

"Are lessons truly learnt?"

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Abstract

In a fiercely competitive energy industry, one area where the oil industry never normally competes is oil spill response. The industry knows that when one of them faces the reputational fallout that accompanies an oil spill, the media and public outcry makes little distinction between the constituents of "big oil". It makes good sense, therefore, for oil companies to collaborate with each other, and with other stakeholders, to plan and prepare for effective response. There have been significant developments in technology to enable a more effective response but, as a response community, it is imperative that we learn the lessons of history and not only prepare to battle an incident similar to the last we faced but any kind of spill which we may stumble upon. There is a current sharp focus on sub-sea well intervention to counter the consequences of the last two major offshore spills the world faced. Similar lessons from other historical spills must be learnt for effective preparedness and response. What can the response community do to learn from previous events and apply these "lessons" from previous spills to respond more effectively if, despite improved prevention, a major spill should occur? As the post Macondo generation of spill responders reaches operational maturity, how can they inherit sound principles of good practice and not replicate mistakes that have been made in the past?

Introduction

Major incidents like the Montara and Macondo in Australia and the U.S. are reminders of the inherent risks associated with offshore operations. The consequences of these incidents have not only led to distressing effects on the environment but also in the case of Macondo, the tragic loss of human life. These outcomes have changed the expectations from the regulators and other stakeholders primarily in terms of their risk to such incidents and their ability to manage associated events. But the loss of well control is not the only cause associated with oil spills. Pipeline leaks, vessel collisions, equipment failure are a few of the many sources of oil spill incidents globally. While the most recent major incident causes the industry and authorities to react to prevent a reoccurrence of that type of incident, historical incidents, soon fade from our collective memory. Small or similar 'type' of incidents which may form a pattern tend to go

unnoticed due to their size or minimal impact. From the author's perspective, from within a response organisation, similar if not the same issues frequently reoccur across a variety of incidents. Irrespective of the size of the spill, safety, communication, lack of information, ignorance or lack of familiarity to existing procedures including the contingency plan, are only a few factors that hamper a response. Hence, it would be useful that lessons learnt, whether from the last big spill or a small spill need to be applied and shared across the wider response community.

Twenty five Years of Event-Shaping History

At the time of Exxon Valdez spill (1989), the world used 63 million barrels of oil per day (bpd) and twenty-five years later, world oil use is now 91 million bpd. With increasing energy demands, this consumption of oil will continue to rise and the risk of the oil spills will remain ever-present.

Prior to Macondo (2010), shipping and associated activities were implicitly acknowledged to be the primary cause of significant oil spills. From the Amoco Cadiz through Valdez to Erika and Prestige much has been done to reduce the volume and frequency of oil spills from shipping. While there is no question that the Exxon Valdez spill was an unfortunate incident, it is also clear that it provided a necessary momentum to reassess the state of oil spill preparedness and response. The tanker spill prevention system put into place after the incident is one of the best lessons learnt - twin tug escorts for every laden tanker, continuous vessel tracking, double hulls on all tankers, two licensed mariners on the bridge, expanded pilotage, ice-detecting radar, alcohol screening of crew, weather restrictions, better tanker inspection, and so on. Unfortunately, these measures have not been universally applied in other regions.

The Macondo incident, some 20 years later, led to a re-evaluation of deepwater drilling procedures including the implementation of new regulations designed to prevent future oil spill incidents, and also minimising environmental damage if they did. This is particularly relevant in a technological environment where an increasing number of oil and gas projects involving ultra-deep drilling are being explored by various players. The risk of oil spills has changed and a shift from shipping to loss of well control incidents has taken place. The effects of Macondo were felt by industry and governments worldwide. Yes, we have learnt from the last disaster and put in

place extensive improvements but the real question is how do we translate these lessons learnt to the next big spill? How will we apply these findings in those circumstances where the source of the spill is not the same as the last big spill. From a response organisation's perspective, all incidents; big or small, even the ones that go unnoticed provide opportunities for lessons to be learnt and implemented to better prepare for possible future incidents.

Lessons Learnt

There are many stakeholders involved in an oil spill incident which illustrates the complexity and necessity of achieving inter-organizational collaboration by showing how capabilities and knowledge are distributed and communicated across different players. Macondo is an example where multiple national and international stakeholders were involved and highlighted the importance of fundamental issues like understanding one another's response structures, application of different response techniques and having a common understanding of the lexicon of response equipment and terminology.

Collaboration, Convergence & Consistency

The OGP / IPIECA Oil Spill Response Joint Industry Project (OSR-JIP) is an example of a working group which seeks to address a wide range of response related issues on behalf of the global oil industry. To date, the OSR- JIP comprises of 22 recommendations which cover the key identified areas for improvements post Macondo. The successful development and implementation of these recommendations is expected to further strengthen the response to any such oil spill incident in the future. Working together through a JIP cultivates credibility through consensus and partnership and it provides a bank of information that can be used to proactively engage with external agencies. The presence of a comprehensive work program makes it easier for national administrations, intergovernmental organizations and willing third parties to contribute in the studies and build their confidence in the results of the investigations and research. This contribution from different stakeholders to identify and improve the gaps in spill response not only promotes common understanding of preparedness and response but facilitates the decision making processes. The scan/ glance materials and other education and communication tools developed by the JIP are designed to cater to a broad audience including

national regulators and oil industry personnel involved in an oil spill response to establish consistency in understanding what is required for an incident.

International Offers of Assistance (IOA)

The Macondo spill incident highlighted the importance of international stakeholder planning and coordination as several countries stepped forward to assist the U.S. in the form of equipment, technical expertise and general assistance. The event highlighted the need for guidelines to facilitate requesting and receiving emergency assistance in events of this scale. It highlighted the need to improve international government-to-government coordination and cross border cooperation. The endorsement of these Guidelines through the Marine Environment Protection Committee of IMO will ultimately help to encourage the adoption of the International Offers of Assistance (IOA) Guidelines into national level contingency planning. Once published, the Guidelines will facilitate the process for requesting and receiving emergency assistance during any potential future incidents and further enhance, not only regional, but global cooperation in times of need.

Preparedness and Response

With increasing regulatory scrutiny and awareness, the scope of preparedness activities have changed. Contingency planning has become more comprehensive ensuring engagement of all stakeholders. A collection of contingency plans including tactical and site specific plans are being developed in user friendly formats to make them functional and practical. Advanced tools like three dimensional modelling, quality met ocean data and sophisticated data analysis tools are being utilized. Similarly, oil spill response equipment is evolving and there has been considerable effort to develop new boom configurations and high volume recovery systems. Understanding of dispersants usage and associated logistics issues in a large incident together with dispersant application monitoring are being addressed under the JIP 1, 2, 3 and 4 work programs. Emerging solutions to support intervention such as Capping Stacks, Containment toolkits and Subsea dispersant toolkits have been developed. Aerial Surveillance is being enhanced through improved airborne remote sensing and monitoring technology supplemented by 3D modelling and satellite imagery. Experience from Macondo and other recent incidents have highlighted the imperative of storing and consolidating huge volumes of data in various

digital formats and assimilating into concise information like the Common Operating Picture to aid effective decision making in the Command Post. The drive to develop new sensors and data analysis techniques should not obscure the strong requirement to enable information to be available rapidly for responders. Hence, training is a critical part of information management, particularly as the complexity of technology, and their greater use in combination with multiple platforms, becomes more frequent.

New Generation Responders

The human element in an incident will always remain the key attribute for effective decision making and new technologies require better trained and experienced people to ensure they can be successfully deployed. Training and exercising will remain one of the key platforms for new generation responders to not only learn but apply this bulk of progressing knowledge. The use of exercises and drills is an essential part of preparing response teams to deal with incidents, work in a team and determine strengths and weaknesses. Planned or No Notice Drills, where equipment and personnel are deployed together help determine areas for improvement as teams are stretched and put under pressure. Working with external agencies, for example in a national exercise, creates more realistic circumstances mimicking a spill, as the response teams get the opportunity to interact with different stakeholders. Inter-government exercises with actual deployment of response resources are also invaluable in understanding intergovernmental cooperation, resource availability and the necessary logistics needed.

Conclusion

The response community has and continues to improve its ability to effectively respond to oil spill incidents across the globe. It is critical that we all embrace these developments to ensure they are implemented. For which, we must act on the lessons learnt and undertake the necessary steps to improve both individuals and organisation as a whole. This can happen only if robust training programmes are practiced with the opportunity to apply the lessons from not only the recent spills but also long-forgotten incidents in the pre-technological age. All these valuable lessons are to aid us in informed decision making, fostering common understanding and collaboration to ensure the most effective response technique is applied at the right time during a response.

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