exercises are either USCG or EPA led, not co-managed. Additionally, this was the first time that EPA and USCG made a concerted effort to fit the response into a larger NRP response. This would have been facilitated had DHS and FEMA been able to play a larger role in both exercise design and execution.

to its respective service chiefs through the use of an AC structure. It also provided liaison and coordination to the primary JFO, PFO Cell (simulated), and the RRCCs. The SAOs MAC organizational structure with the subordinate ACs and Unified Commands is depicted in the following streamlined structure:

Both EPA and USCG appointed SAOs to represent their organizations. The SAOs were appointed before the exercise began in order to establish a working relationship together and to conduct planning for their response. As the exercise purpose was to evaluate supporting plans, agreements, SOPs, and the NIMS/ICS structure, and not to evaluate individual performance, it was agreed that identifying the SAOs in advance would best maximize the usefulness of the exercise.

The MAC was created to provide a unified coordination body that would operate within the JFO structure, and would support both EPA and USCG equities, jurisdictions, and coordination and command responsibilities in the event of a nationally significant incident. The MAC operated on behalf of both EPA and USCG HQs. It was designed to provide strategic direction to and manage resource support between Area/Unified Commands responsible for tactical operations. It was responsible for establishing and maintaining a common operating picture of the various oil and HAZMAT incidents, requirements, and resources.

The personnel assigned, and the established coordination structure, were appropriate in terms of experience and capability to manage the MAC-related missions. USCG and EPA representatives were assigned to all levels of the MAC, and there was excellent interaction between USCG and EPA participants. Strengths included cooperation between the two agencies in all facets of Incident Command and Control, as well as the early establishment of a NIMS ICS structure with qualified and empowered section leaders. The Planning Section actively briefed its personnel, defined expectations, and took the lead in ensuring that NIMS ICS processes were followed. The Planning Section also did an excellent job facilitating meetings/conference calls and developing and completing the MAC Operational Guide using the AC Operational Guide templates.

The MAC was designed to coordinate operational and strategic resource acquisition and assignment, not to direct tactical operations. It supported the ACs and Incident Commands by converting those strategic goals into unified management objectives. Incident Commanders were then to formulate tactical objectives that were supportive of and consistent with these management objectives.

The MAC also served as a broker of national resources by identifying available resources and allocating them across ACs and Incident Commands, based on the established objectives and priorities. It was to manage resolution of issues between ACs, EPA Regions, USCG Sectors, and the states through facilitated discussion among involved parties. When necessary, the MAC sought direction and authority from HQ offices. Finally, the MAC was to involve itself in the management and coordination of public information.

Area Commands

As noted above, the MAC performed similar functions as the ACs, except that instead of coordinating and providing support to and between individual ICs, it provides support and coordination between ACs. The purpose of an AC is to oversee the management of the incident(s), focusing primarily on strategic assistance and direction and resolving competition for scarce response resources. This organization did not supplant the Incident Commanders (ICs)

and Unified Commands (UCs), but supported and provided strategic direction. Execution of tactical operations and coordination remains the responsibility of the on-scene incident command/unified command structure.

Recommendations

- 13.1 Informed by the practices and procedures employed during this exercise, review and validate or revise the NCP, the NRF, NIMS/ICS and implementing policy doctrine, tactics, techniques, and procedures related to:
- The concepts of NIC and SAO in the NCP, both where and how they play under the NCP as well as in the new NRF.
 - The placement of NCP senior officials and the oversight of ESF 10 at the JFO when a catastrophic event is the result of a SONS event.
 - The placement of NCP senior officials and the oversight of ESF 10 at the JFO when a catastrophic event includes, but is not driven by, a SONS event.
 - The command and control structure through which NCP issues are executed in the context of a NRF event. For example, are NCP-focused ICs and ACs established separately from ICs and ACs managing other crisis response functions, or are all response functions consolidated into unified ICs and ACs?
- 13.2 Examine the relationship between SONS full-scale exercises and other interagency FSEs on the National Exercise Schedule to optimize opportunities for proofing concepts as they evolve.

Responsible Organization(s)

NRT and USCG/EPA in coordination with FEMA Operational Planning Division and Emergency Support Functions Leadership Group.

14. Varying constructs were used to manage industry's role at the field level. Some industry members may have been excluded from participating in the Unified Command but were still responsible for funding the tactics being decided at that level.

Observations

Industry communications, coordination, and integration into response operations were challenging. Industry representatives were not invited into the AC response structure, nor did the AC define communication requirements for industry.

Maintaining industry representation was very challenging due to the magnitude of the event, the multiple responsible parties, geographic spread, lack of a collective entity to effectively represent industry, and the stretching of individual private resources beyond limits. Adding or mandating industry AC participation may have the potential to greatly detract from meeting on-ground response priorities.

However, the industry participants in Collinsville, IL banded together and created their own AC. This was a significant achievement, and appears to be the first time industry has taken such an

initiative to pool its response efforts and resources into a Unified Command Structure. The industry-led AC greatly assisted EPA and USCG in assigning an FOSC to each spill site.

Recommendation

- 14.1 Coordinate with industry groups such as the American Petroleum Institute (API) Spill Advisory Group (SAG), to formulate an appropriate method to incorporate multiple industry entities into a single unified command and within a multi-jurisdictional response organization during a large and complex incident.

Responsible Organization(s)

NRT Preparedness Committee

1.3.6 Communications and Warning

15. Though there were several communications successes, internal and external information flow was inconsistent, at times inaccurate, lacked processes and procedures, and limited the effectiveness of the response at all levels.

Observations

Lack of standardization across agencies, including forms, SITREPs, reporting requirements, and communications tools, hindered effective management and communication. While Federal agencies coordinated activities, there were different perspectives because each agency gathered information from different sources. Even within agencies, Regional consistency and standardization of documents was lacking.

Communication flow was at times intermittent, inaccurate, slow, and directed in a non-ICS fashion at all levels of the response organization, impacting situational awareness. Lines of communications between various agencies were not firmly delineated.

Communications problems existed in the transition of command, control, and communications (C3) functional responsibilities from the ICPs and UCs to the AC. In some locations, the transition of multiple UC structures to an AC was made without notification or complete understanding. Once transitioned, information management processes did not always provide data in enough detail to allow the ACs to understand and effectively prioritize incidents. As operations progressed, effective internal communications between Sections and Command staff did coalesce. Finally, ACs that shared jurisdictional boundaries did not communicate sufficiently regarding the incidents that were occurring in areas that could affect operations in adjoining AC response zones.

The MAC did, to some extent, successfully develop a reporting structure with external elements of the response (ACs, Districts, Regions and Headquarters), yet information from players came from too many different sources, in different timeframes, and not in a uniform format, leading to concern at times about data validity. EPA and USCG had different time schedules and formats for SITREPs, and required too much time to prepare them. A uniform battle rhythm to guide information reporting was not established.

Recommendations

- 15.1 Examine whether there is a need for a national standardized ESF 10 ICS SITREP template for use by Unified Command during catastrophic responses.
- 15.2 Create an ICS technical specialist position dedicated to SITREP writing within the Situation Unit.
- 15.3 Review current ICS resource ordering and tracking forms to determine if changes are needed to adequately meet response needs during significant environmental responses.

Responsible Organization(s)

NRT working with DHS OPS, and NIMS Integration Center

16. The current notification processes are not robust enough to adequately manage a catastrophic response.**Observations**

The National Response Center incident notification system was overwhelmed, causing a breakdown in timely notifications. The NRC had difficulty handling the volume of calls with the number of staff members that they had on hand, causing field personnel and NRT members to experience delays in receipt of NRC reports and NRT activation. Some reports were recorded inaccurately and lacked sufficient data. As agreed upon during exercise design, the NRC did not increase staffing levels for this exercise and were also processing “real” notifications. Had this been a true SONS event they would have recalled additional personnel to process the needed notifications.

Other systems, such as the Critical Infrastructure Warning Information Network (CWIN) system, were also not fully effective in providing notifications and awareness of situational information.

Recommendations

- 16.1 Review current NRC reporting practices to determine if current design is adequate.
- 16.2 Include NRC participation in more national-level exercises.

Responsible Organization(s)

NRT with NRC and NRC Advisory Committee

17. Reporting process requirements and collection methods were not consistent or standardized across all agencies. There was no commonly acknowledged information sharing system that all agencies could use to meet their needs.**Observations**

There is no standardized data collection process or centralized location to access data, which limits interagency information. Response personnel had difficulty gaining access to all necessary systems, understanding the configuration of each separate system, understanding what systems were available and what information they provided, and appropriately using them to benefit response efforts and information flow. There were too many information systems, no interface between them, and there was no process in place to reconcile the data from different systems, for

example, State WebEOC, Federal WebEOC, local WebEOC, HSIN, www.epaosc.net, Homeport, PIERS, and e-mail. Disconnects occurred between Federal systems and state tracking and notification systems because they are currently not compatible. The inability to properly access and use the technology hindered coordination, incident support, and the response overall.

Recommendation

- 17.1 A workgroup should be formed to look at developing a process to electronically share information across NRT members during all hazard responses to significant incidents.

Responsible Organization(s)

NRT

18. Alternative communications methods and equipment were not identified or effective at all levels of the response organization.

Observations

Contingency communications, as identified in the NCP, NIMS and NRF, such as Wireless Priority Services (WPS), Government Emergency Telecommunication Services (GETS) and Radio Amateur Civil Emergency Services (RACES), were not universally successfully used. While emergency backup communications for network connections and alternate communication mechanisms were successful in some areas, there were difficulties elsewhere, especially in the field, which led to difficulties and delays in responding to the needs of field personnel. Certain agencies were unable to establish alternative method(s) of information dissemination.

Recommendations

- 18.1 NRT agencies and industry partners should review current communication contingency plans for all hazards to ensure adequacy.
- 18.2 RCPs and ACPs should be reviewed and updated as necessary to ensure that crisis communication contingencies are sufficiently planned for.

Responsible Organization(s)

NRT agencies

1.3.7 Operations and Procedures

19. The AC's struggled with developing objectives, controlling meetings, and exchanging information. However, the staff proved to be flexible and focused.

Observations

Objectives

AC personnel followed the ICS AC structure and stayed strategically focused, avoiding tactical decision-making. However, development of objectives was inconsistent across venues. In many ACs, objectives matched nationally recognized priorities, but took too long to create. They also immediately recognized the importance of setting objectives and prioritization, though priorities

were not identified in a timely manner and did not necessarily reflect the priorities of all agencies. Not all of the organizations involved in the incident had representatives or their needs prioritized.

Meetings and Briefings

AC meetings could have been more efficient and effective. Time requirements of both the Planning 'P' and the "Battle Rhythm" combined proved overwhelming. The Area Commanders were tied up in too many meetings, limiting their ability to make timely and critical decisions. During Command meetings in some ACs, there were too many, or the wrong participants in attendance and insufficient information was brought back to the staff. Several other briefings were missing key participants.

Conveying Information

Documentation of the incident became a problem at all ACs and MAC. In some ACs, there were problems with conveying prioritized information to the UCs. Prioritizations were not recorded or formally sent out to the UCs or organizations coordinated by the AC. IAPs and Site Safety Plans at each ICP and UC were not necessarily completed and reviewed as per the USCG IMH, lacked the appropriate amount of detail, and/or lacked version control. Certain ICS forms were not completed correctly or with enough detail for the AC to take action or provide accurate situational awareness. SITREP development was time-consuming and caused personnel to lose sight of the bigger picture. A lack of staffing to create the reports resulted in delays in delivery. OGs were developed slowly and in many cases were incomplete and inaccurate from what was going on at the field level. The AC had difficulty getting situational information and resource shortages from the field so they had very limited critical resource needs. Although not every issue above existed at every location, each of these issues occurred in at least one location.

Recommendations

- 19.1 Examine the appropriate use of the AC concept within the respective ICS programs.
- 19.2 Establish a national ESF 10 response template for AC Operating Guides.

Responsible Organization(s)

EPA and USCG

1.3.8 Crisis Communications, Public Education, and Information

20. JIC operations were generally successful and improved as operations progressed.

Observations

Communications Strategy

On Day 1 of MAC operations, the JIC issued a communication strategy that outlined its responsibilities and provided it to internal partners at all levels of the response. One of the JIC's first initiatives was to verify all contact information at other JICs. This was time-consuming but a very good investment of time to ensure speedy communication throughout the exercise. The JIC teams in the field, overall, worked very well together and quickly ramped up, making contact with the other JICs, and responsibilities were delegated effectively. While information did not

immediately flow seamlessly, the staff were quick to “know what they didn’t know” and identify changes to the system that improved information for the entire organization, not just the Public Information Officer (PIO).

Correction of False Information

The JIC was proactive in contacting the media to clear up misinformation and adjust news releases. Sympathy messages and key messages were established for news conferences and media inquires. The PIO instructed the crafting of deliverables based on incoming inquiries.

PIO Integration

In some of the JICs, the PIO was integrated into the command staff and coordinated the incident information to produce the products needed. This helped ensure that the flow of information was timely and as accurate as possible, both externally and internally to the organization.

Internal Affairs Function of the JIC

At many of the JIC locations, external communications and outreach was the primary focus. Very few JICs identified anyone to be responsible for gathering and communicating information to the internal response organization.

Recommendations

- 20.1 Review the NRT JIC model to determine if it needs to be updated to reflect internal and external JIC needs for ESF 10 response activities
- 20.2 Examine developing prescribed public communication messages and crisis communication strategies on known hot topics (i.e. contaminated drinking water.)
- 20.3 Include proactive monitoring of media and public information for distribution of agency messages in agency crisis communication strategies.

Responsible Organization(s)

NRT

21. The roles and chain of command of the JIC in a multilayer response organization were unclear, including confusion on the role the JIC plays in disseminating information to the internal response organization.

Observations

Overall, JIC operations were successful and improved as the exercise progressed. However, due to the magnitude of the exercise, staffing at some of the JICs was not based on skills, abilities, or expertise. Initial organizations were created but not always followed, and there was a general lack of basic ICS/JIC knowledge at some locations. It was evident that roles, responsibilities, and authorities from the top down, both within and between the different JICs in the response organizations, did not seem to be completely understood, resulting in a lack of direction from key JIC positions. When new members were added to the JIC, they were not given clear direction by the PIOs or other JIC members, and didn’t immediately receive an assignment/ tasking. In some JICs, media monitoring was inadequate or not incorporated into JIC operations.

Plans were not always used or followed in many of the JICs. At some Incident and Area Command JICs, the NRT JIC model was not used as guidance to establish or operate the JIC. Also, Area Contingency Plans did not usually provide useful detail on public information, such as local media contacts or strategies.

At several ACs, the relationship amongst the Incident, AC, and MAC JICs was unclear and either caused duplication of effort or otherwise impeded ability to communicate information. PIOs should be proactive in the initial set-up of the Area Commands to eliminate disconnect between the JIC and the rest of the response organization. Information was not always communicated to the MAC JIC/IO level.

Recommendations

- 21.1 Develop a PIO checklist for inclusion in the NRT JIC model to set up at JICs and ACs.
- 21.2 Share information on this issue with FEMA and NIMS Integration Center to ensure that ESF-15, NIMS, and the NRT JIC Model clarify roles and responsibilities for all layers of public information and are consistent for a catastrophic response.

Responsible Organization(s)

NRT

22. There was no clear guidance or policy/process to ensure that a clear, concise, and consistent message was disseminated for public safety, resulting in delays in the release of information to the public.

Observations

Though there were initial complications that delayed information dissemination, information flow greatly improved and the timeliness and quality of products increased over the course of the exercise. Because of different approval channels, delays were encountered in disseminating and publishing information, causing interagency frustration. Additionally, media members were not being called back, rather they were referred to a website that was not kept updated.

Internet, radio, and television may not be available during an incident of this magnitude. Alternative means to communicate with the public were approved but were delayed in the chain of command. This issue was also raised during the SLS.

Recommendation

- 20.1 Review NRT JIC model to ensure it adequately addresses public affairs, including the use of the internet to disseminate information about catastrophic incidents.

Responsible Organization(s)

NRT

1.3.9 Finance and Administration

23. Confusion exists on the proper use of various funding mechanisms (OPA and CERCLA, and Other Governmental Agencies) when a Stafford Act Declaration has been made for a disaster of this type.

Observations

Confusion exists on how the various funding mechanisms for natural disasters and oil/HAZMAT spills are managed. This confusion led to inefficiencies during the exercise while discussing the various funding vehicles [CERCLA, OPA Oil Spill Liability Trust Fund (OSLTF), and the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) funds].

It was evident that existing ICS Finance Section job aids and some contingency plans did not adequately address the complexities involved when inter-agency funding flows are taking place. For example, the source of funding to clean up a government spill was never documented during the Great Lakes response. Additionally, the Naval Contingency Plan did not refer to or detail the claims/reimbursement process for a spill *on* Naval property, when it is not contained *within* the boundaries of the Naval property. This complicated and delayed response activities as the Finance Section needed to identify a source of funding before approving resource requests.

Additionally, uncertainty remains as to how FEMA would fund certain response structure needs (such as the MAC) in future Stafford Act responses.

Recommendations

- 23.1 Create a multi-agency catastrophic funding user's guide, or amend current directives, to address funding processes and differences when responding to a multiple funding source event (Stafford Act, CERCLA, and OPA 90).
- 23.2 Share this issue with NIMS Integration Center and recommend that they review and update as needed ICS financial forms to ensure that they meet the needs of a large-scale ESF 10 response.
- 23.3 Update federal facility contingency plans to include processes for claims and funding issues.

Responsible Organization(s)

NRT, USCG National Pollution Fund Center (Recommendation 23.1)

NRT (Recommendation 23.2)

NRT working with Federal government owned facilities (Recommendation 23.3)

24. Mission assignments were based jurisdictionally instead of functionally.

Observations

During the Response and Recovery Workshop it was noted that the potential exists for needing multiple mission assignments for the same response activity if the activity occurs on, or crosses

over, interstate lines. During a catastrophic incident, rather than having separate mission assignments for each state, the creation of centralized mission assignments should be considered to facilitate a unified approach to mitigate the incident. Functional needs frequently cross jurisdictions and should be more effectively addressed through a consolidated regional or area-wide approach. This is especially true for the river systems.

Recommendations

24.4 Share this issue with FEMA and the ESFLG and recommend that they re-evaluate current mission assignment processes and consider addressing unique needs of the inland river system.

Responsible Organization(s)

EPA and USCG

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SECTION 2: PHASE 3 SENIOR LEADERS' SEMINAR

Phase 3 of the SONS exercise entailed a half-day Senior Leaders' Seminar (SLS) held August 1, 2007 in Washington, DC. The mission of the seminar was to stimulate discussion among senior agency officials on important issues from their own agencies' perspectives, to hear the perspectives of the other participants, and to use that dialogue to agree on a cooperative or joint approach towards resolving issues and improving the nation's preparedness. While the issues raised by SONS 07 provided important background and context, the focus of the SLS was "all hazards, all threats."

The following sections provide a detailed description of the seminar (Section 2.1) and a summary of observations and results (Section 2.2).

SECTION 2.1: PHASE 3 SEMINAR DESIGN SUMMARY

The SLS was a 4-hour seminar comprising a combination of short presentations and plenary discussions. The first hour of discussion presented an overview of Phase 1 and 2, including perspectives of the SONS exercise, and lessons learned from the FSE and the Response and Recovery Workshop (see Section 1).

Three topics were selected for discussion during the seminar, including:

- SONS and Incidents of National Significance (INS)—Are they the same?
- Cooperative Approach to Preparedness
- Communications and Information Management

Each topic was presented by an individual selected based on their expertise on the topic subject matter. The experts presented unbiased background on each topic, and facilitated dialogue between the participants. The purpose of the seminar was to:

- Determine if issue topics warrant additional attention and should be addressed by the pre-identified organization and agencies.
- Agree on a desired end state for each topic – the combination of procedures, requirements, authorities, capabilities and structures that will contribute to achieving and sustaining a satisfactory level of preparedness.
- Agree on the most likely path to success – the broad "course of action" that should be pursued to ultimately resolve the issue topic.

A summary of the observations and results from each topic appears in the next section.

SECTION 2.2: PHASE 3 SENIOR LEADERS' SEMINAR OBSERVATIONS AND RESULTS

This section outlines the observations and recommended actions for the three topics discussed during the SLS.

2.2.1 Topic 1: SONS and INS –Are They the Same?⁵

Description

The SONS and the INS response structures are designed to enhance management support, communication, and national resources management to assist Federal field responders. A senior Federal executive serves as a spokesperson with the public, state and local executives. Do the SONS and INS designations have distinct functions under ESF-10 compared to broader multi-ESF NRF responses? Is the SONS designation still needed?

Background

The SONS Response Structure

For routine oil and hazardous materials incidents, the EPA and USCG appoint an OSC to coordinate and direct response actions. In a SONS structure, both the EPA and USCG may appoint an official (EPA designates a SAO and USCG designates a NIC) to assist the OSC in communicating with affected parties and the public and coordinating resources at the national level. The SAO and NIC both assure that this strategic coordination will involve, as appropriate, the NRT, RRTs, and state and local government. The NCP states that the USCG NIC will assume the role of the OSC for these responsibilities and the EPA SAO will support the OSC in these responsibilities. The NCP (40 CFR Part 300) also charges the EPA and USCG OSCs, for significant threat or worst case discharges, to direct all Federal, state, local, and private response efforts.

The INS Response Structure

The NRF assigns this high-level coordination and communication responsibility of an INS to the Secretary of DHS, who in turn may appoint a PFO whose responsibilities parallel those of the SAO and NIC for a SONS incident under the NCP. Senior Responsible Officials (SROs) represent departments or agencies that have a significant response role in supporting the PFO in the JFO. When a disaster or emergency declaration is made by the President, a Federal Coordinating Officer (FCO) is appointed to coordinate Federal activities and administer the Stafford Act authorities and funding. Simultaneously, the governor of the affected state appoints a State Coordinating Officer (SCO) who is responsible for coordinating with the FCO to determine what support the Federal government will provide to the state. The Stafford Act provides funding for activities specifically requested by the SCO and administered by the FCO.

Figure 4 depicts concepts for ESF-10 and for broader NRF activation as independent organizations. Figure 5 depicts concepts for merging the SONS construct into the larger NRF structure depending on the scale and magnitude of an incident.

⁵ The Department of Homeland Security (DHS) revised the National Response Plan (NRP) during the same time frame as the SONS exercise was developed and played. In the summer of 2007 DHS released the new National Response Framework (NRF). The remainder of this report refers to NRF in all cases because it is now the operative document, and because, except for the “Incidents of National Significance” concept, the NRP structures used during SONS07 were preserved unchanged in the NRF.

Figure 4: Coordination Structures: EPA and USCG Interface

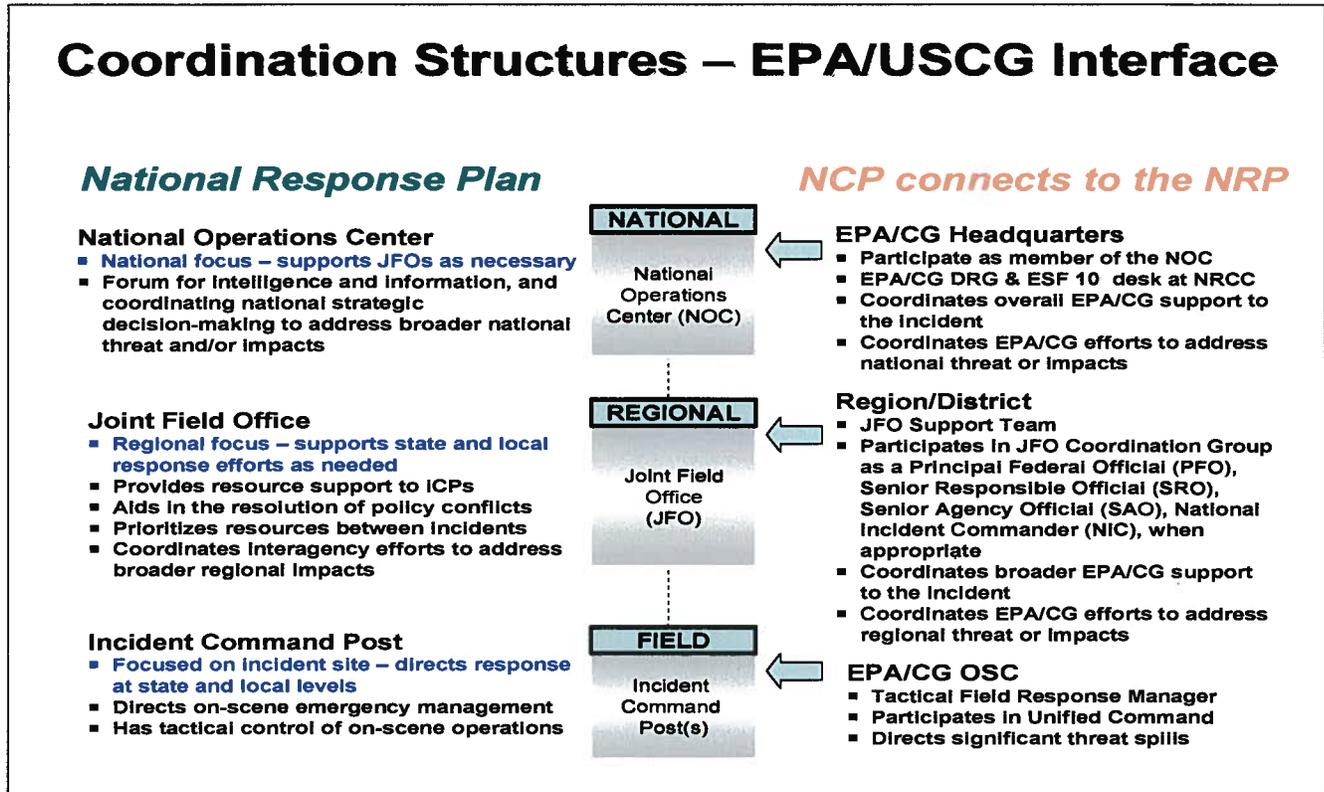
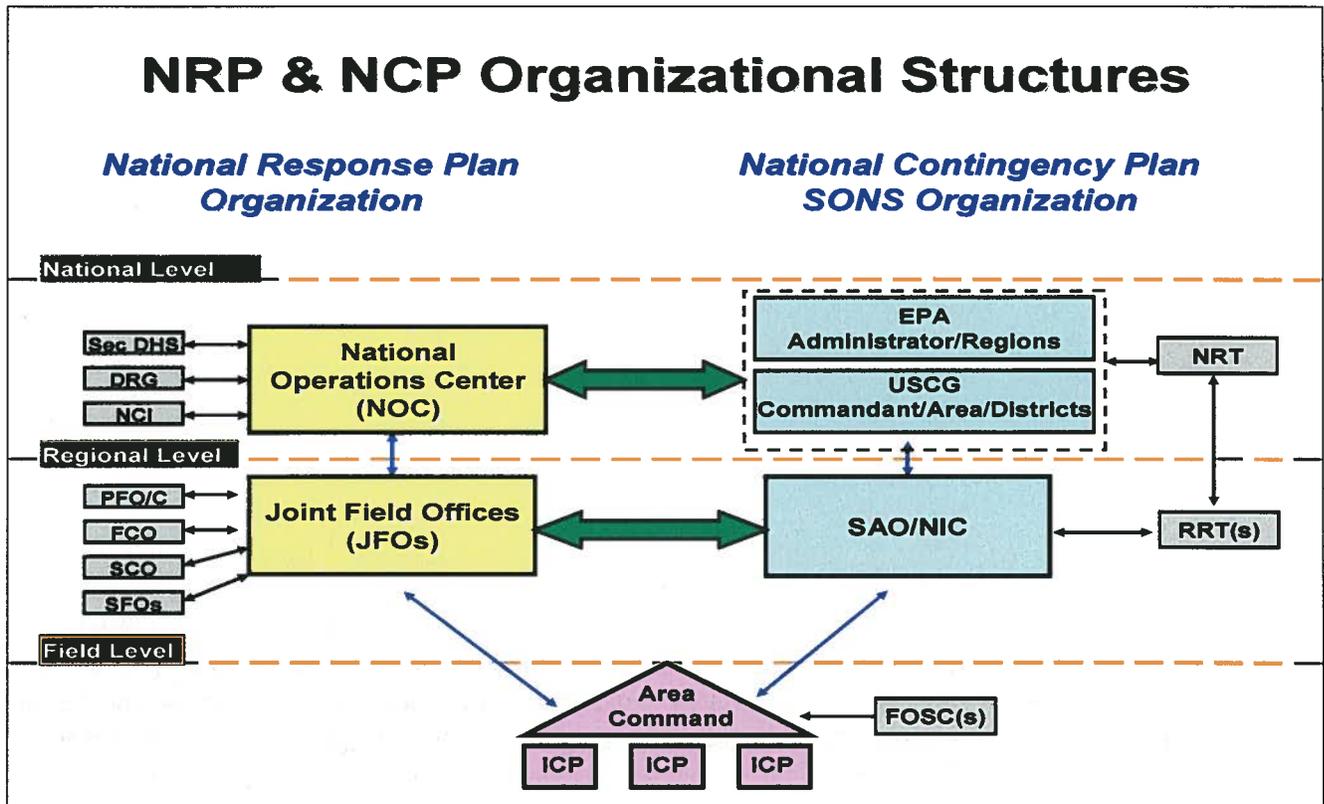


Figure 5: NRP and NCP Organization Structures



Key Questions/Issues

When an incident has been declared a SONS as well as an Incident of National Significance, how do the EPA SAO and/or the USCG NIC interact with the PFO?

In a catastrophic event, when the response to an oil spill and/or hazardous substance release is one of several highly significant concerns, the EPA/USCG spill response efforts will fold into the JFO as depicted in *Figure 2*. It is likely that the EPA/USCG OSC will be required to direct the response if the spill is determined to be a significant threat or worst case discharge. Would those agencies serve as SROs in the Unified Coordination Group (UCG) at the JFO, or would they serve as agency representatives on the general staff in support of the FCO and SCO? The UCG is properly limited to those few entities that have a significant role in the response and have significant decision making authorities associated with those roles. SROs assigned to the UCG bring resource committing, decision making agencies together with the PFO in order to maintain "unity of effort" among separately empowered agencies. If the EPA and USCG are using NCP authorities to direct response efforts and have a significant role in the overall response, they should sit in the UCG. If they perform their activities under Stafford Act mission assignments and they are *not* directing the response but carrying out response activities as directed by FEMA, it may be appropriate for the EPA/USCG to serve as an agency representative on the general staff (ESF-10 Chair).

How can we adjust the NCP to make it congruent with and complimentary to the NRF? Should the SONS concept and/or terms SAO and NIC be preserved separately or merged into the NRF construct?

Both the INS and the SONS concepts envisioned a catastrophic event that generates national-level concern and interest, and challenges the response community at all levels to respond effectively. Since the concepts are fundamentally identical, can preparedness and response be improved by merging them? The NCP needs to exist as a separate regulation for all of those responses below an INS and where the EPA/USCG are required to direct the response. But when an INS occurs, the NCP needs to work with the NRF and not be in conflict.

Discussion

An SLS participant expressed concern regarding the setup of this “superstructure”, noting that it is very bureaucratic. Questions arose, such as: How will decisions be made in these structures? Are real-time policy decisions that need to be made being considered (not at the field level)? Are the right people going to be staffed in the right places? The revised NRF should evaluate methods to coordinate structures and plans for the response community.

Participants discussed the INS structures’ applicability to an agriculture emergency, such as Foot and Mouth Disease. It was noted that the Secretary of Agriculture has the authority to declare an emergency and the USDA would respond within their given authorities. Once USDA resources were used up, USDA would ask to activate the NRF and the appropriate ESFs needed. USDA would still maintain control of the incident but would reach out to others within a UC for resource support. USDA already uses a multi-agency coordination concept in its response.

SLS participants agreed that a common structure is needed that can flex across all agencies, issues, situations, and incidents. The ultimate goal of this structure would be to provide a common understanding, using the same dictionaries and definitions, and combine all into one scalable process to apply, no matter what the incident. Overall, the community cannot afford to have multiple systems that are inefficient and ineffective. The overarching system needs to work from the beginning so that if the authority of the NCP is exceeded, more help is needed from NRF authorities, or activation is required, there will not be a delay in support. The NRF should be the guide for all response agencies to plug into in a Incident of National Significance; thus, the NCP and NRF need to be linked up.

It was noted that the name change from the NRP to NRF was because of the recognition that this is an adaptable framework that can be used no matter who is the incident lead or has authority during incidents. All responses can be adapted and fall under the NRF. A prominent question will be how to ramp up and down the degree of complexity of the framework to be responsive to the specific situations that come up during the response (i.e., how to create the scalability of the framework and convey it in a way that makes everyone comfortable).

Recommendation

The EPA and USCG should work closely with DHS and FEMA to further enhance the alignment of the NCP with the NRF, using the ESF-10 Annex to the NRF as the primary tool to document the alignment. Efforts should include specific resolution of both issues detailed above including potential conflicts between the need for OSCs to direct response for some spills while complying

with Stafford Act procedures to support the affected state. Amendments to the NCP (40 CFR 300) should be made to ensure long-term consistency.

The SLS participants agreed that the NCP and NRF need to be brought into alignment and simplified (both in concepts and lexicon). USCG and EPA will work on a plan for alignment.

2.2.2 Topic 2: Cooperative Approach to Preparedness

Description

Currently, NCP preparedness planning is a unified process, a joint effort of Federal, state, and private sector, and is self-funded by each participant. NRF preparedness planning is a more individual process, where each entity plans internally. Grant funding is available to states and the private sector, but not on a Federal level. The Federal government should better promote a cooperative and collaborative approach to disaster planning with state and local authorities, and ensure adequate attention to and funding for the entire response community for disaster preparedness, prevention, response, and recovery.

Background

All response is local and when local response capabilities are exceeded, the expectation is that state and regional Federal resources will be available to fill local gaps and shortfalls. Likewise, Federal agencies are charged with being prepared to fill state and regional Federal gaps and shortfalls. This cascading paradigm is entirely dependent on cooperation and coordination of all impacted parties both in advance of and during an event.

For oil and hazardous substance incidents, both the USCG and EPA have local level responsibilities and authorities under the Clean Water Act and CERCLA to sustain community preparedness and response capabilities for oil and hazardous substances. Each agency also receives recurring funding to support its own preparedness activities, but not the preparedness activities of other Federal agencies, states, locals, the private sector or non-governmental organizations they are intended to interact with at the local level. This creates a gap between expectation and execution of planning and exercise activities at the local level. EPA and USCG local and regional level planners are hampered because, while they can invite and encourage other response stakeholders to plan and exercise, they cannot fund that participation, and without funding, those stakeholders most often either are unable to participate or can participate on a limited basis only.

For natural and other catastrophic disasters, FEMA has authority and responsibility to serve as the primary linkage between the state and Federal government in identifying local and state preparedness planning and exercise needs, and in coordinating identification and filling of state and local gaps and shortfalls during response. Unlike the EPA and USCG, FEMA is charged with supporting local or regional community preparedness through its grants, exercises, and training programs rather than hands-on engagement as an integral part of the planning community. They are empowered to provide grants not only to state and local governments, but also, in limited circumstances, to the private sector to support their individual preparedness efforts.

While both Federal systems focus attention on preparedness at all levels of government, the separate funding and operating mechanisms employed result in significant duplication, overlap, and competition — all of which detract from the nation's ability to sustain preparedness consistently across all contingencies and in all regions of the country.

Discussion

This cooperative approach involves two independent processes: the cooperative Federal, state, and local planning process and the Federal oversight and funding of state and local efforts. The group noted that it is essential to accept these processes as a common approach in the NRF to planning and preparedness efforts that involve the state and local agencies. State and local involvement is minimal in the Federal planning and preparedness efforts, and should be included in the Federal plans and processes.

The NRF encompasses a multi-jurisdictional response, thus all entities need to be involved in the planning process. Federal cooperation is done relatively well, but state and local involvement is missing. There is a concern that there must be a way to develop incentives for these entities to work together and come up with a national plan.

Industry realizes readiness is crucial, and is working with Federal, state, and local entities to address readiness issues. These entities continue to build relationships within their areas to ease response coordination. Additionally, the law enforcement planning for this collaborative effort requires substantial coordination both at higher levels and at the field levels. The DOJ is currently developing tools to pull together all levels to respond to events and their security components.

There was consensus during the SLS that relationship-building is essential and must start early on with state and local entities. SLS participants agreed that Federal agencies must work together to send a common message and create relationships with local jurisdictions, since currently each agency operates in a variety of ways. Preparedness needs to be promoted by speaking with one voice and one pocketbook. Agencies should reach out to each other (on an interagency level) for investment opportunities of all Federal funds. It may be helpful to combine activities and planning by consolidating efforts if necessary (including funding) to have a more unified approach.

Recommendation

The EPA/USCG construct of community planning (e.g., Area Committees and ACPs, RRTs and RCPs) should be considered as a model. The focus of FEMA planning engagement needs to change at the local and regional levels from oversight, doctrinal direction, and assessment to cooperative joint planning. Cooperative joint planning should focus on:

- Actively identifying gaps and overlaps, allowing much greater efficiency in anticipating and filling needs.
- Improving interagency cooperation and awareness at the tactical and operational levels.
- Supporting greater linkage between Federal agency funds and stakeholder grants for preparedness planning, training and exercise.

EPA and USCG should work directly with FEMA Preparedness and DHS Operations and Infrastructure Protection to examine potential synergies among existing regional- and local-level

preparedness planning groups, which include but are not limited to RRTs, Area Committees, and Area Maritime Security Committees (AMSCs)

SLS participants determined that this is a DHS and NRT issue. The NRT has worked with a model to enhance this type of coordination of bringing together all levels through ACP development. One suggestion is to develop synergy between the effective NRT model and the funding models to allow the local governments to work on readiness with the Federal entities involved. A recommendation of the group was for DHS and the NRT to work together with Federal, state, and local agencies, and private industry, to look at the current planning process, as well as the funding that goes with it to align a unified approach. Currently, the grants allocated speak predominantly to the immediate wants and needs of the agency providing the funds thus stove piping the funding. By validating the best features of both models, it will support a transition to a unified model that supports both internal and cooperative planning across all contingencies.

2.2.3 Topic 3: Communications and Information Management

Description

U.S. Federal government response operations and long-term recovery present significant challenges regarding communications and information sharing. Each organization in a response has a need to collect, analyze, and transmit technical information within its own structure. At the same time, a unified command environment demands that its constituent agencies and industry partners share information both within the response organization and with the public, the media, and government. Timely and accurate information is vital to making well-informed decisions, and to maintaining the credibility of the government in the public's eye. Issues affecting public health and safety can be particularly sensitive. In an oil and hazardous substance incident, there is often a gap between the media and the public's expectations for immediate access to information, and agencies' ability to analyze, approve, and release technical information to each other as well as to the public.

Background

The USCG, EPA and NRS agencies share technical information and jointly develop public information and messages under the long-established systems in place under the Clean Water Act and CERCLA. Catastrophic incidents bring additional players with varying levels of experience working in joint environments. Data comes in from more sources and presents complex analytical challenges. The media, the public, and other audiences demand its release more quickly.

National leaders, such as agency heads, Congress, and the White House expect updated technical information "on demand" throughout a response. Response personnel, on the other hand, report information at regular, scheduled intervals through the response chain of command. This presents challenges for consistency of message and data alignment.

DHS has taken the lead in developing a variety of methods for tracking and managing information resulting from a disaster. Response agencies, such as USCG, EPA, NOAA, and HHS routinely collect, analyze, and publish highly technical information, using that data to support their tactical and strategic programmatic decisions. While these approaches focus attention on technical data at all levels of government, the distinct uses — general information for use in affecting coordination by

DHS and specific hard data for decision making — may result in duplication, overlap, competition, and unmet expectations for managing and releasing information.

Discussion

Federal emergency managers face challenges in talking to one another and with the public (accepting that the public is extremely demanding and their expectations for information will not change). They must promote cooperation and coordination across the entire response community for disaster crisis communications. Sharing technical information and outreach during all phases of response and recovery is essential.

Topics to consider include pre-planning messages, determining a delivery system (within scope of each agency, what is to be delivered and how), and bringing safety to the forefront. Worker health and safety information is essential to get out, and contains information different than public health issues of other agencies. OSHA should be working together with others to determine how they need and want to receive information through understandable messages. These messages on health and safety should be coordinated pre-event.

Data collection and sharing is often one-sided, but data should instead be passed back and forth freely. Timeliness of information is essential, or else stories get out to the public that may not be accurate or true. The public does not understand the abbreviations and acronyms used; use of these should be limited.

The web site *www.disasterhealth.gov* is an example of how the government passes information to the public on one consolidated page, instead of each agency's home web page. However, there is a concern regarding the affected communities' access to such a resource during a disaster.

Communicating with the public on health, radiation, and other issues is lacking; the existing mechanisms do not necessarily serve the Federal government well. There is a strong need to re-assess current processes that are used day-to-day. It was noted that a lot of work being done on mechanisms for pandemic flu information. The response community should look at the existing infrastructure, such as the Homeland Security Information Network (HSIN).

Recommendation

SLS participants agreed that DHS, EPA, HHS, OSHA, and DOE should come together to develop an integrated plan to handle communications out to the public, including obtaining data, ensuring it is consistent, methods for sharing it, and finding storage for the equipment.

Recommendation #87 of the White House Lessons Learned Report on Katrina states:

DHS, in coordination with EPA, HHS, OSHA, and DOE should develop an integrated plan to quickly gather environmental data and provide the public and emergency responders the most accurate information available to decide whether it is safe to operate in a disaster environment or return after evacuation.

This plan should address how to best communicate risk, as well as determine who is accountable for making the determination that an area is safe. It should also address the need for adequate laboratory testing capacity to support response to all hazards.

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SECTION 3: CONCLUSION – SONS 07 AS PART OF OVERALL SONS PROGRAM

SONS 07 met the six major Exercise Objectives provided by the Exercise Sponsors and achieved the four SONS Program goals.

The robust exercise participation created sustainable integrated solutions and fostered relationships that are essential to preparing for future emergency responses. Broad opportunities to improve plans and procedures were created via the demonstrated impacts to critical infrastructure, public safety and security, and the environment. The

exercise also validated that the decision making processes used by the NRS both for contingency planning and during an emergency response are an excellent approach to improving preparedness and making sound response decisions. The very strength of this system is in part based on the processes used that involve ongoing consultations with the response stakeholders at the local, regional, and national levels.

The exchange of ideas and information among various agencies and industry partners at different levels allowed participants to gain a better understanding of the authorities, jurisdictions, roles, and responsibilities of other groups. The exercise provided continued education of emergency management personnel and elected officials regarding requirements for intergovernmental coordination between emergency management and other appropriate organizations. The exercise also facilitated the building and strengthening of partnerships among participants. Finally, the exercise provided participants a venue for high-level thinking and a rare opportunity to have many of the involved stakeholders present to confront the issues of mutual concern.

The exercise also allowed for the identification of expectations and problem areas that need to be resolved. Issues with local-, regional-, and national-level implications were identified. The exercise sponsors agreed that the SONS 07 exercise achieved the objectives and improved the skills and experience of response organizations. The overall success of this exercise will ultimately depend on the timely resolution of those identified issues. The USCG and EPA, in coordination with the NRS organizations, have committed to developing a reasonable timeline for resolving these issues.

SONS PROGRAM GOALS

1. Increasing the preparedness of the entire response organization from the field level up to agency heads in Washington, DC.
2. Exercising the NRS at the local, regional, and national levels using a series of large-scale, high probability oil and hazardous material incidents.
3. Providing an environment for an unprecedented level of cooperation throughout all levels of government, private sector, and NGOs.
4. Offering broad opportunities to improve plans and procedures.

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APPENDIX A: EXERCISE DESIGN

This section describes various aspects related to developing and implementing the exercise and includes lessons learned related to those activities. Individuals rarely work on more than one large exercise, so it is useful to record the lessons that the design team learned in developing, and managing this exercise. Some of the ideas used in this exercise were innovative and/or specific to technical agencies. Other lessons are standard organizational improvements. All should be useful to future exercise designers.

- 1. It is beneficial for exercise designers, as well as the control and simulation cells, to have a suite of tools to manage various components of the exercise.*

Observations

Several electronic tools were used to good effect in SONS 07. NxMSEL, served as the primary mechanism for tracking injects. NxMSEL allowed the controllers at all venues to know which injects the Master Control Cell (MCC) had put into play through a web interface. It also allowed the controllers to follow a particular inject or message to ensure the players had completed an expected action.

The PISCES computer application provided visuals such as timelines and models of value to the MCC staff. The PISCES model can identify resource requirements and can be adjusted to show how the response has affected the spill. This latter feature works well for incidents with one or two spills, but was not useful in the very large SONS 07 scenario.

Two kinds of websites were used. One page in epasc.net was developed for each spill to give a full account of each release. A separate truth website was used to broadcast updated scenario and response information to dispersed players. Often screen shots from PISCES were uploaded to the truth website with field activity information. Weather and news stories were carried on the truth website.

Recommendations

- 1.1 Utilize an inject-tracking tool, a modeling program, and websites to provide realism to the players and help the controllers understand the status of the exercise.
- 2. Injects should be standardized to include, at a minimum, information that would normally be available during a response. In addition, the length of the exercise should be considered when determining the appropriate number of injects. Having enough information enhances the players' engagement with the exercise, but there must be the right balance of information given the duration of the exercise.*

Observations

The very large number of injects drove the various organizational elements to coordinate response activities and prioritize response resources. The limited duration of the exercise constrained the players' ability to tactically resolve each spill, so those closest to the spill fed

information and issues about many spills, response activity, and resource needs up to the MAC for support.

Some of the SONS 07 injects lacked needed information such as location, plume modeling and chemical data which resulted in simulators having to create information that was beyond their experience.

Recommendations

- 2.1 A core of injects must be written to include enough information to keep the players productively busy.
- 2.2 All injects should have a clear specific purpose.

3. *The conduct of the exercise would have improved if the exercise design team had adequate time to shift from designing the player response structure to creating a robust control and simulation capability.*

Observations

A response structure for this type of large scale response had to be created concurrently with designing the exercise. The SONS 07 play structure is described in great detail in the section related to Statement #13 in this report.

Recommendations

- 3.1 Player organization should be separated from the exercise design, with different personnel.
- 3.2 The player organization needs to be set before the design process begins.

4. *The simulation cell was understaffed and the simulators needed more training.*

Observations

All simulators were located in the MCC in Chicago. The simulators shared a team of five technical specialists that developed amplifying information for the spills that were in play. Many of the simulation staff members switched out on the morning of day two and were not familiar with the spill scenarios that their predecessor put into play the day before. Based on feedback from the Area Commands (ACs), the simulation staff was too small to meet their needs. As a result, some venues took a few players and created a local simulation cell to provide enough material to sustain adequate play.

Recommendations

- 4.1 Simulation/control cells must be scaled to fit the exercise. Larger exercises require more simulators and controllers.
- 4.2 Simulators should have adequate subject expertise to develop appropriate content to address the questions from the players and enhance exercise play. That expertise could be in various subjects, such as hazardous materials, worker safety and health, or modeling.

5. Exercise training/orientation for controllers, evaluators and players was not adequate.

Observations

All controllers, simulators, and evaluators should have job-specific training. Often this training is waived for personnel with real world experience. The skills sometimes transfer but not always. There should be an orientation for controllers, evaluators and players to go over the structure of the exercise, the extent of play agreements and other venue specific details. During the SONS 07 exercise players and controllers were not briefed on the full extent of the tools available.

Recommendations

- 5.1 Require all controllers, simulators and evaluators to have job specific training.
- 5.2 Provide an orientation on exercise design for all exercise participants.

6. The primary SONS 07 website was difficult to navigate and should have been kept more up-to-date.

Observations

The use of a website for communication and preparedness for the exercise was crucial. The SONS 07 website was often late in updating information. Often the information was on the password protected portion of the site and unavailable for those who needed it. Additionally the organization of the site was not user friendly.

Recommendations

- 6.1 Create a user-friendly exercise development website that can be converted to the truth website for use during the exercise.

7. For an exercise of this magnitude, public affairs planning should be established early on and requires a high degree of coordination and collaboration with all agencies.

Observations

The time commitment and expense of participating in an exercise of this magnitude did not seem to be clearly communicated to all partners to ensure appropriate participation in all aspects of planning. Many partners were unable to attend all the planning conferences for the External Affairs Sub-committee, impacting the progress and continuity of the group.

Recommendations

- 7.1 Include representatives from all participating agencies in the planning from the early stages and establish clear roles and responsibilities for planning team members.
- 7.2 An early commitment in both funding and staffing resources from all levels of government and industry should be established and public information officers need to be included as part of the planning team.

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APPENDIX B: PHASE 1 AND PHASE 2 RECOMMENDED ACTION ITEMS

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
LAWS AND AUTHORITIES			
<p>1. Federal agencies have different interpretations concerning authority to access private property.</p>	<p>1.1 Establish a working group with legal representatives from various agencies to examine conflicting interpretations concerning authorities to access private property and to develop a common understanding and deconflicted approach to the issue.</p>	<p>NRT</p>	
<p>2. There was a lack of clarity regarding what is considered "marine debris" and who has authority for removing debris and vessel obstructions in the waterway.</p>	<p>2.1 Develop procedures and a unified approach for determining authorities, funding sources, and lead and sponsor agencies responsible for determining an appropriate resolution for debris that are in navigable waters as a consequence of an incident. Include roles and responsibilities for coordination, authorities for removing debris, funding sources, and technical support</p>	<p>Primary and coordinating ESF-3 agencies</p>	
<p>3. The inland rivers were not universally treated as a "system," which hindered coordination and resulted in multi-jurisdictional response issues.</p>	<p>3.1 Share with FEMA a recommendation to create Mission Assignments that are not state specific but provide unified criteria for local sponsor cost shares and mission performance when an affected water body contains multiple jurisdictional boundaries.</p>	<p>NRT</p>	
	<p>3.2 Share with DHS Critical Infrastructure Protection the need to recognize the unique character of the marine transportation system (MTS) in the Inland Rivers system and to provide appropriate linkages and pathways for waterways incident management.</p>	<p>EPA and USCG</p>	
	<p>3.3 USCG and USACE have developed and implemented a Waterways Action Plan (WAP) for the Inland Rivers to address river stages and flooding. Share with FEMA the suggestion that this plan could potentially be adapted or serve as a model for all-hazard waterways ICS structures with appropriate linkages to NIMS and NRF structures.</p>	<p>EPA and USCG</p>	
<p>4. There is no standardized or coordinated approach to prioritization of key critical infrastructure issues across all levels of government and industry.</p>	<p>4.1 Share with DHS Critical Infrastructure Protection the need for national policy that provides clear expectations and sets guidelines for priority setting.</p>	<p>EPA and USCG</p>	

Note: Completion "Date" will be determined by the "Suggested Responsible Group"

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
HAZARD IDENTIFICATION, RISK ASSESSMENT, AND HAZARD MANAGEMENT			
5. Although OSHA provided outstanding response support and developed an excellent Health and Safety Plan template for use by state and Federal agencies, there was inconsistent HASP implementation, and Health and Safety Officers did not always access the technical expertise available to them.	5.1 Develop an NRT fact sheet to address HASP issues; include information on the technical expertise that is available to responders and Safety Officers from other agencies and organizations.	NRT	
6. It was unclear to the response organizations conducting assessments how to protect their responders from unknown hazards.	6.1 Agencies should improve readiness by developing “survival kits” for its first responders to ensure that they are self sustaining during the early response stages when resources will be limited (for example: tents, cots, Meals Ready to Eat (MREs)). 6.2 Share this information with FEMA and suggest that they create an earthquake specific support appendix for hazmat assessment and response support in the Health and Safety Annex of the NRF.	NRT (working with OSHA) EPA and USCG	
RESOURCE MANAGEMENT			
7. There were unclear or undefined processes and procedures for resource tracking, prioritization, allocation, and ordering at all levels of the response and among various agencies, leading to resources being improperly assigned.	7.1 Ensure resource listings in the ACPs and RCPs are aligned with the National Preparedness for resource typing. 7.2 Ensure that people in the Area Command are appropriately trained and have appropriate experience for their roles in ICS at all levels. 7.3 Look for opportunities to exercise Area Command concept within the National Exercise Program.	EPA/USCG NRT/RRTs NRT/RRTs	
8. There is a general lack of awareness of other agencies’ capabilities, available resources, and ability to access those resources, hindering response operations.	8.1 Develop a list of existing resource tracking systems and establish links to agency/organizational systems that are currently in development. 8.2 Consult the NRT to ensure that the updated design of the OPA 90 RRI (maintained by CG) adequately meets interagency resource tracking needs for oil and hazmat. 8.3 Examine the NRT Special Teams handbook to determine if it needs to be updated. 8.4 Develop a special resource handbook focusing on mapping and imaging resources.	NRT/RRTs and Area Committees NRT/RRTs and Area Committees NRT/RRTs and Area Committees NRT/RRTs and Area Committees	

Note: Completion “Date” will be determined by the “Suggested Responsible Group”

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
<p>9. Some of the facilities that housed the Command Posts did not meet the administrative and technical needs of the participants and co-location with different levels of the response organization proved to be troublesome.</p>	<p>9.1 Create an NRT fact sheet to address ICP design, location and logistical considerations.</p>	<p>NRT</p>	
<p>10. Drinking and wastewater systems capable of handling the additional capacity that would be required to establish temporary housing villages after a catastrophic incident should be pre-identified and incorporated into appropriate plans.</p>	<p>10.1 Assess capacities of existing systems across the country to determine whether they can bear the additional burden of temporary housing villages. Pre-identify potential housing sites across each state using this information, and determine whether the community would accept a potential temporary housing village should the need arise. Add this assessment information to appropriate planning documents.</p> <p>10.2 Share this issue with FEMA and recommend that they clarify which agency is responsible for ensuring the adequacy of water and wastewater utilities under the NRF.</p>	<p>EPA, and ESF 3 & 14 agencies</p>	
PLANNING			
<p>11. When utilized during the exercise, focused Marine Transportation System (MTS) Recovery Planning Units and Essential Elements of Information (EEl)s proved to be valuable.</p>	<p>11.1 Adapt the MTS recovery planning concepts, including pre-incident development of baseline EEIs, as a unified, cross-boundary approach for coordinated recovery planning.</p>	<p>USCG working with FEMA</p>	
<p>12. Plans, procedures, MOUs and MOAs were not always comprehensive, consistent, up-to-date, or in existence beyond draft format. They did not adequately address long-term recovery, including mitigation, modernization, innovative technology, or restoration. Also, the jurisdictional authorities in this multi-jurisdictional response caused confusion to the response organizations.</p>	<p>12.1 Review current status of ACPs, RCPs, MOUs, and MOAs. to ensure they are being regularly updated.</p> <p>12.2 For multi-jurisdictional responses in the Inland River system, coordinate development of plans (RCPs, ACPs, and AMSPs) or develop a joint plan to treat the Inland Rivers as one system with security and economic interdependencies.</p> <p>12.3 Include Maritime Transportation System Recovery as part of the NRF located within the Planning Section of NIMS ICS. Consider including recovery as a distinct functional requirement within the NRF and NIMS.</p>	<p>NRT/RRTs</p> <p>NRT/RRTs</p>	
<p>Note: Completion "Date" will be determined by the "Suggested Responsible Group"</p>			

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
<p>13. Although strengths were displayed in the Unified Coordination structure of the MAC, including successful interagency interaction and a very strong Planning Section, roles, responsibilities, and inter-agency relationships were not clearly defined for a catastrophic incident and long-term response.</p>	<p style="text-align: center;">DIRECTION, CONTROL, AND COORDINATION</p> <p>13.1 Informed by the practices and procedures employed during this exercise, review and validate or revise the NCP, the NRF, NIMS/ICS and implementing policy doctrine, tactics, techniques and procedures related to:</p> <ul style="list-style-type: none"> ▪ The concepts of NIC and SAO in the NCP, both where and how they play under the NCP as well as in the new NRF ▪ The placement of NCP senior officials and the oversight of ESF 10 at the JFO when a catastrophic event is the result of a SONS event. ▪ The placement of NCP senior officials and the oversight of ESF 10 at the JFO when a catastrophic event includes, but is not driven by a SONS event. ▪ The command and control structure through which NCP issues are executed in the context of a NRF event. E.g. are NCP focused ICs and ACs established separately from ICs and ACs managing other crisis response functions or are all response functions consolidated into unified ICs and ACs? 	<p>NRT and USCG/EPA in coordination with FEMA Operational Planning Division and Emergency Support Functions Leadership Group.</p>	
	<p>13.2 Examine relationship between SONS full scale exercises and other interagency FSEs on the National Exercise Schedule to optimize opportunities for proofing concepts as they evolve.</p>	<p>NRT and USCG/EPA in coordination with FEMA Operational Planning Division and Emergency Support Functions Leadership Group.</p>	
<p>14. Varying constructs were used to manage industry's role at the field level. Some industry members may have been excluded from participating in the Unified Command but were still responsible for funding the tactics being decided at that level.</p>	<p>14.1 Coordinate with industry groups such as the American Petroleum Institute (API) Spill Advisory Group (SAG), to formulate an appropriate method to incorporate multiple industry entities into a single unified command and within a multi-jurisdictional response organization during a large and complex incident.</p>	<p>NRT Preparedness Committee</p>	

Note: Completion "Date" will be determined by the "Suggested Responsible Group"

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
COMMUNICATIONS AND WARNING			
<p>15. Though there were several communications successes, internal and external information flow was inconsistent, at times inaccurate, lacked processes and procedures, and limited the effectiveness of the response at all levels.</p>	<p>15.1 Examine whether there is a need for a national standardized ESF 10 ICS SITREP template for use by Unified Command during catastrophic responses.</p>	<p>NRT working with DHS OPS, and NIMS Integration Center.</p>	
	<p>15.2 Create an ICS technical specialist position dedicated to SITREP writing within the Situation Unit.</p>	<p>NRT working with DHS OPS, and NIMS Integration Center</p>	
	<p>15.3 Review current ICS resource ordering and tracking forms to determine if changes are needed to adequately met response needs during significant environmental responses</p>		
<p>16. The current notification processes are not robust enough to adequately manage a catastrophic response.</p>	<p>16.1 Review current NRC reporting practices to determine if current design is adequate.</p>	<p>NRT working with NRC and NRC Advisory Committee</p>	
	<p>16.2 Include NRC participation in more national level exercises.</p>	<p>NRT working with NRC and NRC Advisory Committee</p>	
<p>17. Reporting process requirements and collection methods were not consistent or standardized across all agencies. There was no commonly acknowledged information sharing system that all agencies could use to meet their needs.</p>	<p>17.1 A workgroup should be formed to look at developing a process to electronically share information across NRT members during all hazard responses to significant incidents.</p>	<p>NRT</p>	
<p>18. Alternate communications methods and equipment were not identified or effective at all levels of the response organization.</p>	<p>18.1 NRT agencies and industry partners should review current communication contingency plans for all hazards to ensure adequacy</p>	<p>NRT agencies</p>	
	<p>18.2 RCPs and ACPs should be reviewed and updated as necessary to ensure that crisis communication contingencies are sufficiently planned for.</p>	<p>NRT agencies</p>	

Note: Completion "Date" will be determined by the "Suggested Responsible Group"

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
OPERATIONS AND PROCEDURES			
19. The AC's struggled with developing objectives, controlling meetings, and exchanging information. However, the staff proved to be flexible and focused.	19.1 Examine the appropriate use of the AC concept within the respective ICS programs.	EPA and USCG	
	19.2 Establish a national ESF 10 response template for AC Operating Guides.	EPA and USCG	
CRISIS COMMUNICATIONS, PUBLIC EDUCATION, AND INFORMATION			
20. JIC operations were generally successful and improved as operations progressed.	20.1 Review the NRT JIC model to determine if it needs to be updated to reflect internal and external JIC needs for ESF 10 response activities.	NRT	
	20.2 Examine developing prescribed public communication messages and crisis communication strategies on known hot topics (i.e. contaminated drinking water.)	NRT	
	20.3 Include proactive monitoring of media and public information for distribution of agency messages in agency crisis communication strategies.	NRT	
21. The roles and chain of command of the JIC in a multilayer response organization were unclear, including confusion on the role the JIC plays in disseminating information to the internal response organization.	21.1 Develop a PIO checklist for inclusion in the NRT JIC model to set up at JICs at ACs.	NRT	
	21.2 Share information on this issue with FEMA and NIMS Integration Center to ensure that ESF-15, NIMS, and the NRT JIC Model clarify roles and responsibilities for all layers of public information and are consistent for a catastrophic response.	NRT	
22. There was no clear guidance or policy/process to ensure that a clear, concise and consistent message was disseminated for public safety, resulting in delays in the release of information to the public.	22.1 Review NRT JIC model to ensure it adequately addresses public affairs, including the use of the internet to disseminate information about catastrophic incidents.	NRT	

Note: Completion "Date" will be determined by the "Suggested Responsible Group"

ISSUE STATEMENT	RECOMMENDATION	SUGGESTED RESPONSIBLE GROUP	DATE
FINANCE AND ADMINISTRATION			
<p>23. Confusion exists on the proper use of various funding mechanisms (OPA and CERCLA, and Other Governmental Agencies) when a Stafford Act Declaration has been made for a disaster of this type.</p>	<p>23.1 Create a multi-agency catastrophic funding user's guide, or amend current directives, to address funding processes and differences when responding to a multiple funding source event (Stafford Act, CERCLA, and OPA 90).</p> <p>23.2 Share this issue with NIMS Integration Center and recommend that they review and update as needed ICS financial forms to ensure that they meet the needs of a large scale ESF 10 response.</p> <p>23.3 Update federal facility contingency plans to include processes for claims and funding issues.</p>	<p>NRT, USCG National Pollution Fund Center</p> <p>NRT</p> <p>NRT working with Federal government owned facilities</p> <p>EPA and USCG</p>	
<p>24. Mission assignments were based jurisdictionally instead of functionally.</p>	<p>24.1 Share this issue with FEMA and the ESFLG and recommend that they re-evaluate current mission assignment processes and consider addressing unique needs of the inland river system.</p>		

Note: Completion 'Date' will be determined by the "Suggested Responsible Group"

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APPENDIX C: PARTICIPATING ORGANIZATIONS FOR THE FSE, RESPONSE AND RECOVERY WORKSHOP, AND SLS

Federal Agencies

- Central United States Earthquake Consortium (CUSEC)
- Civil Air Patrol (CAP)
- Department of Homeland Security (DHS)
- DHS Office of Infrastructure Protection (OIP)
- DHS Protective Security Agency (PSA)
- Department of Defense (DOD)
- Department of Energy (DOE)
- Department of Interior (DOI)
- DOI Office of Environmental Policy and Compliance (OEPC)
- DOI Region V
- Department of Justice (DOJ)
- Department of Labor (DOL) Office of Public Affairs
- Department of State (DOS)
- Department of Transportation (DOT) Pipeline and Hazardous Material Safety Administration (PHMSA)
- DOT PHMSA Central Region
- DOT PHMSA HQ Office/Crisis Management Center
- DOT PHMSA Southern Region
- Department of Veteran's Affairs Response Cell
- EPA HQ
 - EPA Office of Solid Waste and Emergency Response/Office of Emergency Management (OSWER/OEM)
 - EPA Office of Homeland Security (OHS)
 - EPA Office of Water (OW)
 - EPA Emergency Response Team (ERT)
 - (NHSRC)
- EPA Research Vessel Lake Guardian
- EPA Region
 - EPA Region 3
 - EPA Region 4
 - EPA Region 5
 - EPA Region 6
 - EPA Region 7
 - EPA Region 9
- EPA RRT
 - EPA Region 4
 - EPA Region 5
 - EPA Region 7
- Federal Bureau of Investigation (FBI)
- FEMA
- FEMA HQ
- FEMA Region IV
- FEMA Region IV EOC
- FEMA Region IV Regional Response Coordination Center (RRCC)
- FEMA Region V RRCC ESF-10
- FEMA Region VII
- FEMA Region VII RRCC ESF-10
- General Services Administration (GSA)
- Health and Human Services (HHS)/Agency for Toxic Substances and Disease Registry (ATSDR)
- Homeland Defense and Americas' Security Affairs
- House Committee on Homeland Security, Subcommittee on Transportation, Security and Infrastructure Protection
- House Transportation and Infrastructure Committee,

- Subcommittee on Coast Guard and Maritime Transportation
- Joint Task Force Civil Support, Northern Command
- Mine Safety and Health Administration/DOL Emergency Management Center
- Naval Station Great Lakes Fleet and Family Support Center
- National Geospatial-Intelligence Agency (NGA)
- National Oceanic and Atmospheric Administration (NOAA)
- NOAA War Room (Seattle, WA)
- National Park Service
- National Response Center
- NRT
- National Weather Service
- OSHA
- OSHA Region 4
- OSHA Region 5
- Senate Committee on Homeland Security and Governmental Affairs
- Small Business Administration
- U.S. Army Region V Regional Emergency Preparedness Liaison Officer
- U.S. Army Corps of Engineers (USACE)
- USACE Chicago District
- USACE Civil Works
- USCG LANTAREA
- USCG Atlantic Strike Team
- USCG Auxiliary
- USCG District 8
- USCG District 9
- USCG HQ
- USCG MACKINAW
- USCG Marine Safety Unit (MSU) Paducah, KY
- USCG National Pollution Funds Center (NPFC)
- USCG National Strike Force Coordination Center (NSFCC)
- USCG Navigation Center/Inland River Vessel Movement Center (IRVMC)
- USCG Sector Lake Michigan
- USCG Sector Lower Mississippi River
- USCG Sector Ohio Valley
- USCG Sector Upper Mississippi River
- U.S. Department of Agriculture (USDA)
- USDA Animal and Plant Health Inspection Service (APHIS) Wildlife Services
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Forest Service (USFS)
- U.S. Geological Survey (USGS) National Center
- U.S. Marine Corps Aviation Control Group (MAG 48)
- U.S. Navy Health/Hospital/Clinic
- U.S. Navy Region Midwest
- U.S. Navy Region V Emergency Preparedness Liaison Officer
- U.S. Naval Sea Systems Command (NAVSEA)
- U.S. Navy Supervisor of Salvage and Diving (SUPSALV)
- U.S. Nuclear Regulatory Commission
- U.S. Postal Service Office of National Preparedness
- U.S. Postal Inspection Service

State Agencies

- Alabama Department of Emergency Management
- Arkansas Department of Environmental Quality (DEQ)

- Illinois CAP
- Illinois Emergency Management Agency (EMA)
- Illinois EPA
- Kentucky CAP
- Kentucky Department for Environmental Protection
- Kentucky EMA
- Kentucky Division of Emergency Management
- Kentucky Fish and Wildlife
- Kentucky National Guard – 41st Civil Support Team
- Kentucky OSHA
- Kentucky Office of Homeland Security
- Kentucky State Fire Marshall
- Indiana CAP
- Indiana Department of Environmental Management
- Indiana DHS
- Indiana Department of Natural Resources (DNR)
- Indiana Fusion Center
- Indiana National Guard – 5th Civil Support Team
- Louisiana DEQ
- Mississippi DEQ
- Missouri DNR
- Mississippi EMA
- Missouri Public Utility Alliance
- Ohio EPA
- Tennessee Department of Environment and Conservation
- Tennessee EMA
- Tennessee Department of Environment and Conservation
- Tennessee Department of Health
- Tennessee DOT
- Tennessee Division of Water Pollution Control
- Tennessee Highway Patrol
- Tennessee National Guard
- Tennessee Office of Homeland Security
- Tennessee OSHA
- Wisconsin DNR
- Wisconsin EMA

Local Agencies

- Central Lake County Joint Action Water Agency (JAWA)
- City of Kenosha, Wisconsin Public Safety
- City of North Chicago Water Treatment Plant
- City of Waukegan, Illinois Public Safety
- City of Waukegan, Illinois Water Treatment Plant
- Crawford, Gibson, Henderson, Posey, Spencer, & Warrick Counties in Kentucky
- Crittenden County, Arkansas EMA
- Evansville Board of Public Works
- Evansville EPA
- Evansville/Vanderburgh County EMA
- HAM Radio Association
- Henderson County
- Indiana Homeland Security District 10
- Kenosha County, Wisconsin EMA
- Kenosha County, Wisconsin Health Department
- Kenosha County, Wisconsin Sheriff's Department
- Lake County, Illinois Health Department
- Lake County, Illinois Public Water District
- Lake County, Illinois Regional Hazmat
- Lake County, Illinois Sheriff's Department

- Ohio River Valley Water Sanitation Commission (ORSANCO)
- Memphis Light, Gas & Water
- Memphis/Shelby County, Tennessee Department of Health
- Memphis/Shelby County, Tennessee EMA
- Memphis/Shelby County, Tennessee Fire and Emergency Medical Services
- Memphis/Shelby County, Tennessee Police Department
- Morgan County, Alabama EMA
- Paducah 911 Dispatch
- Paducah Fire Department
- Paducah Water
- Paducah/McCracken County District Emergency Service (DES) Rescue
- St. Louis Fire Department
- Tennessee Valley Authority (TVA) – Police Water Patrol
- Vanderburgh County Health Department
- West McCracken Fire Department

Industry and Private Sector

- ADM/ARTCO
- American Commercial Liner
- American Commercial Liner Terminal
- Archer Daniels Midland River Port Terminal
- Arkansas Electric
- Arkansas Electric Cooperative Corp.
- AT&T
- Beck Disaster Recovery
- British Petroleum (BP)
- Catoosa Fertilizer (now ConAgra)
- CGB
- Clark Dietz
- Coastal Environmental Systems, Inc.
- Computer Sciences Corporation (CSC)
- ConocoPhillips
- Consolidated Grain
- Cross Oil
- Cummings
- Debruce Grain
- Economy Boat Stor
- Enbridge
- EnSafe Inc.
- Era Helicopters LLC
- Ergon
- Evansville Marine Services
- Evergreen Environmental
- ExxonMobil
- Frost Oil
- Gardner
- Helm Fertilizer
- Heritage
- Ingram Barge Company
- Inland Marina
- Innovative Emergency Management Inc.
- JD Street
- Johnsons Port 33
- Johnsons Terminal
- Kinder Morgan
- Lucy Woodstock
- Magellan
- Marathon Petroleum Co.
- Marathon Oil – Evansville Terminal
- Marathon Unified Command
- Marine Spill Response Corporation (MSRC)
- M/V Harry L. Hastings
- Ohio River Emergency Spill Cooperative
- Petroleum Fuel and Terminal Co.
- Safety Kleen
- Sem Materials
- Shell Oil

- Southern Missouri Oil
- Southern Waste Services
Environmental First Response
- Spectra Tech, Inc.
- Summit Environmental
- Sunoco
- Tangent Rail Products
- Tennessee Valley Authority
- Terra Nitrogen
- Texas Eastern Productions Pipeline
Company (TEPPCO)
- Trumball
- Valero
- Vectren
- Veolia Environmental Services
- Wepfer Marine Service

Other and Non-Governmental Organizations (NGOs)

- American Petroleum Institute
- American Red Cross (ARC)
- ARC of Greater Chicago
- ARC of Southern Wisconsin
- Massachusetts Institute of Technology (MIT)
- The Salvation Army
- Water Environment Federation

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APPENDIX E: ACRONYMS AND ABBREVIATIONS**A**

AAR	After Action Report
AC	Area Command
ACP	Area Contingency Plan
AMSC	Area Maritime Security Committees
AMSP	Area Maritime Security Plans
AOR	Area of Responsibility
APHIS	USDA Animal and Plant Health Inspection Service
API	American Petroleum Institute
ARC	American Red Cross
ATSDR	Agency for Toxic Substances and Disease Registry

B

B&TS	Border & Transportation Security
BP	British Petroleum

C

C3	Command, Control, and Communications
CAC	Crisis Action Center
CAP	Civil Air Patrol
C/E	Controller/Evaluator
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CI/KR	Critical Infrastructure/Key Resources
COMDT	Commandant
COOP	Continuity of Operations Plans
COP	Common Operating Picture
COTP	Captain of the Port
CPX	Command Post Exercise
CSC	Computer Sciences Corporation
CUSEC	Central United States Earthquake Center
CWA	Clean Water Act

D

DC	District of Columbia
DEQ	Department of Environmental Quality
DHS	Department of Homeland Security
DNR	Department of Natural Resources

DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation
DPN	Disaster Project Number

E

EOC	Emergency Operations Center
EEG	Exercise Evaluation Guide
EEI	Essential Elements of Information
EFA	Emergency Fund Authorization
EMA	Emergency Management Agency
EPA	U.S. Environmental Protection Agency
ESF	Emergency Support Function
ERT	Emergency Response Team

F

FBI	Federal Bureau of Investigation
FCO	Federal Coordinating Officer
FE	Functional Exercise
FEMA	Federal Emergency Management Agency
FOSC	Federal On-Scene Coordinator
FOUO	For Official Use Only
FRP	Facility Response Plan
FSE	Full Scale Exercise

G

GIS	Geographic Information System
GLNPO	Great Lakes National Program Office
GSA	General Services Administration

H

HASP	Health and Safety Plan
HAZMAT	Hazardous Materials
HHS	Health and Human Services
HQ	Headquarters

HSIN Homeland Security Information Network
HSPD Homeland Security Presidential Directive

I

IAP Incident Action Plan
ICP Incident Command Post
ICS Incident Command System
IIMG Interagency Incident Management Group
IMH Incident Management Handbook
INS Incident of National Significance
IMT Incident Management Team
IRVMC USCG Navigation Center/Inland River vessel Movement Center
ISC Integrated Support Command
IT Information Technology

J

JAWA Central Lake County Joint Action Water Agency
JFO Joint Field Office
JIC Joint Information Center
JOC Joint Operations Center
JRT Joint Response Team

L

LANTAREA U.S. Coast Guard Atlantic Area
LMR Lower Mississippi River

M

M Magnitude
MA Mission Assignment
MAC Multi-Agency Coordination Center
MAG 48 U.S. Marine Corps Aviation Control Group
MCC Master Control Cell
MISLE Marine Information for Safety and Law Enforcement
MIT Massachusetts Institute of Technology
MOA Memorandum of Agreement
MOU Memorandum of Understanding
MRTT Mobilization Readiness Tracking Tool
MSEL Master Scenario Event List
MSRC Marine Spill Response Corporation

MSU	USCG Marine Safety Unit
MTS	Maritime Transportation System
MTSRU	USCG Maritime Transportation System Recovery Unit

N

NAVSEA	Naval Sea Systems Command
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFPA	National Fire Protection Association
NGA	National Geospatial Intelligence Agency
NGO	Non-Governmental Organization
NHSRC	National Homeland Security Research Center
NIC	National Incident Commander
NICC	National Infrastructure Coordinating Center
NIMS	National Incident Management System
NMSZ	New Madrid Seismic Zone
NOAA	National Oceanic Atmospheric Administration
NOC	National Operations Center
NPFC	National Pollution Funds Center
NRC	National Response Center
NRCC	National Resource Coordination Center
NRDA	Natural Resource Damage Assessment
NRF	National Response Framework
NRP	National Response Plan
NRS	National Response System
NRT	National Response Team
NSF	USCG National Strike Force
NSFCC	USCG National Strike Force Coordination Center
NWS	National Weather Service
NxMSEL	National Exercise Master Scenario Event List

O

OEM	Office of Emergency Management
OEPC	DOI Office of Environmental Policy and Compliance
OG	Operating Guide
OGA	Other Governmental Agencies
OHS	DHS Office of Homeland Security
OIP	DHS Office of Infrastructure Protection
OPA or OPA 90	Oil Pollution Act of 1990
ORSANCO	Ohio River Valley Water Sanitation Commission
OSC	On-scene Coordinator
OSHA	Occupational Safety and Health Administration
OSRO	Oil Spill Removal Organization

OSWER EPA Office of Solid Waste and Emergency Management

P

PACAREA U.S. Coast Guard Pacific Area
PFO Principal Federal Official
PHMSA Pipeline and Hazardous Material Safety Administration
PIO Public Information Officer
PISCES Potential Incident Simulation and Control Exercise System
POTUS President of the United States
PPE Personal Protective Equipment
PREP National Preparedness for Response Exercise Program
PSA DHS Protective Security Agency
PWSA Ports and Waterways Safety Act

R

RCP Regional Contingency Plan
RCRA Resource Conservation and Recovery Act
REMP Regional Emergency Management Plan
RIC Regional Incident Commander
RRCC Region Response Coordination Center
RRI Response Resource Inventory
RRT Regional Response Team
RSC Response Support Corp

S

SAO Senior Agency Official
SCO State Coordinating Officer
SecDHS Secretary of DHS
SEOC State Emergency Operations Center
SFO Senior Federal Official
SIMCELL Simulation Cell
SITREPS Situation Reports
SLS Senior Leader Seminar
SLM Sector Lake Michigan
SME Subject Matter Expert
SO Senior Official
SONS Spill of National Significance
SONS 07 Spill of National Significance 2007 Exercise
SOP Standard Operating Procedure
SOSC State On-scene Coordinator
SRO Senior Responsible Official

SSC Scientific Support Coordinator
START Superfund Technical Assessment and Response Team
SUPSALV Navy Supervisor of Salvage and Diving

T

TCL Target Capabilities List
TEPPCO Texas Eastern Productions Pipeline Company
TTX Table Top Exercise
TVA Tennessee Valley Authority

U

UC Unified Command
UCG Unified Coordination Group
UMR Upper Mississippi River
USACE United States Army Corp of Engineers
USCG United States Coast Guard
USDA United States Department of Agriculture
USFS United States Forest Service
USFWS United States Fish and Wildlife Service
USGS United States Geological Survey
USN United States Navy
USNORTHCOM United States Northern Command

V

VNN Virtual News Network
VRP Vessel Response Plan

W

WAP Waterways Action Plan
WEF Water Environment Federation