

**IN RE OIL SPILL BY THE OIL RIG “DEEPWATER HORIZON”  
IN THE GULF OF MEXICO, ON APRIL 20, 2010**

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA  
MDL 2179, SECTION J  
JUDGE BARBIER; MAGISTRATE JUDGE SHUSHAN**

**EXPERT REPORT OF FRANK M. PASKEWICH  
CAPTAIN, UNITED STATES COAST GUARD (RET.)**

August 15, 2014

**CONFIDENTIAL**

TREX-241529.0001

## TABLE OF CONTENTS

|                                                                                                                                 | Page |
|---------------------------------------------------------------------------------------------------------------------------------|------|
| I. INTRODUCTION .....                                                                                                           | 1    |
| II. EXECUTIVE SUMMARY.....                                                                                                      | 2    |
| A. Overview .....                                                                                                               | 2    |
| B. Framework for Spill Response Analysis.....                                                                                   | 2    |
| C. Summary of Opinions.....                                                                                                     | 3    |
| III. BACKGROUND AND QUALIFICATIONS.....                                                                                         | 6    |
| IV. OVERVIEW OF SPILL RESPONSE FRAMEWORK.....                                                                                   | 8    |
| V. OPINIONS.....                                                                                                                | 12   |
| A. Working Within the Unified Command, BP Rapidly Mobilized the<br>Resources Needed for this Unprecedented Response.....        | 12   |
| 1. BP Rapidly Mobilized Critical Response Resources.....                                                                        | 12   |
| 2. BP Mobilized Its Response In Accordance With Its MMS-Approved<br>OSRP. ....                                                  | 15   |
| 3. BP's Commitment of Resources to the <i>Deepwater Horizon</i><br>Response Was Unprecedented.....                              | 16   |
| B. BP's Response Efforts Were Extraordinarily Effective in Mitigating<br>the Impacts of the <i>Deepwater Horizon</i> Spill..... | 18   |
| 1. Offshore Operations .....                                                                                                    | 20   |
| 2. Near Shore Operations.....                                                                                                   | 32   |
| 3. Shoreline Assessment and Cleanup Operations.....                                                                             | 38   |
| 4. BP Proactively Protected Wildlife and Other Resources. ....                                                                  | 44   |
| C. BP's Response Efforts Were Conducted Safely.....                                                                             | 49   |
| 1. Health and Safety of Responders.....                                                                                         | 50   |
| 2. Public Health and Safety .....                                                                                               | 53   |



|     |                                                                                                                   |    |
|-----|-------------------------------------------------------------------------------------------------------------------|----|
| D.  | BP Worked Collaboratively with the Coast Guard and Other Unified Command Partners in Responding to the Spill..... | 54 |
| 1.  | BP and the Coast Guard Collaborated During the Response .....                                                     | 54 |
| 2.  | BP and the Coast Guard Worked Together to Meet Challenges from Outside the Response.....                          | 55 |
| E.  | BP Conducted Response Operations Transparently With a Focus on Community Outreach. ....                           | 70 |
| F.  | BP’s Continued Response Efforts Exceeded Unified Command Requirements.....                                        | 73 |
| 1.  | BP Undertook Substantial Efforts to Respond to the Spill Beyond Those Required by the Unified Command.....        | 73 |
| 2.  | BP Developed Innovative Response Technologies.....                                                                | 74 |
| 3.  | BP’s Proactive Funding of the Response Was Key to Its Success.....                                                | 77 |
| 4.  | BP Has Remained Committed to the Response. ....                                                                   | 78 |
| VI. | CONCLUSION .....                                                                                                  | 82 |

## APPENDIX A: List of Consideration Materials

## TABLE OF FIGURES

|                                                                             | Page |
|-----------------------------------------------------------------------------|------|
| Figure 1: Characteristics of a Successful Oil Spill Response.....           | 2    |
| Figure 2: Regional Response Team Areas .....                                | 9    |
| Figure 3: <i>Deepwater Horizon</i> Unified Command Structure .....          | 10   |
| Figure 4: Mobilization of <i>Deepwater Horizon</i> Response Personnel ..... | 14   |
| Figure 5: Mobilization of <i>Deepwater Horizon</i> Resources .....          | 15   |
| Figure 6: Response Operations Overview .....                                | 18   |
| Figure 7: Comparison of Spill Response Effectiveness.....                   | 19   |
| Figure 8: Skimming Operations.....                                          | 22   |
| Figure 9: In Situ Burning Operations .....                                  | 25   |
| Figure 10: Aerial Dispersant Operations Group .....                         | 29   |
| Figure 11: Aerial Dispersant Application .....                              | 30   |
| Figure 12: Subsea Dispersant Injection System.....                          | 31   |
| Figure 12: Near Shore Resource Deployment .....                             | 33   |
| Figure 13: Boom Deployment.....                                             | 37   |
| Figure 14: SCAT Team Assessment.....                                        | 40   |
| Figure 15: Shoreline Oiling Over Time .....                                 | 41   |
| Figure 16: Rehabilitation of Bird .....                                     | 47   |
| Figure 17: Release of Rehabilitated Birds .....                             | 48   |
| Figure 18: Coast Guard-BP Collaboration During the Response .....           | 55   |
| Figure 19: May 26, 2010 CRRC Dispersant Use Recommendations .....           | 62   |
| Figure 20: Dispersant Limitations and Increased Shoreline Oiling .....      | 65   |
| Figure 21: Snorkel SCAT .....                                               | 75   |
| Figure 22: Sand Shark .....                                                 | 76   |

|                                                               |    |
|---------------------------------------------------------------|----|
| Figure 23: Active Shoreline Cleanup Completion Summary .....  | 79 |
| Figure 24: “Firehouse” Resources Currently Staged by BP ..... | 80 |

## I. INTRODUCTION

I am Captain Frank M. Paskewich, United States Coast Guard (retired). I have more than 33 years of experience in the marine and environmental safety field, including oil spill response. Through my service in the Coast Guard and in my current position as the Executive Director of one of the largest oil spill response cooperatives in the United States, I have responded to hundreds of oil spills in the Gulf of Mexico. I have served as the Federal On-Scene Coordinator (“FOSC”) on several large and high visibility oil spill responses, including one of the largest responses in the Gulf of Mexico’s history in the aftermath of Hurricane Katrina.

Throughout my career, I have worked within the National Contingency Plan (“NCP”) framework and the Incident Command System (“ICS”), which provide a consistent nationwide approach for federal, state, and local governments and other stakeholders to work effectively and efficiently together to prepare for, respond to, and recover from oil spills. I am intimately familiar with the intended role of the Responsible Party in spill responses under the NCP and ICS.

I have been retained by BP Exploration & Production Inc. (“BP”)<sup>1</sup> to evaluate the nature, extent and degree of effectiveness of BP’s efforts to minimize or mitigate the effects of the *Deepwater Horizon* oil spill. In forming my opinions, I considered the documents, testimony, and other materials listed in Appendix A. I assessed BP’s efforts to respond to the *Deepwater Horizon* spill within the framework of my extensive knowledge of and experience in oil spill response management and operations gained over the course of my career.

---

<sup>1</sup> BP Exploration & Production Inc. was the entity named as the Responsible Party under the Oil Pollution Act of 1990 (“OPA 90”) in the *Deepwater Horizon* Response. See 4/28/10 National Pollution Funds Center OPA 90 Designation Letter to BP Exploration & Production Inc. (LA-GOV 00032144) For ease of reference, I refer to BP Exploration & Production Inc. as “BP” throughout this Report.

## II. EXECUTIVE SUMMARY

### A. Overview

On April 20, 2010, at approximately 9:51 p.m. CDT, an explosion occurred on the *Deepwater Horizon* mobile offshore drilling rig located in the Gulf of Mexico, approximately 42 miles southeast of Venice, Louisiana. Immediately after the explosion, the U.S. Coast Guard initiated an intensive search and rescue effort for the 11 missing crewmembers of the *Deepwater Horizon*. Simultaneously, even though the fact and size of any ensuing oil spill was unknown, BP began to mobilize resources in accordance with its approved Oil Spill Response Plan (“OSRP”), launching what became a massive and unprecedented spill response effort.

### B. Framework for Spill Response Analysis

This Report sets forth my assessment of BP’s efforts to respond to the *Deepwater Horizon* spill, including as part of the Unified Command-led Response. I have evaluated BP’s response efforts based on my more than 33 years of experience in marine safety and oil spill response. I have responded to hundreds of oil spills in the Gulf of Mexico in many capacities, including as the FOSC. The nature of oil spills is such that they are inherently unplanned, emerging events that require the instantaneous collaboration and cooperation of a large number of response entities, including those from industry and government, with the joint goal of effectively mitigating the oil’s impact, often under incredible stress and intense public scrutiny.

Based on my experiences, I have developed a framework of expectations that I use to evaluate the overall effectiveness of a spill response effort. Under this framework, the key characteristics of a successful spill response are summarized below.

#### CHARACTERISTICS OF A SUCCESSFUL OIL SPILL RESPONSE

| Characteristic   | Description                                                                                                                                                     |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Mobilization  | The responder’s initial actions and ability to ramp up, adapt to events, and organizationally grow as needed in response to the spill event                     |
| 2. Effectiveness | Proactive measures taken and mobilization of oil spill response equipment by the responder to protect the environment and minimize property damage              |
| 3. Safety        | Steps taken by the responder to ensure the safety of response workers and the general public                                                                    |
| 4. Collaboration | The ability of the response organization, including a fully engaged responsible party, to rapidly integrate the diverse stakeholders and focus on a common goal |
| 5. Transparency  | The responder’s ability to remain open, transparent and accessible to the public                                                                                |

**Figure 1: Characteristics of a Successful Oil Spill Response**



## C. Summary of Opinions

Applying these principles and based on my experience and review of the record in this case, it is my opinion that, despite intense media scrutiny and outside influences beyond its control, BP mounted an extraordinarily effective response effort that minimized and mitigated the effects of the *Deepwater Horizon* oil spill.

A summary of my opinions is as follows:

### 1. **Working within the Unified Command, BP rapidly mobilized the resources needed for this unprecedented Response.**

Immediately after the explosion on the night of April 20, BP mobilized Oil Spill Response Organizations (“OSROs”) and other resources to respond to the spill. By 5:30 p.m. on April 21, 2010—roughly 20 hours after the explosion on the rig—more than 100 responders working on behalf of BP had mobilized to the Gulf region; by noon the following day, that number had more than doubled, totaling 266. As the Response mounted, thousands more would assimilate into a fully functional Incident Command System (“ICS”) implemented to organize the overall large-scale response efforts. On the single most demanding day of the Response, over 6,000 vessels, 82 helicopters and 20 fixed wing aircraft, and approximately 47,000 personnel were assigned. The *Deepwater Horizon* Response grew to include a cumulative total of more than approximately 100,000 responders, 9,700 vessels (including skimmers, tugs, barges, and recovery vessels), 127 aircraft, and 13.5 million feet of boom over the course of the Response. Of the more than 100,000 people who contributed to the Response, approximately 82,000 worked on behalf of BP and devoted more than 70 million hours to responding to the spill. In my experience, this remarkable and rapid mobilization of resources was unprecedented, dwarfing responses to the *Exxon Valdez* and other spills.

### 2. **BP’s response efforts were extraordinarily effective in mitigating the impacts of the *Deepwater Horizon* Spill.**

Based on my experience and review of the record, BP’s efforts to respond to the *Deepwater Horizon* spill were extraordinarily effective in minimizing the impacts of the spill. BP and others in the Unified Command implemented a broad range of measures to respond to the spill, using a layered approach that included (1) skimming; (2) controlled in situ burning, (3) dispersant application; (4) booming; and (5) shoreline assessment and cleanup. During these operations, BP and the Unified Command took steps to protect wildlife and other natural resources.

Taken together, these response efforts were highly effective in minimizing the effects of the *Deepwater Horizon* spill. On average for most open ocean spill responses, only 10-15% of oil is removed, typically using mechanical recovery means, such as skimming. The *Deepwater Horizon* Response used a combination of measures—including skimming, dispersant applications, and in situ burning—to respond to the spill. Depending on whether government or BP spill volume estimates are used, BP and others in the Unified Command skimmed, burned, and chemically dispersed anywhere from 29% to 49% of the oil that was released in the *Deepwater Horizon* spill—a removal rate that is roughly *two to five times greater* than that achieved in a typical spill response.

These results are even more impressive considering the depth at which the *Deepwater Horizon* spill occurred. Many spills occur at the surface or in shallower water than the *Deepwater Horizon* spill, making mechanical recovery and other response measures more effective in removing a higher percentage of the oil spilled. In the *Deepwater Horizon* spill, the source was located in the deep ocean, meaning that relatively more oil dissolved and was consumed by natural processes before reaching the surface, where it could be skimmed or removed in other ways. Using the government's own estimates, BP and its Unified Command partners burned, skimmed, and chemically dispersed 1.2 million of the 2.4 million barrels—or 50%—of the oil that was available for recovery. In my experience, these results are exceptional, and the success of the operations was truly remarkable.

BP's role and involvement in these efforts was critical. BP proactively provided world-class response experts and other personnel, equipment, funding, and other necessary resources. BP's contributions were essential to the success of the Response.

### **3. BP's Response efforts were conducted safely.**

Most importantly, BP and others in the Unified Command made safety a top priority throughout the Response. The Unified Command took steps to protect responders and ensure the public health and safety. Personal protective equipment was provided to response workers, and training and other actions were taken to ensure safe operations. Extensive air monitoring and seafood sampling in areas open to fishing showed no harmful exposure levels for public health. These efforts resulted in an exemplary safety record for response workers and ensured public safety, and are some of the most notable accomplishments of the Response.

### **4. BP worked collaboratively with the Coast Guard and other Unified Command partners in responding to the spill.**

The NCP establishes the framework for the coordination of spill response efforts. Under this framework, the Unified Command, led by the FOSC, is responsible for overall management of the response. The Unified Command directs and approves all response activities. The FOSC during the *Deepwater Horizon* Response was always a member of the U.S. Coast Guard. BP, as the Oil Pollution Act of 1990 ("OPA 90") Responsible Party, worked collaboratively with the Coast Guard and others in the Unified Command throughout the Response. Every Coast Guard witness who has testified in this phase of the litigation has recognized the cooperation between BP and the Coast Guard. The partnership between BP and the Coast Guard was consistent with the expectations of the NCP framework, which emphasizes the importance of a "unity of effort" within the Unified Command to implementing an effective response.

BP and the Coast Guard continued to work effectively together, even when confronted with challenges presented from outside the Unified Command. Examples of these challenges include (1) a media frenzy which at times caused distraction, inaccurate media reporting, and reactions that worked at cross-purposes to the Response; (2) EPA-initiated limitations on the use of dispersants; (3) unilateral and unauthorized actions by the States taken outside of the Unified Command framework (such as the State of Louisiana's diversions of the Mississippi River); (4) resource allocation demands by local officials (resulting in "boom wars" and other resource hoarding); and (5) the State of Louisiana's berm project. BP and the Coast Guard met these challenges and were nevertheless able to achieve a successful Response.



## **5. BP conducted operations transparently with a focus on community outreach.**

From the first days of the Response, BP actively engaged and provided information to the public. For example, BP established an incident website to provide information about the Response. Together with others in the Unified Command, BP held town hall, then expo-type meetings, where community members could approach informational booths to ask questions or obtain educational materials on issues of concern and response operations. BP also established community outreach centers throughout the Gulf region. These efforts were effective in communicating information about the Response to affected communities and the public at large.

## **6. BP's continued response efforts exceeded Unified Command Requirements.**

BP undertook several initiatives in response to the spill that the Unified Command did not require. For example, as described above, BP voluntarily established community outreach centers throughout the Gulf to provide information to the public. In addition, BP waived the OPA liability cap and proactively funded the Response, including by pre-funding the Oil Spill Liability Trust Fund, advancing block grants to state and local governments, and paying response costs directly. BP's funding approach was a "novel" undertaking without which the scale and magnitude of the response efforts could simply not have been maintained if left solely to traditional funding mechanisms administered by the National Pollution Funds Center. As Rear Admiral Paul Zukunft noted in 2011: "The claims process alone would have eaten our lunch *had BP and eventually [BP's Gulf Coast Claims Facility] not stepped up to the plate*. Response costs to date have blown through the \$12b ceiling with no end in sight and our [Oil Spill Liability Trust Fund] constraints are not going to answer the mail in a 21st century [Spill of National Significance] absent a solvent and cooperative [Responsible Party]."<sup>2</sup>

BP also welcomed, developed, implemented, and shared innovative concepts designed to improve oil containment and recovery during the Response. Finally, BP remains committed to response efforts in the Gulf. Even though the active cleanup has ended, BP continues to keep resources in place to respond quickly at the Coast Guard's direction if MC-252 oil is identified and requires removal.

---

<sup>2</sup> 1/5/11 RADM Zukunft Email to S. McCleary (Ex. 12535) (emphasis added).



### III. BACKGROUND AND QUALIFICATIONS

I have 33 years of experience in marine safety including as a professional oil spill responder. I have specialized training and expertise in maritime spill response and environmental protection. During my 26 years of service with the United States Coast Guard, I focused on marine safety and oil spill response. Since retiring from the Coast Guard, I have served as the Executive Director for Clean Gulf Associates, a not-for-profit oil spill response cooperative. I am also currently Vice President of the Association of Petroleum Industry Cooperative Managers, which brings together oil spill response cooperatives from around the world to share best practices in spill response.

I have responded to hundreds of oil spills, dozens of which would be considered within the industry to be significant spills of over 100 barrels. I have served as the FOSC on several extremely large oil spill responses, including oil spill responses following Hurricanes Katrina and Ivan, and an uncontrolled well blowout spill in Bayou Perot, Louisiana, and as Deputy FOSC on the Mississippi River spill from the tank ship *Westchester*. I have substantial experience in marine safety and spill response planning and have participated in numerous drills and exercises. New Orleans has been my home since 1997.

I graduated from the Coast Guard Academy in 1981 with a B.S. degree in Naval Architecture and Marine Engineering, and I received my Masters in Naval Architecture and Marine Engineering and Mechanical Engineering from the University of Michigan in 1989. I am a licensed Professional Engineer in the State of Michigan.

From 1983-1987, following my initial two-year shipboard tour, I served in the marine safety field at the Coast Guard Marine Inspection Office in New Orleans. I held a variety of positions, including in commercial vessel inspections, marine casualty investigations, and merchant marine personnel licensing. As a casualty investigator, I served as the lead Coast Guard representative on the joint formal board of investigation with the National Transportation Safety Board and Minerals Management Service following the well blow out and subsequent explosion and fire onboard the semi-submersible drilling rig *Zapata Lexington* in 1984, which resulted in four deaths.

After receiving my Master's degree in 1989, I served four years at the Marine Safety Center in Washington, D.C. From 1993-1997, I served as Chief of Investigations, Chief of Inspections, and Chief of Port Operations at Marine Safety Unit Galveston, Texas. In Texas, I was involved in a number of high profile oil spills in the Houston Ship Channel and offshore, including: the 200,000 gallon release from 4 pipelines during the 1994 San Jacinto fire and floods in Houston, Texas, the 176,000 gallon release from the tank barge *Buffalo 292* in Galveston, Texas, and the spill from the damaged tank ship *Berge Banker* in the offshore lightering zone.

In 1997, I returned to New Orleans where, over the next five years, I served as the Chief of Inspections, Chief of Port Operations, and Executive Officer at Marine Safety Office New Orleans ("MSO"). MSO New Orleans responds to more oil spills than any other Coast Guard unit in the country, and in my role as Chief of Port Operations and Executive Officer, I was responsible for overseeing the response to thousands of National Response Center oil spill reports. After promotion to Captain, I served as the Coast Guard's Western Rivers Coordinator at the Eighth Coast Guard District Office in New Orleans, overseeing six Captains of the Port

zones through 10,300 miles of the western rivers, including the Mississippi River and Ohio River system.

In 2004, I became the Commanding Officer (“CO”) of MSO New Orleans, which through a merger in 2005 became one of the largest units in the Coast Guard. As CO, I oversaw a staff of 700 personnel spread across 17 subunits. I served as Captain of the Port, FOSC, Search and Rescue Mission Coordinator, Federal Maritime Security Coordinator, and Officer in Charge, Marine Inspection. During my tour, Sector New Orleans again responded to thousands of National Response Center oil spill reports in my area of responsibility.

In 2005, I served as the FOSC during the response to Hurricane Katrina. I was responsible for all Louisiana response operations and oversaw more than 4,500 responders, which included 10% of the entire Coast Guard at the time. The response to Hurricane Katrina was up to that time the largest Coast Guard response in history. Under my command, the Coast Guard rescued more than 33,000 people, responded to 10 major oil spills simultaneously (releasing a total of more than 8 million gallons of oil), reopened the Mississippi River in less than 5 days, and salvaged more than 2,500 vessels. For my service during Katrina, I was awarded the Legion of Merit, one of the Coast Guard’s highest military honors. In 2006, I was honored to accept the prestigious C. Alvin Bertel Award, the City of New Orleans’ highest maritime honor, for outstanding contributions to the advancement of the greater New Orleans port area. In 2007, I retired from the Coast Guard and joined Clean Gulf.

Today, as Executive Director of Clean Gulf, I oversee one of the largest not-for-profit oil spill cooperatives in the country. Clean Gulf provides offshore and near shore oil spill response equipment to 120 member companies engaged in the Gulf of Mexico exploration and production industry. Clean Gulf is one of the most active spill cooperatives in the country as measured by response activity, and most of Clean Gulf’s resources were deployed for the *Deepwater Horizon* incident.

I am being compensated for my work in this matter through my consulting firm, Total Maritime Services LLC, at a rate of \$500 per hour for time spent providing trial or other testimony and \$350 per hour for all other work. My compensation is not contingent upon the outcome of my analysis or this case. I have not previously testified as an expert at trial or in deposition.

## IV. OVERVIEW OF SPILL RESPONSE FRAMEWORK

The Oil Pollution Act of 1990 (“OPA 90”), Federal Water Pollution Control Act, and the National Contingency Plan (“NCP”) establish the legal framework for the coordination of response efforts.<sup>3</sup> The NCP is the federal government’s blueprint for responding to both oil spills and hazardous substance releases. The NCP provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants. The NCP establishes a national spill response framework that promotes coordination among responders and contingency plans.<sup>4</sup> Efforts to coordinate a response are also governed by Homeland Security Presidential Directive 5.<sup>5</sup>

Under this framework, the Incident Command System (“ICS”) was the organizational structure used to implement efforts to respond to the *Deepwater Horizon* spill. The ICS provides for the establishment of a Unified Command to respond to an incident.<sup>6</sup> The Unified Command is an organizational structure that brings together the federal government, the state government and the “responsible party” under OPA 90 (“RP”) “to achieve an effective and efficient response.”<sup>7</sup> The Unified Command is responsible for overall management of an incident. It directs incident and response activities, including development and implementation of overall objectives and strategies, and approves ordering and releasing of resources.<sup>8</sup>

The NCP authorizes the Federal On Scene Commander (“FOSC”) to direct, monitor, and coordinate all government and private response actions through the Unified Command.<sup>9</sup> The FOSC maintains authority over the Unified Command. Because the *Deepwater Horizon* incident involved a maritime spill, the FOSC was at all times a member of the U.S. Coast Guard.<sup>10</sup>

The NCP also authorizes Regional Response Teams (“RRTs”) to play an important role in planning for and responding to an incident.<sup>11</sup> RRTs are responsible for preparing regional response plans and coordinating preparedness and response actions.<sup>12</sup> RRTs are co-chaired by representatives of the EPA and the Coast Guard and include representatives from other federal agencies, as well as state and tribal governments.<sup>13</sup> RRTs are responsible for developing Regional Contingency Plans and providing guidance to Area Committees as they develop Area

---

<sup>3</sup> Oil Pollution Act of 1990, 33 U.S.C. § 2701 *et seq.*; Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.*; National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300 *et seq.*; *see also* On Scene Coordinator Report: Deepwater Horizon Oil Spill (Ex. 9105) at 4 (Sept. 2011) (“FOSC Report”); U.S. Coast Guard Marine Safety Manual, Marine Environmental Protection, Volume IX, M16000.14, at 1-25.

<sup>4</sup> 40 C.F.R. §§ 300.1, 300.3, 300.205.

<sup>5</sup> Homeland Security Presidential Directive-5 ¶¶ 4-11 (Feb. 28, 2003).

<sup>6</sup> 40 C.F.R. § 323(c); *see* FOSC Report (Ex. 9105) at 3; Incident Specific Preparedness Review (Ex. 9124) at 92 (Jan. 2011) (“ISPR”).

<sup>7</sup> 40 C.F.R. § 300.305(c); *see* Hein Dep. at 27:11-21; Hanzalik Dep. at 21:13-22:2.

<sup>8</sup> FOSC Report (Ex. 9105) at 9; Austin Dep. at 41:25-42:12; What is a Unified Command?, U.S. Dep’t of Labor, [https://www.osha.gov/SLTC/etools/ics/what\\_is\\_uc.html](https://www.osha.gov/SLTC/etools/ics/what_is_uc.html) (last visited Aug. 14, 2014).

<sup>9</sup> 33 U.S.C. § 1321(c); FOSC Report (Ex. 9105) at vi; Hein Dep. at 27:22-28:12; Hanzalik Dep. at 19:22-20:2, 22:18-21; Utsler Dep. at 160:4-12; Hanzalik Dep. at 22:2-9.

<sup>10</sup> Hein Dep. at 28:1-4.

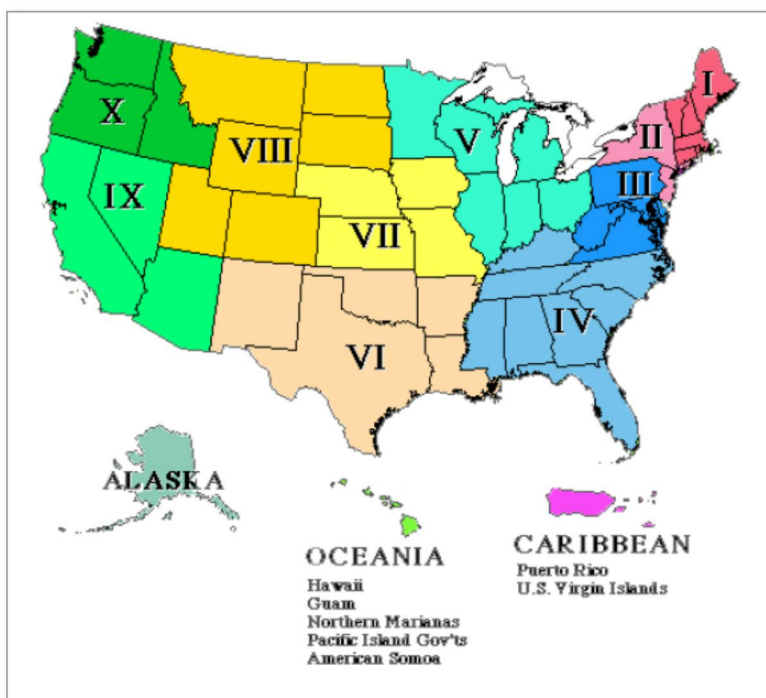
<sup>11</sup> *See generally* 40 C.F.R. § 300.115.

<sup>12</sup> 40 C.F.R. § 300.115(a); FOSC Report (Ex. 9105) at 10-11.

<sup>13</sup> 40 C.F.R. § 300.115(c); FOSC Report (Ex. 9105) at 11.



Contingency Plans. RRTs also advise the FOSC during an oil spill response. RRTs also have decision-making authority for pre-authorization of certain response measures, such as the use of dispersants and in situ burning.<sup>14</sup> There are 10 RRTs covering various geographic areas throughout the United States.<sup>15</sup>



**Figure 2: Regional Response Team Areas**

While both RRT IV and RRT VI were involved in the *Deepwater Horizon* Response given the states affected by the spill, RRT VI played a lead role.<sup>16</sup> Prior to the Incident, RRT VI (which includes members of the U.S. Coast Guard, EPA, NOAA, DOI, and the State of Louisiana) had prepared pre-approved plans that preauthorized an FOSC to use dispersants and in situ burning in the event of a spill in accordance with criteria set forth in those plans.<sup>17</sup> RRT VI's preapproved plans governed the use of these response measures during the *Deepwater Horizon* Response. RRT VI also worked closely with the FOSC and the Unified Area Command—the headquarters of response operations—during the Response, providing advice on in situ burning, dispersant applications, and other response techniques. Between April and December 2010, RRT VI held 26 incident-specific conference calls in support of the Response.<sup>18</sup> Because the *Deepwater Horizon* Incident occurred in coastal waters, a U.S. Coast Guard officer,

<sup>14</sup> 40 C.F.R. § 300.115(a); ISPR (Ex. 9124) at 12; Hanzalik Dep. at 57:20-23.

<sup>15</sup> FOSC Report (Ex. 9105) at 11.

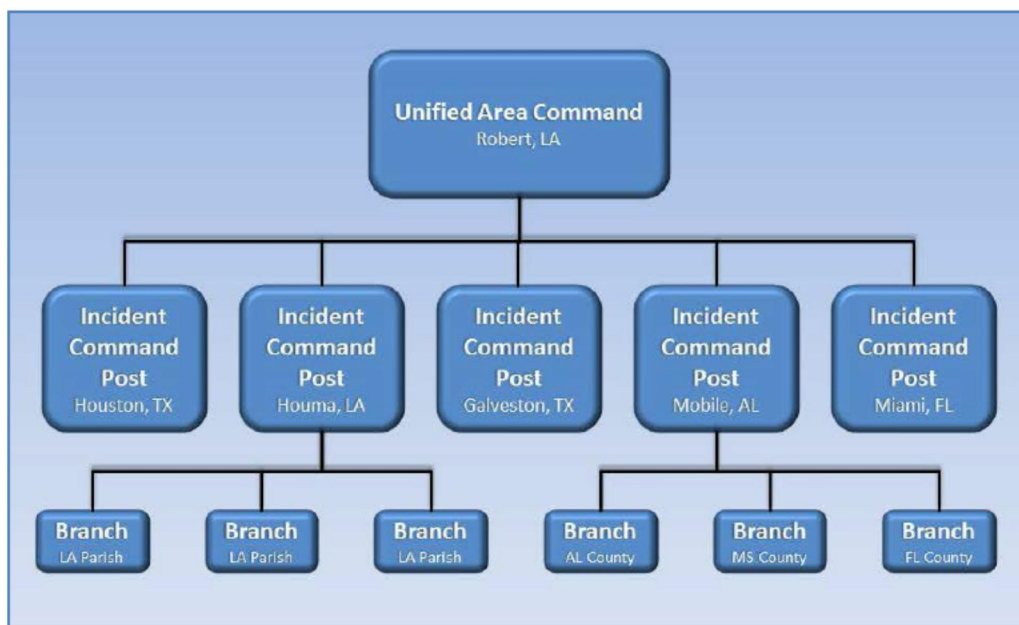
<sup>16</sup> 40 C.F.R. § 300.910; Hanzalik Dep. at 59:2-5.

<sup>17</sup> RRT VI Dispersant Pre-Approval Guidelines and Checklist (Ex. 11835); RRT VI In Situ Burn Plan (Ex. 11834); ISPR (Ex. 9124) at 7, 40 (“pre-authorization covers the use of any dispersant on the National Product Schedule and may be used in waters greater than 10 meters deep and at least 3 miles from shore”); Hanzalik Dep. at 59:2-12.

<sup>18</sup> FOSC Report (Ex. 9105) at 11; Hanzalik Dep. at 56:25-57:5, 57:20-23, 62:2-10.

Captain James Hanzalik, chaired RRT VI in connection with the Response, while an EPA representative, Mr. Craig Carroll, served as the co-chair.<sup>19</sup>

In the *Deepwater Horizon* Response, a Unified Area Command (“UAC”) was established in Robert, Louisiana. The Unified Area Command directed activities across the response area. On April 22, 2010, BP established a command center in Houston, Texas, which was recognized as an Incident Command Post (“ICP”) over which the Unified Command had oversight the following day. The Houston ICP was focused on the design and implementation of well control and containment approaches.<sup>20</sup> On April 23, the Unified Command established an ICP at BP’s Houma Offshore Learning Center in Houma, Louisiana. The Houma ICP managed offshore Response operations surrounding the wellhead, as well as near-shore and shoreline Louisiana response operations.<sup>21</sup> On April 26, the Unified Command established an ICP in Mobile, Alabama. The Mobile ICP managed offshore, near-shore, and shoreline response operations for Alabama, the Florida panhandle, and Mississippi.<sup>22</sup> ICPs were also established in Miami, Florida, and Galveston, Texas, to manage near shore and shoreline operations in those states.<sup>23</sup> The following diagram gives an overview of the Unified Command structure in the *Deepwater Horizon* Response. Local branch offices and staging areas were also established. BP provided the facilities for all these operations, which spanned the entire Gulf Coast.<sup>24</sup>



**Figure 3: *Deepwater Horizon* Unified Command Structure**

On April 29, 2010, the Secretary of the Department of Homeland Security (“DHS”) declared the *Deepwater Horizon* incident a Spill of National Significance (“SONS”). On May 1,

<sup>19</sup> Hanzalik Dep. at 58:8-15; McCleary Dep. at 69:1-70:10; 5/1/10 RRT VI Memorandum (Ex. 11837).

<sup>20</sup> Hanzalik Dep. at 57:24-58:15; McCleary Dep. at 69:14-16.

<sup>21</sup> FOSC Report (Ex. 9105) at 1, 15, 18-19.

<sup>22</sup> FOSC Report (Ex. 9105) at 1, 15, 19-20.

<sup>23</sup> FOSC Report (Ex. 9105) at 15, 137, 144, 196, 209 & 211; NIC Implementation Strategy (Ex. 9123) at 19.

<sup>24</sup> FOSC Report (Ex. 9104) at 15, 137, 144, 196, 209, 211; NIC Implementation Strategy (Ex. 9123) at 19.



2010, Admiral Thad Allen was named as the National Incident Commander (“NIC”).<sup>25</sup> Although the NCP states that with a SONS declaration the NIC becomes the On-Scene Coordinator, the FOSC designation remained with Rear Admiral Landry. While both Admiral Allen and Rear Admiral Landry exercised a degree of operational control, Admiral Allen as the NIC focused more on government at a national level, while Rear Admiral Landry as the FOSC had a greater degree of day-to-day operational control over the Response, and focused more on state and local governments.<sup>26</sup>

The Unified Command requires a “unity of effort” between its members, including federal and state governments and the RP.<sup>27</sup> Unified Command members are intended to “work together to develop a common set of incident objectives and strategies, share information, maximize the use of available resources, and enhance the efficiency of the individual response organizations.”<sup>28</sup> To this end, the NCP directs that the RP play an active role in the response. The Unified Command enables federal and state governments to work with the RP to mount integrated and effective response efforts.<sup>29</sup>

Consistent with the NCP framework, BP played an integral role in the Unified Command-led response to the *Deepwater Horizon* incident from the very beginning. BP personnel were embedded throughout the Unified Command in various positions across the Response. A BP Incident Commander worked alongside the FOSC at the Unified Area Command in Robert, and later as part of the Gulf Coast Incident Management Team in New Orleans.<sup>30</sup> BP Incident Commanders worked alongside Coast Guard counterparts at the various ICPs across the Gulf Coast, and BP personnel worked alongside Coast Guard counterparts at branches in parishes and counties. In this way, the NCP framework allowed BP to actively participate in the response organization and encouraged collaboration between BP, the Coast Guard, and other Unified Command partners, while at the same time always vesting 51% of the vote in the FOSC.<sup>31</sup>

---

<sup>25</sup> FOSC Report (Ex. 9105) at 204.

<sup>26</sup> FOSC Report (Ex. 9105) at 4; 40 CFR 300.323(c).

<sup>27</sup> ISPR (Ex. 9124) at 62; McCleary Dep. at 127:15-20 (agreeing that the NCP “recognizes the value of having a Unified Command effort in response to the spill,” and of having a “unify of effort”).

<sup>28</sup> What is a Unified Command?, U.S. Dep’t of Labor, [https://www.osha.gov/SLTC/etools/ics/what\\_is\\_uc.html](https://www.osha.gov/SLTC/etools/ics/what_is_uc.html) (last visited Aug. 14, 2014).

<sup>29</sup> FOSC Report (Ex. 9105) at 5 (“The NCP directs that the RP play a role in the response.”); Utsler Dep. at 30:8-15.

<sup>30</sup> Hanzalik Dep. at 29:6-21 (testifying that he worked “should to shoulder” with BP representatives “at the Incident Command Post in Houma and as FOSC”); FOSC Report (Ex. 9105) at 1, 9, 144.

<sup>31</sup> FOSC Report (Ex. 9105) at 5 (“Even though the RP participated in the UAC structure at every level of the response, the FOSC and the FOSC’s representatives directed RP actions.”); Hein Dep. at 30:3-7, 38:15-19 (agreeing that the Coast Guard “had the ultimate authority concerning the cleanup actions” during the response, and that she was “able to collaborate with BP within the construct of Unified Command to find solutions to the spill response”); Hanzalik Dep. at 22:3-17 (testifying that although the FOSC had 51 percent of the vote under the Unified Command structure, while other entities including BP had “input to the process”); Utsler Dep. at 38:10-17, 290:6-1.

## V. OPINIONS

### A. Working Within the Unified Command, BP Rapidly Mobilized the Resources Needed for this Unprecedented Response.

Immediately following the explosion on the *Deepwater Horizon* on April 20, 2010, BP began to work with the U.S. Coast Guard to mobilize resources needed to respond to the spill.<sup>32</sup> While search and rescue operations were underway, the Coast Guard was concerned with the disposition of the 700,000 gallons of diesel fuel onboard the rig and the potential for an unsecured release of oil.<sup>33</sup> Although neither the Coast Guard nor BP knew the size or extent of any potential oil spill, a response organization was established under the Incident Command System (“ICS”).<sup>34</sup> BP immediately mobilized Oil Spill Response Organizations (“OSROs”), or oil spill response contractors, to respond to the incident. Throughout the course of the *Deepwater Horizon* Response, BP secured and supported the people and resources that were critical to the ultimate success of this unprecedented Response.<sup>35</sup>

#### 1. BP Rapidly Mobilized Critical Response Resources.

BP mobilized available resources from the outset of the Response. On the night of April 20, 2010, BP began to mobilize resources to respond to a possible spill, including its contracted OSROs in accordance with its MMS-approved OSRP.<sup>36</sup> By 5:00 p.m. on April 21—less than 24 hours after the rig explosion—105 responders working on behalf of BP had mobilized to the Gulf; by 12:00 p.m. the following day, before any subsea leak had been discovered, that number had increased to 266.<sup>37</sup>

As the Response ramped up, BP continued to marshal personnel and resources needed to support Response operations. In addition to mobilizing its pre-contracted resources, BP worked in concert with the Unified Command to secure additional available resources.<sup>38</sup> The Unified Command issued orders to activate all of the boom, skimmers, and other oil spill response equipment that could be found.<sup>39</sup> The Unified Command aggressively requested skimmers and other resources from manufacturing sources, OSROs, and international sources if the equipment

---

<sup>32</sup> FOSC Report (Ex. 9105) at 203-21.

<sup>33</sup> FOSC Report (Ex. 9105) at 32.

<sup>34</sup> FOSC Report (Ex. 9105) at 1; 4/22/10 Email exchange between RADM Landry, Capt. Paradis, and Cdr. Ropp (HCG215-013716) at 1-2.

<sup>35</sup> Hanzalik Dep. at 225:5-12 (agreeing that “BP work[ed] with others in Unified Command to provide appropriate resources and [took] actions needed to protect and clean up the Gulf Coast in response to the Deepwater Horizon spill”).

<sup>36</sup> ISPR (Ex. 9124) at 110; 4/21/10 RADM Email to RADM Landry (HCG215-013716 at 013718-19) (“BP has mobilized three oil spill response vessels,” “keyed up dispersants and have two aircraft on standby,” “BP’s Environmental Unit is currently developing a Decanting and Dispersant Plan,” and an “Incident Action Plan has been developed by BP....”).

<sup>37</sup> Apr. 21, 2010 ICS 209, PCG027-010968; Apr. 22, 2010 ICS 209, PCG027-010969.

<sup>38</sup> RADM Watson Input to FOSC Report (Ex. 12527) (the Unified Command “establish[ed] a critical resource section” and searched “nation-wide, then world-wide, for skimmers, dispersants, barges, OSRO crews, aircraft, and boom.”).

<sup>39</sup> ISPR (Ex. 9124) at 119.

and application was appropriate.<sup>40</sup> As a result of all of these efforts, BP and its Unified Command partners were able to quickly mobilize the vast number of personnel and equipment needed to support the growing Response effort.

By April 27, 2010, approximately 1,000 personnel and 140 vessels were responding to the incident, and approximately 75,000 feet of boom had been deployed or assigned for deployment.<sup>41</sup> By May 1, just four days later, these totals had risen to at least 1,600 personnel, 330 vessels, and 420,000 feet of boom deployed; in addition, responders had recovered approximately 20,000 barrels of oily liquid from the environment.<sup>42</sup> By May 4, 2010 BP had established community outreach centers in Louisiana, Alabama, Florida, and Mississippi.<sup>43</sup> By May 5, 2010 BP had positioned twelve-member rapid response teams in Mobile, AL and Houma, LA to assess initial impacts and call in larger groups of responders as needed.<sup>44</sup>

By mid-May 2010, three weeks after the leak was discovered, approximately 17,000 personnel and 700 vessels were responding to the incident; responders had deployed approximately 1,300,000 feet of containment boom and 400,000 feet of sorbent boom, and recovered approximately 150,000 barrels of oily liquid. Responders had successfully conducted the first 10 controlled *in situ* burns and applied 45,000 gallons of subsea dispersants.<sup>45</sup>

By mid-June 2010, approximately 31,000 personnel and 4,400 vessels were responding to the incident. Responders had deployed approximately 2,500,000 feet of containment boom and 3,500,000 feet of sorbent boom; recovered approximately 500,000 barrels of oily liquid; conducted approximately 200 controlled *in situ* burns; and applied approximately 850,000 gallons of dispersants to the sea surface and 400,000 gallons of dispersants subsea.<sup>46</sup>

By July 15, the day the well was shut in, approximately 44,000 personnel and 6,300 vessels were responding to the incident; responders had deployed approximately 3,500,000 feet of containment boom and 6,800,000 feet of sorbent boom, and recovered approximately 780,000

---

<sup>40</sup> FOSC Report (Ex. 9105) at 111. “Requests for additional protective measures outside those designated in the Area Contingency Plan (ACP) were considered against the regional demand for resources.” FOSC Report (Ex. 9105) at 111. This cascading of equipment was subject to limitations due to plan requirements of the donor areas. *See* ISPR (Ex. 9124) at 119; FOSC Report (Ex. 9105) at 111.

<sup>41</sup> Apr. 27, 2010 ICS 209, HCG456-000603.

<sup>42</sup> FOSC Report (Ex. 9105) at 204; May 1, 2010 ICS-209, HCG284-016233.

<sup>43</sup> May 17 Media Comms. Plan, BP-HZN-2179MDL00979612 at 00979620 (“... claimants can visit one of BP’s Community Outreach Centers. Beginning on Monday, May 3, ESIS will staff those centers with adjusters.”).

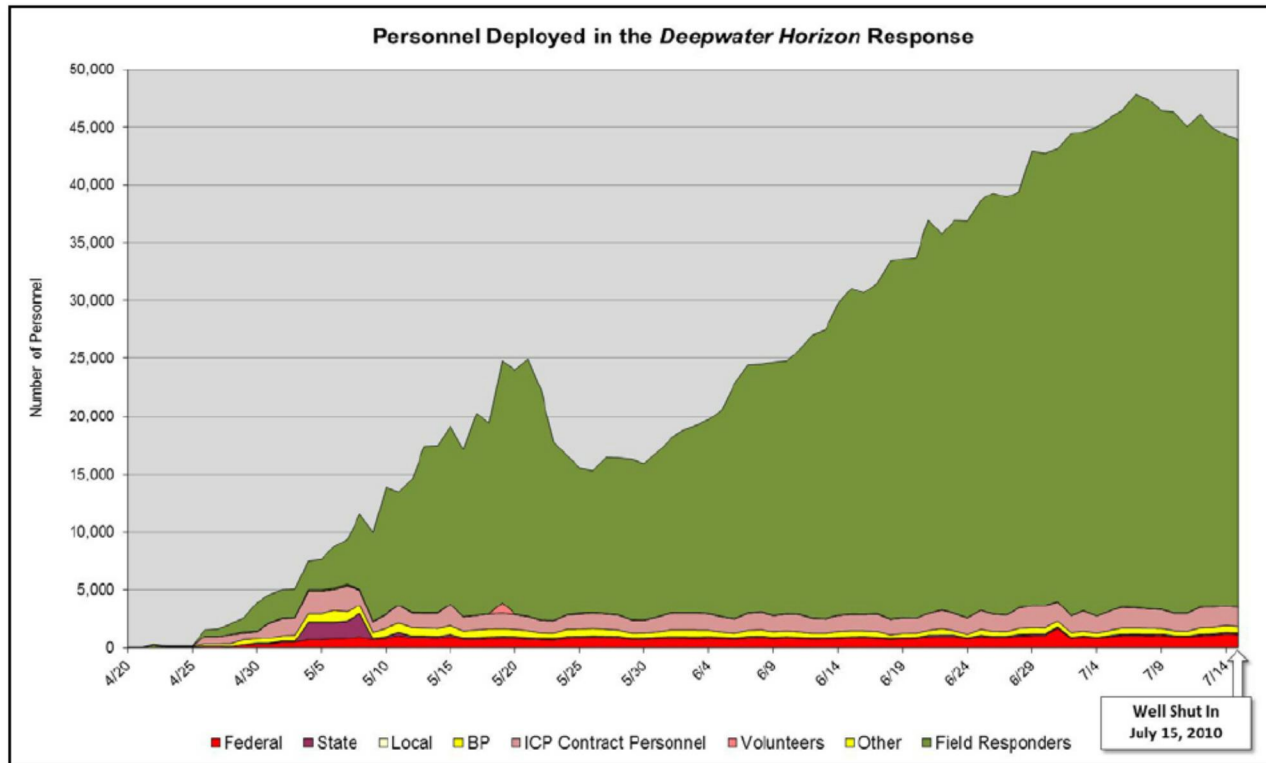
<sup>44</sup> May 5, 2010 Press Release, “Update on Gulf of Mexico Oil Spill Response” (May 5, 2010), N1J016-000466 (“BP has positioned rapid response teams in Mobile, Alabama, and Houma, Louisiana, to enable quick response and cleaning of areas where oil may come ashore. These 12-person teams will assess initial impacts, and then call in a larger contingent of trained responders and volunteers to clean the affected area.”).

<sup>45</sup> FOSC Report (Ex. 9105) at 206; Situation Executive Summary, May 14, 2010, PCG067-004665; Situation Executive Summary, May 17, 2010, HCG192-052964.

<sup>46</sup> FOSC Report (Ex. 9105) at 210; Situation Executive Summary, June 16, 2010, CGL001-0120245.



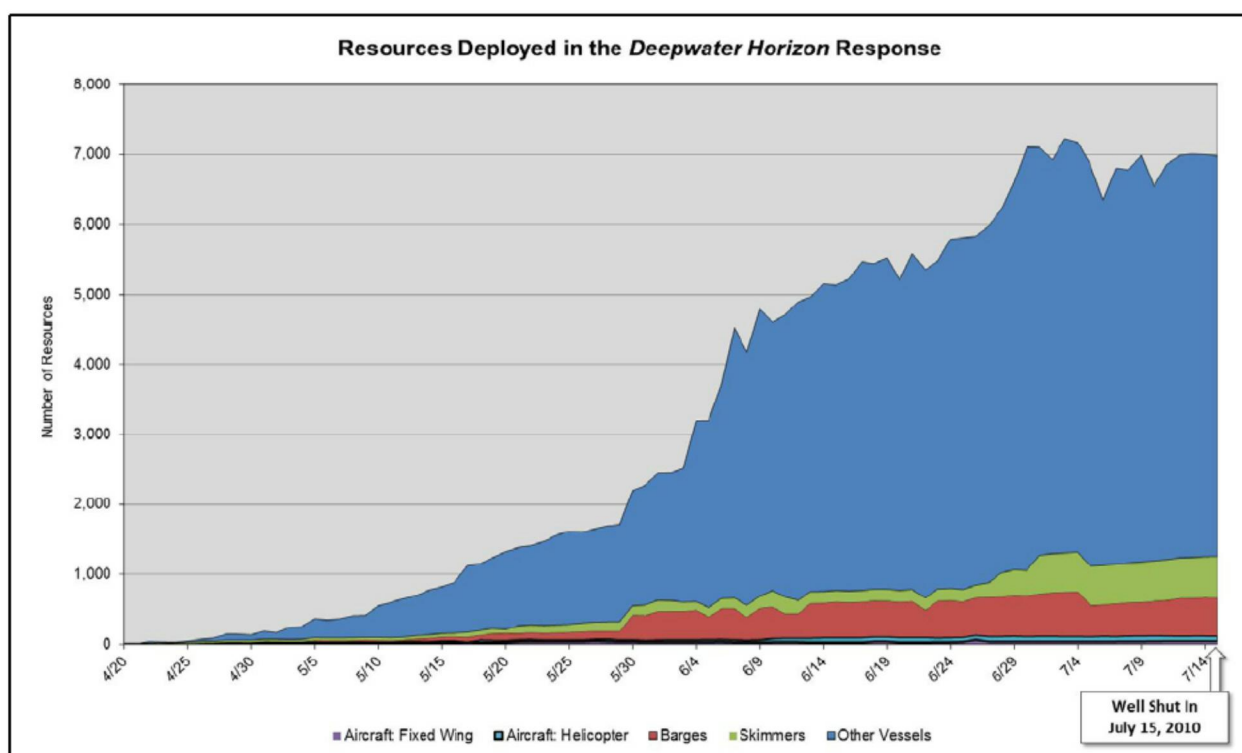
barrels of oily liquid.<sup>47</sup> The rapid growth of personnel and resources throughout the course of the Response was remarkable, as shown below.<sup>48</sup>



**Figure 4: Mobilization of *Deepwater Horizon* Response Personnel**

<sup>47</sup> FOSC Report (Ex. 9105) at 212; 7/15/10 IC/AC Morning Briefing; Opening Remarks at Society of Environmental Journalists 20<sup>th</sup> Annual Conference (Ex. 12501) at 4 (NOAA Administrator describes “[t]he sheer magnitude of the [response] effort” as “astounding”).

<sup>48</sup> 8/11/10 New Situation Board Metrics (BP-HZN-2179MDL05479708); Apr. 20-May 2, 2010 ICS 209s for Houma and Mobile ICPs.



**Figure 5: Mobilization of *Deepwater Horizon* Resources**

BP's efforts to rapidly mobilize and sustain these massive resources were critical to the Response. BP's contributions facilitated the implementation of a fully functional Unified Command organization that coordinated, supported, and directed large-scale operations over the course of the Response.

## 2. BP Mobilized Its Response In Accordance With Its MMS-Approved OSRP.

At the time of the *Deepwater Horizon* incident, BP had an OSRP that had been approved by the Minerals Management Service ("MMS"). In accordance with MMS regulations, BP's OSRP contained all information necessary to mount a large scale response to a worst case discharge in the Gulf of Mexico, including internal and external agency notifications, organizational roles, responsibilities and personnel assignments to staff an ICS, and the necessary forms to document response actions. Additionally, the OSRP contained numerous checklists that detailed certain response actions by functional role within the ICS, pre-contracted oil spill removal organization contacts and equipment type, response strategies for mechanical recovery, in situ burning and the use of dispersants, equipment staging areas, command post locations, wildlife rehabilitation procedures, and other referenced documents that contained ecological and environmental resources at risk.<sup>49</sup>

As part of the OSRP, training, drills and equipment deployments are conducted and documented in accordance with the USCG, EPA and DOI's National Preparedness for Response Exercise Program ("PREP") guidelines. Drills included notification exercises, Incident

<sup>49</sup> BP Gulf of Mexico Regional Oil Spill Response Plan ("BP USRP") (Ex. 769); 7/21/09 MMS Letter to Bush \*UMS041-021002).

Management Team tabletop exercises, and the actual deployment of pre-contracted equipment. Annual training is conducted for BP's Spill Response Operating Team including their Qualified Individuals, Incident Commanders, Operations Section Chiefs, Planning Section Chiefs, Logistics Branch Director and others as necessary.<sup>50</sup>

### **3. BP's Commitment of Resources to the *Deepwater Horizon* Response Was Unprecedented.**

Working with the Unified Command, BP mobilized the largest environmental emergency response operation in the history of the United States to respond to the *Deepwater Horizon* spill. The scope and scale of the Response was unprecedented.<sup>51</sup> The Response involved, over time, more than approximately 100,000 people—roughly three times the total size of the active-duty Coast Guard.<sup>52</sup> More than roughly 82,000 of these responders were working on behalf of BP.<sup>53</sup> All told, BP responders devoted more than 70 million hours responding to the spill through June 2013—the equivalent of 1,000 people working 40-hour work-weeks for more than 33 years.<sup>54</sup>

BP and its Unified Command partners also secured a total of more than approximately 9,000 vessels for the Response—a fleet larger than the Allied landing force in D-Day during World War II.<sup>55</sup> Approximately 127 aircraft took to the skies in support of the Response.<sup>56</sup> The Response deployed the largest mobilization of aerial dispersant assets and expertise in the world.<sup>57</sup> The in situ burn operation was likewise the largest in U.S. history, exceeding any previously documented in terms of both duration and magnitude.<sup>58</sup> BP procured nearly all of the boom used in the Response—totaling more than the 13.5 million feet, which if laid out end-to-end is nearly enough to stretch all the way from New Orleans to Seattle.<sup>59</sup>

---

<sup>50</sup> BP OSRP (Ex. 769).

<sup>51</sup> FOSC Report (Ex. 9105) at 181 (the Response was “the single largest peacetime operation in U.S. Coast Guard history”); RADM Watson Input to FOSC Report (Ex. 12527) (the “scale” of the Response was “unprecedented,” and “the resources committed were huge and well-documented”); Hanzalik Dep. at 35:23-36:1 (The Response was “unprecedented by the numbers of people and agencies and everything else that was involved”); McCleary Dep. at 155:25-156:1 (“There were an enormous number of resources committed” to the Response); Hein Dep. at 253:12-19.

<sup>52</sup> 8/7/13 Master Personnel Demob List; “U.S. Coast Guard Facts,” available at [http://www.uscgboating.org/about/us\\_coast\\_guard\\_facts.aspx](http://www.uscgboating.org/about/us_coast_guard_facts.aspx), last accessed Jul. 29, 2014 (Coast Guard has 35,000+ active duty personnel).

<sup>53</sup> 8/7/13 Master Personnel Demob List; Utsler Dep. at 280:19-281:25, 285:11-286:3 (“Throughout the course of the response, more than 6,000 BP employees and more than 2,000 retirees came out of retirement to support us. But beyond just the BP personnel, we sought resources and support from 13 different other oil companies, 13 different universities, the 80-some-odd agencies, and more than 6800 companies who helped provide services and support throughout that.”).

<sup>54</sup> “Gulf of Mexico, Progress of Restoration Efforts” (July 17, 2013) at 1, <https://www.thestateofthegulf.com/media/70884/4-Years-of-Progress-Fact-Sheet-4-15-14.pdf> (noting “more than \$14 billion and 70 million personnel hours”).

<sup>55</sup> FOSC Report (Ex. 9105) at 118.

<sup>56</sup> ISPR (Ex. 9124) at 156.

<sup>57</sup> FOSC Report (Ex. 9105) at 36.

<sup>58</sup> FOSC Report (Ex. 9105) at 47.

<sup>59</sup> U.S. Coast Guard *Deepwater Horizon* Incident Response Summary at 18, available at (referencing 13.5 million feet of boom, which amounts to approximately 2,500 miles of boom).



As part of the Unified Command, BP mobilized many of these personnel and resources needed for the Response. BP provided a majority of comprehensive services to responders, including, for example, workspaces, information technology infrastructure, security, medical staff, housing, transportation, catering, parking, and waste disposal. BP also made large-scale contributions to response logistics by providing equipment such as boom, skimmers, and decontamination equipment.<sup>60</sup> BP has devoted more than \$14 billion to response and cleanup activities.<sup>61</sup>

BP's logistical and financial contributions to the Response were essential to sustaining the massive scope and scale of the Response operations.<sup>62</sup> As emphasized in Coast Guard's On-Scene Coordinator Report ("FOSC Report") documenting the Response, the solvency of BP was "pivotal" in sustaining the unprecedented level of Response.<sup>63</sup> The Oil Spill Liability Trust Fund ("OSLTF") is restricted by a statutory cap that prevents distribution of more than \$1 billion for responding to any one incident.<sup>64</sup> As discussed further in Section V.F, it is my opinion that the government, with access only to the OSLTF as a funding mechanism, could not have accomplished a similar mobilization of personnel and equipment on the same scale as was achieved in the *Deepwater Horizon* Response without BP's logistical infrastructure and financial support.<sup>65</sup> As the U.S. has recognized in its Incident Specific Preparedness Review ("ISPR") regarding the Response, "BP was very proactive and placed no limits on what was needed to make this response successful."<sup>66</sup>

---

<sup>60</sup> FOSC Report (Ex. 9105) at x-xi, 111; Kulesa Dep. at 234:21-235:9 (agreeing that BP made "large-scale and significant contributions to logistics").

<sup>61</sup> "Gulf of Mexico, Four Years of Progress," at 1 (noting "more than \$14 billion and 70 million personnel hours") (<https://www.thestateofthegulf.com/media/70884/4-Years-of-Progress-Fact-Sheet-4-15-14.pdf>.) "Deepwater Horizon accident and response," (<http://www.bp.com/en/global/corporate/gulf-of-mexico-restoration/deepwater-horizon-accident-and-response.html>).

<sup>62</sup> FOSC Report (Ex. 9105) at xii. Hewett Dep. at 111:3-22 (credit is "absolutely" due to BP for its contribution to "a very resource rich environment in the field"); Kulesa Dep. at 227:10-13 (agreeing that "the resources provided by the responsible party, in this case, were an important part of the response").

<sup>63</sup> FOSC Report (Ex. 9105) at xii. The FOSC Report is an official report that the Coast Guard prepared to record "the situation as it developed, the actions taken, the resources committed and the challenges encountered" during the *Deepwater Horizon* Response. *Id.* at v; McCleary Dep. at 78:1-21. The Coast Guard prepared the FOSC Report based on a substantial documentary record and with the input of more than 200 subject matter experts and other responders from the Coast Guard, NOAA, and various other federal agencies. McCleary Dep. at 88:18-91:25; 110:13-20.

<sup>64</sup> FOSC Report (Ex. 9105) at 151.

<sup>65</sup> McCleary Dep. at 203:6-11 ("[T]he responsible party, BP, had the means to fund a response of this size," and "there wasn't enough money in the OSLTF to fund the response if the Coast Guard had had to federalize the spill.")

<sup>66</sup> ISPR (Ex. 9124) at 102. The ISPR is a Coast Guard-commissioned report that summarizes best practices and "lessons learned" during the Response. ISPR at 1-4. *See also* FOSC Report (Ex. 9105) at 158-61; Hanzalik Dep. at 31-32, 41 (BP proactively assisted the Coast Guard "in whatever way possible"; that BP "spared no expense" in "rapidly mobiliz[ing] personnel, equipment, and other resources that were needed"; and that BP did not refuse to provide "any type of resource that [Hanzalik] felt was needed for the response"); Utsler Dep. at 44:6-24 ("cost was never an issue" when making response-related decisions).

<sup>66</sup> FOSC Report (Ex. 9105) at 21.

## B. BP's Response Efforts Were Extraordinarily Effective in Mitigating the Impacts of the *Deepwater Horizon* Spill.

BP, working with other members of the Unified Command, implemented a wide range of techniques to respond to and minimize the effects of the *Deepwater Horizon* spill. Response operations took place in four zones: (1) at the source of the spill; (2) offshore (in the area above the spill source to three nautical miles from the shoreline); (3) near shore (within three nautical miles of the shoreline); and (4) in shore.<sup>67</sup>

Operations followed a “layered approach,” employing the measures best suited to each of these zones.<sup>68</sup> At the source, a large number of vessels, including drilling rigs and specialized remote operating vehicles, worked to secure, disperse and recover oil directly at the wellhead, utilizing subsea containment and dispersant systems. Offshore, the Response focused on removing oil from the surface of the water primarily using three methods: skimming, controlled in situ burning, and aerial dispersant applications. Skimming was accomplished by deploying a large number of oil spill recovery vessels designed to skim oil off the surface of the water. In situ burning was accomplished by deploying task forces of vessels to corral oil using fire boom, and then igniting the oil to burn it in place. Aerial dispersant operations were accomplished using a fleet of spotter and spraying aircraft. Near shore operations focused on skimming with shallow water oil spill recovery vessels and deploying boom to protect sensitive shoreline areas. In shore operations focused on shoreline assessment and cleanup in oil impacted areas. This layered approach to response operations is depicted below.



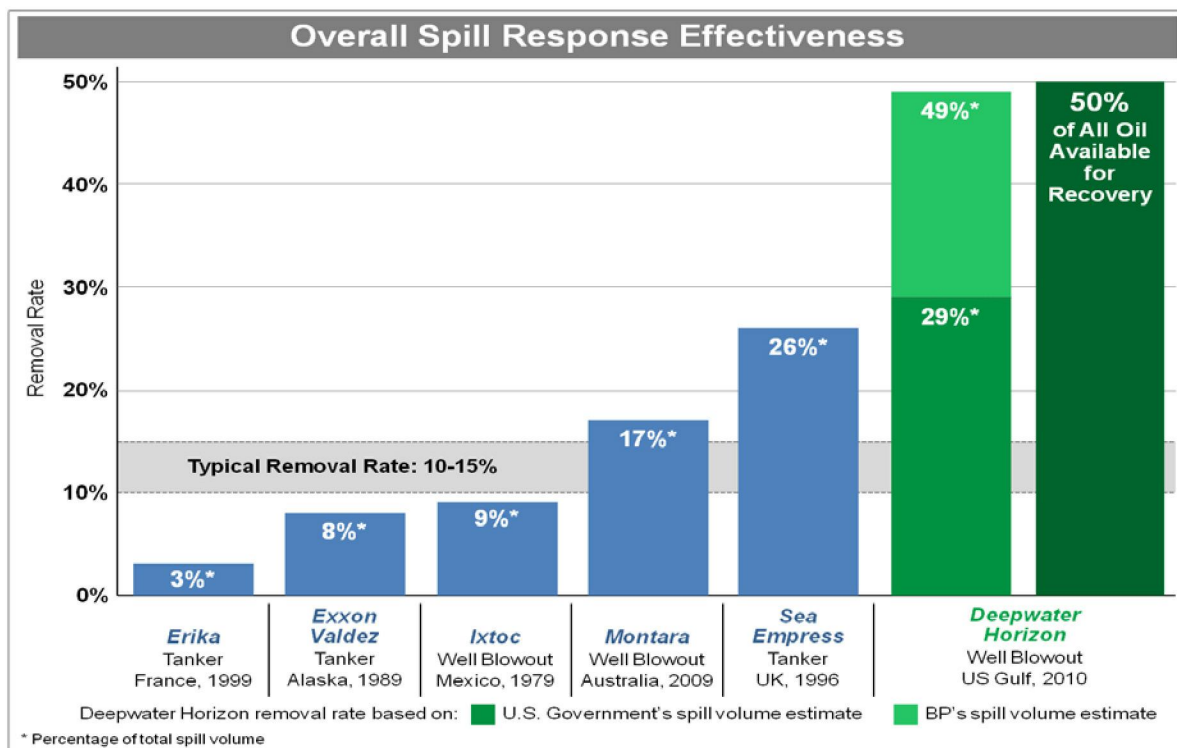
**Figure 6: Response Operations Overview**

<sup>67</sup> FOSC Report (Ex. 9105) at 21.

<sup>68</sup> FOSC Report (Ex. 9105) at 59 (response measures provided a “layered defense” from the spill); 1/27/11 LCDR K. Sligh FOSC Report Input (Ex. 12540) (same); Kulesa Dep. at 62:16-18 (BP and Coast Guard “consistently looked to see what the best tool would be in any area”).



Taken together, these response efforts were extraordinarily effective in minimizing the effects of the spill.<sup>69</sup> On average for most open ocean spill responses, approximately 10-15% of oil is removed, typically using mechanical recovery means, such as skimming.<sup>70</sup> The *Deepwater Horizon* Response deployed a combination of tools—including skimming, in situ burning and dispersant applications—to achieve a removal rate that greatly surpassed this 10-15% benchmark. Depending on whether government or BP spill volume estimates are used, BP and others in the Unified Command skimmed, burned, and chemically dispersed anywhere from 29% to 49% of the oil that was spilled in the *Deepwater Horizon* Incident—roughly **two to five times greater** than the removal rate achieved in a typical spill response. These results are exceptional, with BP and its Unified Command partners achieving a removal rate in the *Deepwater Horizon* Response that dwarfs the 10-15% benchmark removal rate, as well as the results of other large spill responses, as shown below.



**Figure 7: Comparison of Spill Response Effectiveness**

<sup>69</sup> FOSC Report (Ex. 9105) at xiv (The “response was ultimately successful, due to the unity of effort and perseverance of the more than 1000 organizations that contributed to this unprecedented response”); Hanzalik Dep. at 48:9-13 (“[B]urning, dispersing, and skimming were successful response measures”).

<sup>70</sup> International Tanker Owners Pollution Federation (“ITOPF”), <http://www.itopf.com/knowledge-resources/documents-guides/response-techniques/containment-recovery/>; White, Dr. Ian C., Oil Spill Response—Experience, Trends and Challenges, ITOPF, 2000 (<http://www.itopf.com/fileadmin/data/Documents/Papers/spillcon.pdf>) (“[I]t is rare, even in ideal conditions and with the greatly improved equipment available today, for more than a relatively small proportion (10-15%) of spilled oil to be recovered from open water situations”); U.S. GAO Coast Guard, Adequacy of Preparation and Response to Exxon Valdez Oil Spill, October 1989, at 3 (“Coast Guard officials told us that with current technology, the best that can typically be expected after a major spill is to recover 10 to 15 percent of the oil”); US Congress Office of Technology Assessment (OTA 1990): [http://govinfo.library.unt.edu/ota/Ota\\_2/DATA/1990/9011.PDF](http://govinfo.library.unt.edu/ota/Ota_2/DATA/1990/9011.PDF).

These results are even more impressive considering the depth at which the *Deepwater Horizon* spill occurred. Many spills occur at the surface or in shallower water than the *Deepwater Horizon* spill, making mechanical recovery and other response measures more effective in removing a higher percentage of the oil spilled. In the *Deepwater Horizon* spill, the source was located in the deep ocean, meaning that more oil dissolved and was consumed by natural processes before reaching the surface, where it could be skimmed or removed in other ways. Because a relatively greater percentage of oil in the *Deepwater Horizon* spill was removed or dissolved through natural processes, a relatively smaller percentage was available for recovery through response actions. Using the government's own estimates, BP and its Unified Command partners burned, skimmed, and chemically dispersed 1.2 million of the 2.4 million barrels—or 50%—of the oil from the spill that was available for recovery.<sup>71</sup> In my experience, these results are exceptional.

As discussed, the effectiveness of the *Deepwater Horizon* Response is evident no matter if the government or BP spill volume estimates are used. According to government estimates, offshore and near shore response efforts prevented approximately 1.2 million barrels of oil from reaching sensitive shoreline areas.<sup>72</sup> This does not include the additional 810,000 barrels of oil that was recovered directly from the source, including through the Riser Insertion Tube Tool (“RITT”) and Top Hat procedures.<sup>73</sup> Using the government's estimate of 4.2 million barrels of total oil discharged (5 million barrels total minus 810,000 recovered directly from the source), BP and others in the Unified Command skimmed, burned, and chemically dispersed 29% (1.2 million/4.2 million barrels) of the total volume of oil that was spilled—two times the rate achieved in a typical open ocean spill response.<sup>74</sup>

Using BP's spill volume estimates, the numbers are even more exceptional, with BP and others in the Unified Command removing approximately 1.2 million barrels of 2.45 million barrels—or about 49%—of oil that was spilled.<sup>75</sup> This result is roughly three to five times greater than the removal rate accomplished in a typical spill response. In either case, the *Deepwater Horizon* Response was extraordinarily effective, with BP and its Unified Command partners achieving a removal rate that vastly exceeds the 10-15% benchmark removal rate. No matter which metric or assumptions are used, the operational success of the Response was truly remarkable.

## 1. Offshore Operations

Offshore response operations took place in the the area above the source of the spill, where fresh oil emerged, to within three nautical miles from the shore.<sup>76</sup> Offshore operations focused on removal of the oil and included: (1) high-volume skimming; (2) controlled in situ

---

<sup>71</sup> See United States' Third Supp. Response to Defs' First Set of Disc. Reqs. at 5.

<sup>72</sup> See United States' Third Supp. Response to Defs' First Set of Disc. Reqs. at 5.

<sup>73</sup> See United States' Third Supp. Response to Defs' First Set of Disc. Reqs. at 5.

<sup>74</sup> See United States' Third Supp. Response to Defs' First Set of Disc. Reqs. at 5.

<sup>75</sup> This calculation is based on the United States' removal estimates and BP's spill volume estimate. See United States' Third Supp. Response to Defs' First Set of Disc. Reqs. at 5; BP Phase Two Post Trial Brief at 1 (describing cumulative oil discharge of 3.26 million barrels less 810,000 barrels of collected oil).

<sup>76</sup> FOSC Report (Ex. 9105) at vii-viii, 49.

burning, and (3) application of dispersants.<sup>77</sup> Offshore operations were the first line of defense in preventing oil from reaching the shoreline.<sup>78</sup> BP mobilized critical forces to battle the spill offshore, where proven tactics were employed to prevent as much of the floating oil as possible from reaching shorelines.

### (a) Skimming

During the *Deepwater Horizon* Response, skimming was a key measure used to contain, capture, and remove oil from the environment. A skimmer is a mechanical device attached to a vessel that is designed to remove oil from the surface of the water. A skimmer has three basic components: a skimming head to separate oil from water, a transfer system, and a containment unit.

The Unified Command directed skimmer deployments during the Response. Skimming operations were conducted in the offshore, and as discussed later, near shore environments. Offshore skimming operations utilized a fleet of large, dedicated oil spill recovery vessels and commercial vessels outfitted with high-volume skimming equipment and covered a wide geographic area. Skimmer deployment and effectiveness depended primarily on: (1) weather conditions including temperature; (2) simultaneous operations (including controlled in situ burning, source control efforts, and dispersant applications); (3) oil conditions, such as viscosity and thickness; (4) sea state; (5) vessel speed; and (6) aerial spotting.<sup>79</sup>

Skimming vessels worked as a team in assigned task forces. Oil emanating from 5,000 feet in depth did not come to the surface in one singular location, but in widespread patches and separate windrows, making complete containment of the oil at the surface directly above the source unfeasible.<sup>80</sup> To respond efficiently to dynamic conditions across a wide area, skimmer location assignments were made each morning based upon the prior evening's forecast trajectories, satellite imagery, actual nighttime infrared imaging from fixed wing aircraft, and numerous daily overflights looking for oil. Because the offshore assets consisted of professional response organizations, good communications and tight command and control ensured that assets could rapidly respond to changing surface oil locations.<sup>81</sup>

---

<sup>77</sup> FOSC Report (Ex. 9105) at vii; *see also* DWH Dispersant Use Meeting Report (Ex. 11839) at 4 (“Chemical dispersants, mechanical recovery and *in situ* burning are components of an effective response to surface oil pollution.”).

<sup>78</sup> ISPR (Ex. 9124) at 111.

<sup>79</sup> FOSC Report (Ex. 9105) at 48-52.

<sup>80</sup> As Admiral Allen stated, “The continuous discharge of oil from the well, from April 22 until July 15, 2010 did not result in a single monolithic spill, but rather thousands of smaller disconnected spills that repeatedly threatened and impacted the coastlines of all five Gulf Coast States.” National Incident Commander’s Report (“NIC Report”); MC252 Deepwater Horizon; United States Coast Guard National Incident Command, October 1, 2010, at p. 3; Austin Dep. at 181.

<sup>81</sup> FOSC Report (Ex. 9105 at 48-52).





**Figure 8: Skimming Operations**

Immediately following the explosion and fire on the *Deepwater Horizon*, BP activated offshore skimming resources in accordance with its MMS-approved OSRP. BP activated its two contracted offshore OSROs, Marine Spill Response Corporation (“MSRC”) and the National Response Corporation (“NRC”).<sup>82</sup> MSRC ultimately deployed all of its Gulf of Mexico based 210’ recovery vessels and deployed similar vessels imported from the east and west coast. It also deployed several oceangoing tank barges for storage of the recovered oil.<sup>83</sup> NRC also deployed its Gulf of Mexico based equipment, and cascaded additional equipment into theatre from other regions. Concurrently, BP mobilized additional assets to complement the growing fleet of vessels.<sup>84</sup> Clean Gulf Associates, a major Gulf of Mexico based response cooperative, provided access to its inventory of portable fast response units, fast response vessels and its specialized High Volume Open Sea Skimmer (“HOSS”). American Pollution Control Corporation and Edison Chouest (the largest offshore support vessel operator in the Gulf of Mexico) made its vessels available to support the response, and BP placed all manner of supply boats, tugs, and storage barges under contract, which were assigned to specific areas of operation.<sup>85</sup> Additionally, the Coast Guard deployed its Spilled Oil Recovery Systems (“SORS”)

<sup>82</sup> ISPR (Ex. 9124) at 110 (“Immediately following the explosion and ensuing fire on the *Deepwater Horizon*, BP activated its two contracted oil spill removal organizations (OSROs). Each began mobilizing their considerable Gulf of Mexico assets to respond to the developing spill.”).

<sup>83</sup> Stephens, Joe, et al., *Oil Industry Cleanup Organization Swamped by BP Spill*, Washington Post, (<http://www.biologicaldiversity.org/news/center/articles/2010/washington-post-06-02-2010.html>).

<sup>84</sup> Hein Dep. at 49:9-12.

<sup>85</sup> ISPR (Ex. 9124) at 111.

from several buoy tenders.<sup>86</sup> BP also evaluated and worked to implement improved skimming systems to respond to the spill.<sup>87</sup>

Within one week of April 20, 2010, as the Coast Guard was still evaluating the extent of the spill, 26 vessels capable of working in deep water, seven dedicated tug boats and three offshore oil storage barges were on-scene.<sup>88</sup> By July 2010, there were as many as 76 offshore skimmers engaged in operations.<sup>89</sup>

The offshore resources that BP deployed represented the best mechanical offshore skimming response technology in the United States.<sup>90</sup> The vessels were manned by highly trained full-time responders who had the requisite expertise in deploying, operating and retrieving the equipment. The fleet utilized aerial support to spot heavier concentrations of floating oil, allowing it to target its efforts for the greatest effect.<sup>91</sup>

Overall, skimming resulted in recovering approximately 160,000 barrels—or roughly 6.5% of recoverable oil—according to government estimates.<sup>92</sup> While aggressive skimming was a key component of the overall success of the Response, offshore skimming came with limitations. Skimmers could not operate within the five-mile safety zone around the well site, where the largest and thickest (and thus most “skimmable”) patches of oil were located.<sup>93</sup> Offshore recovery efficiencies were also sometimes negatively impacted by sea states, poor encounter rates, and oil compositions that were incompatible with offshore skimming systems. Despite these challenges, offshore skimmers successfully recovered thousands of barrels of oil from the surface.<sup>94</sup>

### **(b) In Situ Burning**

During the *Deepwater Horizon* Response, the Unified Command used controlled in situ burning as a tool to remove oil from the water’s surface. In situ burning involves deploying vessels to corral oil using fire boom and then igniting the oil to burn it in place. In situ burning has been used in many spill responses around the world for more than 50 years, and the technology is well-established.<sup>95</sup> The scale and success of in situ burning operations during the

---

<sup>86</sup> FOSC Report (Ex. 9105) at 48-49.

<sup>87</sup> Morrison Dep. at 314:22-24 (Oct. 18, 2011) (“Also in the area of mechanical skimming, we brought in some newer tools, newer technology, to outfit some of our skimming vessels.”).

<sup>88</sup> ISPR (Ex. 9124) at 111; FOSC Report (Ex. 9105) at 49.

<sup>89</sup> ISPR (Ex. 9124) at 112.

<sup>90</sup> ISPR (Ex. 9124) at 109-10 (BP immediately mobilized “the best available mechanical offshore skimming response technology in the United States and the best hope for successfully corralling and removing the oil spewing from the Macondo well before it could impact sensitive shorelines.”).

<sup>91</sup> ISPR (Ex. 9124) at 110.

<sup>92</sup> FOSC Report (Ex. 9105) at 33; United States’ Third Supp. Response to Defs’ First Set of Disc. Reqs. at 5.

<sup>93</sup> ISPR (Ex. 9124) at 110.

<sup>94</sup> See United States’ Third Supp. Response to Defs’ First Set of Disc. Reqs. at 5.

<sup>95</sup> ISPR (Ex. 9124) at 46.

Response was unprecedented and “demonstrated the capability of this important response tool.”<sup>96</sup>

On April 26, 2010, the FOSC approved BP’s request to conduct in situ burning, determining that (1) skimming and dispersant use could not completely remove the oil, and (2) in situ burning was a safe and effective way to remove large volumes of oil from the ocean surface.<sup>97</sup> Less than 48 hours later, BP, working with the Coast Guard and others, had secured the personnel and resources needed for in situ burn operations.<sup>98</sup> A Controlled In Situ Burn Group (the “CISB Group”) was established at the Houma ICP. The CISB Group included over 264 people, including representatives of BP, the Coast Guard, EPA, NOAA, and other organizations.<sup>99</sup> Personnel were trained and included specialists in the field. For example, BP retained Al Allen of Spiltec, a renowned world-class expert on in situ burning, to assist with development of the burn plan.<sup>100</sup> At the peak of operations, the CISB Group had three task forces, which utilized 43 vessels and two spotter aircraft. Each force included a three-vessel ignition team, two task force vessels, one supply vessel, a safety team, and five two-vessel fire boom teams. The spotter planes provided continuous air observation for offshore in situ burning operations. More than 23,000 feet of specialized fire boom was deployed during the response.<sup>101</sup> BP took the initiative in procuring the personnel and resources that were needed for in situ burning operations.<sup>102</sup>

In situ burning operations during the Response were conducted in accordance with RRT VI’s pre-approved ISB Plan.<sup>103</sup> Consistent with the Plan, once task forces were in position, fixed wing spotter aircraft guided fire boom teams to the heaviest concentrations of oil. After the boom teams had corralled sufficient quantities of oil inside the boom, the ignition team ignited the oil. Teams timed and monitored burns. A complex simultaneous operations process ensured that skimming teams, dispersant operations, and in situ burn teams stayed clear of one another.<sup>104</sup> All told, 411 in situ burns were conducted during the *Deepwater Horizon* Response, making it the largest in situ burning operation in U.S. history.<sup>105</sup>

---

<sup>96</sup> ISPR (Ex. 9124) at 46; FOSC Report (Ex. 9105) at 47.

<sup>97</sup> FOSC Report (Ex. 9105) at 45; Houma ICP Controlled Burns—After-Action Report Ex. 12489).

<sup>98</sup> Hanzalik Dep. at 43:17-45:13; ISPR (Ex. 9124) at 46.

<sup>99</sup> Allen, Al, et al., The Use of Controlled Burning During the Gulf of Mexico Deepwater Horizon (MC-252) Oil Spill Response, February 15, 2011 (hereinafter “Use of Controlled Burning”) at 1; FOSC Report (Ex. 9105) at 45.

<sup>100</sup> C. Henry FOSC Report Input (Ex. 12533) at 2 (ISB expert and BP contractor “Al Allen arrived on-scene in Houma, LA within 24 hours of being requested”).

<sup>101</sup> ISPR (Ex. 9124) at 46-51; FOSC Report (Ex. 9105) at 45-48.

<sup>102</sup> Hanzalik Dep. at 43:17-45:13 (BP “procured all the equipment, all the personnel, all the boats to go offshore and burn. Experts, whatever they needed to oversee the operation. Coordinated with the Coast Guard to make sure that they had wildlife people...to make sure there was no wildlife that may have been affected...So it was a huge operation. Operation within an operation, I guess you could say.”).

<sup>103</sup> RRT VI ISB Plan (Ex. 11834); ISPR (Ex. 9124) at 47; Hanzalik Dep. at 56-57, 59-60.

<sup>104</sup> FOSC Report (Ex. 9105) at vii, 45-48; ISPR (Ex. 9124) at 46-51; Houma ICP Controlled Burns—After-Action Report (Ex. 12489).

<sup>105</sup> FOSC Report (Ex. 9105) at 45 & 47 (“This was the largest in situ burn operation in U.S. history. The burns conducted during this operation dramatically exceeded any previously documented in duration and in





**Figure 9: In Situ Burning Operations**

Air monitoring was a key component of in situ burning operations. Attention to safety was paramount. All burns occurred approximately 40 miles offshore and smoke dissipated less than three miles from the burn site. Coast Guard-directed burn teams used Special Monitoring of Applied Response Technology (“SMART”) monitoring protocols.<sup>106</sup> SMART monitoring “establishes a monitoring system for rapid collection and reporting of real-time, scientifically based information, in order to assist the Unified Command with decision-making during in situ burning or dispersant operations.”<sup>107</sup> According to the Coast Guard’s FOSC Report, these “monitoring results indicated no health impacts to the burn group members.”<sup>108</sup> The results of extensive additional sampling by BP, the EPA, and others indicated “no dioxin threat to workers” or Gulf residents.<sup>109</sup> As the Coast Guard has recognized: “Attention to Safety was always paramount. There were no injuries or illnesses resulting from the burning operations.”<sup>110</sup>

Wildlife monitoring was another key aspect of burning operations. BP helped to secure trained and qualified wildlife observers, who joined burn teams at sea and monitored for sea

magnitude.”); ISPR (Ex. 9124) at 48; Houma ICP Controlled Burns—After-Action Report (Ex. 12489) at 5; *see also* Morrison Dep. at 181:14-16 (June 20, 2014) (testifying that in situ burning “never been used in this way.”).

<sup>106</sup> FOSC Report (Ex. 9105) at vii, 45-48; ISPR (Ex. 9124) at 46-51; Houma ICP Controlled Burns—After-Action Report (Ex. 12489); Morrison Dep. at 317:15-18 (Oct. 18, 2011).

<sup>107</sup> EPC023-017897 at 4-1 (2006 SMART guidance developed by U.S. Coast Guard, NOAA, EPA, CDC, and MMS).

<sup>108</sup> FOSC Report (Ex. 9105) at 46.

<sup>109</sup> FOSC Report (Ex. 9105) at 46.

<sup>110</sup> FOSC Report (Ex. 9105) at 46; *see also* ISPR (Ex. 9124) at 46.

turtles or other wildlife within the fire boom area prior to ignition. These observers saw no sea turtles in the vicinity of burn operations.<sup>111</sup>

In situ burning was an effective response tool used during the *Deepwater Horizon* Response.<sup>112</sup> According to government estimates, the Unified Command burned approximately 260,000 barrels—or roughly 11%—of oil that was available for recovery.<sup>113</sup> As the Coast Guard has acknowledged, the use of in situ burning during the Response “significantly reduced the amount of oil that might otherwise have impacted near-shore habitats and environmentally sensitive areas.”<sup>114</sup> In short, in situ burning was “a huge success.”<sup>115</sup>

### (c) Dispersants

Dispersants are specially designed oil spill products that are composed of detergent-like surfactants in low toxicity solvents.<sup>116</sup> The surfactants in dispersants are also used in a wide variety of household products, including skin creams, mouthwash, baby shampoo, and cleaning agents.<sup>117</sup> Dispersants do not remove oil from water but instead break an oil slick into small droplets that are dispersed into the water column and broken down by natural processes. Dispersion of oil into the water column occurs naturally in untreated spills. Dispersants speed up this natural process. Dispersants remove oil from the water surface and disperse it into the water column many miles offshore, where the oil is more easily diluted and more rapidly degraded by oil-eating microbes in the deep sea environment.<sup>118</sup>

Under the right circumstances, dispersant use is an effective and environmentally appropriate response method. Dispersants provide an important alternative to mechanical recovery and other methods when weather and other conditions may limit the effectiveness of those measures. Dispersants promote biodegradation of oil in the water column. They are also used to reduce the impact of oil on the shoreline. By breaking up and degrading more oil in the offshore environment, dispersants reduce the amount of oil that ultimately reaches the coast. Dispersants also reduce the impact of an oil spill on birds and mammals. Because dispersants

---

<sup>111</sup> FOSC Report (Ex. 9105) at 46; Use of Controlled Burning, at 3; ICP Houma Controlled Burns - After-Action Report (Ex. 12489) at 3; Hanzalik Dep. at 43:17-45:13.

<sup>112</sup> ISPR (Ex. 9124) at 46 (“ISB [in situ burning] proved to be an effective tool for removing large volumes of oil from the water’s surface, preventing impact to environmentally and economically sensitive areas.”); FOSC Report (Ex. 9105) at 45 (“[I]n situ burning was a safe and effective way to remove large volumes of oil from the ocean surface.”); Hein Dep. at 46:6-15.

<sup>113</sup> US 3d Supp. Resp. to BP’s Interrog. at 5.

<sup>114</sup> ISPR (Ex. 9124) at 47; Use of Controlled Burning at 1 (“Controlled burns were used to remove significant amounts of oil before it could move toward and impact the shallow waters, shorelines and other sensitive resources along the coastline of the Gulf of Mexico.”).

<sup>115</sup> Hanzalik Dep. at 42:17-43:16; Hanzalik ISPR Interview Summary (Ex. 9114) at 4; Austin Dep. at 139:17-20 (agreeing that in situ burning during the *Deepwater Horizon* Response was “very effective”).

<sup>116</sup> RRT VI, “Dispersants in Oil Spill Response,” (June 2004) at 1, HCG560-008931.

<sup>117</sup> Barron Dep. at 53:12-16, 69:19-25 (agreeing that “Corexit and Johnson’s Baby Shampoo have substantively similar toxicity” according to study, Comparison of the Acute Toxicity of Corexit 9500 and Household Cleaning Products (Ex. 12040)).

<sup>118</sup> ISPR (Ex. 9124) at 40-45; RRT VI, “Dispersants in Oil Spill Response,” (June 2004) at 1, HCG560-008931 at 2; Westerholm Statement at Hearing on the Use of Dispersant for the DWH BP Oil Spill (Ex. 12506) at 5.



remove oil from the water's surface, they reduce the number of surface oil slicks that seabirds may land on or dive through, or that marine mammals and sea turtles may encounter when they come to the water's surface to breathe.<sup>119</sup>

Dispersants have been used to fight oil spills throughout the world for decades, and large quantities of dispersants have been used in several spill responses before the *Deepwater Horizon* spill.<sup>120</sup> Dispersant efficacy and toxicity has been studied for decades.<sup>121</sup>

The NCP requires the EPA to maintain a National Product Schedule of approved products, including dispersants, that can be used in an oil spill response.<sup>122</sup> The EPA determines whether to include a dispersant on the National Product Schedule based on its review of information about the dispersant's toxicity and efficacy. The EPA periodically reviews the Product Schedule and at times removes certain products from the approved list.<sup>123</sup> The two dispersants used in the *Deepwater Horizon* spill—Corexit 9527A and Corexit 9500A—were included on the EPA's approved Product Schedule at the time of the *Deepwater Horizon* spill and are still on the Product Schedule today.<sup>124</sup> Both dispersants have been included on the NCP Product Schedule continuously for decades: Corexit 9527A has been on the Product Schedule since 1978 (for more than 35 years) and Corexit 9500A has been on the Product Schedule since 1994 (more than 20 years).<sup>125</sup>

Years before the *Deepwater Horizon* spill, RRT VI developed a Dispersant Pre-Approval Guidelines and Checklist that pre-authorized the FOSC to use dispersants included on the NCP Product Schedule consistent with the criteria set forth in the plan.<sup>126</sup> As the Coast Guard has observed, RRT VI's Pre-Approval Guidelines “provided for meaningful, environmentally

---

<sup>119</sup> ISPR (Ex. 9124) at 40-45; FOSC Report (Ex. 9105) at 33-37; Lubchenko Dep. at 121:6-12 (agreeing that “using dispersants decreases the environmental risks to shorelines and organisms at the surface”); Austin Dep. at 144:22-145:4; 8/3/10 RADM Austin Email to L. Baines (Ex. 12490); *Science in Support of the Deepwater Horizon Response* (Ex. 12500) at 4.

<sup>120</sup> Venosa, Albert D., et al., *Science-Based Decision Making on the Use of Dispersants in the Deepwater Horizon Oil Spill* (Ex. 12041) at 3; NOAA FOSC Report Input (Ex. 12533) (“[T]he amount of dispersants used in the Gulf was not precedent-setting: the total amount of dispersant applied to the Macondo well oil . . . was less than the total amount reportedly applied to the IXTOC I oil spill...”); <http://www.epa.gov/bpspill/dispersants-qanda.html#general> (According to the EPA, in response to the IXTOC-1 spill near Vera Cruz, Mexico in 1979, between 1 million and 2.5 million gallons of mostly Corexit dispersant products were applied over a five-month period to the oil discharge).

<sup>121</sup> Barron Dep. at 74:12-19; NOAA FOSC Report Input (Ex. 12533) (“Corexit 9500 is among the most studied dispersants in use today with over 20 years of scientific research and associated published literature.”).

<sup>122</sup> NCP Product Schedule (Ex. 12042); ISPR (Ex. 9124) at 41; Barron Dep. at 75:20-22.

<sup>123</sup> Allen Dep. at 127:25-128:9 (The EPA “actually come[s] up with a Government schedule of authorized dispersants”); Barron Dep. at 76:9-17, 81:11-16, 84:11-86:19; ISPR (Ex. 9124) at 40-45; *See* Senate Hearing on Response Efforts to the Gulf Coast Oil Spill (Ex. 12507) at 37 (NOAA Administrator Lubchenko testifies that “the dispersants that are approved by EPA for use in an oil spill have been through extensive testing”); Barron Dep. at 84:11-86:19.

<sup>124</sup> NCP Product Schedule (Ex. 12042); Barron Dep. at 82:7-10, 84:11-86:19; FOSC Report (Ex. 9105) at 34 (“The EPA product schedule listed and approved both COREXIT 9527A and 9500A for use. The *Deepwater Horizon* Response used both.”); FOSC Report (Ex. 9105) at 34.

<sup>125</sup> NCP Product Schedule (Ex. 12042); M. Barron Dep. at 82:7-10, 84:11-86:19.

<sup>126</sup> RRT-6 FOSC Dispersant Pre-Approval Guidelines and Checklist (Ex. 11835); ISPR (Ex. 9124) at 40.

beneficial, and effective dispersant operation.”<sup>127</sup> By pre-authorizing the FOSC to use dispersants, the Pre-Approval Guidelines “allowed dispersant operations to begin in a timely manner to maximize its effectiveness as a countermeasure.”<sup>128</sup>

The use of dispersants during the *Deepwater Horizon* Response was authorized by the FOSC, in consultation with the EPA, and was conducted in accordance with RRT VI’s Dispersant Pre-Approval Guidelines.<sup>129</sup> The decision to use dispersants included a robust net environmental benefit assessment based on monitoring activities at the wellhead, in the water column, at the water surface and along the shoreline.<sup>130</sup> On April 22, 2010, the FOSC approved the first application of dispersants in the Response and commenced what became the largest mobilization of dispersant assets and expertise from around the world.<sup>131</sup>

The entire dispersant operation during the Response was well orchestrated and well organized. It involved approximately 170 persons dedicated solely to this endeavor. Dispersants were applied during the Response in two main ways (1) subsea, at the source of the spill, and (2) aerially, to disperse surface oil slicks more than three, and later five, nautical miles from the source control effort. Dispersants were not applied within three miles of the shoreline.<sup>132</sup>

Aerial dispersant operations were coordinated through the Aerial Dispersant Operations Group at the ICP in Houma. In accordance with BP’s Oil Spill Response Plan and pre-contracted dispersant capability with the Marine Spill Response Corporation and Airborne Support Incorporated, the two primary dispersant providers in the United States, aerial application bases of operation were situated at the Stennis Space Center Airport in Mississippi and the Houma-Terrebonne Airport in LA.<sup>133</sup> Dispersant spraying aircraft consisted of a mix of C-130s, and three DC3s supported by numerous spotter aircraft. The U.S. Air Force also assisted by providing C-130 dispersant aircraft. At its peak, the Dispersant Operations Group had the capability to spray up to 100,000 gallons of dispersants per day.<sup>134</sup>

---

<sup>127</sup> FOSC Report (Ex. 9105) at 34.

<sup>128</sup> FOSC Report (Ex. 9105) at 34.

<sup>129</sup> Dispersant After-Action Report (Ex. 13037) at 3; ISPR (Ex. 9124) at 40; FOSC Report (Ex. 9105) at 37; Allen Dep. at 131:19-32:6.

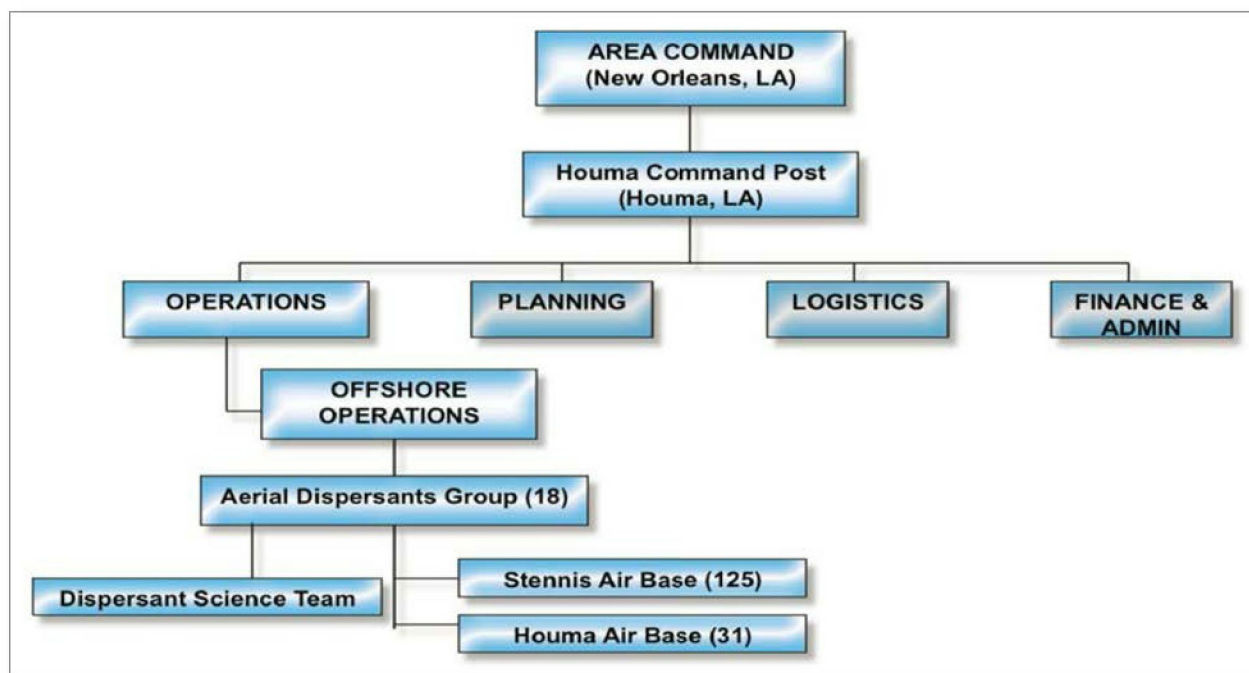
<sup>130</sup> FOSC Report (Ex. 9105) at 33.

<sup>131</sup> FOSC Report (Ex. 9105) at 36.

<sup>132</sup> Dispersant After-Action Report (Ex. 13037); ISPR (Ex. 9124) at 40-45; FOSC Report (Ex. 9105) at vii, 33-37, 172. Relatively small amounts of dispersants were also applied from vessel-mounted spray (fire hose) systems in and around the source control vessels, to protect workers at the site. These applications were infrequent, and as with aerial and subsea dispersant applications, were done with the approval and at the direction of the FOSC, in consultation with other agencies and Unified Command members.

<sup>133</sup> FOSC Report (Ex. 9105) at 36; IAP 4/23-4/24 Houma HCG042-005638, BP Regional Oil Spill Response Plan (Ex. 5900); Dispersant After-Action Report (Ex. 13037).

<sup>134</sup> 6/21/10 RADM Austin Email (HCE011-000045).



**Figure 10: Aerial Dispersant Operations Group**

Aircraft sorties were tracked real time in the ICP through each aircraft's GPS tracking system. These operations began small with targeted application to the few slicks in the first days of the Response; with the first applications to the few floating oil patches (i.e. 'oil slicks' or 'slick') occurring two days after the incident. Within a week, the operation expanded to a large and comprehensive organization that identified target patches of oil, assigned aircraft to maximize safety, ensured robust efficacy testing on the water surface, and properly documented all applications of dispersants. The operations consisted of reconnaissance aircraft locating the slick target and communicating back to the ICP to commence launch of dispersant aircraft. A spotter aircraft accompanied aerial-spray capable aircraft. Coast Guard SMART teams outfitted with Tier II fluorimeters were positioned on vessels nearby to conduct effectiveness monitoring. Aerial spraying was dependent upon a number of factors including wind speed, visibility and wave height, and dispersant operations took place during daylight hours only. Dispersant teams included wildlife spotters, and there were no reports of any impacts on whales or other marine mammals due to dispersant use during the Response.<sup>135</sup>

Each discrete operation applied dispersants to a confined and particular target or slick. Ninety-eight percent of the dispersant operations were conducted more than 10 miles offshore, and no dispersants were applied (1) within 3 miles of the coast; (2) within 2 miles of any platform or vessel, or (3) within 3 miles of any sighted wildlife. On May 10, 2010, the highest single day quantity of aerial dispersants—56,220 gallons—was applied.<sup>136</sup>

<sup>135</sup> FOSC Report (Ex. 9105) at 36-37; Houma Dispersant After-Action Report (Ex. 13037) at 53; ISPR (Ex. 9124) at 40-45; *see also* Utsler Dep. at 329:17-20.

<sup>136</sup> Dispersant After-Action Report (Ex. 13037) at 3, 37, 53; FOSC Report (Ex. 9105) at 33-37; ISPR (Ex. 9124) at 40-45.





**Figure 11: Aerial Dispersant Application**

While aerial dispersant application continued, on April 30, BP proposed a plan to inject dispersants directly at the sub-sea source. The primary goal for sub-sea injection included greater dispersion efficiency, an opportunity for application 24 hours a day, 7 days a week (in fact, it was one of the only response tools that could be effectively used at night), and less overall usage of surface applied dispersants.<sup>137</sup>

Another benefit to sub-sea injection was to protect responders positioned on the water surface engaged with source control efforts from volatile organic compounds emanating off the water.<sup>138</sup> When the subsea dispersant system was operating, it removed oil and related compounds (including volatile vapors) from the water surface at the well site. This improved air quality and reduced the risk of fire in the area where emergency responders were working to control and cap the well. Since sub-sea injection had only been experimentally tested, this novel concept was carefully reviewed by the Environmental Protection Agency (“EPA”), the Coast Guard, the Department of Interior (“DOI”), the National Oceanic and Atmospheric Association (“NOAA”), and others in RRT VI and the NRT.<sup>139</sup>

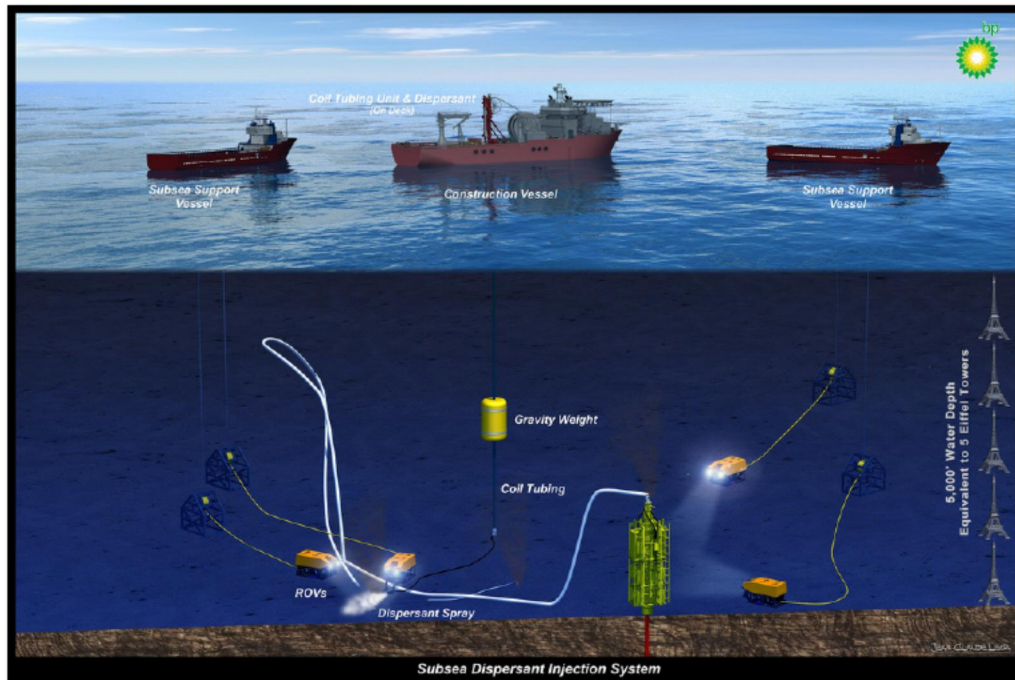
On May 15, after several tests were conducted, the government granted full authorization to proceed with sub-sea injection under specific requirements outlined in a directive and

<sup>137</sup> Houma ICP Dispersant After-Action Report (Ex. 13037) at 37.

<sup>138</sup> RADM Roy Nash Interview Summary Form at 4 (Ex. 150028) Morrison Dep. at 179:2-10 (June 20, 2014) (“One of the innovations that we used that had never been used before was subsea dispersants, and those subsea dispersants allowed us to do [source control work] safely.”); Morrison Dep. at 148:12-19 (Oct. 18, 2011) (“[B]y injecting at the source, the safety and security of the responders . . . was much improved, and the subsea dispersant acted to reduce vapors that were coming up directly above the source.”)

<sup>139</sup> RRT VI Meeting Memoranda (Exs. 11836-38); FOSC Report (Ex. 9105) at 37-39.

subsequent addendums to the directives issued to BP.<sup>140</sup> Consistent with this directive and addendum, BP and other Unified Command partners collected monitoring data, including water temperature, oxygen levels, and petroleum concentrations, collected water samples at depth to assess oil concentrations, and conducted biological assessments to rapidly screen for potential oil toxicity.<sup>141</sup> A Subsea Monitoring Unit was established at the Unified Area Command in Robert to implement this program.<sup>142</sup>



**Figure 12: Subsea Dispersant Injection System**

BP followed all Unified Command policies, procedures, guidelines, approvals and directives relating to dispersant use throughout the Response. The last use of dispersants took place on July 19.<sup>143</sup>

BP proactively provided personnel and resources that were critical to dispersant operations. For aerial dispersant applications, for example, BP procured the dispersants, the personnel, the planes that conducted spraying operations, and the experts that monitored the applications. For subsea dispersant applications, BP procured the dispersants, the vessels, and

<sup>140</sup> May 14, 2010 Dispersant Monitoring Directive and Addendum 1 (Ex. 12076); 5/12/10 Press Briefing Transcript (Ex. 12504) at 1 (EPA Administrator explains that “BP has initiated three tests” regarding the use of subsurface dispersants, and that “no use of dispersants under water is authorized until the test results have shown them first to be effective”); RRT VI Meeting Minutes (Exs. 11836-38).

<sup>141</sup> FOSC Report (Ex. 9105) at 39; ISPR (Ex. 9124) at 40-45; *see also* Lubchenco Dep. at 95:14-18 (agreeing that “the use of deep injection of dispersants was carefully monitored on a daily basis along with levels of dissolved oxygen in the 1,000 to 1200 meter depths”).

<sup>142</sup> ISPR (Ex. 9124) at 40.

<sup>143</sup> ISPR (Ex. 9124) at 40; Utsler Dep. at 153:7-20; Houma ICP Dispersant After-Action Report (Ex. 13037) at 37.



the monitoring and injection equipment. These contributions were essential to the success of the operation.<sup>144</sup>

Dispersant use during the *Deepwater Horizon* Response was highly effective.<sup>145</sup> Dispersant applications prevented millions of gallons of oil from impacting the sensitive shorelines of the Gulf States.<sup>146</sup> According to government estimates, approximately 770,000 barrels of oil—or roughly 31% of oil that was available for recovery—was chemically dispersed during the Response.<sup>147</sup>

As discussed in Section V.D, on May 26 the FOSC signed an EPA-initiated directive that mandated substantial reductions in dispersant use during the Response. Those limitations constrained response efforts and led to increased shoreline oiling. Despite these constraints, BP and the Coast Guard continued to use dispersants, when permitted after consultation with the EPA, to combat the spill.

## 2. Near Shore Operations

The near shore zone encompassed the geographic area from the coastline to three nautical miles seaward. Near shore operations focused on (1) the use of small, agile skimming vessels, including Vessels of Opportunity (“VOO”), and (2) the use of boom to protect sensitive shoreline areas. Near shore response operations represented the last line of defense in preventing oil from reaching the shoreline.<sup>148</sup>

As part of the Unified Command, BP undertook a large scale effort to respond to oil in the near shore environment. BP mobilized an extensive workforce and resources specialized for the near shore environment, including pre-contracted OSROs from across the Gulf and

---

<sup>144</sup> Hanzalik Dep. at 47:3-49:4 (BP “procured all the people, all the planes that actually sprayed dispersants, all the experts that monitored the dispersant operations. That’s just for the aerial part of it. And then for subsea, which was [an] unprecedented operation, they procured all the dispersant, the boats, the monitoring, the equipment to actually inject the dispersants, they did all of that.”).

<sup>145</sup> Watson Dep. at 122:23-123:13 (FOSC RADM Watson testifying that dispersant use “was effective” and there were “situations that occurred on a periodic basis in which it was the only method that we—we had to deal with an oil slick.”); DWH Dispersant Use Meeting Report (Ex. 11839) at HCG188-067616 (“Surface application of dispersants has been demonstrated to be effective for the DWH incident and should continue to be used.”); Lubchenco Dep. at 100:5-7 (agreeing that the “use of subsea dispersants at depth . . . help[ed] mitigate the impact of the spill.”); Hanzalik Dep. at 46:19-47:2 (agreeing that dispersants were “an effective and important tool for responding to the *Deepwater Horizon* spill”).

<sup>146</sup> FOSC Report (Ex. 9105) at 44 (“[D]ispersants were an effective response tool, and prevented millions of gallons of oil from impacting the sensitive shorelines of the GOM states.”); ISPR (Ex. 9124) at 40 & 43 (“[T]he use of dispersants in this incident was largely successful in limiting the amount of oil that reached sensitive shoreline environments and promoting worker safety near the well site”); Westerholm Statement at Hearing on the Use of Dispersant (Ex. 12506) at 6 (Director for NOAA’s Office of Response and Restoration concludes that “use of dispersants offshore and in deep water, is reducing the amount of oil reaching the shoreline, reducing the amount of shoreline cleanup that will be required, and helping to reduce recovery time of injured nearshore resources.”).

<sup>147</sup> US’s 3d Supp. Resp. to BP’s Interrog. Reqs. at 5 (Ex. 12198).

<sup>148</sup> ISPR (Ex. 9124) at 118; FOSC Report (Ex. 9105) at 93 (explaining that state and local officials viewed booming as a “last line of defense for the shore”); Austin Dep. at 200:14-24 (agreeing that a “layered defense” was utilized in which resources such as VOO skimming were utilized closer to the shoreline).

supplemental resources that were cascaded into the Gulf, as outlined in its OSRP.<sup>149</sup> Additionally, thousands of VOO were employed to assist with tasks like placing boom, skimming oil, and providing on-water transportation.<sup>150</sup> Primary command and control was vested in near shore protection branches embedded in the ICPs of Houma and Mobile.

As the potential impacts to the near shore and inshore environment of the Gulf States grew, deployed resources increased exponentially. According to the Coast Guard's FOSC Report, total resource deployment, including in the near shore area, grew as follows:<sup>151</sup>

|                    | May 1, 2010 | June 1, 2010 | July 1, 2010 |
|--------------------|-------------|--------------|--------------|
| Vessels            | 231         | 1,783        | 6,026        |
| Skimmers           | 98          | 120          | 550          |
| Hard Boom (ft.)    | 420,280     | 2,002,946    | 3,017,472    |
| Sorbent Boom (ft.) | -           | 2,192,430    | 4,954,735    |

**Figure 12: Near Shore Resource Deployment**

This commitment of resources paid off. The efforts of BP and its Unified Command partners prevented substantial amounts of oil from reaching the shoreline.<sup>152</sup> As the Coast Guard concluded in its On-Scene Coordinator Report ("FOSC Report") documenting the *Deepwater Horizon* Response:

The shoreline protection tactics, techniques, and procedures . . . helped minimize the environmental impacts of oiling along the Gulf Coast. The protection plans and actions were made possible through cooperation between federal, state, and local officials, the RP [BP], and environmental experts. These plans and actions minimized not only the threat, but also the actual impact of oil in the marshes and on the beaches.<sup>153</sup>

#### (a) Vessels of Opportunity (VOO)

VOO played a significant role in the *Deepwater Horizon* Response, supplementing privately-contracted OSROs already on scene.<sup>154</sup> Oil in the near shore regions typically manifested itself in smaller wide spread patches or narrow windrows and appeared in a variety of forms, from bands of emulsified oil, to semi-solid tar mats combined with floating debris. Skimming platforms working in near shore areas were typically less than 50 feet in length and shallow in draft. Under the direction of aerial spotters, these more agile skimming platforms

<sup>149</sup> See Hein Dep. at 252:14-20 (testifying the BP utilized local response workers when creating the VOO program); see also, e.g., 4/23/10 Incident Action Plan (BP-HZN-2179MDL08855281, at 10-13) (example of daily plan cataloguing VOO that were mobilized within days of the incident).

<sup>150</sup> FOSC Report (Ex. 9105) at xi; Hein Dep. at 186:23-187:5 (testifying that VOO were used to collect boom and anchors); Utsler Dep. at 225:6-8 (explaining that VOO were used for "sheen busting and skimming").

<sup>151</sup> FOSC Report (Ex. 9105) at 204-211.

<sup>152</sup> Austin Dep. at 203:18-20 (agreeing that "the VOO program contribute[d] to the effectiveness of the response").

<sup>153</sup> FOSC Report (Ex. 9105) at 59.

<sup>154</sup> S. Poulin FOSC Report Input (Ex. 12531) ("The VOO Program was an indispensable element in the Response.").

could move quickly between patches of oil and guard gaps between barrier islands or entrances to marshy areas. Near shore vessels included a wide variety of skimmer types including vacuum, brush, oil mop, disc, drum, belt and weir skimmers. Local conditions, such as whether the oil was weathered mousse, black oil, tar balls or mats, dictated the skimming method.<sup>155</sup>

In the *Deepwater Horizon* Response, BP procured and deployed thousands of skimming vessels in the near shore environment. The vessels were operated by an established network of professional oil spill response companies as well as a navy of locally contracted VOO.<sup>156</sup> Under the oversight of the Unified Command, BP created the VOO program to complement and supplement OSRO capabilities.<sup>157</sup> The program sought to develop a core fleet of local professional mariners who could conduct on-water oil recovery and removal operations, boom deployment and tending, wildlife recovery, in situ burning, and logistical support operations while capitalizing on local knowledge and professional seamanship. It was also designed to benefit local communities, providing economic compensation for mariners whose livelihood was impacted by the spill, and helped satisfy demands from local governments to use local assets.<sup>158</sup> The *Deepwater Horizon* VOO program provides valuable learnings for future spill responses.

At the time of the *Deepwater Horizon* Response, a VOO program was not envisioned in any of the federal Gulf of Mexico Area Contingency Plans.<sup>159</sup> BP adopted VOO protocols from an established program based in Alaska.<sup>160</sup> BP conducted a series of local community outreach meetings at which it outlined the VOO program, contract terms and compensation. To qualify for the program, VOO had to pass a Coast Guard dockside inspection, have an adequate and qualified crew, and be willing to complete the requisite OSHA-approved safety training provided by BP.<sup>161</sup> The program ultimately mobilized more than 9,000 local vessels in service of the Response—a fleet larger than the D-Day landing forces during World War II—thus achieving the largest integration of VOO in an oil spill response in the history of the United States.<sup>162</sup>

The VOO fleet mainly consisted of a mix of fishing vessels, charter boats, recreational boats and other work boats. In the near shore and inshore regions, VOO chased and recovered oil streamers, tar balls and tar mats before they reached the shoreline. They also transported shoreline cleanup workers, placed and tended boom, and provided general response support to maintain continuity of operations. VOO operators with local knowledge helped to identify natural collection points and optimal locations to place protection and collection equipment. VOO had an advantage in shallower waters as compared to larger vessels, with a higher degree of maneuverability. Conversely, the majority of the VOO were not well suited for offshore

---

<sup>155</sup> FOSC Report (Ex. 9105) at 51.

<sup>156</sup> FOSC Report (Ex. 9105) at 118; ISPR (Ex. 9124) at 121-122.

<sup>157</sup> Hein Dep. at 186:23-187:5, 252:14-20; Austin Dep. at 203:2-8.

<sup>158</sup> ISPR (Ex. 9124) at 118, 121; FOSC Report (Ex. 9105) at 120; *see* Hein Dep. at 252:14-20 (testifying the BP utilized local response workers when creating the VOO program).

<sup>159</sup> Hein Dep. at 259:17-20 (testifying that the VOO program was not required by Unified Command); Austin Dep. at 203:9-17 (explaining that the DWH incident was the first time that VOO had been used since the *Exxon Valdez* spill response); FOSC Report (Ex. 9105) at 118.

<sup>160</sup> ISPR (Ex. 9124) at 121.

<sup>161</sup> ISPR (Ex. 9124) at 122. Safety training requirements are discussed in Section V.C, below.

<sup>162</sup> ISPR (Ex. 9124) at 122; FOSC Report (Ex. 9105) at 118.



operations. Their primary contribution in the offshore region consisted of towing fire boom to facilitate in situ burn operations.<sup>163</sup>

ICP Houma and ICP Mobile embedded branches within their Operations Sections to maintain command and control of the VOO fleet. They formed various on-water task forces and strike teams consisting of a limited number of VOO, and these were assigned to cover designated areas to better maintain span of control.<sup>164</sup> The Coast Guard provided oversight through an on-water federal presence.<sup>165</sup>

The VOO program was beneficial to the Response and local communities in a number of ways.<sup>166</sup> At the same time, the program presented the Unified Command with a series of challenges. Integrating thousands of potential VOO into the program at once stressed the logistical chain.<sup>167</sup> Overwhelming participation in the program created a VOO fleet with notable disparity in vessel size, sea going abilities, communications capabilities and crew experience, creating a diverse and complex landscape for VOO operational deployment. Language barriers added to this complexity.<sup>168</sup>

BP's generous compensation rates of between \$1,200 and \$3,000 per day of on-hire work, depending on the size of the vessel, resulted in two unintended consequences. First, as the program gained momentum, out-of-state boat owners entered the program. Second, for many VOO, the compensation rates were in excess of what they could make in their usual occupations, such as commercial fishing. This provided a disincentive for VOO to leave the program and get back to their regular activities as the on-water response wound down, unnecessarily prolonging their involvement and increasing the cost of the Response.<sup>169</sup>

At a tactical level, keeping track of the large number of VOO required considerable effort by Unified Command. The effectiveness of the various VOO task forces and strike teams was directly related to strong tactical oversight, effective communication and close coordination with spotters.<sup>170</sup> Further complicating this task were the unknown number of on-water resources conducting response activities outside the Unified Command, at the direction of local

---

<sup>163</sup> FOSC Report (Ex. 9105) at 121-122.

<sup>164</sup> See FOSC Report (Ex. 9105) at 14, 118-19, 123 (noting that the ICPs "retained operational and tactical control of offshore and near-shore skimming because the task forces routinely worked across state boundaries. . . ."); see also, e.g., 4/23/10 Incident Action Plan (BP-HZN-2179MDL08855281, 10-13).

<sup>165</sup> FOSC Report (Ex. 9105) at 121.

<sup>166</sup> ISPR (Ex. 9124) at 121 ("The use of VOOs was an important and critical element of the response . . . It met several key response objectives: [it] leveraged local knowledge of the coastal waters, which helped assure safe and efficient execution of the response strategies[; it] put commercial fishermen and other 'for hire' captains impacted by the spill (and without a source of income to work[; it] reduced political pressure from local governments to utilize local assets [; it] supplemented privately contracted oil spill removal organization (OSRO) resources already on scene, as well as those being cascaded in from other areas.")

<sup>167</sup> FOSC Report (Ex. 9105) at 120.

<sup>168</sup> FOSC Report (Ex. 9105) at 121.

<sup>169</sup> ISPR (Ex. 9124) at 122.

<sup>170</sup> FOSC Report (Ex. 9105) at 120; ISPR (Ex. 9124) at 121.

government—the so-called “Parish Navies.”<sup>171</sup> In the end, the VOO program was a BP-initiated effort to respond to the spill while helping local fishermen, and its successes and challenges will provide a guide for future spill responses.

### **(b) Booming**

Closer to shore, shoreline protection was accomplished through the placement of boom at cuts or on the shoreline to serve as a barrier from encroaching oil. Boom is “a floating, physical barrier, placed on the water to contain, divert, deflect, or exclude oil.”<sup>172</sup> In an oil spill response, boom is placed at strategic points to protect the shoreline and to facilitate oil removal. Hard or “containment” boom is used to protect shorelines or sensitive locations by acting as a barrier to oil, and to corral oil on the water to enhance the recovery effectiveness of skimmers or other response operations. It is typically made of PVC or similar durable material and includes an inflated/buoyant chamber that rides above the water and an attached skirt that hangs down into the water. Sorbent boom is constructed of a long fabric sock enclosing material that attracts oil but repels water. Unlike hard boom, sorbent boom does not have an attached skirt. It is used both to contain and absorb oil on the water surface.<sup>173</sup>

To respond to the spill, the Unified Command deployed open water and near shore containment and sorbent boom in the response area.<sup>174</sup> At the time of the *Deepwater Horizon* spill, slightly more than one million feet of boom was available in the states that bordered the Gulf of Mexico and more than 4.5 million feet of boom was available nationally.<sup>175</sup> This quantity of boom available to responders exceeded plan requirements.<sup>176</sup>

---

<sup>171</sup> Hewett Dep. at 43:9-45:13; 2/9/11 M. Austin Email to C. Bryant, Cdr. Carter, et al. (Ex. 12493) at 3, 6; Austin Dep. at 186:18-87:6.

<sup>172</sup> NOAA, Am. Petroleum Inst., et al., *Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments*, at 42 (June 2001), [http://docs.lib.noaa.gov/noaa\\_documents/NOS/ORR/910\\_response.pdf](http://docs.lib.noaa.gov/noaa_documents/NOS/ORR/910_response.pdf).

<sup>173</sup> NOAA, *Using Boom in Response to Oil Spills*, at 1-2 (May 18, 2010), <http://www.noaa.gov/factsheets/new%20version/boom.pdf>.

<sup>174</sup> FOSC Report (Ex. 9105) at 52; Napolitano Testimony, S. Comm. on Homeland Security and Governmental Affairs, at 4 (May 17, 2010), available at <http://www.hsgac.senate.gov/download/2010-05-17-napolitano-and-neffenger-testimony>; Dempsey Testimony, Subcomm. on Management, Investigations, and Oversight of the H. Comm. on Homeland Security, at 64 (July 12, 2010), available at <http://www.gpo.gov/fdsys/pkg/CHRG-111hhrg64700/pdf/CHRG-111hhrg64700.pdf>.

<sup>175</sup> FOSC Report (Ex. 9105) at 113.

<sup>176</sup> ISPR (Ex. 9124) at 113.



**Figure 13: Boom Deployment**

As the potential impacts to the shoreline grew, competing demands for boom grew as well. While the Coast Guard initially viewed boom deployment in a tactical manner, moving resources as needed to areas based on spill trajectories and actual impact, some state and local governments viewed it differently. Often for political reasons, those state and local governments began both demanding additional boom and hoarding staged boom so that it could not be re-deployed. This created a demand that exceeded existing available supply, and escalated into all-out competition, inevitably at the expense of Unified Command's ability to efficiently conduct the Response. These "Boom Wars" and their impact on the Response are discussed in Section V.D, below. Adding to this pressure for additional boom (and other equipment) was an inability to fully cascade into the Gulf existing boom staged in other regions of the country due to regulatory restrictions.<sup>177</sup>

BP responded to these challenges by identifying, acquiring and relocating all available stocks of boom and authorizing manufacturers to immediately begin producing more.<sup>178</sup> For

<sup>177</sup> ISPR (Ex. 9124) at 118; *see also* ICP Houma Shoreline Protection Contribution to DWH FOSC Report (Ex. 12540) at 1 (concluding that Unified Command and ICP "overcame several obstacles to the use of the [local area contingency plan]'s use of booming strategies throughout Louisiana," as well as "political pressure" applied by governments at all levels and the media).

<sup>178</sup> FOSC Report (Ex. 9105) at 113 ("The RP identified, purchased, or rented, and relocated all the available large stockpiles of boom as necessary. Concurrently, the RP answered the boom production gap by contracting for new production with factories in the United States and China. The RP developed a boom specification and sent technical experts to the field to enforce it and to determine how companies could increase production. Additionally, the RP dealt with the shortage of boom components such as galvanized chain, fabric, and connectors."); *see also* Austin Dep. at 180:11-181:4 ("every effort was made [by Unified Command] to procure



example, BP contracted with factories in the U.S. and China for new production of boom. BP also addressed shortage of boom components such as galvanized chain, fabric, and connectors.<sup>179</sup> Ultimately, the *Deepwater Horizon* Response involved the most extensive deployment of boom in the history of spill response.<sup>180</sup> By July 25, 2010 BP's efforts brought the total deployment of boom to approximately 13.5 million feet (over 2,556 miles), including roughly 3.8 million feet (over 719 miles) of containment boom and 9.7 million feet (approximately 1,837 miles) of sorbent boom.<sup>181</sup>

### 3. Shoreline Assessment and Cleanup Operations

The offshore and near shore methods used in the *Deepwater Horizon* Response described above prevented a substantial amount of oil from reaching the Gulf Coast.<sup>182</sup> As Houma Incident Commander Rear Admiral Meredith Austin observed, "we've managed to keep over 90% of the oil from hitting the shore, which is amazing."<sup>183</sup> For the oil that did reach the shoreline, the Unified Command deployed a massive and comprehensive effort to survey, assess, and make treatment recommendations based on the well-established Shoreline Cleanup and Assessment Technique ("SCAT"). BP provided critical support to the SCAT program and subsequent cleanup operations, which minimized the impacts of the oil on the shoreline and accelerated natural recovery.<sup>184</sup>

#### (a) Shoreline Cleanup Assessment Technique (SCAT)

On April 28, 2010, well before any oil reached the Coast, the Unified Command established a SCAT program for the *Deepwater Horizon* Response. SCAT is a systematic method that involves systematically dividing the shoreline into discrete segments, evaluating the presence of any oiling in each segment over time, assessing the potential for residual oil, and recommending appropriate treatment procedures based on the level and type of oiling and the characteristics of the shoreline. SCAT is a well-established and internationally recognized component of spill response that has been in use since the *Exxon Valdez* spill, when responders

---

as much boom as possible"); Kulesa Dep. at 61:11-16 (agreeing that "both BP and the United States Coast Guard were attempting to deploy boom in the most effective way possible").

<sup>179</sup> FOSC Report (Ex. 9105) at 113.

<sup>180</sup> BP, *Deepwater Horizon Containment and Response: Harnessing Capabilities and Lessons Learned*, at 56 (Sept. 1, 2010) (Ex. 11822) (noting that the Response featured "[t]he largest mobilization of boom in any oil spill response – a total of more than 14 million feet – and significant expansion of the supply chain and of the number of experts"); ICP Houma Shoreline Protection Contribution to FOSC Report (Ex. 12540) ("The response included the largest deployment of boom in Louisiana in the history of spill response.").

<sup>181</sup> ISPR (Ex. 9124) at 156; U.S. Coast Guard, *Deepwater Horizon: Incident Response Summary*, at 18, available at <http://www.dot.gov/sites/dot.dev/files/docs/7%20-%20Deepwater%20Horizon%20Oil%20Spill%20US%20-%20English.pdf>; see also ICP Houma Shoreline Protection Contribution to DWH FOSC Report (Ex. 12540) at 1 ("The response included the largest deployment of boom in Louisiana in the history of spill response.").

<sup>182</sup> 6/13/10 Capt. Austin Email to K. Neary (Ex. 12484); Austin Dep. at 125:12-15 (agreeing that "the combination of Mother Nature and the efforts by Unified Command were keeping the vast majority of oil off the beaches").

<sup>183</sup> 6/13/10 Capt. Austin Email to K. Neary (Ex. 12484).

<sup>184</sup> J. Michel et al., *Extent and Degree of Shoreline Oiling: Deepwater Horizon Oil Spill, Gulf of Mexico, USA*, (Ex. 13004) at 2 ("Extent and Degree of Shoreline Oiling"); Hein Dep. at 253:20-254:13; see also Austin Dep. at 172:6-20.

needed a systematic way to document the spill's impacts on many miles of affected shoreline.<sup>185</sup> The SCAT approach uses standardized terminology to document shoreline oiling conditions and is designed to support decision-making for shoreline cleanup, is flexible in its scale of surveys and in the detail of datasets collected, and is considered a core component of oil spill response.<sup>186</sup>

During the *Deepwater Horizon* Response, up to 18 SCAT teams, consisting of federal, state, local, and BP representatives, conducted shoreline surveys to document the location, degree, and character of any shoreline oiling using standard methods and terminology.<sup>187</sup> These surveys began even before any oil reached the shoreline. Significantly, the results of these early surveys showed the extent of background oiling on the Gulf Coast. In May 2010, before any oil from the spill came ashore, SCAT teams found more than 2,100 non-Macondo tar balls on portions of the Gulf coast. These tar balls had nothing to do with the spill.<sup>188</sup>

The Unified Command conducted aerial reconnaissance flights over the entire Gulf shoreline from the panhandle of Florida to Texas, to help direct SCAT teams to locations where oil might be found.<sup>189</sup> Based on this aerial data, satellite imagery from NOAA, ground assessments and public calls, SCAT teams surveyed more than 4,300 miles of the shoreline where oil was most likely to be found.<sup>190</sup> SCAT teams meticulously surveyed the Coast, using a collaborative, consensus-building approach to collect data.

---

<sup>185</sup> *Extent and Degree of Shoreline Oiling* (Ex. 13004) at 1-2; Michel Dep. at 36:5-22, 38:3-39:3, 61:13-23; Hein Dep. at 55:16-24, 57:2-14; Austin Dep. at 169:8-19; Miller Dep. at 49:12-50:4.

<sup>186</sup> NOAA, Shoreline Cleanup and Assessment Technique, <http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/shoreline-cleanup-and-assessment-technique-scat.html> (last visited Aug. 14, 2014); Michel Dep. at 36:23-37:5, 93:7-19.

<sup>187</sup> *Extent and Degree of Shoreline Oiling* (Ex. 13004) at 2; Michel Dep. at 36:5-22, 68:18-69:1; Hein Dep. at 56:17-57:1; *see also* DWH SCAT Program (Ex. 13005) at 3 (stating that SCAT teams were “comprised mainly [of] U.S.-nationally recognized experts from Responsible Party Contractor sources and NOAA, supplemented by international consultants engaged by the Responsible Party”).

<sup>188</sup> GoMRI SCAT Poster (BP-HZN-2179MDL09111855-56); *see also* Lubchenco Dep. at 217:2-5, 223:21-224:4 (testifying that both prior to as well as during the Response, hydrocarbons naturally seeped into the Gulf on an annual basis); 5/13/10 Cpt. Hanzalik Memo to RRT VI Participants (Ex. 12509) at 4.

<sup>189</sup> Michel Dep. at 267:3-11.

<sup>190</sup> NOAA prepared daily surface oil trajectories that were intended to serve as a spill response planning tool. The forecasts showed areas of varying probability that oil would be found, not an actual depiction of the location of oil, and the maps were never intended to imply that the entire surface area of the water was or would be covered by oil. Miller Dep. at 19:22-20:1, 147:9-19, 165:4-21; FOSC Report (Ex. 9105) at 29-31.





**Figure 14: SCAT Team Assessment**

SCAT teams made repeat visits to many sites several times, assessing any changes in oiling conditions, visiting certain sites up to 40 or more times.<sup>191</sup> On a cumulative level, SCAT teams surveyed and re-surveyed tens of thousands of miles.<sup>192</sup> As the U.S. SCAT Team Lead Jacqui Michel has recognized, “the SCAT data collected for the Louisiana and Eastern States were complete, well-documented, and suitable to use for tabulation of shoreline oiling statistics.”<sup>193</sup>

The SCAT data show that the extent of shoreline oiling was limited, thanks to the the effectiveness of offshore and near shore response efforts and the natural Gulf environment. SCAT data show that the vast majority of the shoreline segments surveyed had no oil from the spill at all.<sup>194</sup> Even at peak oiling, 77% of the surveyed marshes and beaches had no observable oil. And most of the oiling that did occur was light and decreased rapidly over time.<sup>195</sup> At peak oiling, only 5% of the surveyed segments were moderately or heavily oiled. Just one year after landfall, 88% of the shoreline surveyed had no observable oil at all, only 1% of the shoreline segments surveyed had heavy or moderate oiling.

<sup>191</sup> Lubchenco Dep. at 206:23-207:4; Michel Dep. at 211:6-213:1 (testifying that it took “a minimum of four SCAT inspections before a segment was redeemed, ready to move out of the response”).

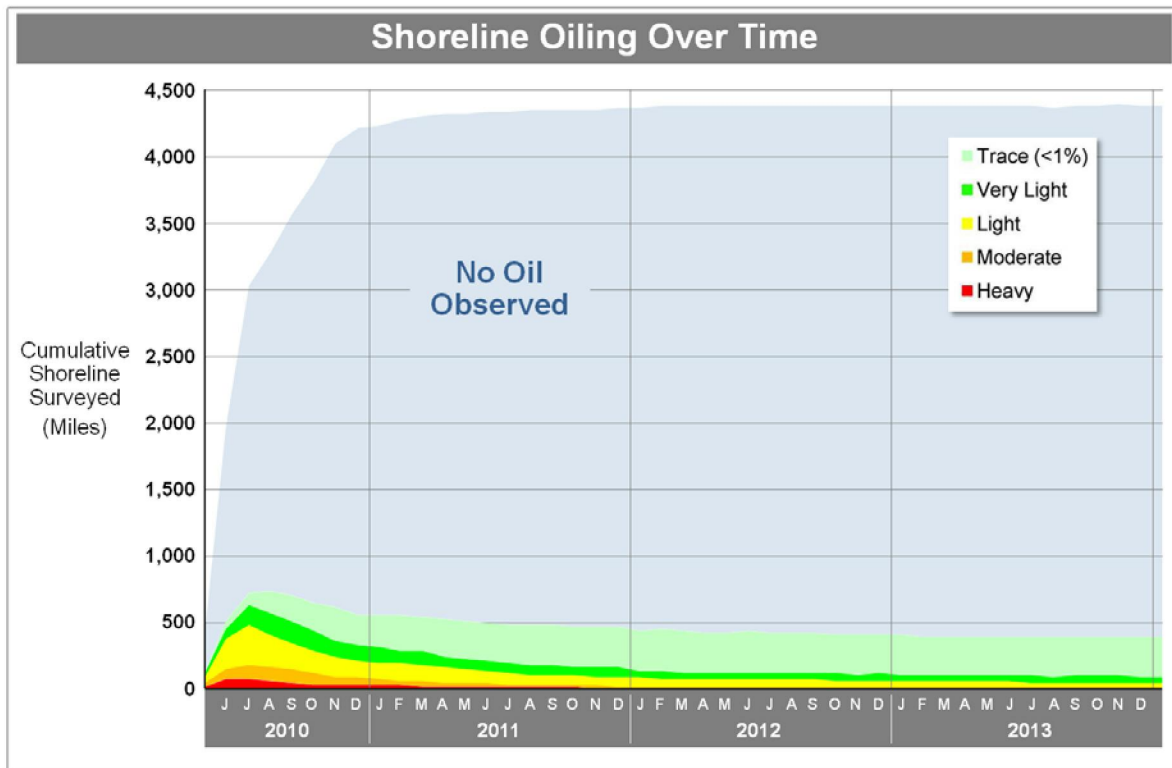
<sup>192</sup> *Extent and Degree of Shoreline Oiling* (Ex. 13004) at 2.

<sup>193</sup> 5/14/14 J. Michel Email to T. Debosier.

<sup>194</sup> *Extent and Degree of Shoreline Oiling* (Ex. 13004) at 4 (“Of the 7,058 km of shoreline surveyed, 1,773 km were documented as ever having been oiled across the entire affected area.” (citations omitted)).

<sup>195</sup> ISPR (Ex. 9124) at 6 (“Although several hundred miles of shoreline were impacted only a small percentage of the Gulf shoreline was heavily oiled”).





**Figure 15: Shoreline Oiling Over Time**

Based on the data gathered during their surveys, SCAT teams develop shoreline treatment recommendations (“STRs”) for specific shoreline segments, using cleanup criteria developed through consensus based on habitat type, use, and other considerations.<sup>196</sup> STRs must be approved by the FOSC before any treatment can begin.<sup>197</sup> Following shoreline cleanup operations, SCAT teams inspected each segment against the criteria set forth in the applicable STRs and conducted continued monitoring of the sites.<sup>198</sup>

For the *Deepwater Horizon* Response, SCAT teams employed a four-stage plan. Stages I and II were implemented prior to the source being secured and Stages III and IV were implemented after the source was secured.<sup>199</sup> For Stage I, the plan emphasized the on-water recovery of floating oil slicks in near shore waters. At Stage II, the plan required initial cleaning of bulk oil from intertidal areas until the source was secured. For Stage III, an area-wide resurvey was conducted in the fall of 2010 where SCAT teams focused on oil removal from specific habitats and the determination of No Further Treatment (“NFT”) status areas. Stage IV

<sup>196</sup> Michel Dep. at 184:2-185:3; Hein Dep. at 59:6-61:22, 63:6-64:22; Austin Dep. at 170:8-19.

<sup>197</sup> Hein Dep. at 59:19-24; Michel Dep. at 207:19-21.

<sup>198</sup> Michel Dep. at 209:4-12, 210:15-18; Hein Dep. at 67:5-9.

<sup>199</sup> FOSC Report (Ex. 9105) at 65; Deepwater Horizon 2011 Shoreline Plan for Louisiana (Ex. 13014); Michel Dep. at 95:6-14, 100:20-25; Hein Dep. at 86:4-88:23.

began in the spring of 2011 with a re-survey of shorelines within the affected area. SCAT teams assessed the status of shoreline oiling and proposed any further treatment.<sup>200</sup>

The STR approval process in the *Deepwater Horizon* Response involved routing through nine different agencies.<sup>201</sup> In addition to approving the STR, applicable Best Management Practices (“BMPs”) checklists were used to protect the endangered and threatened species and critical habitats.<sup>202</sup> Shoreline Inspection Report forms were updated as to the status of various shoreline segments. To ensure good communication flow between the SCAT teams, the Operations Section, and the ICPs, liaison officers were established to carry out the information disseminating function. One of the key considerations of the SCAT teams was to implement a Net Environmental Benefit Analysis (“NEBA”) to ensure further damage was not caused by the cleanup techniques. Treatment recommendations were generated to reduce oiling levels to the lowest practical levels based on NEBA.<sup>203</sup> BP also contracted with consulting biologists to staff the Natural Resource Advisor (“NRA”) Program to assist with protecting environmentally sensitive areas, as discussed further below. These efforts were conducted in conjunction with the work of the SCAT teams.<sup>204</sup>

### **(b) Shoreline Cleanup Operations**

Actual cleanup operations of affected shoreline followed the SCAT surveys and the recommended STRs.<sup>205</sup> Cleanup methods and ultimate endpoints were tailored to particular shoreline types and oiling levels. Numerous cleanup techniques were employed on beaches, including manual removal, the use of rakes, shovels and hand-sifting screens, as well as specialized mechanical beach cleaning machines called Sand Sharks.<sup>206</sup> For impacted marshes, natural attenuation was often the recommended course, due to the resiliency of the marsh vegetation and the sensitivity of the marsh habitat.<sup>207</sup> Where marsh cleanup was conducted, methods included vacuuming, low pressure flushing followed by skimming, sorbent boom, absorbent peat and manual removal.

---

<sup>200</sup> *Extent and Degree of Shoreline Oiling* (Ex. 13004) at 2; Michel Dep. at 95:6-14, 97:10-14, 99:8-23; Hein Dep. at 63, 86; Near Shore and Shoreline Stage I and II Response Plan, Mobile Sector (N9G007-000107-121); Near Shore and Shoreline Stage I and II Response Plan, Louisiana Division (Ex. 13012); Stage III SCAT Shoreline Treatment Implementation Framework (AL, FL, MS) (IMU005-000138-232); Deepwater Horizon 2011 Shoreline Cleanup Assessment Technique (SCAT) Plan for Alabama / Florida / Mississippi (N7X010-000026-46); Deepwater Horizon 2011 Shoreline Plan for Louisiana (Ex. 13014).

<sup>201</sup> See 2/19/11 J. Nepywoda Email to J. Michel (Ex. 13010) (attaching STR review process flow charts showing involvement of multiple state and federal agencies); Michel Dep. at 206:3-21.

<sup>202</sup> Hein Dep. at 61:23-63:2, 65:8-16; Michel Dep. at 191:10-22, 192:14-23; Deepwater Horizon 2011 Shoreline Cleanup Assessment Technique (SCAT) Plan for Alabama / Florida / Mississippi (N7X010-000026-46); Deepwater Horizon 2011 Shoreline Plan for Louisiana (Ex. 13014).

<sup>203</sup> Michel Dep. at 180:6-12, 183:15-184:1; Hein Dep. at 184-86.

<sup>204</sup> Michel Dep. at 184:2-7, 194:3-10, 198:17-20; FOSC Report (Ex. 9105) at 65.

<sup>205</sup> Michel Dep. at 208:18-209:3; Hein Dep. at 65:5-9.

<sup>206</sup> Hein Dep. at 66:10-67:4, 77:9-21.

<sup>207</sup> See Michel Dep. at 241:24-242:7; 5/31/10 Capt. Austin Email (HCE058-001529) at 1 (remarking that “the best way to ‘treat’ oil in that marsh is to let Mother Nature take care of it at this point—traipsing in there w/ big boots is much more damaging”); Huston Dep. at 37:10-15.

On November 2, 2011, the FOSC signed the *Deepwater Horizon* Shoreline Cleanup Completion Plan (“SCCP”).<sup>208</sup> The SCCP specifies cleanup endpoints for determining whether a particular segment is deemed “clean enough” such that removal actions are deemed complete.<sup>209</sup> The SCCP includes stringent cleanup standards for certain shoreline types, such as “no visible oil,” which, given natural background oiling in the region, made meeting these standards difficult to nearly impossible.<sup>210</sup>

The massive shoreline cleanup operation during the *Deepwater Horizon* Response removed much of the oil that reached the shoreline.<sup>211</sup> Despite these efforts, some residual oil from the spill became buried, deposited, or submerged near the water’s edge. BP and others in the Unified Command undertook several innovative initiatives to locate, and where appropriate, cleanup residual oil. For example, to search for buried oil, BP and its Unified Command partners drilled more than 14,000 augering holes as part of the Louisiana Augering and Sequential Recovery Initiative (“LAASR”) in 2013.<sup>212</sup> In the eastern Gulf States, BP participated in the Buried Oil Project, a cooperative effort between BP and the federal and state governments, which was designed to locate and remove, where appropriate, residual oil.<sup>213</sup>

BP likewise took steps to identify and remove submerged oil. For example, BP and others in the Unified Command launched the innovative Snorkel SCAT process, where as described in further detail in Section V.F, SCAT team members used snorkeling gear to wade into the water and search for any submerged oil.<sup>214</sup>

These efforts to locate and remove oil on the shoreline and any residual oil were thorough, science-based, and ultimately, effective. In August 2010, then FOSC Rear Admiral Zukunft chartered the first of three Operational Scientific Advisory Team (“OSAT”) to assess the presence of any oil and dispersants in nearshore, offshore and deep water environments. The so-called “OSAT 1” team was comprised of a government-led team of scientists including representatives from the EPA, NOAA, the Coast Guard, U.S. Geological Survey, U.S. Fish and Wildlife Service, and BP. The OSAT 1 team examined more than 17,000 water and sediment samples taken from May through October 2010.<sup>215</sup> Based on the work of the OSAT-1 team,

---

<sup>208</sup> *Deepwater Horizon* Shoreline Cleanup Completion Plan (“SCCP”) (Ex. 12184).

<sup>209</sup> Hein Dep. at 90:13-22, 96:1-5, 104:7-23; SCCP (Ex. 12184).

<sup>210</sup> 10/30/11 J. Michel Email to K. McCleneghan (Ex. 13003) at 1 (SCAT Team Lead stating that “[m]uch of this process is driven by those impossible cleanup endpoints you mentioned. But the states won’t let go of them”); Michel Dep. at 52:7-12, 53:2-15; Hein Dep. at 70:12-18 (testifying that SCCP cleanup standards “were rigorous”); *id.* at 93:20-22.

<sup>211</sup> OSAT-2 at 1 (“The massive shoreline cleanup effort along the impacted Gulf Coast removed much of the stranded oil residue.”).

<sup>212</sup> OSAT-3 (Eastern States), App. G. Eighty-seven percent of the auger sites had no oil observed. *See* OSAT-3, App. D at p. 22.

<sup>213</sup> OSAT-3 (Eastern States), App. G.

<sup>214</sup> The Unified Command also implemented the Submerged Oil Tactical Plan (Ex. 12188), to search for subtidal oil mats beyond the first sandbar.

<sup>215</sup> OSAT-1 at 7; Lubchenco Dep. at 198:20-24 (The OSAT 1 team used “the best available science to evaluate the state of the Deepwater Horizon oil in the Gulf at the time the report was published.”).



Rear Admiral Zukunft concluded that there was “no actionable oil in the water or sediments of the deep water or offshore zones.”<sup>216</sup>

A second report released in February 2011 (“OSAT 2”) concluded that the location and effects of residual oiling were limited and well-understood. The OSAT-2 team found that “the environmental effects of the residual oil remaining after cleanup [were] relatively minor, especially when considered in the context of pre-spill background of shoreline oiling and longer-term monitoring to ensure that cleanup guidelines are not exceeded.”<sup>217</sup> Similarly, a third installment of reports (“OSAT-3”) released in early 2014 concluded that while residual oiling may occur, “the conditions needed to remobilize (and the locations of these re-oiling occurrences) are generally predictable.”<sup>218</sup>

By April 2014, the FOSC determined that BP’s shoreline cleanup operations satisfied the specified cleanup standards for every one of the more than 4,300 miles of the Gulf Coast that had been surveyed during the Response.<sup>219</sup> Accordingly, the FOSC ended active cleanup operations for the Response.<sup>220</sup>

In my opinion, the *Deepwater Horizon* SCAT Program and Shoreline Cleanup Operations were ultimately successful in ensuring that thousands of miles of shoreline, including beaches and marsh, were properly assessed and cleaned up to the point that endpoints were agreed to and signed off. As with other response measures, BP provided critical resources and support to achieve these results.<sup>221</sup> BP also implemented innovative technologies to clean the shoreline and search for and remove any residual oil as appropriate. Moreover, even though the Coast Guard has ended active cleanup operations, BP remains committed to removing any residual MC-252 oil that may be identified in the future, as discussed further in Section V.F.

#### **4. BP Proactively Protected Wildlife and Other Resources.**

During the *Deepwater Horizon* Response, BP and others in the Unified Command took proactive measures to protect wildlife and other natural resources from adverse impacts of the spill and response activities. The massive effort to protect birds, mammals, turtles, and endangered species was one of the largest ever undertaken in the history of U.S. oil spills.<sup>222</sup> A

---

<sup>216</sup> OSAT 1 at 1; Lubchenco Dep. at 200:8-201:17 (OSAT 1 concluded that “there remained no actionable oil in the water or sediment in the deep water or offshore zones”).

<sup>217</sup> OSAT-2 at 33 (providing that “[c]ontinued cleanup to a higher degree, on the other hand, would be expected to result in an increasingly greater extent of negative impact to habitats and associated sources as more and more effort is directed towards removing diminishing amounts of oil”); Lubchenco Dep. at 203:6-12 (OSAT-2 report was “driven by best available science” and utilized “the expertise of scientists from NOAA for areas that they had expertise in.”).

<sup>218</sup> OSAT 3 (Eastern States) at iv; OSAT 3 (Louisiana) at v.

<sup>219</sup> Michel Dep. at 55:21-56:4.

<sup>220</sup> BP Press Release, *Active Shoreline Cleanup Operations from Deepwater Horizon Accident End*, p. 2 (Apr. 15, 2014) (BP-HZN-2179MDL08964317).

<sup>221</sup> Michel Dep. at 30:25-31:11, 35:3-36:4.

<sup>222</sup> FOSC Report (Ex. 9105) at 163; Huston Dep. at 74:21-75:5

Wildlife Branch—including trained biologists and other wildlife specialists—was embedded within the Operations Section at ICP Houma to coordinate this work.<sup>223</sup>

BP provided critical personnel and resources to support the Unified Command’s efforts to protect wildlife and other natural resources. BP contracted with biologists to staff the Natural Resource Advisor (“NRA”) Program to assist with protecting wildlife and environmentally sensitive areas.<sup>224</sup> BP also supported additional measures to protect and rehabilitate (1) marine mammals and sea turtles, (2) migratory birds, (3) other endangered species, and (4) historic and cultural properties that were potentially impacted by the spill.<sup>225</sup>

#### **(a) Natural Resource Advisor Program**

Section 7 of the Endangered Species Act outlines consultation and other procedures that federal agencies must follow to ensure the protection of endangered species and their habitats.<sup>226</sup> During the *Deepwater Horizon* Response, a team of government and BP representatives working within the Environmental Unit of the Unified Command developed Best Management Practices (“BMPs”) for the protection of wildlife, and in particular endangered species. BP and others in the Unified Command established the NRA Program to implement and ensure compliance with these BMPs. BP hired field biologists to staff the NRA Program.<sup>227</sup>

NRAs accompanied operational crews and documented how each BMP was implemented.<sup>228</sup> These individuals were trained and deployed to all operational divisions.<sup>229</sup> Among other things, NRAs ensured that the staging equipment utilized in oil removal operations did not impact dune and marsh habitats, and they were available to answer questions, provide training, and maintain documentation.<sup>230</sup>

#### **(b) Marine Mammals and Sea Turtles**

The FOSC, in concert with BP and numerous government agencies and organizations monitored, recovered and rehabilitated wildlife. Given the specialized expertise required for protection and rehabilitation of marine mammals and turtles, the Unified Command established a Marine Mammal and Sea Turtle Group (“MMSTG”) within the Wildlife Branch of the Houma ICP. The MMSTG consisted of wildlife rehabilitation experts from federal agencies (such as NOAA and USFWS), as well as from private organizations that BP brought into the Response (such as the Oiled Wildlife Care Network).<sup>231</sup>

---

<sup>223</sup> FOSC Report (Ex. 9105) at 163; Huston Dep. at 43:10-25.

<sup>224</sup> Hein Dep. at 73:14-74:12, 75:1-9.

<sup>225</sup> FOSC Report (Ex. 9105) at 163.

<sup>226</sup> 16 U.S.C. 1531 et seq.; U.S. Fish and Wildlife Service and National Marine Fisheries Service, *Endangered Species Consultation Handbook*, 1998 at 1-1; 16 U.S.C. § 1536(a)(2).

<sup>227</sup> FOSC Report (Ex. 9105) at 64, 176.

<sup>228</sup> FOSC Report (Ex. 9105) at 176.

<sup>229</sup> Hein Dep. at 74:13-25.

<sup>230</sup> FOSC Report (Ex. 9105) at 64, 176.

<sup>231</sup> FOSC Report (Ex. 9105) at 163.

The MMSTG developed protocols for marine mammal and sea turtle recovery, sea turtle nest protection, hatchling encounters by cleanup crews, offshore collection of oiled turtles, and marine mammal carcass retrieval. The MMSTG also established a Protected Species Observer Program that provided on-water personnel to observe in situ burn and offshore and near shore skimming operations and look for the presence of wildlife. These observers were trained in marine mammal, sea turtle and seabird identification and rehabilitation.<sup>232</sup>

Additionally, wildlife rehabilitation centers were established throughout the Gulf. From mid-May 2010 until on-water operations ended September 1, 2010, on-water teams captured 461 sea turtles.<sup>233</sup> Of those, 330 live oiled and debilitated turtles were brought in for rehabilitation and 5 dead turtles for necropsy. After the well was capped, an additional 126 lightly oiled turtles were examined at sea, cleaned, and released back to the environment. All 456 captured live sea turtles were successfully rehabilitated and released into the wild or placed at a zoo or aquarium.<sup>234</sup>

The *Deepwater Horizon* incident overlapped with sea turtle nesting season and required sea turtle nesting beach monitoring operations to ensure nests and hatchlings were not disturbed by cleanup operators. BMPs were developed and implemented for nesting beach protection. According to the FOSC Report, a total of 274 nests were relocated between late June and mid-August and 14,796 hatchlings were subsequently released.<sup>235</sup> This unprecedented effort involved numerous state, federal, local non-profit organizations and volunteers.<sup>236</sup>

### (c) Migratory Birds

In the Response, “robust operations” were established to prevent or respond to impacts on migratory birds.<sup>237</sup> For example, days after the Incident, BP set up and widely publicized a hotline that the public could call to report potentially affected wildlife, including birds.<sup>238</sup> BP retained experienced response workers to collect wildlife.<sup>239</sup> On the Louisiana coast alone, 25 to 30 teams searched for affected birds, six to ten hours per day, seven days a week, weather permitting.<sup>240</sup> The searches were tailored to cover as much geographical area as possible, and the same level of effort was put forth in other affected states.<sup>241</sup> Response workers used methods

<sup>232</sup> FOSC Report (Ex. 9105) at 163-164, 167.

<sup>233</sup> FOSC Report (Ex. 9105) at 166. Lubchenco, Oil Spill Clarifies Road Map for Sea Turtle Recovery (Ex. 12080) at 1.

<sup>234</sup> McNulty Dep. at 74-87; *see also* Lubchenco, Oil Spill Clarifies Road Map for Sea Turtle Recovery (Ex. 12080) at 1 (NOAA Administrator writes that “[o]f the more than 400 sea turtles brought into rehabilitation, more than 96 percent have survived.”).

<sup>235</sup> FOSC Report (Ex. 9105) at 166; *see also* Lubchenco, Oil Spill Clarifies Road Map for Sea Turtle Recovery (Ex. 12080) at 1 (NOAA Administrator observes that DWH responders moved “more than 25,000 sea turtle eggs from the northern Gulf shoreline to the Atlantic coast of Florida to prevent hatchlings from entering oiled waters.”).

<sup>236</sup> FOSC Report (Ex. 9105) at 166.

<sup>237</sup> FOSC Report (Ex. 9105) at xii.

<sup>238</sup> Huston Dep. at 144:9-146:2.

<sup>239</sup> Huston Dep. at 90:3-21.

<sup>240</sup> Huston Dep. at 93:16-94:19; 101:2-23.

<sup>241</sup> Huston Dep. at 95:4-11, 119:22-120:4.



to keep birds away from areas that could potentially be oiled, including by scaring the birds away through the use of noise cannons, mylar tape streamers, and balloons.<sup>242</sup> Nesting colonies that would have been disrupted by the arrival of response workers were protected by boom until nesting season was over, and response workers could safely enter.<sup>243</sup>

To help birds that may be affected by the spill, BP engaged the two premier bird recovery and rehabilitation organizations in the country: International Bird Rescue and Tri-State Bird Rescue.<sup>244</sup> Both organizations had highly trained wildlife rehabilitators, veterinarians, and staff to manage wildlife response. With extensive experience in oil spill response, their primary goal was to initiate bird rescue efforts and help staff rehabilitation centers in Louisiana, Alabama, Mississippi and Florida. These and other responders supported a substantial rehabilitation effort involving four rehabilitation centers and three stabilization centers.<sup>245</sup> Volunteers and more than 1,000 qualified professionals paid by BP assisted with cleaning and rehabilitating birds.



**Figure 16: Bird Rehabilitation**

According to U.S. Fish and Wildlife Service data from April 2011, more than 1,200 birds were cleaned and released back to the wild during the Response. The Deputy Director of the U.S. Department of Interior's Office of Restoration and Damage Assessment agreed that this achievement "was a fairly remarkable outcome."<sup>246</sup>

---

<sup>242</sup> Huston Dep. at 288:22-290:3.

<sup>243</sup> Huston Dep. at 187:4-190:5.

<sup>244</sup> International Bird Rescue, *Gulf Spill: Working Together for Wildlife Award*, Mar. 5, 2011 (Ex. 12142); Huston Dep. at 300:19-301:13.

<sup>245</sup> Huston Dep. at 297:5-315:20.

<sup>246</sup> Huston Dep. at 299:21-300:8.



**Figure 17: Release of Rehabilitated Birds**

**(d) Endangered Species**

In addition to the NRA Program, the Unified Command took other steps to proactively protect the 26 threatened or endangered species in the Gulf of Mexico. For example, in accordance with Section 7 of the Endangered Species Act, the FOSC consulted with appropriate wildlife management agencies prior to taking action that might impact threatened or endangered species. Section 7 liaisons were also embedded into the response organization.<sup>247</sup>

**(e) Historic and Cultural Properties**

The Unified Command took actions to prevent intrusion on historic and cultural properties in accordance with Section 106 of the National Historic Preservation Act.<sup>248</sup> As the agency responsible for the Response, the Coast Guard had certain planning and other responsibilities to protect historic and cultural sites.<sup>249</sup> BP supported these efforts by hiring an archeological services contractor to perform site identification and assessments, collect data, provide advice to responders, and ensure that historic preservation objectives were satisfied. The Unified Command consulted with various State Historic Preservation Officers, tribal

<sup>247</sup> FOSC Report (Ex. 9105) at 174-176.

<sup>248</sup> 16 U.S.C. § 470(f); FOSC Report (Ex. 9105) at 178.

<sup>249</sup> 1997 Programmatic Agreement on Protection of Historic Properties During Emergency Response Under National Oil and Hazardous Substances Pollution Contingency Plan.



communities, and other stakeholders in discussions regarding the protection of archeological sites.<sup>250</sup>

During the course of the Response, 778 archeological sites were identified, including 113 sites that were discovered for the first time during the Response. The NHPA sets out certain criteria that a site must meet to be included in the National Register of Historic Places. All 778 sites discovered were treated as if they were eligible for inclusion on the National Register, regardless of whether sufficient data existed to make that determination. Impact from response operations was avoided wherever practicable for all sites identified. BMPs for avoiding impact during cleanup operations were included in STRs and archeological monitors ensured compliance with those BMPs during operations. BP consistently emphasized historic and traditional cultural properties objectives to its contractors.<sup>251</sup>

### C. BP's Response Efforts Were Conducted Safely.

Safety “was the number one strategic goal throughout this Response,” and it was a focus of the entire response organization.<sup>252</sup> In addition to conducting dispersant applications, in situ burning and other operations safely as described above, BP and its Unified Command partners took several other steps to prevent injuries, illnesses, and exposure to hazardous substances among response workers and the public.<sup>253</sup> These efforts paid off: as the Coast Guard’s FOSC Report concluded, “[t]he aggressive safety program throughout the entire *Deepwater Horizon* Response proved effective.”<sup>254</sup> Despite the sheer size, scope and complexity of the operations, the “Response produced an exceptional safety record,” with relatively few injuries reported.<sup>255</sup> The effort to ensure the safety of response workers and the public at large “was one of the single most notable accomplishments of the *Deepwater Horizon* Response.”<sup>256</sup>

---

<sup>250</sup> FOSC Report (Ex. 9105) at 179.

<sup>251</sup> FOSC Report (Ex. 9105) at 179. In this section, I discuss some of the measures taken by BP and the Unified Command to protect the health and safety of responders and the public. I do not offer any opinions on the existence or nature of any human health effects of the spill.

<sup>252</sup> FOSC Report (Ex. 9105) at ix, 79 (“Safety was a focus of the entire response organization.”); *id.* at 90; Hein Dep. at 52:3-5, 53:19-54:5; Utsler Dep. at 182:5-17, 283:13-284:25; Kulesa Dep. at 124:18-125:14.

<sup>253</sup> FOSC Report (Ex. 9105) at 79 (“During the *Deepwater Horizon* response, the federal government and the Responsible Party (RP) took action to prevent injuries, illnesses, and exposure to hazardous substances among response personnel and the public.”); Hein Dep. at 247:24-250:16.

<sup>254</sup> FOSC Report (Ex. 9105) at 79; Michaels D, Howard J. Review of the OSHA-NIOSH response to the Deepwater Horizon oil spill: Protecting the health and safety of cleanup workers, July 18, 2012 (“Overall, the efforts to ensure the safety and health of these cleanup workers were very effective.”).

<sup>255</sup> FOSC Report (Ex. 9105) at ix, 79, 90; Austin Dep. at 204:21-205:2 (the number of injury reports was low when considering the number of responders); McCleary Dep. at 149:17-150:6 (Admiral Zukunft concluded in the FOSC report that the *Deepwater Horizon* Response produced “an exceptional safety record.”); RADM Watson Input to FOSC Report (Ex. 12527) at 2 (Watson writes: “Our safety record as a maritime service, has probably never been so good . . . The reports should definitely point out that the safety record was not just luck. . . . [C]ivilian mariners responded and conducted the operation side-by-side with the USCG as safely and effectively as any navy or combined fleet could have.”).

<sup>256</sup> FOSC Report (Ex. 9105) at 90.



## 1. Health and Safety of Responders

Protecting response workers was a top priority throughout the Response organization.<sup>257</sup> The size, geographic scope, and nature of response operations presented challenges. At the peak of the Response, roughly 47,000 people were working to respond to the spill. Operations were complex, including skimming, in situ burning, dispersant applications and other offshore operations, land-based cleanup, decontamination, aviation operations, and waste management.<sup>258</sup> Potential hazards included heat, slips, falls, material handling, drowning, fatigue, stress, sharp objects, electrical hazards, and bites from insects, snakes, and other Gulf-region species.<sup>259</sup> Despite these risks and the number of personnel working on the Response, “the injury rate was exceptionally low.”<sup>260</sup> This “exceptional safety record” was thanks to several actions taken by BP and the federal and state governments to ensure the health and safety of responders.<sup>261</sup>

### (a) Safety Organization

To support a safe Response, a significant safety organization staffed by federal and state agencies and private safety experts oversaw and examined broad aspects of worker safety.<sup>262</sup> OSHA personnel deployed early to 17 locations, boarded vessels involved in skimming and booming operations and observed offshore in situ burning operations. BP hired safety and industrial health staff to support the needs of all response workers. Experts in the fields of toxicology, public safety, drinking water quality, and environment health were hired. BP’s industrial hygiene and safety personnel deployed to worksites to conduct site safety assessments including physical, chemical, and biological threats, and to act as safety field observers.<sup>263</sup>

### (b) Safety Training

It is vital that response personnel receive adequate training so that they can participate in assigned operations safely. BP worked collaboratively with the Occupational Safety and Health Administration (“OSHA”), the Coast Guard, and other agencies to develop a thorough and comprehensive training program for response workers. BP created a series of courses, including a one-hour orientation, a four-hour shoreline course, and a four-hour marine cleanup course. On May 5, 2010, BP launched a “multi-tiered” responder training program. By May 7, BP had developed a matrix identifying the basic training requirements for each job. Training was

<sup>257</sup> FOSC Report (Ex. 9105) at 90; Austin Dep. at 204:10-17; McCleary Dep. at 148:25-149:16 (Admiral Zukunft emphasized as a “key point” of the FOSC report that BP “made safety a priority”).

<sup>258</sup> FOSC Report (Ex. 9105) at ix-xi.

<sup>259</sup> FOSC Report (Ex. 9105) at 85; OSHA, Deepwater Horizon Oil Spill: OSHA’s Role in the Response, (“OSHA’s Role in the Response”) at 2, May 2011, *available at* [https://www.osha.gov/oilspills/dwh\\_oshas\\_response\\_0511a.pdf](https://www.osha.gov/oilspills/dwh_oshas_response_0511a.pdf), last visited Aug. 14, 2014.

<sup>260</sup> FOSC Report (Ex. 9105) at ix (there was a “remarkably low injury rate for responders across the operation”) & 79 (“Considering the size of the operation, the heat index, and the nature of the duties performed—from source control efforts, skimming, burning, dispersant application, beach cleanup, to decontamination of thousands of vessels—the injury rate was extraordinarily low.”).

<sup>261</sup> FOSC Report (Ex. 9105) at 90.

<sup>262</sup> Hein Dep. at 54:6-55:1.

<sup>263</sup> FOSC Report (Ex. 9105) at 87.

delivered in a language and at a level appropriate for the responders being trained. Training was provided in English, Spanish, and Vietnamese.<sup>264</sup> If tasks might bring BP-contracted personnel into contact with oil-contaminated materials, they were required at a minimum to attend a four-hour OSHA-approved safety course. Crew supervisors were required to have at least 40 hour of Hazardous Waste Operations and Emergency Response (“HAZWOPER”) training.<sup>265</sup> BP-provided responder safety training courses included training on recognizing and managing risks such as heat stress, fatigue, inclement weather, and environmental hazards.<sup>266</sup> OSHA and other agencies reviewed BP’s training protocols to ensure that all training met OSHA and other standards.<sup>267</sup>

BP devoted considerable cost and time to training responders.<sup>268</sup> BP ramped up its training operation to meet the needs of the Response. By May 21, around the time the first tar balls reached the shoreline, BP had trained approximately 10,000 cleanup responders. In the course of the Response, BP trained more than 100,000 responders.<sup>269</sup>

### (c) Personal Protection Equipment and the Heat Index

Dermal exposure to some oil products and other chemicals posed a potential threat throughout the spill recovery operation. Early on, BP procured the required Personal Protective Equipment (“PPE”) and established numerous staging areas to deliver the material to the field. At the same time, extremely high heat indices (in excess of 100°F) were a significant, overarching concern due to the potential for heat stress or stroke.<sup>270</sup> It was important that safety professionals balanced the need for appropriate PPE with the risk that wearing unnecessary PPE would needlessly amplify the effects of the high heat indices.<sup>271</sup>

For all response operations, safety professionals determined which type of PPE was needed, who had to wear it, and what training and medical qualifications were required to use it. In early May, working cooperatively with federal agencies OSHA and the National Institute for Occupational Safety and Health (“NIOSH”), BP developed a detailed matrix that specified what PPE was required for each task.<sup>272</sup> In June 2010, at BP’s request, NIOSH conducted health

<sup>264</sup> OSHA’s Role in the Response at 10-11.

<sup>265</sup> OSHA, Current Training Requirements for the Gulf Oil Spill, July 21, 2010, *available at* <https://www.osha.gov/oilspills/training.html>, last visited Aug. 14, 2014.

<sup>266</sup> *E.g.*, Post-Emergency Spilled Oil Cleanup, Module 3—Shoreline Cleanup (BP-HZN-2179MDL01891791) at 29-36, 43-45, 52-61, 101 (BP Shoreline Cleanup Training Module) at 32-40, 44, 51-52, 58-112; *see also* Post-Emergency Spilled Oil Response, Marine Vessel Health and Safety, MC252 Module 4 (BP-HZN-2179MDL01891935).

<sup>267</sup> OSHA, Current Training Requirements for the Gulf Oil Spill.

<sup>268</sup> FOSC Report (Ex. 9105) at 122; OSHA, Current Training Requirements for the Gulf Oil Spill.

<sup>269</sup> OSHA’s Role in the Response at 10.

<sup>270</sup> FOSC Report (Ex. 9105) at 79, 88-89.

<sup>271</sup> NIOSH & OSHA, Interim Guidance for Protecting Deepwater Horizon Response Workers and Volunteers, at § IX.A, July 26, 2010, *available at* [www.cdc.gov/niosh/topics/oilspillresponse/protecting](http://www.cdc.gov/niosh/topics/oilspillresponse/protecting) (last visited Aug. 15, 2014) (“In general, overprotection from chemical and fire exposure generally creates a greater potential for heat stress.”).

<sup>272</sup> Howard Dep. at 133:2-5; OSHA’s Role in the Response at 9; PPE Matrixes for Gulf Operations, *available at* <https://www.osha.gov/oilspills/gulf-operations-ppe-matrix.pdf>, last visited Jul. 26, 2014.



hazard evaluations of onshore and major offshore response activities.<sup>273</sup> In his deposition, the Director of NIOSH, Dr. John Howard, testified that “personal protective equipment was used effectively to prevent or minimize dermal contact with chemicals of concern,” that it was “generally effective at preventing health risks to *Deepwater Horizon* response workers,” and that BP’s “implementation of personal protective equipment protocols [was] a demonstration of BP’s commitment to protect the health of response workers.”<sup>274</sup>

BP implemented several protocols to prevent and treat heat stress, including heat stress management plans.<sup>275</sup> During extreme daytime heat, shoreline responders in PPE were only allowed to work ten or twenty minutes at a time before safety rules required them to rest and rehydrate for up to forty minutes.<sup>276</sup> In response to its concerns about the effects of heat and fatigue on responders, BP initiated a split-shift program for beach workers that broke them into two teams, each with a staggered workweek. BP also switched some beach cleanup crews to the relatively cooler conditions of nighttime operations. BP worked collaboratively with OSHA and others in the Unified Command to mitigate the risks of heat stress, and, according to Dr. Howard, no responders developed any “serious heat illness.”<sup>277</sup>

#### (d) Air Monitoring

The Unified Command paid particular attention to potential respiratory hazards posed by evaporation of the hydrocarbons on the surface of the water, potential toxins released by the burning natural gas and surface oil at the well site, and the use of chemical agents. From the beginning of the Response, BP used site safety plans, which required air quality monitoring utilizing portable gas detectors to ensure worker safety. Real-time air monitoring, area air sampling, grab sampling and personal air monitoring were conducted to ensure that response personnel were not exposed to dangerous levels of toxic chemicals.<sup>278</sup> BP hired an accredited Industrial Hygiene firm to conduct extensive air sampling throughout the Gulf. NOAA, OSHA, and the EPA conducted additional extensive sampling.<sup>279</sup> Professional health and safety personnel from Unified Command contractors and BP reviewed all data. Air monitoring did not indicate exposures levels that would cause significant harm.<sup>280</sup>

---

<sup>273</sup> NIOSH, Health Hazard Evaluation of Deepwater Horizon Response Workers, Aug. 2011 at 1.

<sup>274</sup> Howard Dep. at 129:13-18, 133:14-134:1 (emphasis added).

<sup>275</sup> ISPR (Ex. 9124) at 104 (“Safety of the [cleanup] crews was a major issue addressed by BP’s management team. . . . Great care was taken to assure worker safety, including re-evaluation of personal protective equipment requirements, as well as the work-to-rest ratio.”); Howard Dep. at 125:14-22, 126:4-9.

<sup>276</sup> FOSC Report (Ex. 9105) at 69; ISPR (Ex. 9124) at 104; Howard Dep. at 125:23-126:3. This safety measure gave some onlookers the impression that responders were not working diligently.

<sup>277</sup> Howard Dep. at 128:14-129:6.

<sup>278</sup> FOSC Report (Ex. 9105) at 87-88;

<sup>279</sup> 7/30/10 RADM Austin Email to RADM Zukunft (HCG866-000315) at 2; OSHA’s Efforts to Protect Workers, available at <https://www.osha.gov/oilspills/>, last visited Jul. 26, 2014.

<sup>280</sup> FOSC Report (Ex. 9105) at 88; OSHA’s Efforts to Protect Workers, available at <https://www.osha.gov/oilspills/>, last visited Aug. 14, 2014 (“No air sampling by OSHA detected any hazardous chemical at levels of concern.”). NIOSH, Health Hazard Evaluation of Deepwater Horizon Response Workers, Aug. 2011 at 13 (“Throughout the evaluation, results for all airborne chemicals sampled were uniformly nondetectable or at levels well below applicable OELs.”).



## 2. Public Health and Safety

BP and its Unified Command partners also took steps to monitor and protect public health and safety. Extensive air monitoring was conducted by BP and the federal government to ensure the safety of Gulf residents.

Steps were also taken to ensure seafood safety. As a precautionary measure during the spill, NOAA and the Food and Drug Administration closed many federal fisheries in the Gulf of Mexico. Under NOAA guidance, seafood sampling began in April 2010 and continued through May 2011. All specimens collected within closed fishing areas had to pass both sensory and chemical analyses before an area could be reopened.<sup>281</sup> Sampling ensured the continued safety of seafood from the tested areas.<sup>282</sup> Beyond ensuring that harvested seafood was actually safe to eat, it was important to the local economy that the public perceived seafood to be so. By April 2011, all federal fisheries had been reopened.<sup>283</sup> To date, BP has contributed \$71 million for state-led seafood testing and marketing programs designed to restore the public's confidence in the safety of Gulf Seafood.<sup>284</sup>

BP has also contributed more than \$50 million to state, federal, and non-governmental agencies and organizations to fund mental health and substance abuse support services throughout the Gulf.<sup>285</sup>

BP collaborated with others in the Unified Command to protect the health and safety of response workers and the public at large during the *Deepwater Horizon* Response. BP's contributions to these efforts were effective in achieving an exceptional safety record, which is especially remarkable given the size, scope and nature of the response operations. The Unified Command's approach to safety in the Response "exemplified an all-hands-on-deck approach, with a genuine focus on the safety of its team members."<sup>286</sup> The safety measures employed during the *Deepwater Horizon* Response serve as a model for future spill responses.

---

<sup>281</sup> FOSC Report (Ex. 9105) at 82; Lubchenco et al., Science in Support of the *Deepwater Horizon* Response (Ex. 12500) at 5; Lubchenco Dep. at 256:2-259:14, 265:18-25; Winter, U.S. Reopens Another Large Fishing Area (Ex. 12512) at 1 (noting that all seafood samples passed NOAA's chemical test regarding dispersants).

<sup>282</sup> See Lubchenco Dep. at 264:2-11 (agreeing that after NOAA and the FDA conducted testing and reopened fisheries, she believed "it was safe to eat Gulf seafood with respect to any potential contamination from oil or dispersants").

<sup>283</sup> FOSC Report (Ex. 9105) at 80; Lubchenco Dep. at 260:10-13.

<sup>284</sup> BP, Seafood Industry Recovery, available at <http://www.bp.com/en/global/corporate/gulf-of-mexico-restoration/restoring-the-economy/seafood-industry-recovery.html>, last visited Aug. 14, 2014.

<sup>285</sup> U.S. Dept. of Health & Human Servs., Substance Abuse & Mental Health Servs. Admin. Gulf States Receive \$52 Million from BP for Behavioral Health, July/Aug. 2010, available at [http://www.samhsa.gov/samhsanewsletter/Volume\\_18\\_Number\\_4/GulfStates.aspx](http://www.samhsa.gov/samhsanewsletter/Volume_18_Number_4/GulfStates.aspx)

<sup>286</sup> FOSC Report (Ex. 9105) at 79.

## D. BP Worked Collaboratively with the Coast Guard and Other Unified Command Partners in Responding to the Spill.

### 1. BP and the Coast Guard Collaborated During the Response

BP collaborated with the Coast Guard throughout the *Deepwater Horizon* Response. Collaboration between the Responsible Party, the Coast Guard, and the other members of Unified Command is a core tenet of the NCP. The NCP provides that the Responsible Party must play an active role in response operations to “achieve an effective and efficient response.”<sup>287</sup> BP personnel fully integrated into the Unified Command structure and “worked effectively together” with the Coast Guard, and there was “unity of effort” throughout the Response.<sup>288</sup> BP’s consistent and meaningful collaboration with the Coast Guard, at every level of the response organization and despite challenges from outside the Unified Command, was essential to the success of the Response.

The cooperative relationship between the Coast Guard and BP has been recognized by official Coast Guard reports documenting the Response and by *every* Coast Guard witness deposed in this phase of the litigation:

| Source                                                      | Recognition of BP-USCG Cooperation                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISPR                                                        | “[P]ersonnel provided by the RP and Coast Guard personnel worked effectively together, and . . . there was ‘unity of effort’ throughout the response organization.” <sup>289</sup>                                                                                                                                                                                                                                     |
| FOSC Report                                                 | “The <i>Deepwater Horizon</i> oil spill response was ultimately successful, due to the unity of effort and perseverance of more than 1000 organizations that contributed to this unprecedented response. . . . [T]he Incident Command System’s scalable organizational structure proved critical to multiple agencies working with the RP [here, BP] toward common goals under an effective construct.” <sup>290</sup> |
| ADM Thad Allen (National Incident Commander)                | FOSC and BP were “working the issues” cooperatively, and they were both “working very hard” to establish a “unity of effort.” <sup>291</sup>                                                                                                                                                                                                                                                                           |
| CAPT James Hanzalik (Ret.) (FOSC; Houma Incident Commander) | Based on his experience working “shoulder-to-shoulder” with BP every day, BP and the Coast Guard “worked effectively together” and “with a unity of effort” and that BP was “proactive in working with the Coast Guard and also other members of the Unified Command.” <sup>292</sup>                                                                                                                                  |

<sup>287</sup> 40 CFR § 300.135(d); FOSC Report (Ex. 9105) at 5.

<sup>288</sup> ISPR (Ex. 9124) at 4.

<sup>289</sup> ISPR (Ex. 9124) at 4.

<sup>290</sup> FOSC Report (Ex. 9105) at xiv, 111.

<sup>291</sup> Allen Dep. at 102:3-7, 190:23-192:15.

<sup>292</sup> Hanzalik Dep. at 14:19-15:4, 16:19-22, 19:6-10, 28:5-32:2, 35:12-36:13, 223:22-225:4.



| Source                                                       | Recognition of BP-USCG Cooperation                                                                                                                                                                                                      |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RADM Meredith Austin (Houma Incident Commander)</b>       | Agreed that BP and the Coast Guard worked “effectively together” with “a unity of effort” “toward the common goal as part of the response.” <sup>293</sup>                                                                              |
| <b>CAPT Julia Hein (FOSC)</b>                                | BP and the Coast Guard “did work collaboratively” during the Response. <sup>294</sup>                                                                                                                                                   |
| <b>CAPT Larry Hewett (Houma Incident Commander)</b>          | BP “collaborated with the Coast Guard” during the Response. <sup>295</sup>                                                                                                                                                              |
| <b>CAPT Roger Laferriere (Houma Incident Commander)</b>      | Agreed that “there was a unity of effort between the United States Coast Guard and BP during the Response” <sup>296</sup>                                                                                                               |
| <b>CAPT Stephen McCleary (FOSC Team)</b>                     | Agreed that interactions between the Coast Guard and BP were “cooperative” and “collaborative,” and that BP and the Coast Guard did “work effectively together in responding to the <i>Deepwater Horizon</i> oil spill.” <sup>297</sup> |
| <b>LCDR Drew Casey (ISPR Team)</b>                           | Agreed that the BP personnel with whom he interacted “were very cooperative” and “very responsive.” <sup>298</sup>                                                                                                                      |
| <b>LT Frank Kulesa (Branch Director, Plaquemines Parish)</b> | Agreed that there was “a great deal of collaboration” between BP, the Coast Guard, and others in the Unified Command and that there was a “unity of effort between BP and the Coast Guard.” <sup>299</sup>                              |

**Figure 18: Coast Guard-BP Collaboration During the Response**

## **2. BP and the Coast Guard Worked Together to Meet Challenges from Outside the Response**

BP and the Coast Guard continued to collaborate throughout the Response, working cooperatively to meet many challenges to a successful response that came from outside the Unified Command. This section discusses examples of those challenges and how they affected the Response.

### **(a) Media Coverage**

BP and the Coast Guard worked together to manage challenges presented by a frenzy of national media coverage of the *Deepwater Horizon* spill and Response that was, at times,

<sup>293</sup> Austin Dep. at 96:4-97:22.

<sup>294</sup> Hein Dep. at 37:3-18, 38:15-39:2, 40:3-18, 67:11-68:14, 69:6-70:11, 81:25-82:7, 199:8-11, 250:16-252:13.

<sup>295</sup> Hewett Dep. at 54:15-55:10.

<sup>296</sup> Laferriere Dep. at 109:20-24.

<sup>297</sup> McCleary Dep. at 37:3-17, 222:13-23

<sup>298</sup> Casey Dep. at 18:8-12, 33:18-35:15.

<sup>299</sup> Kulesa Dep. at 72:19-73:7, 121:25-122:19, 134:17-24, 223:11-224:12, 267:8-21.



misleading and inaccurate.<sup>300</sup> Perhaps unsurprisingly, the *Deepwater Horizon* incident generated massive national media interest. The story was the number one news story of 2010 according to several year-end polls, including polls published by Time Magazine and the Associated Press.<sup>301</sup> Media representatives from throughout the world descended on the United States Gulf Coast to cover the story. The 24/7 news cycle, proliferation of news reporting organizations, advances in information technology and telecommunications, and social networking opportunities all served to create a constant demand for real-time information.<sup>302</sup> Managing this media attention was a significant logistical challenge for the response organization.

The Coast Guard's Incident Management Handbook stresses the importance of managing public perceptions.<sup>303</sup> A successful mission may not equate to a successful response operation if that success is not communicated effectively to the public. The expectation during an oil spill response is for the Unified Command, typically consisting of the FOSC, the State On-Scene Coordinator ("SOSC") and the Responsible Party, to jointly disseminate information to the public.<sup>304</sup> The mechanism through which this unified messaging is accomplished is through the establishment of a Joint Information Center ("JIC").<sup>305</sup> Prior to the *Deepwater Horizon* incident, the Coast Guard successfully employed the JIC model as its crisis communications structure for hundreds of incidents, including Hurricane Katrina, the Haiti earthquake, and the M/V TINTOMARA collision/oil spill on the Mississippi River.<sup>306</sup>

When the UAC was established for the *Deepwater Horizon* Response, a UAC JIC was also established using the NCP, the Incident Management Handbook, and standard National Response Team procedures. Within the JIC were representatives from the Coast Guard's Public Information Assist Team and BP. For a few days, the JIC worked well as a cohesive group and supported the FOSC through coordination of press briefings, preparation of press releases, responses to media inquiries, and other releases of information from the response organization.

---

<sup>300</sup> 6/13/10 RADM Austin Email to K. Neary (Ex. 12484 at 2) ("Everything's going okay ... don't believe what you hear on TV. The people in the field are working very hard, and we're working together w/ the locals, despite what certain folks are yelling on TV." (ellipsis in original)); 6/13/10 5:28 p.m. RADM Austin Email to K. Neary, Ex. 12484 at 1 ("The shoreline damage is actually not as bad as is being portrayed ... frankly, they are showing the same heavily oiled patch and making it seem that it represents miles and miles of shoreline—it absolutely does not!" (ellipsis in original)); 6/23/10 10:45 a.m. RADM Austin Email to K. Neary (Ex. 12485) at 1-2 ("The beach impact is not as dire as the TV says ... you should take a look at it so you can decide for yourself - not what the media want you to see." (ellipsis in original)).

<sup>301</sup> I. Tharoor, *The Top 10 of Everything of 2010; Top 10 U.S. News Stories*, Time Magazine December 9, 2010, available at [http://content.time.com/time/specials/packages/article/0,28804,2035319\\_2035315\\_2035680,00.html](http://content.time.com/time/specials/packages/article/0,28804,2035319_2035315_2035680,00.html), last visited Aug. 14, 2014; D. Crary, *Gulf Oil Spill Voted Top News Story of 2010 in Associated Press Poll*, Associated Press December 21, 2010, available at [http://blog.al.com/wire/2010/12/gulf\\_oil\\_spill\\_top\\_story\\_year.html](http://blog.al.com/wire/2010/12/gulf_oil_spill_top_story_year.html), last visited Aug. 14, 2014.

<sup>302</sup> ISPR (Ex. 9124) at 96.

<sup>303</sup> United States Coast Guard Incident Management Handbook, Incident Command System (ICS), 2006 Edition, Chapter 12.

<sup>304</sup> United States Coast Guard Incident Management Handbook, Incident Command System (ICS), 2006 Edition, Chapter 12.

<sup>305</sup> Austin Dep. at 153:7-15.

<sup>306</sup> ISPR (Ex. 9124) at 65; 9/16/10 ISPR Interview Summary, J. Kayyem (Ex. 12208) at 3 ("The White House's need for information in this event was insatiable.").

The Coast Guard FOSC and BP senior representative at the UAC provided joint press briefings to major news outlets based on what was known by the people on the ground at the time.<sup>307</sup>

After the declaration of a Spill of National Significance (“SONS”) event on April 29, 2010, however, senior leadership from the highest levels of the federal government rejected the Unified Command-led JIC model. Instead, senior federal officials, including at the Department of Homeland Security (“DHS”), sought to control messaging and retain final approval authority for the Federal Government’s crisis communications efforts.<sup>308</sup> External and public affairs functions, including message development quickly moved to higher levels of the response organization and away from the FOSC and BP. Deviating from established JIC protocols, the UAC was no longer authorized to conduct media interviews, hold press conferences, or send press releases without prior approval from DHS.<sup>309</sup> This bred confusion and frustration among media outlets, especially as requests for information and media inquiries continued to pour into the ICPs.<sup>310</sup> It often prevented the response organization from providing real-time information about the Response. Isolating BP from media opportunities led to an ineffective JIC, where message development and information coordination was not accomplished in a “joint” or “unified” manner, consistent with established Unified Command protocols.<sup>311</sup> It also limited the Unified Command’s ability to showcase spill response efforts in a positive light.

Moving media relations to Washington delayed dissemination of information to the public and consumed Response resources. Information about the Response had to be gathered, collated, communicated up the chain, and explained to the leadership before it could be communicated to the media and the public. Not only did this inhibit the ability of the Unified Command to provide timely, accurate information to the public; it also forced responders to devote significant time and resources to “feeding the beast,” the constant demand for information and approvals.<sup>312</sup> As the scope of the incident expanded, the NIC organization, UAC, and ICPs grew in size, and crisis communications became increasingly complex and burdensome.<sup>313</sup> In total, more than 300 Public Affairs Officers from multiple government agencies and BP supported the Response.<sup>314</sup>

Another challenge created by the media was contradictory reports about BP’s relationship with the federal elements of Unified Command. Some media stories accused the Coast Guard of colluding with BP; others reported that they were at odds. The Coast Guard-commissioned ISPR report emphatically refuted both of these notions.<sup>315</sup>

---

<sup>307</sup> ISPR (Ex. 9124) 65-68.

<sup>308</sup> ISPR (Ex. 9124) at 66; 8/25/10 ISPR Interview Summary, J. Hanzalik (Ex. 9114) at 5-6.

<sup>309</sup> ISPR (Ex. 9124) at 67.

<sup>310</sup> 9/20/10 ISPR Interview Summary, Capt. Poulin and Capt. Drelling (Ex. 12213) at 10 (“JIC worked well initially, but then lost value of the JIC when ICPs were gagged and overly constrained messaging, which made us appear less responsive.”).

<sup>311</sup> ISPR (Ex. 9124) at 67.

<sup>312</sup> ISPR (Ex. 9124) at 96.

<sup>313</sup> ISPR (Ex. 9124) at 67.

<sup>314</sup> FOSC Report (Ex. 9105) at 200.

<sup>315</sup> ISPR (Ex. 9124) at 4.

While the Coast Guard understood that working closely with BP within the Unified Command was the best way to ensure a successful response, others in the government did not share this view. For example, at an April 29, 2010 press conference, the Vice Commandant of the Coast Guard, Vice Admiral Sally Brice-O'Hara, referred to BP as "our partner."<sup>316</sup> Vice Admiral Brice-O'Hara's description of BP as a "partner" in the Response is consistent with the Unified Command framework. Nevertheless, Secretary of Homeland Security Janet Napolitano delivered a swift rebuke, stating of BP that "[t]hey are not our partner." The Secretary of the Interior, Ken Salazar, followed a similar tack when he publically declared that the government would keep its "boot on the neck" of BP.<sup>317</sup> According to the ISPR interview summary of the DHS Assistant Secretary of Intergovernmental Affairs, Juliette Kayyem, "[b]y day 5, you were no longer allowed to say a good word about BP. . . . Early on, BP became portrayed as the enemy. That was the way the narrative works."<sup>318</sup>

This approach reflected a decision by senior federal officials outside of the Unified Command framework to distance the FOSC from the BP representative during press events. This media-driven decision created extra hurdles that required special accommodations and reduced the efficiency of the Unified Command.<sup>319</sup> State and local governments exacerbated the situation by essentially withdrawing from the Unified Command construct as designed within the NCP, resulting in an un-unified message to the public, thereby fueling negative media coverage.

The result was a dichotomy between the Response portrayed in the media and the "real" Response happening on the ground. As Juliette Kayyem, assistant Secretary of the Department of Homeland Security during the Response, wrote in an article in 2011:

[T]he American public only saw one half of the response—the more contentious free-wheeling, rule-bending political side. But amid all that frenzy, people whose names you will never know worked everyday to fight the oil, adapt to changing demands, and kill the well. Success should not only be measured by the Gulf today, but by the fact that this other response — the real response — could function side by side with the politics of disaster.<sup>320</sup>

Another significant impact of the media coverage was its portrayal of the Response as supposedly slow and inadequate. Much of the media seemed only interested in information that fed into that narrative, regardless of the facts on the ground.<sup>321</sup> It soon became apparent to many

---

<sup>316</sup> Press Briefing on the BP Oil Spill in the Gulf Coast. April 29, 2010, *available at* <http://www.whitehouse.gov/the-press-office/press-briefing-bp-oil-spill-gulf-coast>, last visited Aug. 14, 2014; *see also* ISPR Political Demands Issue Paper Prep, extract from Interview Summary of R. Pond (Ex. 11950) at 4 ("ADM Landry was told that BP was not her partner and to stop appearing on camera with company officials").

<sup>317</sup> M. Soraghan, Tough-Talking Admin Officials Keep 'Boot on Neck' of BP, *New York Times*, May 3, 2010, *available at* <http://www.nytimes.com/gwire/2010/05/03/03greenwire-tough-talking-admin-officials-keep-boot-on-nec-20483.html>, last visited Aug 14, 2014.

<sup>318</sup> 9/16/10 ISPR Interview Summary, J. Kayyem (Ex. 12208) at 1, 4.

<sup>319</sup> ISPR (Ex. 9124) at 92; *see also* Austin Dep. at 251:10-13.

<sup>320</sup> Kayyem, Juliette, *The Game Changer*, *The Boston Globe*, April 24, 2011.

<sup>321</sup> *E.g.*, 8/27/10 ISPR Interview Summary, RADM Landry (TREX 7802) at 4 ("The news media was not providing fair and balanced coverage of the [R]esponse. They wanted to get the worst stories out to the public, instead of providing fair and balanced coverage of the [R]esponse, including all the hard work going on by workers to



in the Unified Command that some of the most vocal and widely disseminated elements of the media were less interested in the facts and more interested in perpetuating a narrative of conflict, inadequacy, and failure.<sup>322</sup>

State and local politicians also became aware that they could exert control over the Response through the media.<sup>323</sup> Several state and local politicians became frustrated that they could not directly influence the *Deepwater Horizon* Response, which in accordance with the NCP, was led by the federal government, in the same manner they would be able to influence a response under the National Response Framework (“NRF”) or Stafford Act, which gives more control to the States.<sup>324</sup> Certain state and local politicians routinely appeared on national media to voice this frustration.<sup>325</sup> President Nungesser of Plaquemines Parish boasted to the ISPR team that he spoke daily with CNN’s Anderson Cooper, and that he would threaten Coast Guard responders with a call to Cooper if they did not meet his demands.<sup>326</sup> Local resentment became a media theme and, to some extent, a self-fulfilling prophecy. Even some who believed the federal government was doing the best it could under the circumstances did not say so publicly.<sup>327</sup>

Correcting false or misleading media reports distracted time, attention and resources that might have been more effectively deployed elsewhere in the Response. Moreover, use of the media by some stakeholders at times worked at cross-purposes to the Response and undermined the “unity of effort” called for by the NCP. Nevertheless, the Coast Guard and BP continued to

---

respond to the spill. . . . ADM Landry wanted to paint a realistic picture of what was going on in the Gulf, including the hard work occurring, but the media was only focusing on finding the weakness.”); 5/31/10 Austin Email (HCE058-001529)(expressing frustration that the media is “not telling the whole story”); 6/25/10 Austin Email to Lloyd (HCE151-002688)(expressing similar sentiments about the media); 8/11/10 Austin Email to Gatlin (HCE033-007552)(expressing similar sentiments about the media).

<sup>322</sup> E.g., 6/2/10 RADM Austin Email to Kostecki (HCE054-000054) (Capt. Austin commenting on a media story about division between the Coast Guard and BP: “How stupid is this story. Clearly, someone has a mandate to create conflict where none exists.”); 5/31/10 Austin Email (HCE058-001529) (Capt. Austin noting that all TV stations keep showing the same oiled patch of marsh— “the best way to ‘treat’ oil in that marsh is to let Mother Nature take care of it at this point—traipsing in there w/ big boots is much more damaging”); Kulesa Dep. at 65:19-21 (“I observed reports that Coast Guard and BP were—were hiding oil, [burying] oil, which is not accurate, in my opinion.”).

<sup>323</sup> E.g., Hein Dep. at 154:6-25 (Capt. Hein (FOSC) questioned whether some of the criticisms raised by Alabama mayors in the press were raised for political reasons).

<sup>324</sup> Hewett Dep. at 58:11-61:15; see also 8/30/10 ISPR Interview Summary, RADM Watson (Ex. 150031) at 6 (“The Stafford Act is very focused on individual boundaries and state/county needs. The NCP is far superior to manage this situation.”).

<sup>325</sup> 9/16/10 ISPR Interview Summary, H. Barnet (OSE052-001973) at 2 (“This couldn’t have happened in a worse year, given it’s an election year. Politics was an issue. Some people showboated on conference calls. They created issues that weren’t there to get their name out there in public. It caused some headaches.”).

<sup>326</sup> ISPR Political Demands Issue Paper Prep, extract from Interview Summary, B. Nungesser (TREX 11950) at 25; see also Kulesa Dep. at 65:21-66:1 (“I saw President Nungesser giving interviews with Anderson Cooper that I thought he said he had very little interaction with the Coast Guard and BP, which I thought was inaccurate because our branch directors and the Coast Guard and BP did try to, you know, coordinate with him.”).

<sup>327</sup> Austin Dep. at 116:25-117:13 (“[W]hen the cameras were off, the parish presidents would complement the Coasties and sometimes would even come out and say, look, you guys are doing a great job but I—I—I’m going to go now yell at you on camera ‘cause I got to. You know, our code is you do a good job, you say good job; you do a bad job, you say bad. You don’t say one thing depending on the audience. So they found that, you know, very demoralizing.”).

mount an effective Response despite these media challenges. Indeed, the ISPR heralds the continued collaboration and cooperation between Coast Guard and BP, even in the face of intense media scrutiny, as one of “three major areas of positive observations that merit attention” during the Response. As the ISPR team concludes in the Executive Summary of the Report:

Media reports often left viewers with the impression that the Coast Guard and the responsible party (RP) were at odds periodically during the response. To the contrary, the team observed that *personnel provided by the RP and Coast Guard personnel worked effectively together, and that there was a “unity of effort” throughout the response organization.*<sup>328</sup>

### (b) Dispersant Limitations and Other Challenges from the EPA

BP and the Coast Guard faced a number of challenges during the *Deepwater Horizon* Response that the EPA initiated and pursued in a manner that was inconsistent with the NCP framework. EPA repeatedly took actions that placed undue demands and pressure directly on the FOSC, bypassing the the RRT.<sup>329</sup> The most notable examples of the EPA’s circumvention of the NCP framework involve the use of dispersants during the Response.

As discussed above, a considerable amount of science and research has been conducted on dispersants over the last 30 years.<sup>330</sup> The use of dispersants during the *Deepwater Horizon* Response was conducted in accordance with RRT VI’s pre-approved dispersant plan and was implemented by the FOSC in consultation with the EPA and other Unified Command partners. Dispersant use was continually monitored during the Response for effectiveness and safety, including toxicity.<sup>331</sup>

Nevertheless, public concern and political pressure grew over the use of dispersants during the Response, primarily due to media coverage and public perceptions about toxicity of the dispersants and the volume of dispersants being applied.<sup>332</sup> As a result of this mounting public and political pressure, EPA initiated a directive—Addendum 2 to the original May 10, 2010 Dispersant Monitoring and Assessment Directive—which the FOSC issued on May 20, 2010.<sup>333</sup> Addendum 2 required BP to identify any other available dispersants on the NCP Product Schedule that are less toxic than the Corexit dispersant that was being used during the Response and to report back to the FOSC and EPA within 24 hours.<sup>334</sup> As Captain James Hanzalik testified, the issuance of Addendum 2 was unnecessary because if the Unified

<sup>328</sup> ISPR (Ex. 9124) at 4 (emphasis added).

<sup>329</sup> FOSC Report (Ex. 9105) at 11, 37-43; Capt. Lloyd FOSC Report Input (Ex. 12529) (USCG NRT representative wrote that EPA bypassed RRT in seeking to issue dispersant limitation and waste management directives).

<sup>330</sup> ISPR (Ex. 9124) at 40; Barron Dep. at 74:12-25.

<sup>331</sup> ISPR (Ex. 9124) at 40-41; Lubchenco Dep. at 116:20-24, 120:17-22 (agreeing that dispersants are “significantly less toxic than oils they were dispersing,” and that the dispersants used during the Response were “one-tenth to one one-hundredth the level of toxicity of oil”).

<sup>332</sup> ISPR (Ex. 9124) at 40-41; NOAA FOSC Report Input (Ex. 12533) (“The use of dispersants was the subject of very vocal criticism and much misinformation”).

<sup>333</sup> May 20, 2010 Dispersant Monitoring and Assessment Directive Addendum 2 (Ex. 11842); 5/20/10 EPA Press Release (Ex. 11841) (“Today, the U.S. Environmental Protection Agency (EPA) issued a directive requiring BP to identify and use a less toxic and more effective dispersant from the list of EPA authorized dispersants.”).

<sup>334</sup> May 20, 2010 Dispersant Monitoring and Assessment Directive Addendum 2 (Ex. 11842).

Command “wanted BP to change dispersants, [BP] would have changed the dispersant. We didn’t need a directive to tell them to do that. . . . [I]t was my opinion that the EPA was doing this to make it sound like they were doing something. I’m not happy about that, but that’s the way it was.”<sup>335</sup>

Nevertheless, BP complied with Addendum 2 and responded the following day as requested with a letter providing the requested information and confirming its belief that Corexit was the most appropriate dispersant for use during the Response.<sup>336</sup> Despite publicly criticizing BP’s response, the EPA later confirmed, including through subsequent toxicity testing, that it shared BP’s view that, based on its relatively low toxicity and high efficacy, Corexit was an appropriate choice of dispersant for use in the Response.<sup>337</sup>

A few days after Addendum 2 was issued, the EPA initiated yet another dispersant directive—Addendum 3 to the original Dispersant and Monitoring and Assessment Directive—which the FOSC issued on May 26, 2010. Addendum 3 required BP to “establish an overall goal of reducing dispersant application by 75% from the maximum daily amount used.” To accomplish this goal, Addendum 3 mandated that: (1) BP “shall eliminate the surface application of dispersants” entirely, except in “rare cases” where the FOSC approved an exemption; and that (2) “BP shall be limited to a maximum subsurface application of dispersant of not more than 15,000 gallons in a single calendar day.”<sup>338</sup> BP complied with this directive, and Addendum 3 led to a substantial reduction in the surface application of dispersants during the Response. As the Coast Guard’s FOSC Report concluded, between the time that Addendum 3 was issued on May 26 until dispersant application ended on July 19, aerial dispersant application was used 33 of 54 days (61%), with an average application of 8,892 gallons, a 24% reduction in days used and a 64% reduction in the amount of dispersant applied as compared to the previous period of application from April 22 to May 26.<sup>339</sup>

The issuance of Addendum 3 was driven primarily by political and public concerns about dispersant use, rather than science.<sup>340</sup> On May 26, the *same day* that Addendum 3 was issued, a group of more than 50 scientists, engineers and spill response experts from federal and state governments, industry and academia gathered for a two-day meeting at LSU in Baton Rouge, Louisiana to review and make recommendations to RRT VI about the use of dispersants in the *Deepwater Horizon* Response. The Baton Rouge meeting was organized by the Coastal Response Research Center, which is a partnership between NOAA and the University of New Hampshire. Scientists and other experts from several federal agencies—including Dr. Charlie

---

<sup>335</sup> Hanzalik Dep. 116:9-17.

<sup>336</sup> 5/20/10 D. Suttles Letter to RADM Landry (Ex. 12046).

<sup>337</sup> 5/26/10 L. Jackson Letter (Ex. 12047); EPA Comparative Toxicity of Eight Oil Dispersant Products on Two Gulf of Mexico Aquatic test Species (Ex. 12052); EPA Analysis of Eight Oil Spill Dispersants (Ex. 12053).

<sup>338</sup> May 26, 2010 Dispersant Monitoring and Assessment Directive Addendum 3 (Ex. 11844).

<sup>339</sup> FOSC Report (Ex. 9105) at 37.

<sup>340</sup> Hanzalik Dep. at 141:2-7 (Addendum 3 “was totally motivated by political reasons”); RADM Austin FOSC Report Input (Ex. 12494); Barron Dep. at 200:6-17 (EPA toxicologist during Response is “not aware of any . . . toxicity data that might have informed that type of decision [to limit dispersant use]”) & 202:4-12 (Barron is not aware of “any connection between any toxicity analysis of Corexit and the issuance of Addendum 3”); McCleary Dep. at 197:5-21; FOSC Report (Ex. 9105) at 40-41; 10/22/10 Hanzalik Email and Response Observations (Ex. 11845).



Henry and Dr. Ed Levine (the NOAA Scientific Support Coordinators for the Response), and Dr. Mace Barron and several other toxicologists and scientists from the EPA—participated in the meeting.<sup>341</sup>

At the meeting, participants reviewed information about the effectiveness, fate and transport, and biological effects of dispersant use in the *Deepwater Horizon* Response. The participants subsequently issued a Report summarizing their findings and recommendations, including those summarized below.<sup>342</sup>

| <b>Recommendations from Coastal Response Research Center<br/>Dispersant Use Meeting Held in Baton Rouge on May 26-27, 2010</b> |                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.                                                                                                                             | “Surface application of dispersants has been demonstrated to be effective for the DWH incident and <i>should continue to be used</i> .”                                                                                                                              |
| 2.                                                                                                                             | “The use of chemical dispersants <i>is needed</i> to augment other response options because of a combination of factors for the DWH incident . . .”                                                                                                                  |
| 3.                                                                                                                             | “There is a net benefit to continued subsurface dispersant use and <i>application should continue</i> .”                                                                                                                                                             |
| 4.                                                                                                                             | “[U]p to this point, use of dispersants and the effects of dispersing oil into the water column has generally been <i>less environmentally harmful</i> than allowing the oil to migrate on the surface into the sensitive wetlands and near shore coastal habitats.” |

**Figure 19: May 26, 2010 CRRC Dispersant Use Recommendations**

It was the consensus of the 50 scientists and other experts who participated in the Baton Rouge dispersant meeting that both the surface and subsurface applications of dispersants that had taken place up to May 26, the day Addendum 3 was issued, (1) were effective, (2) were less environmentally harmful than allowing oil to reach the surface and shoreline, and (3) should continue.<sup>343</sup> There is no record evidence that anyone at the Baton Rouge meeting proposed that dispersant limitations should be reduced, much less by 75% or that surface use of dispersants should be eliminated altogether. To the contrary, participants at that meeting have testified that no such suggestions were made.<sup>344</sup>

Despite the contemporaneous advice of the scientists at the Coast Response Research Center (including several of its own scientists) that dispersant use should continue consistent with past practice, the EPA proceeded with its efforts to limit dispersant use.<sup>345</sup> Contrary to the

<sup>341</sup> Deepwater Horizon Dispersant Use Meeting Report (Ex. 11839).

<sup>342</sup> Deepwater Horizon Dispersant Use Meeting Report (Ex. 11839); Hanzalik Dep. at 93:7-94:17; FOSC Report (Ex. 9105) at 42.

<sup>343</sup> Deepwater Horizon Dispersant Use Meeting Report (Ex. 11839); FOSC Report (Ex. 9105) at 42 (“There was consensus from the LSU meeting that, up to that point, the use of dispersants and the effects of dispersed oil into the water column had generally been less environmentally harmful than allowing the oil to migrate on the surface into the sensitive wetlands and near-shore coastal habitats.”).

<sup>344</sup> Hanzalik Dep. at 101:10-103:2; Barron Dep. at 191:7-17.

<sup>345</sup> Deepwater Horizon Dispersant Use Meeting Report (Ex. 11839); ; Hanzalik Response Observations (Ex. 11845) (EPA “provided pressure and undue burden on the FOSC, RADM Mary Landry, with regard to the

NCP framework, the EPA bypassed RRT VI and engaged directly with the FOSC, Rear Admiral Landry, placing “pressure and undue burden” on her to sign the Addendum 3 directive. Rear Admiral Landry ultimately signed Addendum 3 on May 26, 2010 – *the same day* that the Baton Rouge dispersant meeting began.<sup>346</sup> Indeed, Rear Admiral Landry later told her Deputy Area Commander Captain James Hanzalik (who was at the Baton Rouge meeting when she signed Addendum 3) that she “had to sign it” and forwarded him an email containing “White House directed language.”<sup>347</sup> Captain Hanzalik testified that, to his knowledge, “the reason why the directive was signed was because Rear Admiral Landry had pressure put on her to sign those directives .... She told me she had to sign it.”<sup>348</sup> He testified that Addendum 3 was “totally motivated by political reasons.”<sup>349</sup> And, as with Addendum 2, Addendum 3 was unnecessary because BP would have voluntarily complied with any request to reduce dispersant use.

In my opinion, the EPA’s actions in pursuing the issuance of the Addendum 2 and Addendum 3 dispersant directives were contrary to the NCP framework and were counterproductive to the Response objectives. By circumventing the RRT and seeking to deal directly with the FOSC, the EPA bypassed knowledgeable representatives from multiple federal and state agencies (including the EPA) and denied the FOSC the benefit of their scientific and tactical knowledge. The specific dispersant limitations imposed by Addendum 3 were arbitrary, politically motivated, and not science-based.<sup>350</sup>

The issuance of Addendum 3 negatively impacted the Response. By imposing extensive and evolving documentation requests and high-level EPA approval requirements to secure needed exemptions, Addendum 3 led to delayed and sometimes missed opportunities to apply dispersants to fight the spill. For example, on June 7, 2010, BP requested an exemption to Addendum 3 so that it could aerially apply 32,000 gallons of dispersant to attack a large slick that was heading to the Louisiana shoreline that skimmers could not recover.<sup>351</sup> FOSC Rear Admiral Watson supported BP’s request, stating that he had determined that aerial dispersants were “the best and only way to mitigate the pending landfall effect of the oil spotted.”<sup>352</sup> Rear Admiral Watson sought the concurrence of RRT VI. Every federal agency represented on RRT VI—including NOAA, the Department of the Interior, and the Coast Guard—supported the dispersant application request, except for the EPA.<sup>353</sup> The EPA Co-Chair of RRT VI, Craig

---

signing of an EPA drafted directive (addendum 3) on May 26, 2010 to limit the use of dispersants without consulting the designated EPA RRT Co-Chair...This is in direct conflict with the National Response System and the National Contingency Plan”); Hanzalik Dep. at 131:7144:7; May 26, 2010 Dispersant Monitoring and Assessment Directive Addendum 3 (Ex. 11844).

<sup>346</sup> May 26, 2010 Dispersant Monitoring and Assessment Directive Addendum 3 (Ex. 11844).

<sup>347</sup> Hanzalik Dep. at 110:22-111:23, Hanzalik FOSC Report Input (Ex. 11845).

<sup>348</sup> Hanzalik Dep. at 110:22-111:23, Hanzalik FOSC Report Input (Ex. 11845).

<sup>349</sup> Hanzalik Dep. at 141:2-7.

<sup>350</sup> McCleary Dep. at 197:5-21 (according to Houma Incident Commander Admiral Austin, “the limitations on the use of dispersants imposed during the *Deepwater Horizon* Response were not made in a scientifically defensible way).

<sup>351</sup> Hanzalik Dep. at 157:25-158:13; 6/8/10 J. Hanzalik Email (Ex. 11847).

<sup>352</sup> 6/7/10 RADM Watson Email to D. Tulis (Ex. 13028).

<sup>353</sup> Hanzalik Observations (Ex. 11845). The State of Louisiana abstained from the vote. Every other agency, except the EPA, supported the dispersant application request.

Carroll, and other EPA representatives indicated that although they had authority to approve the request, they “had to run it up the flagpole,” ultimately to the Administrator Lisa Jackson.<sup>354</sup> Later that day, when it had not yet received responses to all of its data requests, the EPA threatened to issue a directive “to stop the use of all dispersants.”<sup>355</sup> These discussions led to delayed consideration of the dispersant application request, and in the end, the Unified Command was not able to apply the dispersants as requested.

As another example, on July 13, BP made a request to apply 10,000 gallons of dispersant to oil slicks.<sup>356</sup> The EPA denied the request.<sup>357</sup> The FOSC, then Rear Admiral Zukunft, replied that he could not “take the dispersant tool out of my kit when” oil threatened to hit environmentally sensitive areas of the Louisiana coast. Rear Admiral Zukunft explained: “We spent over a month cleaning Barataria Bay with over 1500 people and 600 vessels and still incurred significant wildlife kills while exposing these cleanup crews to extreme heat conditions. That is the trade-off option where dispersants come into play . . . .”<sup>358</sup> As a result of the EPA’s denial of the dispersant application request, BP was prohibited from using dispersants on the identified slicks on July 14.<sup>359</sup>

Captain James Hanzalik, RRT VI Chair, aptly summarized the problems posed by with the EPA’s imposition of arbitrary dispersant limitations developed outside of the NCP framework:

Don’t you think that it is odd that the EPA would be directing the FOSC when and when not to use dispersants? We have a 2-mile by more than 6-mile slick offshore that skimmers cannot get to and we have the EPA telling us to justify our use of surface dispersants which are already pre-approved/pre-authorized by the RRT. We also have an agency that is “outside” the response calling the shots at the national level. We have senior leadership intimidated by the repercussions of their decisions and the unwillingness to make them based on what EPA’s desires are and the potential to alleviate/prevent interagency tensions....

***It would be a travesty if the oil hits the beach because we did not use the tools available to fight this offshore. This responsibility needs to be placed squarely in EPA’s court if it does hit the shoreline.***<sup>360</sup>

The dispersant limitations imposed in Addendum 3 led to increased shoreline oiling.<sup>361</sup> As the FOSC Report concluded: “Data from the Environmental Unit, established at the UAC in

---

<sup>354</sup> Hanzalik Observations (Ex. 11845).

<sup>355</sup> 6/8/10 D. Tulis Email to RADM Watson.

<sup>356</sup> 7/13/10 C. Huber Email to R. Laferriere.

<sup>357</sup> 7/13/10 M. Stanislaus Email to RADM Zukunft; *see also* Utsler Dep. at 297:25-298:22, 299:16-300:15 (EPA’s approvals and denials were “inconsistent and variable”).

<sup>358</sup> 7/14/10 RADM Zukunft Email to M. Stanislaus.

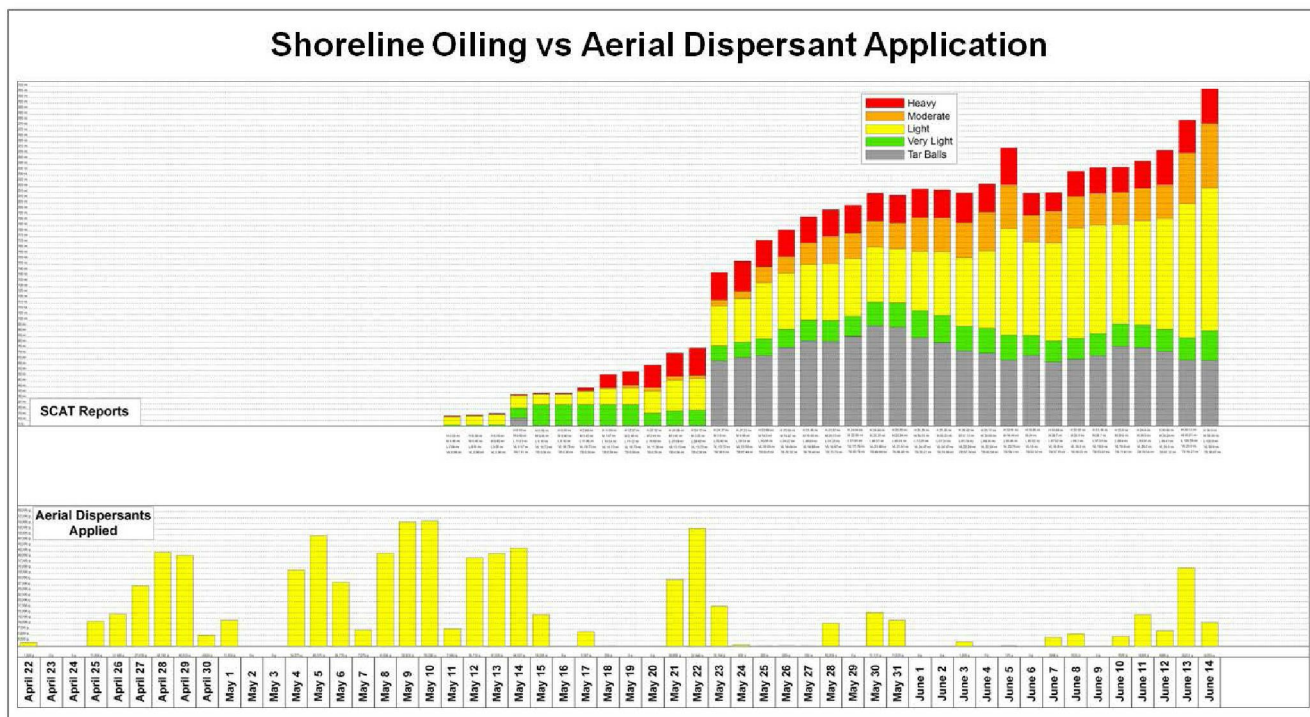
<sup>359</sup> 7/14/10 RADM Zukunft Email (EPE006-004696).

<sup>360</sup> 6/8/10 J. Hanzalik Email (Ex. 11847) (emphasis added).

<sup>361</sup> 9/20/10 RADM Austin Email to RADM Nash attaching Houma ICP written input for FOSC Report (Ex. 12494) at 3 (for inclusion in the FOSC Report, RADM Austin writes: “On days where the use of dispersants met the pre-approval criteria but were not used could be directly attributable to more oil washing up on the beaches



Robert, La., to assist the FOSC with environmental issues, showed a strong correlation between decreased dispersant use and increased shoreline oiling during the period of reduced application,” as shown below.<sup>362</sup>



**Figure 20: Dispersant Limitations and Increased Shoreline Oiling<sup>363</sup>**

EPA-initiated limitations on the use of dispersants limited the effectiveness of dispersants and increased the extent of shoreline oiling as a result of the spill.<sup>364</sup> Nevertheless, the Coast Guard and BP continued to work to provide requested documentation and obtain exemption approvals to continue dispersant use even after Addendum 3 was issued. While the use of dispersant would have been more effective were it not for the limitations in Addendum 3, the

several days later”); Utsler Dep. at 297:25-298:22, 300:25-302:9, 302:25-303:19 (limitations on dispersants resulted in “a corresponding increase in the amount of oiling that was occurring to our shorelines, marshes, and wetlands.”); (Hanzalik Dep. at 182-83 (“[T]he lack of use of aerial dispersants during the response contributed to shoreline oiling.”)).

<sup>362</sup> FOSC Report (Ex. 9105) at 37-38; 9/20/10 RADM Austin Email to RADM Nash attaching Houma ICP written input for FOSC Report (Ex. 12494) at 3 (noting that “a table provided by Dispersant Group at ICP Houma showed the direct correlation between reduced dispersant use and shoreline impact . . .”); Shoreline Oiling Graph (Ex. 11850).

<sup>363</sup> Ex. 11850; FOSC Report (Ex. 9105) at 38.

<sup>364</sup> 9/20/10 RADM Austin Email to RADM Nash attaching Houma ICP written input for FOSC Report, Ex. 12494 at 3 (“On days where the use of dispersants met the pre-approval criteria but were not used could be directly attributable to more oil washing up on the beaches several days later . . .”); Austin Dep. at 165:2-13 (NOAA Scientific Support Coordinator believed that dispersant limitations created a “possible risk of significant shoreline and wildlife impacts”).

Coast Guard and BP continued to use dispersants to respond to the spill after May 26, consistent with the guidelines established by the EPA.<sup>365</sup>

### (c) Mississippi River Diversions

Another challenge to the Response came, when in 2010, the State of Louisiana diverted the Mississippi River with the intent of keeping oil out of coastal marshlands. The diversions were a unilateral action taken at the direction of the State of Louisiana without the approval or oversight of the Unified Command.<sup>366</sup> The river diversions had little or no impact on the amount of oil affecting the Louisiana coastline.<sup>367</sup> They did present a risk to coastal oyster beds that were not otherwise affected by oil, however.<sup>368</sup>

The State of Louisiana enlisted the help of the United States Army Corps of Engineers in analyzing the diversions.<sup>369</sup> The Corps of Engineers analyzed the potential benefits of the river diversions through “advanced supercomputer modeling.”<sup>370</sup> The Corps of Engineers concluded that “the movement of oil appears to be dominated by wind speed and direction,” and that diverting the Mississippi River would “have negligible benefits in preventing oil from entering marshes.”<sup>371</sup>

From April 24, 2010 Louisiana was operating the Caernarvon Diversion at its maximum capacity of 8,000 cubic feet of fresh water per second.<sup>372</sup> From May 8, 2010 Louisiana was operating the Davis Pond Diversion at a “high flow rate” of 7,000-9,000 cubic feet of fresh water per second.<sup>373</sup> Captain Hanzalik testified that he asked a representative of the Louisiana Department of Environmental Quality what he thought the river diversions were going to

---

<sup>365</sup> Hanzalik ISPR Interview Summary (Ex. 9114) (“Even though constrained with the usage of dispersants, the use of dispersants in general was a big win.”). The EPA also “drafted a waste management directive and requested that the FOSC issue it to” BP, without consulting RRT VI. FOSC Report (Ex. 9105) at 11; Hanzalik Dep. at 183, 185:5190:11; Capt. Lloyd FOSC Report Input (Ex. 12529) (USCG NRT representative wrote that EPA bypassed RRT in seeking to issue waste management directive).

<sup>366</sup> Hewett Dep. at 37:20-43:8, 67:3-68:18 (United States 30(b)(6) witness testifies that several response and cleanup activities were not conducted at the direction or under the oversight of the Unified Command); 8/5/10 RADM Korn Email to Lt. Cdr. Lauer, Capt. McCleary, et al. (HCE156-001049) at 2 (“[W]e believe this action was taken unilaterally by the State without FOSC approval.”); 8/16/10 Capt. Paradis Email to Capt. Austin and Capt. Hewett (Ex. 11891) at 2; United States’ Response to Defs’ First Set of Interrogatories RFA, at 8 (“The United States admits that the Mississippi River Diversions undertaken by the State of Louisiana were not part of the daily Incident Action Plans that summarize the removal activities undertaken by the Unified Command under the direction of the Federal On-Scene Coordinator . . .”).

<sup>367</sup> 7/1/10 USACE Office of Public Affairs, *USACE Gulf Oil Response: Water Flow* (Ex. 11892).

<sup>368</sup> 8/2/10 RADM Zukunft Email to Capt. Lodge (HCE156-001049) at 2-3.

<sup>369</sup> U.S. Army Corps of Engineers, *USACE Gulf Oil Spill Response: Water Flow* (Ex. 11892); 4/27/10 K. Durham-Aguilera Email to M. Walsh, G. Shepard, et al. (C3E018-000316) at 4.

<sup>370</sup> U.S. Army Corps of Engineers, *USACE Gulf Oil Spill Response: Water Flow* (Ex. 11892).

<sup>371</sup> U.S. Army Corps of Engineers, *USACE Gulf Oil Spill Response: Water Flow* (Ex. 11892).

<sup>372</sup> 6/18/10 R. Mach Email to J. Steevens (C1T007-001189) at 1.

<sup>373</sup> 6/18/10 R. Mach Email to J. Steevens (C1T007-001189) at 1.



achieve.<sup>374</sup> The Louisiana representative replied, “[I]t’s not going to do anything; probably kill some oysters. That’s pretty much it.”<sup>375</sup>

On July 27, 2010, the Army Corps of Engineers sent a letter to the Louisiana Department of Natural Resources, warning it that the diversion from Davis Pond was contributing to salinity levels at Barataria Bay “well below the target range identified in the project’s [National Environmental Policy Act] documents.”<sup>376</sup> “Adverse impacts to oysters, including mortality, are predicted to occur if the observed salinity levels are sustained over time.”<sup>377</sup> On August 10, 2010 the Corps of Engineers sent a similar warning related to Louisiana’s continued operation of the diversion from Caernarvon.<sup>378</sup>

In June 2010, oyster deaths were reported in unholed sections of Barataria Bay and Breton Sound in the vicinity of the fresh water diversions. Earl Melancon, a biological sciences professor at Nicholls State University stated “I’m fairly confident that what we’re seeing out there is a freshwater event that’s killing everything.”<sup>379</sup>

The State of Louisiana never submitted a plan for the Mississippi River diversion to the FOSC for approval.<sup>380</sup> Although the State of Louisiana was assisted by the Army Corps of Engineers, the diversion was not authorized by Unified Command, and it was not a removal action conducted under the direction and oversight of Unified Command.<sup>381</sup>

According to the United States’ 30(b)(6) witness on actions taken outside the direction and oversight of Unified Command, the State of Louisiana “hadn’t considered some of the environmental implications of introducing that much freshwater into a brackish or saltwater environment.”<sup>382</sup> Dilution of coastal waters and the resultant reduction in salinity may have negatively impacted oyster populations, as predicted by the representative from Louisiana’s Department of Environmental Quality.<sup>383</sup> In the aftermath of this unintended consequence, in August 2010 Governor Jindal lobbied the Unified Command to retroactively classify the

---

<sup>374</sup> Hanzalik Dep. at 201:5-21.

<sup>375</sup> Hanzalik Dep. at 201:5-17.

<sup>376</sup> 7/27/10 Col. Fleming Letter to Hon. R. Harper (Ex. 11893) at 1.

<sup>377</sup> 7/27/10 Col. Fleming Letter to Hon. R. Harper (Ex. 11893) at 1.

<sup>378</sup> 8/10/10 Col. Fleming Letter to Hon. R. Harper (Ex. 11894).

<sup>379</sup> N. Santa Cruz & P.J. Huffstutter, *Effort to Keep Oil Spill at Bay Tips Ecological Balance*, Los Angeles Times (Aug. 3, 2010), <http://articles.latimes.com/print/2010/aug/03/nation/la-na-freshwater-20100803>; Hanzalik Dep. at 200-01.

<sup>380</sup> 8/16/10 Capt. Paradis Email to Capt. Austin and Capt. Hewett (Ex. 11891) at 1.

<sup>381</sup> Hewett Dep. at 43:3-8, 67:3-13, 68:11-18; 8/16/10 Capt. Paradis Email to Capt. Austin and Capt. Hewett (Ex. 11891) at 2.

<sup>382</sup> Hewett Dep. at 69:15-70:6; Hanzalik Dep. at 197:13-19; Ex. 11851..

<sup>383</sup> Hewett Dep. at 69:15-70:6; Hanzalik Dep. at 201:5-21.



Mississippi River diversion as a removal action under law.<sup>384</sup> Rear Admiral Zukunft, who was FOSC at the time, denied Governor Jindal's request.<sup>385</sup>

In my opinion, the Mississippi River diversions were unilateral actions undertaken by the State of Louisiana that were unauthorized by the Unified Command. The diversions were an ineffective response measure and may have negatively impacted oyster populations. Consistent with the Coast Guard's refusal to recognize the diversions as a response activity, BP did not support or endorse the diversions.

#### **(d) Berms**

In early May 2010, the State of Louisiana and Plaquemines Parish proffered a demand for BP to build over 100 miles of linear sand berms along the Louisiana coastline in order to catch oil and protect the estuaries and marshes. Offshore barrier berms generally do not constitute a viable spill response measure given the time and cost of construction, dynamic marine environment, and negative environmental impacts from dredging and filling. The State of Louisiana had originally proposed building the berms as part of a coastal restoration project in the wake of Hurricane Katrina.<sup>386</sup> The proposed project was controversial. The U.S. Department of Interior, U.S. Fish and Wildlife Service, U.S. Geological Survey, NOAA, and others voiced concerns over the feasibility, constructability, potential for environmental impact, and potential damage the National Wildlife Refuge Islands from dredging operations.<sup>387</sup> Experienced responders with the Coast Guard did not believe that the berms would constitute an effective oil removal technique, and BP did not recommend the berms as a response tool.<sup>388</sup>

On May 11, 2010, the Coastal Protection and Restoration Authority of Louisiana ("CPRA") applied for an emergency permit to construct berms.<sup>389</sup> After NIC Admiral Allen approved the implementation of a section of Louisiana's Barrier Island berm project proposal, BP committed \$360 million to fund the project.<sup>390</sup> Approximately \$260 million was spent on berm construction seaward of the barrier islands in Louisiana, and the remaining \$100 million was spent on barrier island restoration projects.<sup>391</sup>

---

<sup>384</sup> 8/2/10 RADM Zukunft Email to Capt. Lodge (HCE156-001049) at 2-3; 8/16/10 Capt. Paradis Email to Capt. Austin and Capt. Hewett (Ex. 11891) at 2.

<sup>385</sup> Hewett Dep. at 71:2-20; 8/16/10 Capt. Paradis Email to Capt. Austin and Capt. Hewett (Ex. 11891) at 2.

<sup>386</sup> Hanzalik Dep. at 193:2-16; Hewett Dep. at 90-92.

<sup>387</sup> FOSC Report (Ex. 9105) at 57; Hewett Dep. at 116:15-23; 5/13/10 NOAA Considerations on Louisiana Proposal for Barrier Island Restoration Plans, Ex. 11898; 5/17/10 Capt. Beeson Email to RADM Allen, Ex. 11933 (forwarding NIC Interagency Solutions Group analysis of berms proposal).

<sup>388</sup> Hanzalik Dep. at 193:22-25; Hewett Dep. at 105:9-106:10; Utsler Dep. at 294:8-295:2.

<sup>389</sup> 5/11/10 Letter from Kristi Cantu to Pete Serio (May 11, 2010) (LA-GOV00000068) at 8.

<sup>390</sup> Austin Dep. at 256:23-257:13.

<sup>391</sup> 6/4/10 RADM Watson Letter to D. Suttles (HCG037-000090); 5/27/10 Collins Email to Levin, Davis, et al. (LA-GOV 00008206) (reporting that RADM Allen "has approved portions of Louisiana's \$350 million plan to ring its coastline with a wall of sand that could keep out the Gulf of Mexico oil spill"); 6/7/10 Dudley Letter to Gov. Jindal (OSE013-024563) ("Please sign this letter in the space indicated below to evidence the State's acceptance of the \$360 million funding commitment from BP.").

In my opinion, the decision to approve the project was based primarily on the demands of local and regional interests rather than on a scientific assessment of its likely efficacy as an oil spill response measure. BP nevertheless funded the project once Admiral Allen had approved it.<sup>392</sup> The construction of offshore berms was not an effective spill response measure.<sup>393</sup> According to at least one Houma federal incident commander, the berms “didn’t correct or interrupt any oil flow.”<sup>394</sup> Nevertheless, BP’s commitment of substantial funding for the project, as requested by the State of Louisiana and approved by the NIC, is an example of BP’s persistent support of and compliance with the Unified Command framework.

### (e) Resource Allocation

In addition to challenges from certain federal officials outside the Unified Command, the Coast Guard and BP at times faced challenges from state and local officials as well.<sup>395</sup> BP and the Coast Guard worked together to meet these challenges and did not allow them to hinder the Response.

For example, early in the Response, the media began reporting detailed metrics about containment boom and skimmer inventories in various locations.<sup>396</sup> At times, certain local officials measured success by the amount of boom in their jurisdiction compared to others, regardless of whether such resources were appropriate or needed for the operating environment.<sup>397</sup> Louisiana Parish Presidents issued orders prohibiting the removal of response equipment from their parishes and threatened Coast Guard responders, including at times with arrest, if they attempted to remove, relocate, or replace the equipment.<sup>398</sup> These so-called “Boom Wars” and “Skimmer Wars” placed an unrealistic burden on the Unified Command to accommodate state and local requests and led to directives from the NIC and Unified Command to cascade all available boom and skimmers into the Gulf region.<sup>399</sup>

---

<sup>392</sup> 6/3/10 Deepwater External Affairs Email to Miller (Ex. 12293) at 2; Utsler Dep. at 296:8-14.

<sup>393</sup> FOSC Report (Ex. 9105) at 58-59; Hewett Dep. at 160:11-25.

<sup>394</sup> Hewett Dep. at 95:21-96:5; *see also* Utsler Dep. at 210:8-211:20 (berm project required responders to remove skimming assets that had proven effective to areas where they were less well-suited, and the design of the berms actually directed oil into sensitive nesting and habitat areas).

<sup>395</sup> FOSC Report (Ex. 9105) at 12 (“In the *Deepwater Horizon* response, some states essentially did not embrace their role [in the UC structure], by either not participating in the unified command, or by not empowering their representatives to make decisions.”).

<sup>396</sup> ISPR (Ex. 9124) at 119.

<sup>397</sup> Hewett Dep. at 95:21-96:5.

<sup>398</sup> 8/26/10 ISPR Interview Summary, RADM Zukunft (Ex. 150022) at 5-6; 8/11/10 President Davis Letter to RADM Zukunft (Ex. 11947) (refusing to rescind executive order prohibiting equipment removal from St. Tammany Parish); 8/12/10 Austin Email to Hewett (Ex. 11953) (forwarding President Davis letter (Ex. 11947), commenting “90% of your job will be to deal w/ issues like this”); Austin Dep. at 240:13-241:19 (testifying that parish presidents threatened to arrest BP and federal responders if they tried to move equipment out of the parish, and agreeing that such threats were “counterproductive to the response”); *see also* Hewett Dep. at 170-81 (describing examples of political pressures not to move resources out of parishes); 9/9/10 Hewett Email to RADM Zukunft (Ex. 11944); 9/4/10 Hewett Email to RADM Nash (Ex. 11945); 8/20/10 Hewett Email to Cavanaugh (Ex. 11946) at 1.

<sup>399</sup> ISPR (Ex. 9124) at 119.



Unfortunately, much of the boom that was deployed in response to state and local pressure served little to no purpose.<sup>400</sup> Containment strategies such as triple booming coastline, booming the entirety of the Mobile Bay entrance, stringing boom between long reaches of pilings, or booming areas with swift currents were unnecessary.<sup>401</sup> Furthermore, efforts to deploy boom distracted resources and personnel from being deployed at the locations where they were most needed and most practically applied.<sup>402</sup> While these tactics presented hurdles to the Response, Coast Guard and BP overcame these challenges and worked together to deploy resources where needed.

### **E. BP Conducted Response Operations Transparently With a Focus on Community Outreach.**

From the first days of the Response, BP actively engaged and provided information to the public. These efforts were particularly important—and challenging—given the size of the spill, intense media coverage, and the number of people and communities affected. Throughout the course of the Response, BP worked towards an ongoing two-way dialogue with local communities to ensure that accurate information about the spill and response efforts was available to the communities, and that BP was able to hear and respond to community concerns.<sup>403</sup>

On April 21, 2010, the day after the explosion onboard the *Deepwater Horizon* and before any oil leak was confirmed, BP began developing a community outreach plan in anticipation of any potential impacts to shoreline communities.<sup>404</sup> BP's community outreach teams deployed as early as April 28 to locations across the Gulf Coast. By May 4, 2010, BP had established community outreach centers in Louisiana, Alabama, Florida, and Mississippi.<sup>405</sup> BP ultimately established 36 community outreach centers across the Gulf, from Louisiana to Florida. BP issued an appeal to its employees for volunteers to go to Gulf communities as part of BP's community outreach efforts.<sup>406</sup> In response, BP employees were "very passionate about wanting to help."<sup>407</sup> The community outreach centers were staffed by a rotation involving thousands of BP volunteers.<sup>408</sup> BP took initiative in establishing these community outreach centers.

---

<sup>400</sup> 9/16/10 ISPR Interview Summary, H. Barnet (OSE052-001973) at 2 ("There was a lot of fear, and the public wanted to see some sort of protection strategy. The commissioners were just trying to do something to protect their areas, while afterwards I would hope that they now realize that with tarballs and sheen, the available booming options would never have worked anyway.").

<sup>401</sup> FOSC Report (Ex. 9105) at 56, 78.

<sup>402</sup> ISPR (Ex. 9124) at 75, 78.

<sup>403</sup> Cross Dep. at 203:12-204:15; Utsler Dep. at 77:11-21.

<sup>404</sup> Cross Dep. at 201:20-202:10.

<sup>405</sup> Cross Dep. at 206:20-207:1; 5/17/10 Media Communications Plan (BP-HZN-2179MDL00979612) at 9 ("... claimants can visit one of BP's Community Outreach Centers Beginning on Monday, May 3, ESIS will staff those centers with adjusters.").

<sup>406</sup> Cross Dep. at 204:19-205:4, 207:15-19.

<sup>407</sup> Cross Dep. at 205:20-24.

<sup>408</sup> Cross Dep. at 207:15-19, 208:21-209:2.



In addition to its community outreach centers, BP also used the internet and social media to communicate information about the Response. Days after the incident, BP set up an incident website to disseminate information about the incident and the Response. In May 2010, BP launched state-specific informational websites for Louisiana, Alabama, Mississippi, and Florida to provide public updates on local response activities.<sup>409</sup> BP has also shared environmental and other data gathered during the Response to academic and other organizations for research and other purposes.<sup>410</sup>

A primary focus of BP's outreach efforts was helping those affected by the spill to submit claims for payment to BP. These efforts recognized the difficult reality that the spill had disrupted the livelihoods of many living in the Gulf community. BP started paying claims in early May and its community outreach teams proactively provided the public with information about how to file claims. For example, BP set up a mobile claims center to serve more remote communities, including tribal communities.<sup>411</sup> When BP discovered that language barriers were making it difficult for the large Vietnamese community to access services provided by the community outreach centers, including filing claims, BP hired translators and placed them in the centers to facilitate.<sup>412</sup> When a BP community outreach team learned that P&J Oyster Company had to lay off all of its workers, BP outreach workers went to the workplace on the their last day to ensure the employees had information on how to file claims with BP. They also brought in Catholic Charities representatives to help.<sup>413</sup> To date, BP has paid more than \$12 billion in claims relating to the spill.<sup>414</sup>

In addition to its efforts outside the Unified Command, BP worked with the Coast Guard and other Unified Command partners to engage with the community. The Coast Guard and BP held town hall, then expo-type, meetings to provide updates on issues of concern to the public and specific aspects of response operations.<sup>415</sup> The initial town hall format was at times unproductive, with the emotionally-charged meetings often devolving into showboating opportunities for local politicians to criticize responders in public, especially when media was present.<sup>416</sup>

---

<sup>409</sup> 5/28/10 BP Press Release (BP-HZN-2179MDL08949755) (Louisiana); 5/28/10 BP Press Release (BP-HZN-2179MDL08949757) (Alabama); 5/28/10 BP Press Release (BP-HZN-2179MDL08949756) (Mississippi); 5/28/10 BP Press Release (BP-HZN-2179MDL08949749) (Florida).

<sup>410</sup> Folse Dep. at 151:3-152:25 (testifying that "BP made the decision that we wanted to release all of the response and NRDA data and make it publicly available for independent scientists to use," and set up the website [gulfsciencedata.com](http://www.gulfsciencedata.com) to make this information available to researchers); 4/5/12 Folse Email to Clement and Hayworth (Ex. 11828).

<sup>411</sup> Cross Dep. at 207:23-208:20.

<sup>412</sup> Cross Dep. at 210:4-211:1.

<sup>413</sup> Cross Dep. at 214:21-215:17; 6/11/10 Email from Braaten to Bacon, Vaughn, et al. (Ex. 12366) at 2-4.

<sup>414</sup> 7/31/14 Gulf of Mexico Oil Spill: Claims and Other Payments Public Report at 1, *available at* [http://www.bp.com/content/dam/bp/pdf/gulf-of-mexico/Public\\_Report\\_July\\_2014.pdf](http://www.bp.com/content/dam/bp/pdf/gulf-of-mexico/Public_Report_July_2014.pdf).

<sup>415</sup> Utsler Dep. at 47:18-48:24.

<sup>416</sup> *See* Laferriere Dep. at 211:19-25 (describing initial town hall meetings as "screaming sessions"); Hein Dep. at 237:16-238:12 (describing an incident in which a parish president "verbally assaulted a United States Coast Guard member during a town hall meeting").

Recognizing the importance of community engagement, BP and the Coast Guard adapted to this reality by switching the format of the meetings. They found that expo-type events, where people could tour booths and tables, talking one-on-one with responders, was a far more effective way of engaging the public and addressing their questions and concerns.<sup>417</sup> One example of this success came when BP created a presentation showing that components of the dispersant Corexit 9500A were included in common household products, such as baby toothpaste and candy bars.<sup>418</sup> In an exposition-type event, this proved very effective in demystifying dispersants, calming people's fears and counteracting misinformation in the media.<sup>419</sup> BP outreach workers also managed the involvement of local and regional volunteer organizations in the Response, as well as the process for local businesses and private citizens to participate in the VOO program.<sup>420</sup>

BP (and Coast Guard) community outreach workers faced a difficult environment. As BP volunteers expected when they went into affected communities, emotions were running high.<sup>421</sup> Iris Cross, who helped establish BP's community outreach program and worked full time managing community outreach efforts in Louisiana from April 2010 to June 2013, testified:

[W]e were threatened a lot. Our claims centers were threatened. There were people coming in sometimes with guns. . . . [S]ome of our team members were spit on. There were threats of being arrested by the police in certain parishes. There [was] just a lot of lashing out. . . . But our job was still to listen and to bring the concerns back, and we could not retaliate. We could not, you know, do anything negative because we had to put ourselves in their shoes. . . . [W]e understood it. So our teams . . . were strong, and they realized . . . what it was they had to do.<sup>422</sup>

Despite these challenges, BP and its employee volunteers continued to grow the community outreach program in the months following the Incident.<sup>423</sup> And BP's community outreach program was ultimately successful, receiving positive feedback from community leaders, state and local officials, businesspeople, private citizens, and others.<sup>424</sup>

---

<sup>417</sup> FOSC Report (Ex. 9105) at 198; Laferriere Dep. at 211:11-212:7.

<sup>418</sup> 10/15/10 RADM Nash Email to McCleary (Ex. 12494); Austin Dep. at 218:7-219:1.

<sup>419</sup> See Austin Dep. at 218:7-219:1.

<sup>420</sup> FOSC Report (Ex. 9105) at 196.

<sup>421</sup> Cross Dep. at 209:3-22.

<sup>422</sup> Cross Dep. at 209:3-22, 222:14-17.

<sup>423</sup> Cross Dep. at 209:23-210:1.

<sup>424</sup> Cross Dep. at 215:25-220:15; 5/5/10 Rozas Email to Cross and Hall (Ex. 12365) at 2; 6/24/10 Wadge Email to Cross (Ex. 12367).

## **F. BP's Continued Response Efforts Exceeded Unified Command Requirements.**

### **1. BP Undertook Substantial Efforts to Respond to the Spill Beyond Those Required by the Unified Command.**

BP undertook several initiatives in response to the spill that the Unified Command did not require. Some of these activities were conducted in connection with the Unified Command-led Response; others were efforts that BP undertook outside of the Unified Command structure. In connection with the Unified Command-led Response, as described above, BP retained world-class experts to support response operations and initiated new programs such as the VOO Program to respond to the spill. BP also voluntarily established community outreach centers throughout the Gulf to provide information to the public. BP set up and managed these centers. Many of BP's initiatives provide valuable guides and learnings for future spill responses.

In addition to its efforts in connection with the Unified Command, BP has engaged in many other activities to help respond to the spill and reduce its effects.<sup>425</sup> BP has voluntarily engaged in unparalleled environmental assessment and restoration efforts to evaluate and minimize the impact of the spill. BP has incurred over \$1 billion in costs associated with efforts to collect and analyze environmental data in connection with the spill and has voluntarily committed another \$1 billion to fund early restoration projects.<sup>426</sup> BP has worked cooperatively with federal and state Trustees to develop and implement over 200 scientific work plans.<sup>427</sup>

In addition, BP has committed to fund up to \$500 million over 10 years to support independent research through the Gulf of Mexico Research Initiative ("GoMRI"), an independent research program, to study the effect, and potential impact of hydrocarbon releases on the environment and public health and to develop improved spill mitigation technologies.<sup>428</sup> BP has also provided hundreds of millions of dollars for the promotion of tourism in the Gulf States,<sup>429</sup> for seafood testing and marketing,<sup>430</sup> and various other initiatives.<sup>431</sup>

---

<sup>425</sup> Utsler Dep. at 306:7-313:6 (testifying that BP went "above and beyond in its efforts to find solutions" during the response, and identifying as examples certain new shoreline cleanup techniques and technologies, the ARTES program, block grants to states, and retraining programs for displaced oil-industry workers).

<sup>426</sup> NOAA, NRDA Workplans and Data, <http://www.gulfspillrestoration.noaa.gov/oil-spill/gulf-spill-data/> (last visited Aug. 15, 2014) (noting that "BP has been working cooperatively with the trustees to collect pre-assessment data and to conduct NRDA activities"); *see also* Stipulations Regarding Early Restoration Projects (Exs. 11815, 11816, 11818, 11819).

<sup>427</sup> *See* Folse Dep. at 164:15-20 (testifying that BP has "work[ed] with the trustees to identify projects that could be used for early restoration prior to the final damages assessment being conducted").

<sup>428</sup> FOSC Report (Ex. 9105) at 207; Gulf of Mexico Research Initiative: Master Research Agreement (July 11, 2012), *available at* <http://gulfresearchinitiative.org/wp-content/uploads/2011/04/Amended-and-Restated-GoMRI-Master-Research-Agreement-7.11.2012-Executed-Copy.pdf>; *see also* Folse Dep. at 108:10-110:4, 111:2-9 (explaining that BP has provided funding for two university studies and a Louisiana state governmental study regarding the potential impact of oil on certain fish populations).

<sup>429</sup> On May 17, 2010, BP announced that it would provide tourism-related grants of \$25 million to Florida and \$15 million each to Alabama, Mississippi, and Louisiana. 5/17/10 BP Press Release (BP-HZN-2179MDL05695286); *see also* May 2010 Payment Agreements and Receipt Confirmations (BP-HZN-2179MDL09111688-832); *see, e.g.*, 11/18/10 Memo of Understanding Between BP and Louisiana (BP-HZN-



## 2. BP Developed Innovative Response Technologies.

During the Response, BP welcomed, developed, implemented, and shared innovative concepts designed to improve oil containment and recovery. As part of the Unified Command, in addition to the groundbreaking use of subsea dispersants and in situ burning described in Section V.A, BP helped to develop a number of response technologies that not only aided the *Deepwater Horizon* Response, but will aid the spill response industry in the years to come.<sup>432</sup>

BP proactively sought ideas for new technology and innovation from industry, government, and the public.<sup>433</sup> The resulting flood of ideas needed to be screened and evaluated.<sup>434</sup> For that purpose, the Unified Command formed the Alternative Response Technology (“ART”) team, which included representatives from BP, the Coast Guard, the EPA and NOAA, among others.<sup>435</sup> The ART team received roughly 43,000 spill response technology ideas submitted by the public, and ultimately recommended approximately 45 for use in response operations.<sup>436</sup>

---

2179MDL08927793); 3/7/11 Memo of Understanding Between BP and Alabama (BP-HZN-2179MDL08927786); 4/11/11 Memo of Understanding Between BP and Florida (BP-HZN-2179MDL08927522); 6/22/11 Memo of Understanding Between BP and Mississippi (BP-HZN-2179MDL08927770); BP Payments and Investments – Alabama (as of 12/31/13) (BP-HZN-2179MDL09111847); BP Payments and Investments – Louisiana (as of 12/31/13) (BP-HZN-2179MDL09111836); BP Payments and Investments – Mississippi (as of 12/31/13) (BP-HZN-2179MDL09111851); BP Payments and Investments – Florida (as of 4/30/14) (BP-HZN-2179MDL09111839).

<sup>430</sup> See, e.g., BP, Seafood Industry Recovery, <http://www.bp.com/en/global/corporate/gulf-of-mexico-restoration/restoring-the-economy/seafood-industry-recovery.html> (last visited Aug. 14, 2014) (explaining that by the end of 2013, BP had provided the Gulf States “\$23.9 million for seafood testing programmes,” as well as a separate \$47.3 million “to develop programmes to promote Gulf seafood along the coast and around the country”); BP, Gulf of Mexico: Four Years of Progress, at 4, [http://www.bp.com/content/dam/bp/pdf/gulf-of-mexico/Four\\_Years\\_Progress\\_Fact\\_Sheet.pdf](http://www.bp.com/content/dam/bp/pdf/gulf-of-mexico/Four_Years_Progress_Fact_Sheet.pdf) (last visited Aug. 14, 2014) (“BP has helped support the seafood industry by paying or committing to pay \$82 million to Alabama, Florida, Louisiana and Mississippi for state-led seafood testing and marketing programs.”).

<sup>431</sup> See, e.g., 7/30/10 Mueller Email to Price (BP-HZN-2179MDL06389713) (forwarding a BP press release announcing that BP “will establish a \$100 million charitable fund to support unemployed rig workers experiencing economic hardship as a result of the moratorium on deepwater drilling”); 6/6/13 Trandahl Testimony, Senate Committee on Commerce, at 2, available at <http://www.nfwf.org/gulf/documents/nfwf-and-the-gulf-senate-testimony-060613.pdf> (testifying that BP donated nearly \$23 million from the sale of oil recovered from the Macondo well to the National Fish & Wildlife Foundation, which spent the funds on projects to protect natural resources in the Gulf).

<sup>432</sup> Lubchenco et al., Science in Support of the *Deepwater Horizon* Response (Ex. 12500) at 6 (concluding that “[r]esponse to future deep spills globally will benefit from the many scientific breakthroughs applied to DWH”); Cortez & Rowe, *Alternative Oil Spill Response Technology: Results From The Deepwater Horizon Response* (Sept. 2012) (“*Alternative Oil Spill Response Technology*”).

<sup>433</sup> RADM Watson Input to FOSC Report (Ex. 12527) (By late April, “BP had begun to staff some of the credible ideas” for new response technologies “and soon created a portal and email address for the general public”); 8/26/10 ISPR Interview Summary, Cdr. Zach Pinkett, UAC Deputy Planning Section Chief, US\_PP\_USCG328717 at 6 (stating that “BP got on that very quickly—amazingly quickly” with regard to soliciting innovations).

<sup>434</sup> *Alternative Oil Spill Response Technology*.

<sup>435</sup> *Alternative Oil Spill Response Technology*; Utsler Dep. at 309:19-310:9; Kulesa Dep. at 233:13-234:11.

<sup>436</sup> *Alternative Oil Spill Response Technology*; Utsler Dep. at 310:10-24.

BP helped to develop and implement new response technologies. For example, BP helped to develop oil mapping and imagery capabilities used in the Response.<sup>437</sup> As FOSC Admiral Watson explained, “BP hired some very good oil mapping and imagery contractors” and implemented “technologies that weren’t in anyone’s contingency plans.”<sup>438</sup>

Additionally, as discussed above, BP and others in the Unified Command implemented the Snorkel SCAT Program, an innovative complement to traditional SCAT methods. Snorkel SCAT is a method by which SCAT team members search for any residual oil in the intertidal zone (from the water’s edge to about the first sandbar), in water depths of four to five feet.<sup>439</sup> Snorkel SCAT was used for the first time during the *Deepwater Horizon* Response.



**Figure 21: Snorkel SCAT**

BP also supported development of the Sand Shark, a machine that sifts sand to remove tar balls, depositing sifted sand back on the beach. One of at least 10 beach cleaners field-tested by the ARTS team, the Sand Shark was inspired by machines used to remove garbage from the beach. BP bought multiple Sand Sharks to speed the beach-cleaning process. The Sand Shark is able to clean a mile of beach per day down to a depth of 12 inches.<sup>440</sup>

<sup>437</sup> RADM Watson Input to FOSC Report (Ex. 12527); Morrison Dep. at 315:6-11 (Oct. 18, 2011).

<sup>438</sup> RADM Watson Input to FOSC Report (Ex. 12527).

<sup>439</sup> Hein Dep. at 121:15-122:4.

<sup>440</sup> FOSC Report (Ex. 9105) at 69; 9/23/10 ISPR Interview Summary, Doug Suttles, BP Incident Commander, Unified Area Command (TREX-141827) at 7; *Alternative Oil Spill Response Technology* at 1.





**Figure 22: Sand Shark**

BP helped to implement the innovative *Big Gulp* large-capacity weir skimmer. The *Big Gulp* separates the oil-water mixture it collects and returns most of the water to the sea, leaving the skimmer's holding tanks with a mixture that is as much as 98% oil. This ability, coupled with a storage capacity of hundreds of thousands of gallons, allows the 300 ft. *Big Gulp* to skim much more oil than many traditional skimming technologies before having to return to port to unload its cargo. Once this technology was proven, similar *Little Gulp* skimmers were developed and deployed for use in shallow water. Both the *Big Gulp* and *Little Gulp*s were fitted with special excluder devices to prevent them from harming or collecting sea turtles or fish.<sup>441</sup>

BP also utilized innovative boom cleaning tools, such as the Boom Blaster and the Yates Boom Cleaner. The Boom Blaster is a machine for cleaning boom that is similar to a car wash—it can clean 600 ft. of boom per hour, far exceeding the rate at which boom can be cleaned using traditional methods. The Yates Boom Cleaner is another automated boom-cleaning technology, this time using dishwasher-like jets.<sup>442</sup>

In addition to helping to develop and implement these innovations, BP shared them with others in the industry and governments around the world. The technological advancements in the *Deepwater Horizon* Response have furthered the state of spill response and enhanced capabilities for future spills.<sup>443</sup>

---

<sup>441</sup> *Alternative Oil Spill Response Technology* at 4; FOSC Report (Ex. 9105) at 50; 7/12/10 BP Media Release (HCE136-018280) at 3.

<sup>442</sup> *Alternative Oil Spill Response Technology* at 1.

<sup>443</sup> See also Folse Dep. at 68:15-70:14 (explaining that while working in the GCRO, she has helped “develop[] a portfolio of oil spill response technologies where we think there is the opportunity to leverage the Deepwater Horizon experience and work with the supply community to possibly further advance those technologies”).



### 3. BP's Proactive Funding of the Response Was Key to Its Success.

BP's proactive financial and logistical contributions to the Response were critical to sustaining response operations. Under OPA 90, a "Responsible Party" or "RP" may be liable for oil removal costs and certain damages that result from a discharge of oil from a vessel or facility into navigable waters. For an offshore facility, OPA 90 provides that an RP's liability may be limited to removal costs plus \$75 million for damages under certain circumstances.

OPA 90 also provides for the establishment of an Oil Spill Liability Trust Fund ("OSLTF"), which is administered by the Coast Guard's National Pollution Funds Center. The OSLTF provides funding for the federal response and reimburses claimants for oil removal costs and certain damages under OPA 90. Expenses paid by the OSLTF may be recovered from the RP. Even where, as here, the RP is willing to pay for the costs of a response, it is not possible for agencies to receive direct funding from the RP. Response funding therefore comes from the OSLTF, which in turn, seeks reimbursement from the RP. The OSLTF is subject to a \$1 billion statutory cap on disbursements for any one incident.<sup>444</sup> In light of the scope, scale, and duration of the *Deepwater Horizon* Response, the \$1 billion statutory cap presented a potential challenge to securing adequate funding for the Response.

In light of these requirements, BP was able and willing to take steps to provide funding that was needed to mobilize and sustain the Response. As discussed, BP has paid more than \$14 billion on cleanup and other response activities. BP's ability to pay the massive costs of this Response was essential to sustaining ongoing operations. As the Coast Guard concluded in its FOSC Report: "The outcome of the response to this spill could have been very different had the RP not been able to fund the extraordinary expenses involved. . . . If any RP proved unable to pay for a major spill, the ability of the government to organize a response of this nature and complexity . . . would be strained," and "the strains may have become overwhelming."<sup>445</sup>

In addition, BP voluntarily waived the OPA liability cap and proactively funded the Response, including through the advancement of block grants to the States and direct payment of Response costs.<sup>446</sup> In May 2010, BP advanced \$25 million grants to each of the States of Louisiana, Mississippi, Florida, and Alabama to help them cover anticipated response costs. BP later advanced another \$25 million to the State of Alabama and Florida, \$5 million to the State of Texas, and \$1 million grants to each of the Louisiana Parishes of St. Bernard, Terrebonne, Jefferson, Lafourche, and Plaquemines, as well as a \$500,000 grant to St. Tammany Parish. The state and local governments retained discretion as to how to use the funds to respond to the spill. BP also directly paid response costs for both its own and the government's contractors. Furthermore, BP established a separate claims facility, which later became known as the Gulf

<sup>444</sup> FOSC Report (Ex. 9105) at 151.

<sup>445</sup> FOSC Report (Ex. 9105) at 161.

<sup>446</sup> See, e.g., FOSC Report (Ex. 9124) at 205 (referencing block grants to all four states); Scott, *Parishes Requesting Emergency Funding; Jindal Asks BP to Set Up Separate Grant*, The Times Picayune (June 2, 2010), <http://www.nola.com/saintsbeat/weblog/index.ssf?/printer/printer.ssf?/base/news-8/1275460274124690.xml&coll=1&style=print> (referencing block grants to Louisiana during 5/7–5/14/10); 6/9/10 BP Press Release, available at <http://www.bp.com/en/global/corporate/press/press-releases/bp-announces-second-block-grant-of-25-million-to-the-state-of-florida.htm> (referencing second \$25 million block grant to Florida).

Coast Claims Facility (“GCCF”) to pay legitimate claims for damages associated with the spill. BP also prefunded the OSLTF, ensuring that the federal government had timely access to funds for costs that BP was not able to pay directly.

By advancing grants directly to the states and local governments, by paying government contractors and others directly for their work on the Response, and by setting aside vast sums for payment of claims to those affected by the spill, rather than requiring that these entities submit all claims for reimbursement of actual costs through the OSLTF, BP (1) provided response funding and other payments to these entities more quickly, promptly securing needed resources, (2) advanced the states funds to cover response costs rather than requiring them to strain their own budgets, and (3) critically, avoided having the OSLTF ever run short of available funding.<sup>447</sup> BP’s proactive funding of the Response in this way was not required by the NCP or Unified Command.<sup>448</sup>

BP’s funding approach was a “novel” undertaking without which the scale and magnitude of the Response efforts could simply not have been maintained.<sup>449</sup> As the FOSC Report explains: “[W]ithout a solvent RP who was willing to undertake not only real-time funding of response costs—both directly but also in terms of payments to the NPFC, as well as setting aside vast sums for claims—the OSLTF Emergency and Principal Funds could have been overwhelmed.”<sup>450</sup> Admiral Zukunft similarly noted in 2011: *“The claims process alone would have eaten our lunch had BP and eventually the GCCF not stepped up to the plate.* Response costs to date have blown through the \$12b ceiling with no end in sight and our [Oil Spill Liability Trust Fund] constraints are not going to answer the mail in a 21st century [Spill of National Significance] absent a solvent and cooperative [Responsible Party].”<sup>451</sup> In my opinion, BP’s proactive approach to providing financial and logistical support was critical to sustaining the scope and nature—and ultimate success—of this unprecedented Response.<sup>452</sup>

#### 4. BP Has Remained Committed to the Response.

Finally, in the four years since the spill, BP has remained committed to response efforts in the Gulf. As discussed, the Shoreline Cleanup Completion Plan (“SCCP”) set stringent standards for deciding when cleanup on particular segments of shoreline could be deemed

---

<sup>447</sup> McCleary Dep. at 161:16-162:4 (BP’s payment of response costs directly, rather than reimbursement to OSLTF provided a “significant benefit” to the Response “in that it in many instances allowed for—particularly things that needed to be acquired to happen very quickly, because BP was able to provide the funds and do it promptly.”).

<sup>448</sup> McCleary Dep. at 162:15-21 (agreeing that he is “not aware of any requirement under the Unified Command framework that a responsible party pay for response activities as they go” in the way that BP did in the *Deepwater Horizon* Response, noting that “it’s not a requirement”) & 204 (there is no “requirement that BP, as a responsible party, had to receive and pay for the funding requests as they came in”).

<sup>449</sup> 1/5/11 RADM Landry Email to RADM Zukunft (Ex. 12535) (“RP reimbursing [OSLTF] fund as we go was a brand new and novel solution”).

<sup>450</sup> FOSC Report (Ex. 9105) at 161.

<sup>451</sup> 1/5/11 RADM Zukunft Email to S. McCleary (Ex. 12535) (emphasis added).

<sup>452</sup> McCleary Dep. at 203:6-11 (“[T]he responsible party, BP, had the means to fund a response of this size” and “there wasn’t enough money in the OSLTF to fund the response if the Coast Guard had had to federalize the spill.”).



complete. In my experience, the cleanup criteria in the SCCP were applied in a way that was exceptionally difficult to meet compared to the criteria I have seen used for other spill responses. Without consideration of pre-spill background oiling, the discovery of a single tar ball could result in an entire segment of shoreline to be re-evaluated under the SCCP. Moreover, state and local political and other considerations sometimes delayed or hindered implementation of treatment recommendations that had been authorized by the FOSC.

When the FOSC determined that the specified cleanup criteria had been met and no further treatment was warranted, the FOSC could declare that the segment was a Removal Action Deemed Complete (“RADCC”) and move the segment out of the active Response. The FOSC moved the first segments out of the active Response in November 2011.<sup>453</sup> The dates on which active cleanup ended for each of the Gulf States are summarized below:<sup>454</sup>

| Shoreline Cleanup Completion Summary |                      |                          |
|--------------------------------------|----------------------|--------------------------|
| State                                | Total Miles Surveyed | Active Cleanup Completed |
| Department of Interior               | 240 miles            | May 2013                 |
| Mississippi                          | 227 miles            | June 2013                |
| Alabama                              | 238 miles            | June 2013                |
| Florida                              | 480 miles            | June 2013                |
| Louisiana                            | 3,192 miles          | April 2014               |

**Figure 23: Active Shoreline Cleanup Completion Summary**

By April 2014, the FOSC determined that BP’s cleanup operations satisfied the specified cleanup standards for every mile of the Gulf coast, and ended active cleanup for all 4,376 miles of segments that had been surveyed during the Response.<sup>455</sup>

Even though the active cleanup has ended, BP continues to keep resources in place to respond quickly at the Coast Guard’s direction if MC-252 oil is identified and requires removal. In early 2013, as the FOSC began progressively concluding the active cleanup of the *Deepwater Horizon* Response across each of the four impacted States, BP took the unprecedented step of agreeing to establish and fund a program for residual oil management, referred to as “Middle R.” Under the Middle R process, BP is directly funding the Coast Guard’s investigation of potential MC-252 residual oil as reported through the Coast Guard’s National Response Center (“NRC”).<sup>456</sup>

<sup>453</sup> OSAT-3 (Eastern States), App. G. at 5; 6/10/13 BP Press Release, *available at* <http://www.bp.com/en/global/corporate/press/press-releases/active-cleanup-for-deepwater-horizon-accident-ends.html>; <http://www.bp.com/en/global/corporate/press/press-releases/active-shoreline-cleanup-operations-dwh-accident-end.html>.

<sup>454</sup> OSAT 3 (Eastern States), App. G. at 5; <http://www.bp.com/en/global/corporate/press/press-releases/active-cleanup-for-deepwater-horizon-accident-ends.html>; <http://www.bp.com/en/global/corporate/press/press-releases/active-shoreline-cleanup-operations-dwh-accident-end.html>.

<sup>455</sup> 4/15/14 BP Press Release (BP-HZN-2179MDL08964317).

<sup>456</sup> 11/7/13 Sparks Memo to Gulf Coast Incident Management Team (BP-HZN-2179MDL08836308, 309); Brief Description of the NRC Process / Middle R Process (BP-HZN-2179MDL09096164) at 1-2.



When the NRC receives a call regarding potential MC-252 oil, these BP funded Coast Guard responders are the first personnel to investigate the site. If the investigators determine that the material may be MC-252 oil based on visual inspection and the Coast Guard cannot fully clean the site, then BP personnel report to, and clean the site.<sup>457</sup> Under the provisions of Middle R, BP is required to respond to NRC calls relating to possible MC-252 oil within a specified period of time—usually within one day of being notified of the call by the Coast Guard.

To ensure that it can meet these response deadlines, BP has established response stations, known as firehouses, where personnel stand ready to respond as directed by the Coast Guard. BP maintains one firehouse in Grand Isle, LA which service sites in Louisiana, and another firehouse in Gulf Shores, Alabama, which services sites in Mississippi, Alabama and Florida. These firehouses are staffed 7 days per week with trained oil spill response personnel and oil mitigation equipment ready to provide rapid response capabilities anywhere within the four Gulf States. BP currently employs 17 full-time responders and 8 vessels at the Louisiana firehouse and 14 full-time responders and 2 vessels at the Alabama firehouse. The full-time staff is further augmented by BP-contracted on-call resources to ensure additional response capabilities are available if needed.<sup>458</sup>

| Location       | Resource        | Totals |
|----------------|-----------------|--------|
| Louisiana      | FOB Personnel   | 1      |
|                | Field Personnel | 16     |
|                | Equipment       | 14     |
|                | Vessels         | 8      |
| Eastern States | FOB Personnel   | 2      |
|                | Field Personnel | 12     |
|                | Equipment       | 13     |
|                | Vessels         | 2      |

**Figure 24: “Firehouse” Resources Currently Staged by BP**

Since 2013, of the 1,560 NRC calls identified as “Potential MC-252”, the Coast Guard has directed BP to respond to only 150 of the calls. In most cases, BP has responded within 4 hours of being contacted by the Coast Guard. BP has not missed a Coast Guard-prescribed response deadline to respond.<sup>459</sup>

A substantial number of the cases to which BP has responded during the Middle R process have been proven not to be MC-252 oil. In fact, only 12 of the 1,560 NRC calls (less

<sup>457</sup> 11/7/13 Sparks Memo to Gulf Coast Incident Management Team (BP-HZN-2179MDL08836308, 309-310); Brief Description of the NRC Process/ Middle R Process (BP-HZN-2179MDL09096164) at 2.

<sup>458</sup> Brief Description of the NRC Process/ Middle R Process (BP-HZN-2179MDL09096164) at 2-3; *see* 11/7/13 Sparks Memo to Gulf Coast Incident Management Team (BP-HZN-2179MDL08836308, 309-310).

<sup>459</sup> Brief Description of the NRC Process/ Middle R Process (BP-HZN-2179MDL09096164) at 2.

that 1%) have been conclusively determined to be MC-252 oil. Nevertheless, BP's commitment to the Middle R program remains firm.<sup>460</sup>

In my opinion, BP's continued commitment to respond to reports of potential MC-252 oil, even after the conclusion of active cleanup operations as determined by the FOSC, is remarkable and not typical of an oil spill response. BP's ongoing efforts to respond to the spill and mitigate its effects are extraordinary.

---

<sup>460</sup> Brief Description of the NRC Process/ Middle R Process (BP-HZN-2179MDL09096164) at 2.

## VI. CONCLUSION

The *Deepwater Horizon* Response was unprecedented not just in terms of the sheer scope and size of the operation. Rather, the Response was unprecedented because of the way in which BP and its Unified Command partners rapidly mobilized and supported the people and resources needed to respond to the spill of this scale, duration and complexity. Due to the efforts of more than 100,000 responders working on behalf of BP, the federal and state governments, and many other agencies and organizations, the *Deepwater Horizon* Response was extraordinarily effective in limiting the impact of the spill. By deploying a suite of response measures—on a scale and in a way that had never been done before—BP and its Unified Command partners successfully removed several times more oil from the environment relative to the size of the spill than achieved in a typical spill response. BP provided substantial logistical and financial support that was critical to the ultimate success of the operation.

As the unanimous testimony of the Coast Guard officers deposed in this Phase of the litigation demonstrates, BP and the Coast Guard worked with a “unity of effort” to achieve an effective and safe Response. BP and the Coast Guard overcame several challenges presented from outside the Unified Command organization. BP took steps to proactively engage the community and undertook many initiatives that were above and beyond what was minimally required by the Unified Command. BP’s novel approach to funding the Response, development of innovative technologies during the Response, and sustained commitment to the Gulf are remarkable.

Ultimately, the *Deepwater Horizon* Response, and BP’s contributions to the Response, substantially minimized the effects of the spill. In the face of complex and trying circumstances, BP’s extensive and proactive response efforts established a high standard for a Responsible Party participating in a Unified Command-led spill response. BP’s Response to the *Deepwater Horizon* spill serves as a valuable guide and model for future spill responses, and others in the industry would do well to review BP’s actions in preparing for similar contingencies.



Capt. Frank M. Paskewich (Ret.)