

# PREPAREDNESS ASSESSMENT... STILL THE KEY TO ACQUIRING AND MAINTAINING, “RIGHT MIX” CAPABILITIES

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## ABSTRACT

The most recent national study of the adequacy of government owned versus private sector oil spill removal capability, known as the capability limits or (CAPS) review, is currently seven years old. While oil spill response preparedness assessments have continued via the National Strike Force Coordination Center Oil Spill Removal Organization (OSRO) assessment visits, the Preparedness for Response Exercise Program (PREP), and the Spills of National Significance (SONS) exercises, the outdated CAPS review stands as a great impediment to the Coast Guard's ability to continue to make sound overarching policy decisions regarding known national oil spill removal equipment inventories and expertise levels as they pertain to oil spill risks. The CAPS review established a baseline by which regulatory decisions pertaining to the “Right government/private Mix” of capabilities for oil spill response could be made. **The ability to accurately assess this mix is a critical component of the Preparedness model that has been used for oil spill response and should continue to be used for Preparedness for all contingency response.** This model is depicted below in Figure 1.

must now compete for funding and support with security-related studies. Further, just as this study provides appropriate support for overarching oil spill regulatory decisions, so too could it be used as the national preparedness assessment model for any developing Hazardous Substance or Weapons of Mass Destruction legislation. **The oil spill response communities' inability to promote the value of having an easily updated thorough CAPS review process ensures the model will be overlooked or dismissed in the development of a healthy national all contingency response capabilities assessment program. All of this negatively impacts national preparedness pertaining to either oil or HAZMAT response.** To bolster my assertions this paper will first define and discuss impressions of the 1998 CAPS review. Secondly, the paper will review some of the long-standing response principles that have established assessment as crucial to preparedness in the oil spill response field. Lastly, the paper will outline an assessment model that incorporates the successes of the oil spill response program and explain the value that adoption of such a model would have for a national all-contingencies preparedness assessment program.

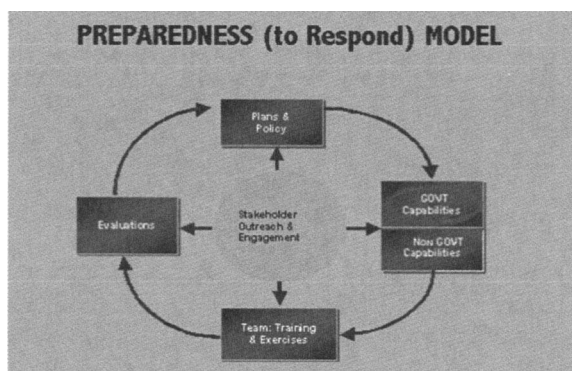


FIGURE 1 PREPAREDNESS (TO RESPOND) MODEL

Prior to Sept 11, 2001, it was assumed that the costly and cumbersome to complete findings of the CAPS review would remain valid for an extensive period of time. This was a valid assumption given the stability of Post OPA 90 oil spill response capability at the time. When Sept 11, 2001 shifted government and private response priorities away from oil spills, the validity of the assumption began to degrade. Unfortunately, a request for an update

## DISCUSSION

### The 1998 CAPS Review an overview

What is CAPS? According to 33 CFR 154.1045(m) and 155.1050(o) which contain requirements for on-water oil recovery capacity; the on-water oil recovery capacity, that an owner or operator must ensure is available, through contract or other approved means, in planning for a worst case discharge is termed “CAPS”. What is a CAPS review? The CAPS review looks primarily at mechanical recovery capacity but takes into account other oil spill response technology such as dispersant and in-situ burn. The intent of the review was to determine what the reasonable limits of oil spill mechanical recovery nationwide should be. A baseline of mechanical recovery caps was initially established in 1993 taking into account 1993 technology, deployment capability, and availability of oil spill response resources at the time. Additionally, the anticipation of this 1993 baseline planning effort was that this baseline would be increased by 25% by 1998. Prior to full fruition of this 25% increase or subsequent recommendations pertaining to national oil spill mechanical recovery inventories, it was determined that a follow-on review of the CAPS take place by 1998. As government and private sector

equipment inventories increased through 1994, 95, 96, and 97, and oil spill numbers and volumes began to decline, it became even more apparent to oil spill planners that periodic Caps reviews were essential to maintaining, the “right mix” of equipment inventory. Also, it began to be very apparent through these years that ensuring the health of equipment inventories alone was not the full answer to being prepared. What is recognized but not well addressed in the review, but is inherently understood by the oil spill response community, is that any preparedness based on experience, technology and equipment factors alone is doomed to failure if experienced responders don’t gather with their technology and exercise in the context of a NIMS unified command approach and build the team. This “exercise factor” is the glue that ensures all resources and all experience best match a unified command strategy for dealing with the problem at hand. The CAPS reviewers understood experience, technology and exercise factors as they relate to preparedness, however the CAPS review completed in 1998 predominantly focused on assessing equipment inventory and availability with only inferred levels of experience, technology and exercise. Actual assessment of these preparedness factors were left out of scope. The reviewers sought to answer the following key questions related to equipment CAPS: 1. what is the maximum amount of gov’t/non gov’t owned equipment as practical to respond to worst case discharges? This question had to do with determining an even national resource balance in order to ensure regions would not be depleted of resource in the event of worst case discharges. 2. What are the upper limits of equipment contracted in advance of an incident? and lastly 3. What is the maximum amount of equipment that can be obtained and effectively managed in the first 72 hours of a response? The 1998 CAPS review team consisted of:

“...a team of policy and technical professionals. This team had extensive experience in oil spill preparedness and response, USCG policy and regulatory development, and technical, operational, and policy considerations affecting mechanical recovery, dispersant, and in situ burn equipment and its use. The team examined peer-reviewed, scientific, and technical papers as well as government documents, including Federal Register documents, government reports, the USCG spill database (Marine Safety Information System (MSIS)), and comments to the docket regarding the proposed 25% cap increase.”<sup>1</sup>

Finally, the 1998 reviewers chose emphasis assessment of three primary response equipment elements: technological capability, commercial or market availability and the availability of existing stock under a prescribed tiered-response time frame work.

### **Technological capability**

The report looked at any technological improvements occurring from 1993 to 1998 dealing with oil spill tracking systems, booms and skimming devices, oil/water separation and emulsion breaking systems, and mobile/modular temporary storage devices. Their findings suggested that: 1. the growing practice of Incident Command System was improving the efficiency of available oil recovery equipment. 2. A growing network of experienced spill management teams was making more effective use of equipment than was the case in 1993. 3. Aircraft equipped with remote sensing devices were improving the efficiency of available equipment. 4. While aerial and remote sensing systems were improving, in the future they must be used in conjunction with Command and Control systems to maximize efficient use of response inventory; and 5. Conventional on-water mechanical oil recovery technology had not improved significantly since 1993.

This strongly suggests that by 1998 mechanical recovery equipment inventories were not an issue. Improving command

and control efficiencies had become the technological improvement focus. Most significant to note here is the enormous growth of remote sensing and Command and Control systems that has occurred since 1998. Since 2001 this growth has been directly related to Homeland Security initiatives and so has focused on meeting physical security related needs rather than oil spill response needs. Much of this growth however, with minor changes either to systems or to policy, could accommodate oil spill response needs. Additionally, it’s important to note that the 1998 report correctly ties responder expertise to this technological element. Without a clear assessment that compares the levels of equipment with expertise one can only guess if gap is occurring. If there is, the gap between oil spill responder expertise and significant advances in remote sensing and command and control leaves us with a significant mismatch between public expectation that oil spills be addressed and our collective gov’t/non gov’t ability to do so. The only remedy to this is reassessment that captures equipment capability, remote sensing and command and control technological advances.

### **Commercial or market availability**

The 1998 assessment states that the overall availability of new oil spill response equipment in the commercial market had improved since 1993. This was based on data assessment of 1993 and 1997 respectively and related to the number of models available for each component of on-water recovery systems, the availability for purchase of this equipment and the apparent health of competition between manufacturers of oil spill recovery related equipment. The extended shelf lives associated with oil spill equipment may make this a non-issue for the immediate future. However, with time and the competition diminishing effect that is occurring due to non oil-related response emphasis, reassessment of equipment availability will most likely be an issue.

### **Availability of existing stock under a prescribed tiered framework**

This part of the assessment looked at national inventories of the major components of on-water mechanical recovery. Data regarding booms, skimmers, skimming vessels and temporary storage devices were taken from the Response Resource Inventory (RRI) maintained by the National Strike Force Coordination Center. This data was analyzed by geographic region, operating environment and the tier I through III response times. Based on this analysis, the existing inventory in 1998 was more than adequate to meet a 25% increase from the 1993 baseline figure. Once again the analysis indicated that in 1998 there was little concern regarding quantities of on-water oil spill recovery equipment. Since that time however the national effort related to the exercising of the National Response System has taken back seat to the overall national effort to build an exercise scheme that meets current perceived threats to national security. Unfortunately the well tested model of exercise used in the oil spill response system was not taken as the model to move into an all hazards approach. For this reason the level of expertise and necessary team building that once was vibrant in the oil spill response community has waned. Hence, though the 1998 analysis depicted a well equipped community, this analysis alone provides a false sense of security when contrasted with experience and exercise factors.

### **Assessment Principles**

#### **1. The Creation of structural, cultural and learning systems to support success are important aspects of preparedness<sup>2</sup>**

Defining success has always been a challenging step in reaching preparedness goals but knowing how and when and who measures if we’re getting any closer to this success is equally im-

portant. As Harrald explains, “How and when success is measured, and who participates in determining success have been overlooked aspects of preparing for spill response”<sup>3</sup> Ultimately the answers to the how, when and who pertaining to oil spill response were becoming very clear in the eighth year removed from the passing of OPA 90. The workload for how to assess was broken up in several different ways, through Response plan review, the PREP program, Strike Force equipment verification visits, the OSRO classification and the SONS exercise to name a few. The important point here is that this was a multifaceted approach to assessing the health of preparedness to respond to oil spills. Assessors often become preoccupied with certain aspects of the assessment to the detriment of an overall understanding of preparedness. An example of this is the business of reviewing plan holder response plans, as Harrald puts it, “Preparedness is a state of a system; a plan is a document”. What this means is that assessment of preparedness if not inclusive of capability, training and exercise, evaluation, plans, policy and outreach aspects will tend to provide fragmented assessments that at best mislead federal, state and local decision makers. It is just such an environment of fragmented assessment that we currently find ourselves dealing with as we look back to 1998 in an attempt to glean anything from the CAPS report. This being said, the oil spill response community is still light years ahead of the current attempt to build a model for assessing Homeland Security preparedness.

## **2. Oil Spill contingency planners have focused on resource and technology dimensions<sup>4</sup>**

As the immediate post OPA 90 oil spill response community was originally focused on capability assessment vice organizational and exercise assessment so too have the homeland security decision makers been focused on capabilities vice assessment of the organization and exercise of that organization. This focus is understandable given the glut of technology development that has occurred since 2001. As private sector entrepreneurs have attempted to meet less than clear requirements for multiple govt users who are in turn attempting to address perceived hazards emerging from terrorism threat assessments it is no wonder decision makers have become obsessed with technology assessments vice true preparedness assessment. While oil spill response preparedness efforts since OPA 90 have taught us the reasons why this “assessment with blinders on” could happen, it remains unclear as to why current homeland security decision makers have not yet stumbled upon the importance of preparedness assessment vice a fragmented assessment approach.

## **3. A critical weakness of U.S. system is that the expertise for multiple response related tasks resides in different formal organizations and must be integrated during emergency conditions**

Overcoming this weakness is the strength that the oil spill response community had provided to the nation up until 2001. This was accomplished through exercise of capability within the context of a plan and more importantly in the format of a team building organization, the Incident Command System. In general, post OPA 90 assessments tended to not be consolidated into all encompassing preparedness reports. Oil spill response planning had evolved to a state that greatly valued assessment of organization and exercise in the context of capabilities assessments. By 2001, the Oil Spill Response community was well on its way to knitting together the many assessments into comprehensive preparedness assessments. This knitting together of assessments ensures a framework by which the gaps of integrating multi-background, multi-organized responders during emergencies can be best addressed.

## **4. A unified command specified by a plan, for example, cannot become a reality unless the organizational and cultural issues have been recognized and resolved prior to a spill event**

This assessment principle is a follow on to principles 1-3 with an emphasis on the importance of Incident Command System to assessing preparedness. It is only through the frequent exercise and actual day-to-day use of ICS that organizational and cultural issues can be resolved prior to emergencies. No amount of capabilities or capabilities assessments alone is ever able to make a plan effective or a command efficient. An assessment of actual preparedness is nothing if it can't measure a unified command's ability to build a diverse team that can efficiently build incident specific incident action plans based on collective knowledge gleaned from effective response plans.

These lessons of preparedness assessment that have been the great strength of the U.S. oil spill response community are also the lessons that continue to be ignored by current WMD planners.

## **A Proposed National Preparedness Assessment Model**

“A major maritime oil spill is a low probability, high impact event”<sup>5</sup>...

Setting specific actionable intelligence information aside, the same can be said for current response planning efforts related to weapons of mass destruction. As the Nation continues to prepare to respond to potential Weapons of Mass Destruction, the lessons of oil spill response preparedness assessment must not be lost on decision makers. As the Preparedness model (depicted on the first page of this manuscript) was envisioned to provide a holistic assessment approach in order to best meet the needs of a local unified command, so to should it be used as the model for all hazards including weapons of mass destruction. The Coast Guard, with Private Sector support, should initiate a concerted effort to reinstitute oil spill preparedness assessment based on this model and in the context of its additional value to Homeland Security efforts. This should then be vigorously touted to DHS National Incident Management policy makers. What must not be confused here is the continued appropriateness of remaining hands off relating to existing Department of Defense WMD preparedness assessment models. These models which attempt to best accommodate preparedness related to Out of Continental U.S. WMD scenarios are well suited to do just that. A Unified Command has much different connotations to the U. S. war fighter abroad than it does to building a unified command for emergency response within the United States. Additionally, using this Preparedness Model as the framework for assessment for all hazards response provides a solid mechanism for Department of Defense (DOD) resources planners attempting to deconflict war fighter and nation builder from supporter of consequence management. The Coast Guard must prepare for responding and operating in both environments and must therefore attempt to prepare for both under constrained budgets and conflicting internal cultural priorities. Unfortunately the Department of Homeland Security has yet to solidify a preparedness assessment process that matches the National Response Plan and thereby provides a preparedness compass for responders, oil or otherwise.

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2000 Mechanical Equipment Cap Increase for OPA 90 Response Plans

#### ENDNOTES

1 2000 Mechanical Equipment Cap Increase for OPA 90 Response Plans

2 Harrald, John R., *Preparing for Success: A Systems Approach to Pollution Response*, Department of Engineering Management, The George Washington University.

3 Harrald, John R., *Preparing for Success: A Systems Approach to Pollution Response*, Department of Engineering Management, The George Washington University.

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