



The Next Battle:

CONTAINING FUTURE MAJOR OIL SPILLS

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The President's Oil Spill Commission has identified a series of failures leading to last year's *Deepwater Horizon* spill. But the spill's damage came not just from the blowout but equally from an inability to contain the spill once it began. These efforts, from junk

shots to top kills, took nearly three months before finally stopping the flow of oil.

The spill revealed that safe, adequate containment capability had not kept pace with the impressive technological accomplishments that enabled industry to drill



in increasingly deep and ultradeep water. For many, the most disturbing result was not that a spill could happen, but that it could not be promptly contained. While the spill—with the benefit of hindsight—has many lessons, one of the sharpest is the need for vast improvement in capability to contain spills.

Recognition of this need has led to quick reactions. A few months after the spill was finally capped, a group of major drilling firms announced plans to invest an initial \$1 billion to create the Marine Well Containment Company (MWCC), a consortium to design, build, and operate a system capable of containing future deepwater spills in the Gulf of Mexico. Another company, Helix Energy Solutions, also proposed new deepwater containment services for some kinds of spills.

Regulators took notice as well, updating permit requirements to include demonstration of ability to contain spills. The inability of firms to meet this requirement has been largely responsible for the fact that it was nearly a year after the spill before a new deepwater drilling permit was issued.

Are these steps likely to be enough to ensure future readiness and effectiveness to contain the next deepwater spill? Our research indicates that while developments so far are positive, much more needs to be done, in terms of both government policy and industry commitments.

Incentives

Due to limited liability and sometimes-ineffective regulatory oversight, firms have lacked sufficient incentives to invest in safe operations, including investments in containment. Measures to increase safety incentives, such as raising or eliminating liability caps, will push firms to make greater containment investments. Part of the reason for past underpreparedness to contain large

spills like that of the *Deepwater Horizon* was a widespread belief that such spills were either extremely unlikely or impossible. Yet that belief failed to take into account that drilling in deepwater is more complex and riskier than elsewhere, and that risk assessments did not adequately account for water depths or volume.

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As impressive as MWCC's and its competitors' proposals are, they focus heavily on preparing for a repeat of the *Deepwater Horizon* spill. MWCC's proposed system would not, for example, be able to contain a spill like the 1979 Ixtoc I event, in which the sinking rig came to rest on the wellhead. It also does not appear to address un- or underappreciated failure scenarios, such as multiple simultaneous blowouts at different wells or a leaking well casing. The Helix proposal also will require additional financing to be able to respond to large spills.

There is, in other words, a danger that MWCC and its competitors are simply refighting the last war on paper, declaring victory, and moving on. This doesn't mean that their plans and systems won't have value, but it might mean that in the event of a new catastrophic spill, these plans will have to be adapted and updated on the fly—as was necessary for the recent spill.

We suggest moving beyond this retrospective focus and devoting resources toward a more comprehensive examination of other scenarios, because future drilling efforts are expected to reach ever-increasing water depths. Expert analysis and risk assessment, both by industry and third parties, is needed. War gaming to test procedures and failure scenarios would inform this analysis and improve preparedness. Creation of a center of excellence developed specifically to carry out state-of-the-art research in deepwater

and ultra-deepwater containment, again with third-party involvement, would be a welcome development.

Innovation

The recent history of spill response technology gives some reason for concern that industry efforts to prepare for the next spill will fall short. Regulatory requirements and industry resources for response were increased following the *Exxon Valdez* spill in 1989. The Marine Spill Response Corporation, an industry collaboration with many similarities to MWCC, was created.

However innovation in response technology did not keep pace with drilling developments. Private competitors entered, but did not expand response capacity, which was widely viewed as inadequate even before the *Deepwater Horizon* spill. A danger exists that the same containment problems will persist if an ongoing commitment to innovation is not made.

Industry must ensure innovation is paid more than lip service. For example, a governance structure that includes either public-interest board members or an independent, expert panel and transparent disclosures of expenditures might provide some assurance that R&D is adequately funded and containment technology keeps up with the latest drilling depths. But there is also a role for

government. Demonstration of real containment capability is becoming a prerequisite for drilling in the Gulf. These regulatory requirements must not stagnate into paper formalities. Regulators will have to ensure that the containment plans submitted to them are grounded in real technology and practices, and capable of actually containing the wells firms plan to drill. Some direct or indirect government support of containment R&D may be warranted—for example, to support frontier academic research—given the difficulty for any individual company to fully appropriate the returns to innovation.

Conclusions

The *Deepwater Horizon* revealed a serious failure of spill containment. That failure was partly technological, but it was ultimately human. MWCC, the Helix plan, and updated permit requirements show recognition of this and are undoubtedly positive steps. But the opportunity created by momentary attention to containment should not be lost. Other measures are needed as well, including attention to incentives that are blunted by liability limits, consideration of a wide range of failure scenarios, use of third-party review, and commitment to ongoing innovation in spill containment to match the pace of innovation in drilling. ●

