

A Perspective from Within Deepwater Horizon's Unified Command Post Houma



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Abstract

Written in support of the Center for Catastrophic Risk Management's (CCRM) Deepwater Horizon Study Group for the Graham-Reilly Commission, this report is intended to provide the Commission with primary source experience and knowledge of lessons learned and areas for improvement from the Deepwater Horizon response. Additionally, the recommendations and identification of challenges will be shared with the Coast Guard for visibility and to drive continued internal improvements where applicable.

This report is intended to provide central areas for improvement derived from personal observations, data analysis, and discussions with colleagues over two separate assignments while deployed to the Gulf of Mexico during the initial response phase of BP's Deepwater Horizon (DWH) Oil Spill. A number of recommendations were generated primarily from an Offshore Recovery "Hotwash" held in New Orleans while operations were suspended due to Tropical Storm Bonnie. This information is validated by additional input from operations personnel deployed at the Branch, Area Command, and National Incident Command levels. Specifically, this report focuses on three main functional areas:

- Incident Command, Unified Command, and the use of a Spill of National Significance (SONS) Organizational Structures
- Managing Simultaneous Offshore Operations, Safety, and Risk Management Practices
- Limitations of Existing Area Contingency Plans (ACP) and Preparation through current Training and Exercise Programs

1. Personal Background

During my first deployment to the Gulf Coast region, I served in my civilian capacity (Senior Planner) to support the U.S. Coast Guard’s Lesson Learned Collection effort. Teams were deployed throughout DWH command posts from May 11th to May 27th. In this role, I evaluated the existing DWH response structure, interviewed responders, and conducted data analysis to draft a detailed report that outlined “areas for improvement” within Unified Command Post (UCP) Mobile.¹ Along with two additional teams deployed to UCP Houma and the Unified Area Command (UAC) in Roberts, Louisiana, these reports were delivered to senior Coast Guard officials for the purpose of improving response based on collective input from the field.

As a Lieutenant in the U.S. Coast Guard Reserve and experience as a former National Strike Force member, I was once again deployed from June 9th to August 8th; this time to UCP Houma to serve as the Federal Resource Coordinator and Offshore Recovery Group Supervisor. In this position, I managed federal offshore recovery assets assigned within Houma’s Area of Responsibility (AOR) including those from Navy’s Supervisor of Salvage (SUPSALV) and Coast Guard skimming systems commonly referred to as Vessel of Opportunity Skimming Systems (VOSS). At the height of the recovery operation, the federal offshore component was responsible for the tactical deployment of 30 skimmers and support vessels, three Coast Guard buoy tenders, and over 250 personnel in support of offshore recovery operations.

2. Brief Summary of Incident & Significant Events

On Tuesday, April 20, 2010, a Transocean rig Deepwater Horizon exploded and caught fire, approximately 42 miles Southeast of Venice, Louisiana, while finishing a well for British Petroleum. U.S. Coast Guard District Eight command center received report at approximately 10 p.m. Of the 126 people on board at the time of the explosion, 115 crewmembers were accounted for. Of those 115, 17 were medevaced from the scene. Search for the 11 missing crewmembers began immediately.

On Thursday, April 22nd a second explosion occurred causing the rig to sink. Approximately 700,000 gallons of diesel were stored in tanks inside the pontoons at the time of the initial explosion.

On the afternoon of April 22nd, the National Response Team (NRT) convened its first daily meeting with leadership from across the federal government, including the White House, U.S. Coast Guard (USCG), Department of Defense (DOD), Department of Homeland Security (DHS), Department of Interior (DOI), and Environmental Protection Agency (EPA), among others. The NRT is an organization of 15 federal departments and agencies responsible for coordinating emergency preparedness and response to oil and hazardous substance pollution events.

The Unified Area Command (UAC) was formally and fully stood up in Robert, LA on April 23rd, after three days of informal operations, planning and the activation of the Unified Command on April 22nd. The initial Unified Command (UC) had consisted of USCG, BP, former Minerals Management Service, and Transocean. As the scope of the response escalated, the UC expanded to include representatives from potentially impacted states, Louisiana, Alabama, and Florida. The UAC

¹ Morgan, K. and Epperson, R.C. 2010. Deepwater Horizon Response: Response Plan Core Components Analysis

provides strategic guidance to Unified Incident Commands (UIC) in: Houma, LA; Mobile, AL; St Petersburg, FL; and a “source control” UIC in Houston, TX.²

On April 29th, Secretary of DHS Janet Napolitano announced that the event had officially been designated a Spill of National Significance (SONS), which built on the efforts already underway from day one to leverage the full resources of the federal government to be brought to bear in response to this further escalating event. The SONS designation enabled the appointment of a National Incident Commander to coordinate response resources at the national level.

3. Incident Command System, Unified Command, and the DWH Organizational Relationships

3.1 Use of Incident Command System (ICS)

The Incident Command System (ICS) has been the dominate crisis management tool since its introduction in the 1970s. Developed in California as an emergency management model to combat and suppress wildfires, it has been adopted by almost every agency within the Federal, State, and tribal governments responsible for emergency management activities. The use of ICS became mandated by law as part of President Bush’s 2003 Homeland Security Presidential Directive-5 (HSPD-5).

ICS is the federally mandated emergency management structure by which the Coast Guard, oil industry, and other government agencies utilize to respond to oil spills. In the realm of oil spill response, petroleum companies have created Incident Management Teams (IMT) or Spill Management Teams (SMT) that encompasses experienced professionals from within their organization to fill critical positions within the ICS structure depending on the size and scope of incidents. IMTs typically received advanced ICS training and often participate in facility or Area Committee exercises to help build cohesion and familiarity with the system and each other. Similarly, the Coast Guard developed Incident Management Assist Teams (IMAT) which consists of both Coast Guard military and civilian personnel with advanced ICS training and response experience to fill critical roles within the ICS organization. In the Coast Guard, a total of four IMATs were created at the Atlantic Area (Portsmouth, VA) and Pacific Area (Alameda, CA) Commands with team member selection based on experience, qualification, and training.

The goal of both IMTs and IMATs is to develop a core group of response professionals that can be rapidly deployed once an event occurs. In the case of the Coast Guard’s IMAT, these members are not solely focused on oil spill response activities; rather, they have been activated for a variety of events including: natural disasters; national security events; and mass rescue operations.

Challenges that surfaced with the Incident Command System (ICS) and qualified personnel

The DWH response revealed a variety of concerns regarding the state of ICS in the response community, including private and federal agencies such as the Coast Guard. Issues stemmed from both the Coast Guard’s lack of appropriately trained ICS personnel as well as Coast Guard’s inability to deploy the trained personnel in the appropriate ICS positions. During the collection and analysis

² Callister, T.F. & Crockett, S.E. 2010. Deepwater Horizon Response: Response Plan Core Components Analysis

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study at UIC Mobile, demobilization surveys and interviews identified an alarming number of responders who were randomly mobilized and were not utilized in a capacity to take advantage of their specialized training.

Rather than using members with extensive technical experience (booming, mechanical recovery systems, lightering) in direct response capacity, they were mobilized to support administrative positions, such as in the Resource Unit or Planning Sections. In addition to the obvious inefficiency of matching skill sets, utilizing these members in the wrong positions depleted the Coast Guard's pool of trained and qualified personnel early in the response. Due to deployment time limitations as mandated by Title 14 Orders, these personnel were prohibited to redeploy, thus the Coast Guard exhausted their technical skill sets unnecessarily early in the operation and struggled to further mobilize the appropriately trained and qualified personnel over the duration of the response.

Similar challenges were experienced by BP and their primary oil spill response contracted personnel. The size and complexity of this response required the introduction of a number of situational tools designed to help manage a response with over 40,000 responders scattered across five states, numerous sites, and multiple command posts. Even though some of these tools were useful and provided significant advancements in interoperability, these tools were generally “new” to the operators using them and created additional challenges. It is important to note that most of these systems are off the shelf and future spills and responses requires responders to learn the systems that are in place within the RPs tool chest.

As we move forward in planning for and responding to future events, it is vital to separate the pool of technical specialist (skimming, lightering, air observers, SCAT, controlled burn, dispersants) from the trained ICS command structure positions (command staff, planning, logistics, situation, finance, and resource personnel). The USCG currently retains a limited number of experts in the two areas of expertise, which does not leave any room for mistake in mobilization. Secondly, it became evident that certain information sharing or situational tools should be “standardized” or federally mandated to ensure a common understanding of these assets prior to the event.

Unfortunately, this was not an anomaly of the DWH response. Over the last decade, the USCG has experienced a number of national and international events that have stressed the current incident management standards, including: 2001 World Trade Center collapse and anthrax attacks; 2005 Hurricanes Katrina and Rita; 2007 *M/V COSCO Busan* oil spill; and most recently, the 2010 Haiti earthquake. As a primary example, the 2005 Hurricanes Katrina and Rita responses presented the USCG with similar challenges to sustain a long-term response effort. The post-event After Action Report (AAR) highlighted the need for increased IMAT personnel and training to ensure the effectiveness of Coast Guard's deployable forces. Referring to challenges experienced with non-permanent teams during Hurricane Katrina:

The volunteer, collateral duty nature of the IMAT program does not lend itself to developing, and retaining the level of capability on the teams needed to maintain seasoned Type II teams. What is needed to meet the historic demands for advanced ICS expertise in the Coast Guard is a more permanent, fully funded, fully staffed, fully equipped team capable of deploying on short notice. Permanent teams will ensure retention of invested training and experience for longer periods of time... Because of high turnover

and career path diversity, no single unit in the Coast Guard can possibly maintain their own fully staffed, trained, and equipped Type II level team.³

As more information and feedback emerged from deployed personnel, it was evident how critical the correct use of our members in the right positions is to the success of the operation. As a result of these experiences of non-trained personnel during DWH, many colleagues fear that the reactionary answer for not having the “right people in the right place” will result in a push for the entire organization to focus their time and efforts on ICS training, and that this will become the USCG’s primary corrective action to this event. This is also a likely reaction for States, local, and industry as it is much easier to blame training and furthermore, much to recommend focused training across each agency rather than alter the fundamental structure of the respective organizations.

Alternatively, the information and findings from both Katrina and DWH that emphasize that a core group of trained professionals should be part of permanent IMATs may go a long way to better the foundation for incident response. Regardless of pin-pointing a future solution, for now, USCG’s existing internal system of tracking qualified and trained members must be refined. The data in the current Coast Guard Business Intelligence (CGBI) system should be reviewed and validated to effectively mobilize personnel. Of note, although the majority of findings on ICS and qualified responders are attributed to the Coast Guard, it is by no means germane; most all of the responding agencies and stakeholders had to overcome varying degrees of this problem.

Additional Questions for ICS and Oil Spill improvements

- How do we construct and formally develop IMATs for the future?
- Is it logical to develop IMATs regionally to ensure members have both training and familiarity with the community and environment they help protect?
- Should we move to developing inter-agency IMATs to better represent the ICS structures that form during environmental response?
- Should technical skill sets found mostly with National Strike Force (NSF) be expanded and aligned with regional construct to meet the challenges of the present and future?

3.2 Use of the Unified Command Structure

The NCP and local Area Contingency Plans (ACP) outline the response structure for oil and hazardous material response operations. A key component of the guidance is the establishment of a Unified Command (UC) to serve as the principle leadership component within a Unified Command Post (UCP). A typical UC consists of a lead federal agency (Coast Guard authority in coastal area), a State On-Scene Coordinator, and a “Responsible Party” which is most often the company, vessel, or entity with liability to the incident or spill. The size and potential impact of the DWH spill required the activation of a number of UCPs, as well as, the Unified Area Command (UAC) mentioned earlier. BP was a core component in every formal command structure; Area Command, Unified Command Posts, and eventually the Branch structures that were created to better support the local needs.

³ Blalack, Cantin, Elliott, Laferriere, Lefevers, and Plourde. 2005. A Report of the Atlantic and Pacific Area’s Incident Management Assist Teams’ Activities During Hurricane Katrina and Rita.

Challenges that surfaced within the UC structure

Early in the response, BP’s appearance as the lead response organization generated a significant amount of criticism from the media, public figures, and legislators. During most of the press conferences, BP leadership was flanked by representatives from the Coast Guard, NOAA, and often times Governors of Louisiana, Mississippi, Alabama, and Florida. However, it was not enough to change the perception that BP was running the response operation. Compounding this perception was the reality of BP’s superior technical expertise necessary to perform sub-sea containment, application of dispersants, and drilling of relief wells. It certainly appeared that the response was fully in the hands of BP, the responsible party. In an interview with the *National Journal*, Admiral Thad Allen, National Incident Commander, was asked why BP had such a dominant role in the response:

In the regulatory regime created after the Exxon Valdez, BP was the "responsible party" in both statute and regulation, which meant that it had to bear the costs associated with the spill. For that to happen, however, we had to bring them into the command structure to write the checks for everything from boom to catering. As the "responsible party," BP was also required to have contractors in place to clean up the spill, while the government had oversight over that operation. The public didn't understand that arrangement very well. The notion of BP having such a key role in the response after seeming to cause the problem understandably didn't sit well, and that relationship was tough to manage. BP had divided loyalties, so to speak. It was responsible to the public for the cleanup, but at the same time it had a fiduciary responsibility to its shareholders.

On the question of “divided responsibility,” Admiral Allen was asked if this should be addressed and his reply:

I think we need to take a very hard look at the role of the “responsible party” in the command and control of a cleanup operation after an oil spill. You need someone in the command post to represent the oil industry, but it might be better if they didn't have a fiduciary connection to a specific corporation. BP might have taken the resources needed for the cleanup and put them into a blind trust, for instance, that was administered by a trustee who actually writes the checks. That might mitigate the appearance of a conflict of interest in the public's mind. Ultimately, we need to decide what we really mean by “responsible party” in these types of situations. It's a very interesting public policy question.

Another unique challenge within DWH’s organizational construct was the duplicity of staff in the ICS structure. It was not uncommon to have a Coast Guard, BP, and BP’s primary Oil Spill Response Organization (OSRO) filling the same role, such as Operations Section Chief. This redundancy rarely facilitated streamlined decision making. Adding to the challenge of the tri-partite leadership was that all three of these entities were on varying relief cycles, which increased frustration from responders in both receiving tasks and seeking approval or direction.

Contractors also added to the “divided” leadership issue. A number of contractors utilized during DWH were in a position to freely recommend increasing their personnel and ultimately their stake in the response. Many of the positions filled by contractors (air observers, on-water command and control staff) were required to be Federal agencies within the NCP in order to provide “continuous assessment” of the response operation. By virtue of being a federal agency, these positions fell in the realm of lead Federal agency responsibilities.

These examples and many more created seemingly unclear roles, responsibilities, and confusion on “lines of authority” throughout the DWH response. Expressed clearly in the Joint Industry Oil Spill Preparedness and Response Task Force’s (JITF) draft “Industry Recommendations to Improve Oil Spill Preparedness and Response”:

Both the UC and RRT concepts and functions, as stated in the NCP and the National Incident Management System (NIMS) were modified during the event. Some confusion and changes were only natural, since this was the first actual SONS event, but now we need to clarify the roles and responsibilities of the various agencies and the Executive Branch in managing a SONS event and make revisions to the NCP and ACPs to reflect any changes to the associated policies and procedures.

Once any necessary changes are implemented, the NCP and ACPs must emphasize the importance of well-understood lines of authority for response to major spills and pollution events, and the importance of supporting and validating the ultimate authority of the Federal On-Scene Coordinator (FOSC). Just as in a national security or natural disaster response, clear and uncompromised lines of authority are essential for public safety, mission clarity and execution of an effective and credible response effort.⁴

If industry partners requested clarity and well defined line of authority, it may not take long before the development of legislation, policy, and guidance to lay the foundation for future response structures.

Additional Questions for UC improvements

- Can the roles and responsibilities of governance, community stakeholders, industry, and elected officials be redefined to better prepare, train, and respond to similar events?
- If we continue with the existing relationship found in the NCP how do we address the public’s perception of an RP led response?
- How do we encourage State, local, and tribal leaders to participate in planning for environmental disasters and to work together to develop cohesive response teams?
- Is it possible to educate the media and public prior to spills or should the focus be on a robust media campaign from the very onset of a spill?

3.3 The Area Command and National Incident Command Structure

The size and potential impact of the DWH spill required the activation of a number of UCPs, as well as, the Unified Area Command (UAC). Additionally, by declaring the DWH spill a SONS, it activated the National Incident Command (NIC), which was led by Admiral Thad Allen. Figure 1 depicts the organizational structure for the DWH response.

To understand the structure and relationship of each, it is first important to understand the primary functions of each. Unified Area Command was first established in Robert, LA and eventually relocated to New Orleans and served a number of purposes, including:

- Coordinate efforts among the UICs

⁴ Joint Industry Oil Spill Preparedness and Response Task Force. 2010. Industry Recommendations to Improve Oil Spill Preparedness and Response.

- Serving as a central national information center for the media and public
- Strategic division of critical resources across UICs
- Ensure information flow to National Incident Command

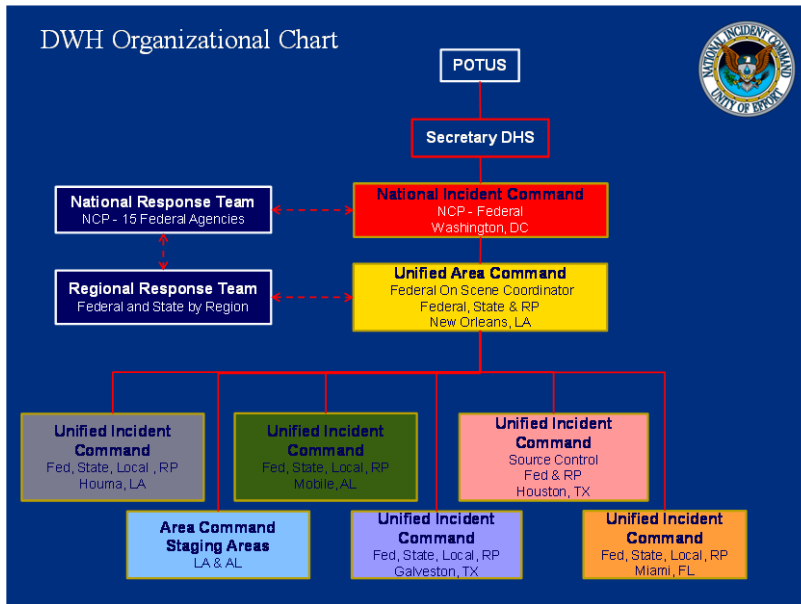


Figure 1 – DWH Response Organizational Chart

The NIC was established on May 1, 2010, by the SONS declaration as mentioned, which serves as the first activation in the history of spill response. The NIC’s primary responsibilities, included:

- Coordinating the efforts of the National Response Team (NRT) and Interagency Solutions Groups
- Direct reporting to the President and the Secretary of Homeland Security
- Congressional inquiry and testimony throughout the response

Challenges Experienced within the SONS organizational structure

The Area Command construct is designed to alleviate some of the burden UICs encounter when trying to secure critical resources. In the case of DWH, critical resources were defined as boom, skimmers, and eventually expanded to include certain trained personnel. It was not until late in the response that the actual list of critical resources was disseminated out to the UICs and a formal process or method clearly articulated to secure these limited assets.

As an example, the offshore recovery group sought the support of the critical resource unit (CRU) at the UAC to help identify vicious oil pumping systems that could resolve the problem of moving thick emulsified petroleum recovered in the warm waters of the Gulf of Mexico. After a week of correspondence with the CRU, it was evident that pumps were not on the critical resource list, although both UICs competed for these limited resources. It was a tremendous effort for a small Operations Section in Houma and Mobile to spend valuable and limited time trying to secure these vital resources.

The lack of clear guidance on items and resources available from the UAC presented a confusing picture of what assistance the UAC could actually offer to the field commands. Similarly, UIC

Houma ordered and sourced a number of high capacity barges to support the growing offshore skimming fleet, only to discover that these resources were redirected without notice to UIC Mobile even though they were again not defined as “critical resources.” Once resources were ordered by UIC Houma and an estimated arrival was provided by the vendor, it presented additional challenges for operators in the field that depended on the assets to continue the recovery effort.

An even more challenging dynamic of this response was the pressing Requests for Information (RFI) that inundated command posts, staging areas, and command and control vessels. Although this response made great strides to utilize a significant number of emerging technologies to provide situational awareness, it was never sufficient to feed the information “beast.” The use of tools like the Homeland Security Information System’s (HSIN) Jabber Chat, WebEOC, and Automatic Identification System (AIS) provided advancements in situational awareness, but those capabilities were rarely utilized in conjunction to develop a common operating picture that connected all levels of the organization.

It is difficult to convey how time consuming RFIs and data requests can be on the operations staff struggling to support responders. It was common place to receive RFIs for the same data from different levels of the organization. It was also routine for all levels of organization to circumvent procedures and protocols set for reporting requirements in order to meet some emerging need for information.

It is critical that the future relationship between Incident Command Post, Area Commands, and National Incident Command be further reviewed and aligned to overcome the organizational challenges experienced in DWH. This response offers an exceptional opportunity to evaluate the existing relationships, validate successful processes, and take in perspectives from all levels of the organization to develop the best possible response structure for future catastrophic events.

Additional Questions for AC and NIC improvements

- Can we redefine the relationship of Unified Command & Area Command construct to ultimately facilitate better resource management during an event?
- How do we alleviate the request for information overload of a response?
- Are some of the situational awareness tools utilized in DWH worthy to become common place in future environmental response operations?

4. Managing Simultaneous Offshore Operations, Safety, and Risk Management Practices

Now known as one of the most complex multi-agency response operations in history, the DWH response coordinated more vessels, aircraft, and personnel than all the oil spill events in the last 20 years combined. The complexity of the event was often compared “as closer to the *Apollo 13* mission rather than the *EXXON VALDEZ*.”⁵ Many of the successful tactics and procedures engineered during the response will serve us in the future as tactics, techniques, and procedures are redefined to meet the needs of each new and unique spill.

⁵ Press Conference with National Incident Commander ADM Thad Allen. May 2010.

At this point in the post-review of the initial response, it is important to take a hard look at each tactic to identify those both effective and consistent with standards, and adopt the successful practices as the systems to guide future response operations. Just as critical is to openly recognize that some tactics increased both risk to response personnel and the environment. The intent of examining these practices is to ensure best practices are indeed embraced and additional capabilities developed for those areas that still need improving.

4.1 Simultaneous Offshore Operations

There were three primary oil spill tactics that focused on the prevention of oil reaching the shoreline and were centrally coordinated from the Houma UCP: dispersal; controlled burn (in-situ burn); and mechanical recovery by large volume skimmers. It is well known that a number of other spill response measures such as sub-sea application of dispersants and containment through the riser insertion tube were also utilized in a protection role, but those items are outside the scope of this report. Nonetheless, those tactics should further be studied to clearly understand the positive and negative benefits of each.



Figure 2 – BP "Cone of Response"

BP’s report on Deepwater Horizon Containment and Response: Harnessing Capabilities and Lessons Learned provided a good visual diagram (Figure 2) of how the tactics were in theory deployed during the response called “Cone of Response.”⁶

Challenges with Coordinating Simultaneous Offshore Operations

Two of the three tactics effective in the offshore response are determined solely by the characterization of released oil, which is most often determined by the duration oil has been in the environment. Both dispersants and controlled burning technologies are far more effective with less weathered oil. Similarly, large volume skimmers also sought out oil of a similar state since it is far more recoverable than emulsified pockets of oil. Using the enormous amount of satellite and infrared imagery that became a standard during this response provided little clarity on the state of oil in the water. It required a significant amount of aerial and on-water reconnaissance to determine the

⁶ Deepwater Horizon Containment and Response: Harnessing Capabilities and Lessons Learned. September 2010.

appropriate counter measure for any given pockets of oil. This means that a strategic coordinated placement of assets under the “Cone of Response” model was far less likely to materialize on a daily basis. Although not intentionally, it was not uncommon to have burn groups operating in an area that was intended for skimmers or skimmers searching for “good” recoverable oil in the pre-approved aerial dispersant zones.

Increasingly, it meant that command and control responsibilities had to be delegated to those closest to the action and with the real-time intelligence to make educated decisions on tactics and placements of assets. The coordination between these three separate groups and the hundreds of assets they represented became the biggest obstacle for those managing offshore operations. As the response matured, significant improvements in our tactics and deployment of assets also materialized.

A number of obstacles and enhancements in offshore recovery practices are highlighted in BP’s Lessons Learned report⁷:

- *One long standing challenge to skimming is that hydrocarbons are encountered in various states.*
- *Surveillance efforts required experienced spotters with the ability to distinguish actual oil on the water from seaweed, shadows of other “spots” to avoid misdirection of resources.*
- *Tracking oil required a large number of sorties both night and day to keep up with the rapidly changing location and condition of surface oil. Intercepting the oil required communications equipment that was interoperable with between air- and water-based responders.*
- *An innovative “command and control” system that combined air intel with an on-water director coordinating all skimming traffic centrally for optimal placement of vessels.*

Seemingly, the coordination of all air assets under a central air branch in the response organization should resolve many of the “near misses” and dual tasking of platforms. Unfortunately, this was not the case last into the response phase of DWH. Before the eventual relocation to Tyndall Air Force base under the coordination of the Aviation Coordination Command, support to offshore assets experienced numerous challenges. A reoccurring theme was the assignment of an ineffective platform for specific missions. As an example, the consistent movement of the oil required the offshore skimming vessels to move further offshore and helicopters assigned to support this mission were limited to BP flight restrictions. Along those same lines, it was not uncommon for air observers which provide a critical link in the tactical direction to the fleet to get bumped by senior officials and VIPs at the last minute. If there is one area that should be coordinated outside of the ICP and by federal or DoD representatives, it is the air coordination or any national level event.

As mentioned earlier, the ability to understand these challenges and harness the successful applications to encompass them into standard practices is the **primary goal** of this report.

Additional Questions for Simultaneous Offshore Operations improvements

- How important is it to establish priorities for the methods available to a response and do we sacrifice some options because they limit others?

⁷ Deepwater Horizon Containment and Response: Harnessing Capabilities and Lessons Learned. Sept 2010.

- Considering the amount of concern and feedback from the public over the use of dispersants and controlled burning, do these tactics still have a place in future responses?
- Should Incident Command Post allow the command and control assets on the water to determine daily operations when the primary source of information comes from their situational awareness?
- Can we develop capabilities that will recover states of oil we find throughout the life of a response and in environments ranging from the Gulf waters to the Arctic?

4.2 Safety and Risk Management Practices

It is vitally important to discuss and address safety issues that surfaced during this response. Like any operation with massive number of responders and multiple moving pieces, there are inherent risks with the mission. The goal of this report is not to criticize decision makers and operators on their actions, but to offer visibility into an undertaking rarely experienced with tremendous amount of unknown risks.

A month into the DWH response, a common phrase was echoed throughout the Command Post. It simply and eloquently summed up the balance between our mission and the responsibility to responders:

“No Blood for a Tar Ball”⁸

In an atmosphere with national media attention and political pressure such as DWH, reactions are quick and decisions can lead to risks. Unfortunately, expectations of the public were at times unrealistic and demanded the use of every resource at lightening speeds. This created an environment that posed significant risks. These risks were not always evident from the onset and the difficulty of assessing risks was always present due to the sheer size and scope of this event.

Challenges with Safety and Risk Management

There are a number of factors that are necessary to understand risk. First, it is the ability to identify a practice, procedure, or general operation which has hazards associated with its performance. This is an oversimplification of the situation, but the challenge in terms of the DWH response was to establish that baseline assessment that identified these risks. This can be very hard to determine as the response, tactics, and procedures evolved throughout the event. Secondly, it helps to have professionals such as industrial hygienists or marine inspectors who can accurately gauge a hazard and then institute control measures to lower the risk and increase the overall safety of the operation and response.

As mentioned briefly, it was extremely difficult to establish the situational awareness of the events in the field to make the necessary operational decisions every day. Although robust safety branches existed in varying levels of the response structure, it was not always sufficient to address

⁸ Quote commonly attributed to Lieutenant Commander Chris Lee, USCG, Operations Section Chief Houma

the new and emerging risks ranging from controlled burn, dispersant, skimming, and lightering of volatile organic compounds.

Another attempt at increasing the number of “qualified” safety observers in the field was more problematic than beneficial. Some responders attended an eight-hour hazardous safety course which allowed members to fill positions in the field that required a greater understanding of hazards and air monitoring equipment than the course was able to offer. In hindsight, if the indoctrination course was centered on the identification of hazards likely in a marine environment, understanding of the core monitoring equipment, and how to apply administrative checks and procedures to these hazards, then it may have significantly lowered the risk to responders.

In other instances, it took well over two months to assess the risks and begin to implement the necessary safe work practices for responders. It became evident that a safety stand-down was critical to implementing immediate corrective measures in offshore operations. Ironically, Tropical Storm Bonnie offered just that opportunity to meet with operations staff and openly discuss some of the challenges faced in the offshore environment. In reality, this hot wash opportunity brought to light a number of concerns that had not previously been voiced and gave us the chance to collectively address them in the right environment.

Additional Questions for improvements in Safety and Risk Management practices

- Should periodic safety stand-downs be built into legislation to protect responders? What challenges and push back from communities can be managed & prepared for beforehand?
- Will the injuries, risks, and unsafe practices that surfaced during the response be formally reviewed to ensure we take corrective actions and are better prepared for future events?
- Should training standards for working on oil spills be increased and not waived during a response?
- With regards to air operations and offshore vessel safety, it was not uncommon for the Coast Guard, BP, and contracted companies’ safety procedures to conflict at times. Is there a need to develop industry wide safety practices for oil spill response and recovery operations?

5. Limitations of Existing Area Contingency Plans (ACP) and Preparation through Training and Exercises

If all responses are “local in nature” holds true, then that foundation lies within the Area Contingency Plan. Plans that were born from the post *Exxon Valdez* legislation gave us functions such as *responsible party*⁹ and *worst case discharge*.¹⁰ Although the formats of ACPs have not evolved much over the last two decades, it has seen incremental improvements to address emerging trends. As an example, the *COSCO Busan* oil spill in the Bay Area of California presented a unique challenge when thousands of untrained volunteers took to the beaches and shorelines with every intention of cleaning the oil spill. The necessity for *volunteer management and coordination* activities was the one of the most visible lessons from that response and many of the ACPs were updated to include this function within the incident command structure. Along those same lines, another emerging trend

⁹ 33 U.S.C. 2701

¹⁰ 30 CFR 154.1020 & 254

has been the development vessel salvage and reconstitution of waterways sections of the ACPs after a number of spills impacted trade and commerce.

Challenges with ACPs and Preparation through Training and Exercises

For all the effort to keep these plans up-to-date and responsive to the sign of the times, it was apparent that ACPs were not very useful during a response. There have been plenty of discussions regarding oil spill response technology verses advancements in oil and gas exploration. The industry has honed skills in deepwater and directional drilling that has opened exploration in areas never thought possible. This requires plan holders and communities to take a new look at the sensitive areas, priorities, existing capabilities, and most importantly to take steps to prepare for an oil spill. The challenge of developing an ACP and engaging the partners necessary to make it a vital and reliable tool has been an ongoing obstacle for plan holders. The *Cosco Buscan* Incident Specific Preparedness Review highlighted the challenges from the 2007 Bay Area oil spill:

Due to the plan structure and style, the ACP is not an easy document to use during crises - making it imperative that all those affected by decisions made under the plan participate in its maintenance. Analysis of the attendance records reveals that participation by agencies and entities without a direct involvement in day to day pollution prevention and response is sporadic, at best. The Coast Guard, California’s OSPR, DOI, NOAA and select OSROs all work in pollution prevention and response regularly and are predictably well represented at the meetings. Other entities, particularly those with peripheral involvement in pollution prevention and response, such as local governments, do not attend on a regular basis.

The lack of participation also affects the understanding of the capabilities and resources available outside the pollution response community. Properly leveraged, local government can contribute a host of resources in terms of HAZMAT certified personnel at all levels, logistical support, facilities, vehicles and incident management expertise. If a local government doesn’t own something needed, there’s a good chance that contacts exist to fill the need in a timely fashion through a local source.

Because the plan has evolved without the full measure of outside participation and benefit of the information brought by those entities, the ACP reflects only what is known to those who participate in its development¹¹.

There are technology advancements in satellite mapping, geographical positioning, and real time information sharing that can now offer ACPs the opportunity to address challenges that have frustrated responders over the years. All coastal plans are managed by the USCG while the inland waters fall under the responsibility of the Environmental Protection Agency. As much as we would like to hope, plan maintenance is not a community endeavor and ACPs are typically reviewed and approved only by a handful of planners.

The existing national policy¹² and subsequent guidance¹³ that outlines the pollution response exercise program to which ACPs are validated actually serves as a root cause to why these plans are not very reliable during an actual event. First, it is important to understand the current structure by

¹¹ Incident Specific Preparedness Review (ISPR) M/V *Cosco Buscan* Oil Spill in San Francisco Bay. January 2008

¹² Oil Pollution Act of 1990 (OPA 90)

¹³ National Preparedness for Response Exercise Program (PREP). August 2002.

which ACPs, Facility Response plans (FRP), and Mobile Offshore Drilling Unit (MODU) Response plans are validated. Every three years communities defined by the geographical area of an ACP are required to conduct a full-scale exercise. Exercises are developed on convincing or encouraging an industry partner to volunteer as the “responsible party (RP)” that initiates the environmental disaster used as the catalyst for the spill scenario. This is problematic for a number of reasons, but I will highlight the most critical. Participation is limited to typically only one RP during this three year cycle, since it would be quite abnormal to have multiple parties responsible for a spill. In port communities, the number of regulated entities within the existing Captain of Port Zones range from 25 to 250, and the format of a single RP led exercise continue to reduce involvement of industry partners and stakeholders. Considering these exercises come around once every three years, in a port with 250 regulated industry partners, it could take 750 years to make the full circle of interaction through the existing spill response exercise program. The frequency and limited focus of this exercise program creates significant gaps in the understanding and proficiency of environmental response communities.

As noted, the historical trend in oil spill planning, preparedness, and response has been driven by actual events. Although a robust environmental response training and exercise system exists, it has not been a primary catalyst for improvements. The JIFT report identified this gap clearly, with these remarks:

There is no consistently established process for incorporating external lessons learned from training, drills/exercises and actual responses into oil spill response plans. Consideration should be given to using the Marine Well Containment System as a vehicle for large scale drills and developing a mechanism for industry and/or the regulators to collect and share lessons learned after major incidents or exercises.¹⁴

In the present, the USCG’s current system to retain lessons learned from drills and exercises is known as the Contingency Preparedness System (CPS), which is solely accessible by USCG personnel and the information within is rarely shared or used by other agencies and partners. A number of limitations exist with the system, but the lack of visibility and attention to areas for improvement by the Area Committees at large is a reoccurring theme. This system is not a historical database for industry, State, or local areas events and exercises, it serves as storage for USCG sponsored events and is not designed to facilitate the sharing of best practices or corrective actions.

Additionally, the improvement planning or corrective action phase after an exercise or event has never been institutionalized for marine environmental responses. Post exercise efforts to correct deficiencies have for the most part been the responsibility of a single planner from the lead federal agency. The current construct doesn’t provide a detailed “improvement plan” that identifies the priorities and reasonable goals for the Areas Committees to undertake during this phase of preparedness planning. It is unreasonable to believe that all the items of a *M/V Cosco Buscan*, *Deepwater Horizon*, or SONS exercise will be incorporated by the next plan update, response, or even before the communities begin to design the next exercise.

In March 2010, Canadian and US Coast Guards (CANUS) conducted a joint maritime seminar on environmental response in the Arctic. The primary objective of this event was to increase the

¹⁴ Joint Industry Oil Spill Preparedness and Response Task Force. 2010. Industry Recommendations to Improve Oil Spill Preparedness and Response.

visibility of the challenges associated with a spill in the Arctic region. The exercise included stakeholders from the State of Alaska, Alaska Natives, Inuvialuit communities, and agencies from both countries responsible for oversight of drilling and response in the Beaufort and Chukchi Seas. In addition, senior politicians from both Alaska and Canada participated, which exceed the expectations and allowed the stakeholders to interact with senior leaders on environmental issues very important to their communities. This format was possible primarily because the international agreements fall under a Memorandum of Understanding that is not subject to specific exercise guidelines. This affords stakeholders the opportunity to address emerging needs and adjust the scope, focus, and objectives based to their needs.

In the case of this seminar, both Canadians and US officials were concerned with the future of offshore exploration and the growing marine traffic in the Arctic, which led them to hosting a seminar and table top exercise to provide awareness to all the stakeholders in the Beaufort and Chukchi Seas. Remarkably, US and Canadian officials signed a 2-year “improvement plan” based off the areas for further improvement and coordination that came to light during the CANUS exercise to drive their planning goals within a month of the event.¹⁵ This seminar format serves as a model for Area Committees and response agencies that need to clearly identify their priorities for improvement and a venue to share these goals with their stakeholders.

Additional Questions for Area Contingency Plan improvements

- How much effort should be expended on the development and maintenance of Area Contingency Plans? Do other government agencies, states, and locals have a responsibility to validate the priorities, capabilities, and sensitive areas found within these plans on a routine basis?
- With a tremendous amount of areas for improvement and best practices existing in the DWH response, how do we ensure these practices and gaps are collectively embraced to better prepare for another event?
- Will a regional concept of planning better prepare an area to address, support, and maintain the capabilities needed to respond to a similar environmental disaster?
- Will the development of regional seminars and outreach to the general public, elected officials, and press produce a more informed stakeholder base?
- Should the existing framework of triennial exercises be abandoned since participation is limited to a small number of stakeholders in an incident command post format?

6. Summary

The identification of challenges, recommendations, and questions for future improvement is designed to be a starting point for further discussions, analysis, and collaboration. The DWH oil spill was a remarkable event in our history and the legacy will be remember as one of the most complex and challenging response operations ever conducted. Although this report focuses on areas for improvement because that is where the work lies for future enhancements, it should not take away from the amazing efforts of thousand of responders that made sacrifices everyday to protect the environment and well-being of those that depend on the waters of the Gulf of Mexico.

¹⁵ Crockett, S. E., Epperson, R. C., & Munroe, J.A. CANUS NORTH 2010: After Action Report and Improvement Plan. April 2010.