2010
DEEPWATER
HORIZON OIL SPILL RESPONSE

ESF 8
AFTER ACTION REPORT
AND
IMPROVEMENT PLAN
April 30, 2011

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I. Administrative Handling Instructions

1. The title of this document is 2010 Deepwater Horizon Oil Spill Response ESF 8 After Action Report/Improvement Plan (AAP/IP).

2. This is a public document – no special handling instructions are required.

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II. Contents

III. Executive Summary

The purpose of this After Action Report (AAR) is to describe the response efforts of Florida's Emergency Support Function (ESF 8) response to the Deepwater Horizon oil spill in the Gulf of Mexico. The Florida Department Health (FDOH) is Florida's lead agency for the function. This AAR reviews the history of the lead, actions taken by FDOH and its ESF8 partners, provides analysis, and makes recommendations for improving the Department's future responses.

The Deepwater Horizon oil spill has been described as the most devastating and expensive ecological disaster in the Gulf of Mexico. The spill created new and unique challenges for responders, incident managers and scientists. The impact from oil in Florida was seen primarily on the coastlines of Escambia, Okaloosa and Walton Counties, with lesser effects observed as far east as Franklin County. The presence of oil resulted in the closure of state and federal fisheries, and the issuance of health advisories/impact notices along the entire Gulf Coast from Louisiana to Florida. These protective actions were deemed necessary to protect people from consuming seafood that might have been contaminated by the oil, oil products and dispersants, as well as to discourage people from coming into contact with oil in the water through otherwise normal recreational activities. Economic consequences continue.

The public health issues proved complex, as both public entities charged with public and environmental health had difficulty developing criteria for protective actions. Reasons included:

- The inability to effectively and efficiently share data among partners, including accurate tracking of the oil, both on the surface and within the water column.
- The inability to capture and analyze the constituents of the oil and dispersants at various locations in the water column. The use of dispersants removed the usual surface visual indicators for the presence of oil.
- Unavailability of recognized human health benchmarks for this type incident.
- Lack of standard protocols for the posting of public health advisories on beaches due to chemical contamination.

ESF8 coordinated solutions to address public health concerns in Florida. These solutions included:

- A public health unit, in conjunction with other impacted states, which coordinated response efforts across the multi-state area of operations. The formation of this unit allowed for the sharing of public health concerns, needs and requests, and thus a more efficient and effective coordination of efforts.
- An agreement with the United States Environmental Protection Agency (EPA) to establish a central data repository (EPA-hosted SCRIBE). The system allowed all state and federal partners, including government contractors, to collectively share quality assured and controlled data. The system was implemented within two weeks following the oil spill, after training was provided to data contributors. Although delayed, the data entered into SCRIBE was used to support the decision(s) to lift local protective actions.
- Human health benchmarks for oil, in order to develop an interstate human health benchmark framework based on the constituents of the spilled oil. The Florida State Toxicologist then implemented the framework to develop Florida specific human health

benchmarks which were then applied when lifting health advisories. These benchmarks will also be incorporated in long-term health and worker studies.

- The development of several interim successive plans that created the framework for posting public health advisories, and public health notices on Florida beaches, and for later, lifting these advisories and notices. These plans required close coordination with County Health Departments (CHDs) that were responsible for the implementation of these plans.

- The activation of the Advanced Planning Unit, which developed several key documents/procedures, including

    - the Florida Health Triggers, a tool used as a foundation for the Public health impact notice concept of operations.

    - hurricane impact analysis, that examined the potential public health and health consequences of a hurricane that might impact through the spill.

- Cooperation, within the multi-state Area Command (Houma, LA) and Unified Command (Mobile, AL).

- Staffing of the Public Information Emergency Support Function (ESF 14) with public information officers from the Department of Environmental Protection (FDEP) to disseminate information to Floridians and visitors.

After Action Report Process

The After Action process being followed by the Florida Department of Health generally follows that described in the Department of Homeland Security Exercise and Evaluation Program (HSEEP).

At the formal conclusion of the incident, ESF8 solicited written comments from the incident response participants. A formal after action meeting was conducted on September 1, 2010. All comments and recommendations were analyzed for commonalities and trends, and a composite of the recommendations was developed, along with positive comments and value added actions. The final part of the after action process is the development of an Improvement Plan (see Appendix A) that identifies recommendations and assigns responsibilities for their implementation.

Successes

- ESF 8 embraced the Information Management Unit concept and structure, and maximized the skill sets of the individuals within the Unit.
- Implementation of a 30 day rotation and team groupings (for Planning) enhanced staff management.
- Deepwater Horizon website was helpful to reporters and to the public.

Areas for Improvement

- Need to identify traditional and additional Subject Matter Experts as early as possible in the response, in order to allow for work in different scientific arenas, to provide technical support to the counties as needed, and to minimize burnout.
- Response to an oil spill and other technological disasters is different from response to naturally occurring incidents such as hurricanes. There is a need to review the data needs associated with these responses and the timeframes for obtaining necessary data.
- Advance planning needs to be standardized and routinized, particularly in terms of the timeframes for such future planning.
- Identification and acquisition of additional staff to meet mission objectives.

IV. AFTER ACTION REPORT

This After Action Report describes the incident, ESF8 actions in response to the incident, issues that surfaced during the incident, observations and analyses related to these issues, and recommendations to improve ESF8 performance in preparation for and response to future incidents. The Florida Department of Health, the lead agency for Emergency Support Function 8, was activated for the Deepwater Horizon oil spill during the period April 27 to August 27, 2010. Notwithstanding the success in capping the well, the Division of Environmental Health and the Bureau of Epidemiology remain engaged with other Florida, Gulf Coast states, and federal partners in long-term evaluation of potential human health impacts.

The following ESF 8 Sections and Units were activated to support emergency operations:

- Command (Emergency Coordinating Officer, Deputy ECO, Public Information Officer, Agency Representative)

- Planning
  - Situation Unit
  - Advanced Planning Unit
  - Documentation Unit
  - Resource Unit
  - Information Management Unit

- Logistics
  - Materiel
  - Staffing

- Finance and Administration

The initial after action report meeting was conducted on September 1, 2010 and was attended by ESF 8 Command, and Section and Unit leads from Logistics, Planning, and Finance and Administration. The Section and Unit leads were instructed to obtain written and oral feedback from their direct reports prior to the meeting.

Written comments and comments made at the formal meeting were compiled, categorized, and organized into this Report.

In a parallel fashion, ESF8 participated in the process conducted by the State Emergency Response Team to develop its After Action Report.

Section 1: Deepwater Horizon Oil Spill major incident Chronology

http://en.wikipedia.org/wiki/File:Deepwater_Horizon_offshore_drilling_unit_on_fire_2010.jpg

- April 20 - 9:45 p.m. CDT - Gas, oil and concrete from the Deepwater Horizon exploded up the well bore onto the deck and ignited. The explosion killed 11 platform workers and injured 17 others; another 98 people survived without serious physical injury.

- April 21 - ESF 8 began response activities as a result of the destruction of the Deepwater Horizon oil rig and subsequent release of oil into the Gulf of Mexico. The FDOH was notified of the accident and monitored activities in the Gulf of Mexico.

- April 30 - The State Emergency Response Team went to a Level 2 activation, reporting to the State Emergency Operations Center.

- June 4 - Tar balls arrive on beaches in Pensacola, Florida. The SERT went to a Level 1 activation pursuant to the issuance of Executive Order 10-99 by Governor Crist. FDOH, as the lead for ESF8, activated additional staff to support the response.

- June 23 – Surface oil appeared on Pensacola Beach and at Gulf Islands National Seashore. Officials warned against swimming for 33 miles east of the Alabama-Florida state line.

- August 4 - BP reported that its well achieved “static condition” shortly after midnight after drilling mud is said filled and sealed the well.

- August 5 - the SERT transitioned back to a Level 2.

- August 27 - the SERT reverted to its routine standby Level 3 status.

Section 2: Event Summary

The Deepwater Horizon Oil Spill has been described as the most devastating and expensive ecological disaster in the Gulf of Mexico. The response to the spill created new and unique challenges at all levels of government and for responders and incident managers – including scientists – who were responsible for making decisions necessary to protect the environment and human health. This spill represented a first of its kind for the Gulf coastal states of Texas, Louisiana, Mississippi, Alabama, and Florida. All jurisdictions at all levels lacked specific response plans to address the threats presented by the vast amount of crude oil that poured into and across the Gulf. Of these threats, the most identifiable was the environmental threat to wildlife and the ecosystem, evidenced by visible oil and oil products in waters normally used for commercial and recreational fishing, and for on the Gulf's sugar white beaches enjoyed by Florida residents and visitors. Accordingly, the Governor appointed the Secretary of the Department of Environmental Protection (FFDEP) as the Incident Commander for Florida.

A challenge for DOH and other health agencies was working within the multi-state Area Command and Unified Command located in Houma, Louisiana, and Mobile, Alabama, respectively. While the incident was effectively managed using the Incident Command System (ICS), a number of coordination challenges were identified that impacted the role and effectiveness of public health. In particular, the traditional oil spill response structure implemented by the Unified Command did not readily recognize the role of public health and, as a result, public health representatives who were sent to Mobile from the respective states were first absorbed into other ICS positions. Unified Command's primary focus was the tactical mitigation objectives with an emphasis on worker safety, but there was little recognition of the short-term and long-term human health impacts associated with the oil spill.

Visible oil and oil products eventually reached Florida's shore. The oil spill's most acute impact was on the coastlines of Escambia, Okaloosa and Walton Counties, with lesser effects exhibited as far east as Franklin County.

The presence of oil and threat of oil resulted in the closure of state and federal fisheries, and the issuance of health advisories for extended periods along coastal shores from Louisiana to Florida. These protective actions were deemed necessary to protect the population from consuming seafood that was potentially contaminated by the oil, oil products and dispersants, as well as, to discourage citizens from coming into contact with oil in the water through otherwise normal recreational activities.

Protective actions were difficult to develop, as public health and environmental experts had difficulty developing criteria for the initiation and cessation of the actions for a variety of reasons. Before tar balls and oil actually appeared on beaches, economic interests vied with public health interests for primacy.

- It was difficult to determine the molecular constituents and properties of the oil and of the dispersants that were used at the point-of-release from the well head and at other off-shore locations to keep the oil in suspension in the water. Accordingly, as there were no established Human Health Benchmarks for the oil or the dispersants, it was difficult to identify potential cause-and-effect relationships between the products and exposures to humans.

- It was difficult to accurately track and predict the path of the oil as it moved across the Gulf of Mexico and began to appear in Florida waters, as much of the oil was moving in plumes beneath the ocean's surface and was thus, not readily visible by aerial and waterborne reconnaissance.

- When the oil appeared and protective measures were enacted, the oil would disappear and re-appear with the normal tidal cycles, which made it difficult to determine when or for how long the protective actions should remain in effect.

Protective actions, as stated above, required consideration of potential known and unknown impacts of sub-surface oil, suspended oil, and dispersants. It took weeks before the Manufacturer's Safety Data Sheet and necessary scientific analysis could be performed to inform decision-making.

The overall response would have benefited from a scientific blueprint to guide the response, and to support incident decisions. The collection and analysis of data was problematic throughout the incident. Due to the size and scope of the oil spill, water, air, soil and sediment samples were collected by local, state and federal governmental agencies, private contract firms and academic institutions for a variety of purposes. Although an agreement to establish a central data repository (federal Environmental Protection Agency (EPA)-hosted SCRIBE) was reached among state and federal partners (including government contractors) within two weeks following the oil spill, it took several weeks for the system to become productive. Data contributors had to be trained, data had to be entered and analyses conducted. Although delayed, the data contained in SCRIBE was eventually used to support the decision(s) to lift local protective actions.

Further complicating the scientific analysis was the lack of EPA human health benchmarks. EPA published a partial list of the chemical compounds with corresponding benchmarks but, as of the date of this AAR, the list remains incomplete. As a result, the Florida State Toxicologist directed the development of benchmarks for Florida. These benchmarks were applied when lifting health advisories and will also be incorporated in long-term health and worker studies.

Public Information coordination also proved to be challenging throughout the incident. The incident was reported widely by media outlets around the world, with some reports containing speculation about the impacts of the oil spill. These reports, coupled with internet stories and social media communications, fueled rumors that had to be investigated and promptly addressed. FDOH staff staffed the Public Information function (ESF 14) alongside public information officers from FFDEP, and developed appropriate messages that were distributed through the SEOC and the County Health departments. As stated earlier, FDEP was the lead agency in response to this incident.

The ESF8 response will be described in terms and context of these Department of Homeland Security applicable Target Capabilities

- EOC Management
- Critical Resource Logistics and Distribution
- Emergency Public Information and Warning
- Environmental Health
- Epidemiological Surveillance and Investigation

Deepwater Horizon Florida DOH Partners

- Florida Department of Environmental Protection
- Florida Fish and Wildlife Commission
- U. S. Environmental Protection Agency
- National Oceanic and Atmospheric Administration

Section 3: After Action Summary of Results

Positive Actions/ Innovative Solutions:

Operational Organization
The relationship of the response structure between the SERT, ESF8, and local Emergency Management was well established before the incident. As such, the support provided by ESF8 to the counties was met mission objectives.

Information Management:
Developed in the H1N1 pandemic, the call components were redirected and provided rapid information dissemination. The further refinement of rumor control and response was a particularly successful portion of the response.

Logistic Support (Personnel)
Staff activations were accomplished through SERV-FL. Although there were some difficulties, the acquisition of staff through SERV-FL is now considered more useful for future general activations. In general, Florida's core incident response Subject Matter Experts (SMEs) were able to engage with their counterparts in other affected and threatened states.

Section 4: Analysis of Capabilities

As stated above, five Target Capabilities were directly applicable to ESF 8's response to the Deepwater Horizon Oil Spill. This section of the report reviews ESF 8's performance in the context of these applicable capabilities. Each Capability and related activities are followed by capability-related observations, analysis, and recommendations.

Capability 1: Emergency Operations Center Management

Capability Definition: *"Emergency Operations Center (EOC) Management is the capability to provide multi-agency coordination (MAC) for incident management by activating and operating an EOC for a pre-planned or no-notice event. EOC management includes EOC activation, notification, staffing, and deactivation; management, direction, control, and coordination of response and recovery activities; coordination of efforts among neighboring governments at each level and among local, regional, State, and Federal EOCs; coordination of public information and warning; and maintenance of the information and communication necessary for coordinating response and recovery activities. Similar entities may include the National (or Regional) Response Coordination Center (NRCC or RRCC), Joint Field Offices (JFO), National Operating Center (NOC), Joint Operations Center (JOC), Multi-Agency Coordination Center (MACC), Initial Operating Facility (IOF), etc."*

Activity 1: Direct Emergency Operations Center's Tactical Operations

Activity 2: Activate EOC/MACC/IOF

Observation 1: This command structure established for this incident followed the ESF8 revised command structure with Planning, Logistics, and Finance and Administration sections.

Analysis: The activation for the Deepwater Horizon response followed established procedures for the alert and notification of staff based on the incident and known scope. The Planning Section often found itself inappropriately staffed, using the wrong Knowledge, Skills, and Abilities list to obtain staff. It worked schedules that did not track with the response efforts.

Recommendation: Identify appropriate staff with the required KSAs. Align staff schedules with the operational periods and response needs as identified by the ECO.

Observation 2: This was the first real response that ESF 8 undertaken under its new organizational structure. One of the major changes that occurred in the reorganization was the folding of the Operations Section into the Logistics Section and giving it a somewhat different mission function under the title of Mission Management. In addition, the Planning Section made changes in order to be more robust in the collection and dissemination of information, leading to the Resource Unit taking on more of a role than it had in the past.

Analysis: With any change in an established system, there will be initial bumps related to responsibilities and duties. With the change in the Operations Section, the emergence of the

Planning Resource Unit as a stronger component of the Planning Section, and the fact that changes were still being made in how staffing was conducted, there emerged jurisdictional issues related to the roles and responsibilities of the Logistics Section and the Resource Unit.

Recommendation: Section Chiefs from Logistics and Planning should continue to refine the roles and responsibilities and current ESF 8 operational protocols and practices. The outcome of these discussions should be documented in Standard Operating Guidelines (SOGs) and the Job Action Sheets.

Activity 3: Gather and Provide Information

Activity 4: Identify and Address Issues

Activity 5: Support and Coordinate Response

Observation 3: Because this was a response in support of a federal and multi-state action, the decision was made to forgo an ESF 8 specific Incident Action Plan in support of the broader SERT Incident Action Plan.

Analysis: Without a specific Incident Action Plan, ESF 8 lacked specific mission guidance and direction. The SERT Incident Action Plan was too broad in its scope and did not provide the detail that was needed by ESF 8 to support and undertake specific public health-related missions, in support of the broader SERT goals and objectives.

Recommendation: Develop ESF8 IAP from SERT's IAP specified and implied tasks. Further refine the Task List to better meet mission needs.

Observation 4: The nature of the response was one in support of the SERT in support of the overall federal response. This included planning for the potential oiling of Florida beaches all the way to Palm Beach County. To this end, ESF 8 focused on support of the Unified Incident Command in Mobile, Alabama (UCM) and the preparedness efforts of the NW Florida Panhandle counties. Part of that effort involved the acquisition and transmission of information based on situation and impacts. Early efforts to establish a clear mechanism for communication were somewhat sporadic, leading to inconsistent communication among ESF 8, its partners, and the potentially impacted counties. This had a detrimental effect on the immediacy of the ESF 8 response and a perception among some of the counties that ESF 8 was not on top of the response.

Analysis: The problem in the ESF 8 response in regard to information provision and issue identification was due to trying to support a multi-state response with broad public health issues and objectives, while trying to support a state preparedness effort based on unknown impacts in unknown locations within Florida.

Recommendation 1: As part of the specific ESF 8 Incident Action Plan process, develop a standard reporting process, to include the provision of daily Situation Reports, as well as

developing and maintaining processes for posting relevant information to websites or other dissemination pathways.

Recommendation 2: Ensure that the lead for each Section, or his/her designated representative, is at each IAP meeting

Recommendation 3: Develop Essential Elements of Information (EEI) specific to the hazard.

Recommendation 4: Ensure that an information conduit is established so that Finance and Administration has better visibility on all actions and issues that will involve incurred cost.

Observation 5: The response was based on the need to determine potential public health risks if and when oil came upon publicly used beaches, as well as, any impacts that oil would have on the ability to harvest and consume seafood. There was an inherent conflict between the need of the SMEs to conduct sound and valid science, and the need of the SERT and the counties to obtain information more rapidly, in order to develop protective action recommendations.

Analysis: The solution to this issue is a better understanding of the ethical and scientific constraints under which the SMEs work and the operational and time constraints that guide SERT and ESF 8 response efforts.

Recommendation 1: Create SOGs for integrating the Subject Matter Experts into the response, to include providing them with communication support, Essential Elements of Information that will assist in obtaining data that will meet county needs, and a process for early integration of the SMEs into the planning and communication process.

Recommendation 2: Environmental Health should train the SMEs on the communication and information dissemination procedures currently used by ESF 8.

Recommendation 3: Formalize the placement of Technical Specialists in the Planning Section.

Recommendation 4: Meet daily with SMEs in order to delineate and discuss expectations and capabilities.

Capability 2: Critical Resource Logistics and Distribution

Capability Summary: *"Critical Resource Logistics and Distribution is the capability to identify, inventory, dispatch, mobilize, transport, recover, demobilize and accurately track and record available human and materiel critical resources throughout all incident management phases. Critical resources are those necessary to preserve life, property, safety, and security."*

Activity 1: Request and acquire resources from local, State, Federal, or private providers

Observation 1: A number of ESF8 staff, including the ESF8 ECO, deployed to Mobile, Alabama as part of the Forward State Emergency Response Team, in support of the Unified Command. This deployment necessitated appropriate activation and notification of the individuals, provision of transportation and lodging, and the tracking and deployment of these individuals.

Analysis: Initial problems were encountered in the activation and deployment of these individuals because of gaps in the SERV-FL system, ambiguity in activation and notification procedures, and staff unfamiliarity in the roles and responsibilities of the Logistics Staffing Unit and the Planning Resource Unit relative to staff tracking and demobilization

Recommendation 1: Continue to clarify and delineate staffing procedures relative to activation and deployment.

Recommendation 2: Coordinators for the Logistics and Planning Sections should discuss and delineate the responsibilities of the Staffing Unit and the Resource Unit in the notification, activation and deployment, tracking, and demobilization of staff.

Observation 2: ESF 8 operations are not confined to regular business hours. As a result, when the need arises to purchase an item, it is often not possible to obtain the necessary supervisor approval (as required by My Florida Market Place) within a reasonable operational time frame.

Observation 3: There are currently six levels of supervisor approval within My Florida Market Place, which makes emergency purchasing cumbersome.

Analysis: The current purchasing and contracting protocols lack the ability to quickly and appropriately account for emergency response actions. Currently, day-to-day business processes tend to dictate approval timeframes, even under a Governors' Executive Order.

Recommendation 1: Develop a refined and streamlined disaster user process, to include protocols to address the six supervisor approval process.

Recommendation 2: Develop an emergency supervisor approval process with clearly defined supervisor authority delegation protocols.

Recommendation 3: Set up a procedure in My Florida Market Place that would be a generic location for all disaster related purchasing.

Recommendation 4: Ensure that Finance and Administration is aware of any difficulties that arise in the purchasing and contracting process, and use them as the POC where and when necessary.

Capability 3: Emergency Public Information and Warning

Capability Summary: *"The Emergency Public Information and Warning capability includes public information, alert/warning and notification. It involves developing, coordinating, and disseminating information to the public, coordinating officials, and incident management and responders across all jurisdictions and disciplines effectively under all hazard conditions."*

Activity 1: Issue Public Information, Alerts/Warnings, and Notifications

Observation 1: A Joint Information Center (JIC) was established by the Florida Department of Environmental Protection (lead agency for the response) in the State Emergency Operations Center's ESF 14 room during the Deepwater Horizon Oil Spill response. The Florida Department of Health provided public information officers (PIOs) and supporting personnel from the Information Management Unit (IMU). Often data was received but it was unclear as to the source or whether it had been verified.

Analysis: To assist in the conduct of their responsibilities, it is important that the most accurate and timely information is provided to ESF 14 or to the JIC, depending on the operational structure decided upon for the response.

Recommendation 1: Train and maintain adequate staff to meet response needs.

Recommendation 2: Assure participation in conference calls with partners and the county health departments in order to obtain and provide information.

Recommendation 3: Work with Environmental Health to establish public information protocols so that there is a clear understanding of what is needed from the Subject Matter Experts, and what can be provided within a designated time frame.

Observation 2: The Department of Environmental Protection, ESF 14, and the Joint Information Center utilized Twitter and blogging tools successfully throughout the event to relay up-to-date information about the response efforts and emergency directives. The Florida Department of Health does not have an approved policy on the use of social media sites; subsequently, the Information Management Unit was unable to use such sites as Twitter as a public information/outreach tool.

Analysis: It is important that the most accurate and timely information is provided to ESF 14 or to the JIC, depending on the operational structure decided upon for the response.

Recommendation: Change the Florida Department of Health policy to allow for the use of social media sites during a declared disaster, to convey critical emergency public information and protective action recommendations.

Observation 3: Rumor control continues to be an issue and factor in every emergency response action. As a result, a lot of time and energy is spent running down rumors and then taking corrective actions through the media, conference calls, and press conferences. Rumors can cause undue panic within the population, result in actions by the public that interfere with emergency response actions, or initiate actions by the public that put them into dangerous situations.

Analysis: There was not a clearly defined plan for handling rumors that were encountered during the Deepwater Horizon response. Subsequently, there was a lot of misunderstanding about what was happening with the movement of the oil and the potential effect on public health once deposited on public beaches.

Recommendation1: ESF 14, the Joint Information Center, or the Management Information Unit (depending on the operational organization for the event), need to ensure that they have current and accurate lists of all meeting and conference calls that are scheduled.

Recommendation 2: At the beginning of an event, stand up a Rumor Control Unit.

Recommendation 3: Enhancements to rumor control should be rolled up into the 2010-2011 Public Health and Medical Information Dissemination Project, which includes the development and maintenance of those methods and protocols related to internal communications and media monitoring during an event. Included in this will be testing of the rumor control process.

Recommendation 4: The existing Rumor Control Plan resides in the Crisis and Emergency Risk Communication Annex; F.2 All Hazards Rumor Control Proposal Standard Operations Guidelines. Language needs to be revised to accommodate incorporation into ESF 14.

Capability 4: Environmental Health

Capability Summary: *"Environmental Health is the capability to protect the public from environmental hazards and manage the health effects of an environmental health emergency on the public. The capability minimizes human exposures to environmental public health hazards (e.g., contaminated food, air, water, solid waste/debris, hazardous waste, vegetation, sediments, and vectors). The capability provides the expertise to run fate and transport models; design, implement, and interpret the results of environmental field surveys and laboratory sample analyses; develop protective guidance where none exists; and use available data and judgment to recommend appropriate actions for protecting the public and environment. Environmental Health identifies environmental hazards in the affected area through rapid needs assessments and comprehensive environmental health and risk assessments. It works closely with the health community and environmental agencies to link exposures with predicted disease outcomes, provides input in the development of Crisis and Emergency Risk Communication (CERC) messages, provides guidance on personal protective measures, and advises on environmental health guidelines."*

Activity 1: Activate Environmental Health

Observation 1: Environmental Health Subject Matter Experts are activated and function as part of the ESF 8 Planning Section. With the initial activation of ESF 8, the Environmental Health liaison was activated and included in the initial decision-making process related to the development of the concept of operations. However, because it was difficult to know what kind of assessments would be needed and who would be responsible for what parts of those assessments, it was difficult to create a comprehensive and viable staffing schedule.

Analysis: Having now been through the Deepwater Horizon response, there is now an operational data base that can be tied into needs, concerns, and responsibilities. Subsequently, it should be easier in the future to anticipate what staff will be needed for what actions.

Recommendation 1: The Environmental Health Technical Specialist Job Action Sheet should be updated with specific expectations that can be molded to fit the response.

Recommendation 2: Establish clear rotation schedules that can be used for multiple events

Recommendation 3: Train staff on those changes and expectations.

Recommendation 4: Create and disseminate to ESF 8 a summary page of staff in the Division of Environmental Health, to identify who to contact in case information is needed on a specific issue or topic.

Activity 2: Direct Environmental Health Operations (Command and Control).

Observation 1: The Florida Department of Environmental Protection, as the lead for ESF 10, was the primary agency to coordinate the Florida response to the oil spill. The Florida Fish and Wildlife Commission and the FDOH Division of Environmental Health provided support of the overall sampling and assessment plan. There was often some confusion about the sampling and assessment plan due to shifting priorities and guidance. There were also some communication issues that led to some dropped issues and confusion of expectations with the counties.

Analysis: Environmental Health has never been as heavily tied into an ESF 8 response as it was in the Deepwater Horizon response. As a result, this provided an opportunity for it to fully operate within the ESF 8 command and control structure. There was some confusion about communication and direct reporting within that ESF 8 system.

Recommendation 1: Create clear communication strategies between ESF 8, Subject Matter Experts, and the county health departments and maintain those throughout the response to reduce confusion and dropped issues.

Recommendation 2: Ensure that the Subject Matter Experts are included on the initial morning brief/Incident Action Plan meeting, to assure that they are aware of current issues and needs, and to assure that they have the opportunity to weigh in on issues, needs, and impediments that they may be experiencing.

Observation 2: The Environmental Health Subject Matter Experts created a number of documents that were the result of preliminary and ongoing analysis.

These documents were submitted for review and approval by the SMEs, in anticipation of operational guidance on sampling and analysis. There were instances when the submitted documents were either not reviewed or the review did not occur in a timely manner. Subsequently, it made it difficult for the SMEs to know if their work was appropriate and whether it was addressing current needs and requirements.

Analysis: There were no clearly defined protocols for this review process, nor was there a communication and tracking mechanism to assure that the review was occurring and that the results of that review were being communicated to the Environmental Health Liaison and the Subject Matter Experts.

Recommendation 1: Adapt a review sheet that will be attached to all documents and deliverables produced by the SMEs.

Recommendation 2: Create a process that will inform the SMEs of the locations of the documents (website, intranet, e-mailed out, etc.).

Recommendation 3: Assign someone from Environmental Health, or the Planning Documentation Unit, to keep an accurate timeline of internal events and document versions.

Activity 3: Ensure Safety of Outdoor Environments

Observation 1: There were gaps in information and technology related to Florida's Deepwater Horizon oil spill response. The gaps included research on the fundamental toxicity of certain chemicals, measurement technologies and methods, long term monitoring of seafood and the environment, and improvements in data management.

Analysis: Because of the lack of information related to the long term effects of residual oil and dispersants on seafood and public health, there is a need for ongoing testing through a monitoring program. Besides the potential impact on seafood and public health, the data can be used as a baseline to characterize existing conditions in the event of a future spill and to develop a more focused sampling and analysis plan, as well as, recommended protective actions.

Recommendation 1: Promote, initiate, or participate in a broad assessment of Gulf seafood to determine if unforeseen adverse impacts resulted in the demise of certain species or the accumulation of contaminants in their tissues.

Recommendation 2: Promote, initiate, or participate in comprehensive testing to monitor the environmental transport and fate of oil spill contaminants to detect the levels exceeding health based screening levels.

Recommendation 3: Promote, initiate, or participate in the development of screening methods of water that would provide real time or near-real time results needed by local public health and emergency management officials for the formulation and issuance of protective action recommendations.

Recommendation 4: Promote, initiate, or participate in the improvement of the data management system that was used for this event and will be used for similar events.

Capability 5: Epidemiological Surveillance and Investigation

Capability Summary: *"The Epidemiological Surveillance and Investigation capability is the capacity to rapidly conduct epidemiological investigations. It includes exposure and disease (both deliberate release and naturally occurring) detection, rapid implementation of active surveillance, maintenance of ongoing surveillance activities, epidemiological investigation, analysis, and communication with the public and providers about case definitions, disease risk and mitigation, and recommendation for the implementation of control measures."*

Activity 1: Direct Epidemiological Surveillance and Investigation Operations

Activity 2: Surveillance and Detection

Activity 3: Conduct Epidemiological Investigation

Observation 1: The Florida Department of Health (FDOH) maintains a core team of professional epidemiologists and other Subject Matter Experts (SMEs) at the state level within the Division of Disease Control, Bureau of Epidemiology, and the Division of Environmental Health, and at the regional level and within local CHDs. As the oil spill began to threaten Florida beaches with the potential for an impact on public health, there was a need to obtain data on elements of toxicity and volatile organic compounds in the air and water. Although not used for the Deepwater Horizon response, FDOH has trained and equipped regional NIMS-typed Environmental Health and Epidemiology Strike Teams. The initial environmental health/epidemiological response through ESF 8 included the State Toxicologist, and Subject Matter Experts from the Bureau of Water Programs. Additional toxicologists were added as the event progressed.

Analysis: From April 2010, and continuing through the time of this report, staff from the Division of Environmental Health were involved in the response, especially in the determination of toxicity of water and potential public health impacts on the beaches. The level of effort increased over time as the oil slick moved east and began to affect Florida beaches. Because this was a new response hazard and there was not a body of science to back the analysis, the process of sampling and assessment was conducted within strict parameters, in order to assure accurate and supportable results. An event of this type requires decisions to be made with the data available at the time, with the decision reevaluated as more data becomes available.

Eventually, additional toxicologists were added under contract in order to assist the State Toxicologist with sampling and assessment.

Recommendation: Determine internal technical specialist staffing levels, rotation and expectations at the outset of the response.

Section 5: Conclusion

The Deepwater Horizon Oil Spill has been described as the most devastating and expensive ecological disaster in the Gulf of Mexico. The response to the spill created new and unique challenges at all levels of government and for responders and incident managers – including scientists – who were responsible for making decisions necessary to protect the environment and human health.

Visible oil and oil products made their way onto Florida's Gulf Coast and the coasts of other Gulf Coast states. The presence of oil resulted in the closure of state and federal fisheries and the issuance of health advisories for extended periods along coastal shores from Louisiana to Florida. These protective actions were deemed necessary to protect the population from consuming seafood that was potentially contaminated by the oil, oil products and dispersants, as well as, to discourage citizens from coming into contact with oil in the water through otherwise normal recreational activities.

Protective actions proved difficult as public health and environmental experts had difficulty developing criteria for the initiation and cessation of the actions. It was also apparent that the overall response would have benefited from a scientific blueprint to guide the response and to support incident decisions. The collection and analysis of data was problematic throughout the first 60 days of the incident, and beyond. Due to the size and scope of the oil spill, water, air, soil and sediment samples were collected by local, state and federal governmental agencies, private contract firms and academic institutions for a variety of purposes.

Another challenge for FDOH and other health agencies was working within the multi-state Area Command and Unified Command located in Houma, Louisiana and Mobile, Alabama, respectively. While the incident was effectively managed using the Incident Command System (ICS), a number of coordination challenges were identified that impacted the role and effectiveness of public health. In particular, the traditional oil spill response structure implemented by the Unified Command did not readily recognize the role of public health and, as a result, public health representatives who were sent to Mobile from the respective states were first absorbed into other ICS positions.

Public Information coordination also proved to be challenging throughout the incident. The incident was reported widely by media outlets around the world with some reports containing speculation about the impacts of the oil. These reports, coupled with internet stories and social media communication fueled rumors that had to be investigated and addressed. FDOH staffed the Public Information function (ESF 14) alongside public information officers from the Department of Environmental Protection (FDEP), and developed appropriate messages that were distributed through the SEOC and the county health departments.

Appendix A: Improvement Plan

Target Capability	Area	Recommendation	Corrective Action Description	Responsible Entity	Current POC	Start Date	Due Date
EOC Management	Activation/ Rotation	1. Planning Section often found its self inappropriately staffed, wrong use of KSAs, and working on schedules that were not conducive to the response.	1.1. Identify appropriate staff with the required KSAs. Align staff schedules with the operational periods and response needs as identified by the ECO.	Planning Section Coordinator	Mark O'Neill, DOH Bureau of Preparedness and Response		6/1/2011
EOC Management	Incident Action Planning	2. Lack of ESF-8 specific objectives hurt response. It was difficult to determine if our tasks were actually supporting forward movement without coordinated overarching objectives.	2.1. Develop ESF8 IAP from SERT's IAP specified and implied tasks. Further refine the Task List to better meet mission needs.	Planning Section Coordinator	Mark O'Neill, DOH Bureau of Preparedness and Response		Completed
EOC Management	Situation Reporting	3. Lack of early, consistent communications had a detrimental effect on state response efforts and perception of Dependability.	3.1. Continued development of IAP, Situation Report, and Task List.	Planning Section, Situation Unit Leader	Mark O'Neill, DOH Bureau of Preparedness and Response		Completed
EOC Management	Technical Specialist	4. Lack of processes for integration of Technical Specialists caused confusion; break down of chain of command, and duplication of efforts.	4.1. Provide for process of integration of technical specialists in the ESF8 SOP. Provide detailed procedures and support requirements in a supporting SOG	Planning Section, Tech. Spec. Unit Leader	Lisa Gordon, DOH Bureau of Preparedness and Response		Completed

Target Capability	Area	Observation/Issue	Recommendation	Responsible Entity	Current POC	Start Date	Due Date
EOC Management	Planning Section	5. Integrate IMU and Tech Spec Coordination into overall Planning Section activities. Still seems somewhat disconnected	5.1. In support of ESF8 SOP, develop procedures in SOG to address the issue.	Planning Section Coordinator	Mark O'Neill, DOH Bureau of Preparedness and Response		6/01/2011
		6.Training needs were noted during all phases of the response	6.1 Implement current Plans and procedures. Enhance, refine, and implement as necessary.	Planning Section Coordinator	Mark O'Neill, DOH Bureau of Preparedness and Response		12/31/2011
EOC Management	Staffing	7. Determine internal technical specialist staffing rotation and expectations at outset of response to avoid gaps in effort.	7.1. Update EH Technical Specialist job action sheets with specific expectations that can be molded to fit the response.	Planning Section, Technical Specialist Unit	Carina Blackmore, DOH Bureau of Environmental Public Health Medicine		12/31/2011
			7.2. Establish clear rotation schedules that can be used for multiple events.	Planning Section, Technical Specialist Unit	Carina Blackmore, DOH Bureau of Environmental Public Health Medicine		Completed
			7.3. Train staff on these changes and expectations.	Planning Section, Technical Specialist Unit	Carina Blackmore, DOH Bureau of Environmental Public Health Medicine		6/01/2011
EOC Management	Information	8. Track documents and deliverables created by SMEs via the review and approval process to ensure completion and partner access to information.	8.1. Adapt a review sheet that will be attached to all documents and deliverables produced by SMEs.	Planning Section, Technical Specialist Unit	Lisa Gordon DOH Bureau of Preparedness and Response,		6/01/2011

Target Capability	Area	Observation/Issue	Recommendation	Responsible Entity	Current POC	Start Date	Due Date
EOC Management	Information	9. Determine plans, needs and deliverables at beginning of response to allow for better time management.	9.1. Implement current plans and procedures. Enhance, refine, and implement as necessary.	Planning Section, Technical Specialist Unit	Carina Blackmore, DOH Bureau of Environmental Public Health Medicine		Completed
EOC Management	Information	10. Documents and documentation flow were identified as issues in the Unified Command	10.1 Implement current plans and procedures. Enhance, refine, and implement as necessary specific procedures in the Documentation Unit.	Planning Section, Technical Specialist Unit	Carina Blackmore, DOH Bureau of Environmental Public Health Medicine		Completed
Critical Resource Logistics and Distribution	Materials	1. Several processes within My-Florida Marketplace (MFMP) impede emergency procurements	1.1 Review MFMP process, conduct training, and revise supervisory approval process as necessary. Provide for emergency procurement during extended duty hours.	Planning Section, Materials Unit Leader	Kelley Waters, DOH Bureau of Preparedness and Response		08/31/2011
Critical Resource Logistics and Distribution	Materials	2. There are currently six levels of supervisor approval in MFMP which makes emergency purchasing cumbersome	2.1 Review MFMP process, conduct training, and revise supervisory approval process as necessary. Provide for emergency procurement during extended duty hours	Planning Section, Materials Unit Leader	Kelley Waters, DOH BPR DOH Bureau of Preparedness and Response		08/31/2011
			2.2 Need to develop emergency supervisor approval process with clearly defined supervisor authority delegation protocols	Planning Section, Materials Unit Leader	Kelley Waters, DOH Bureau of Preparedness and Response		08/31/2011
Critical Resource Logistics and Distribution	Materials	3. Need more detail before a request for a Scope of Services is entered into EM Constellation	3.1 Disseminate and reinforce to the field, required procurement details.	Logistics Section Coordinator	Bobby Bailey, DOH Bureau of Preparedness and Response		Completed

Target Capability	Area	Observation/Issue	Recommendation	Responsible Entity	Current POC	Start Date	Due Date
Critical Resource Logistics and Distribution	Materials	4. Denote a liaison who will be the POC with the Finance and Administration Section during disaster related actions	4.1 Review current procedures and enhance as necessary to ensure smooth, continuous flow of necessary information, including checklist of documentation to accompany procurement requests.	Logistics Section Coordinator	Bobby Bailey, DOH Bureau of Preparedness and Response		08/31/2011
Critical Resource Logistics and Distribution	Information	5. Finance and Administration section experienced communication issues with Logistics	5.1. Review current procedures and enhance as necessary to ensure smooth, continuous flow of necessary information, including checklist of documentation to accompany procurement requests.	Finance and Administration Section Leader	Matt Kirkland, DOH, Bureau of Finance and Accounting		08/31/2011
Critical Resource Logistics and Distribution	Finance and Admin Processes	6. Need a clear understanding of: 1) Roles and responsibilities of the Finance and Administration section; 2) What can/cannot be bought at specific times in the disaster response; 3) What is needed in order to move forward with mission requests; 4) what can and cannot be done under an Executive Order; 5) Travel, Timekeeping	6.1 Review current procedures and enhance as necessary to ensure smooth, continuous flow of necessary information, including checklist of documentation to accompany procurement requests.	Finance and Administration Section Leader	Matt Kirkland, DOH, Bureau of Finance and Accounting		08/31/2011

Target Capability	Area	Observation/Issue	Recommendation	Responsible Entity	Current POC	Start Date	Due Date
Emergency Public Information and Warning	Rumor Control Report	1. Rumor Control Report should better reflect information observed in calls, emails, news clips and social media observations.	1.1. Follow Rumor Control SOG portion of the CERC Annex.	Planning Section, Information Mgmt Unit	Nancy Blum, DOH Office of Communications		08/31/2011
Emergency Public Information and Warning	Rumor Control Report	2. Rumor Control Report should include an analysis of the information and its potential effect.	2.1 Follow Rumor Control SOG portion of the CERC Annex.	Planning Section, Information Mgmt Unit	Nancy Blum, DOH Office of Communications		08/31/2011
Emergency Public Information and Warning	Rumor Control Report	3. Rumor Control Reports should be provided earlier in the day to be of use in message development.	3.1 Follow Rumor Control SOG portion of the CERC Annex.	Planning Section, Information Mgmt Unit	Nancy Blum, DOH Office of Communications		08/31/2011
Emergency Public Information and Warning	Message Approval Process	4. Message approval process did not follow normal chain-of-command processes.	4.1. Follow CERC Annex procedures for message approval and dissemination.	Planning Section, Information Mgmt Unit	Nancy Blum, DOH Office of Communications		08/31/2011
Emergency Public Information and Warning	Message Approval Process	5. Difficult to develop messaging when the science is not available to support it.	5.1 No recommendation at this time	Planning Section, Information Mgmt Unit	Nancy Blum, DOH Office of Communications		08/31/2011

Appendix B: Acronyms

BB – BlackBerry

BP – British Petroleum

BPR – (Florida Department of Health) Bureau of Preparedness and Response

CCOC – Capital Circle Office Center

CHD – County Health Department

CON OPS – Concept of Operations

DEH –Division of Environmental Health

DEM – Division of Emergency Management

DEMO – (Florida) Division of Emergency Medical Operations

FDEP – (Florida) Department of Environmental Protection

DOACS – (Florida) Department of Agriculture and Consumer Services

DOH – (Florida) Department of Health

DTKS – Disaster Time Keeping System

DWH – Deepwater Horizon

ECO – Emergency Coordinating Officer

EM Constellation – Information and mission management tool used during disaster operations

EO – Executive Order

EOC – Emergency Operations Center

EPA – Environmental Protection Agency

ESF – Emergency Support Function

F & A – Finance and Accounting

FEMA – Federal Emergency Management Agency

Fl ESSENCE – Florida Electronic Surveillance System for the Early Notification of Community based Epidemics

FPICN QB – Florida Poison Information Control Network Query Builder

FTE – Full time Equivalent

FWC – Florida Wildlife Commission

HR – Human Resources

IAP – Incident Action Plan

IC – Incident Commander

ICS – Incident Command System

IMU – Information Management Unit

IT – Information Technology

JAS – Job Action Sheet

JIC – Joint Information Center

KSA – Knowledge, skills, and abilities

MAC – Multi-Agency Coordination Group

MFMP – My Florida Market Place

NOAA – National Oceanic and Atmospheric Administration

NRDA – Natural Resources Damage Assessment (NOAA database)

OPB – Office of Planning and Budget

OPHN – (Florida Department of Health) Office of Public Health Nursing

OPS – Other Personal Services (employment category)

OSHA – Occupational Safety and Health Administration

PCC – Poison Control Center

PF – People First

PHTF – Public Health Task Force

PIO – Public Information Officer

POC – Point of Contact

RERA – Regional Emergency Response Advisor

RSS – Receipt, Stage, and Store (facility used to obtain and distribute Strategic National Stockpile materials)

SCRIBE – Software tool developed by EPA to assist in the process of managing environmental data

SERT – State Emergency Response Team

SERVFL – Tool used to activate and track ESF 8 staff

SEOC – State Emergency Operations Center

Sit Unit – Situation Unit (part of ESF 8 Planning Section)

SME – Subject Matter Expert

SOG – Standard Operating Guidelines

SOP – Standard Operating Procedures

SSG – State Surgeon General

UC – Unified Command

UCM – Unified Command Mobile

UPC – Unified Planning Coalition

USCG – United State Coast Guard

UWF – University of West Florida