

Interspill 2012

GIRG - Oil Spill Response Developments: Plans & Progress

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This paper details the findings, proposed actions, and progress of the Oil Spill Response sub-group of the International Association of Oil and Gas Producers (OGP) Global Industry Response Group (GIRG-OSR) which was established by OGP and the International Petroleum Industry Environmental Conservation Association (IPIECA) to address Oil Spill Response issues relating to the Macondo and Montara incidents. The team consisted of over forty specialists drawn from environmental management and oil spill response, and mirrors similar teams set up on well design/control and capping/containment.

While the Macondo and Montara spill response efforts are widely acknowledged to have been successful, post-event analysis has identified potential opportunities to further strengthen future spill response plans, which could be developed as 'good practices' and promoted internationally. The team also documented issues that were not considered to have had direct relevance to the Macondo response but could potentially have been an issue if the blow out had happened elsewhere. Longer-term issues that are not considered pressing now, but may potentially become more visible in the next few years, are also identified. The report made nineteen recommendations which are listed below.

Inform decision-makers on the value of dispersants

Given the right conditions, the surface and subsea use of dispersants can substantially improve the efficacy of response, and their use should be considered alongside other response options such as mechanical recovery and "In Situ" Burning. The potential benefits and limitations of dispersant use are not fully understood by stakeholders. It is recommended that an awareness package on the value of dispersants developed for stakeholders. This should include updates to the

IPIECA publications, the publication of an independent reference guide, and a model protocol for pre-approval of dispersants that can be shared with regulators.

Environmental Effects of Dispersants

An extensive body of knowledge already exists with respect to dispersants. However further research is recommended to promote a better understanding of the environmental and toxicological effects of dispersants and dispersed oil with a view to reaching a consensus on their effects and factors to be weighed in authorizing their use in specific circumstances. This research should also be used to inform the development of a standardized protocol for dispersant approvals that could apply globally, which would include efficacy testing.

Dispersant Approval & Supply Chain

There is no universally recognized global protocol for evaluating and approving dispersants, which in turn affects the supply chain, thereby limiting availability of dispersant during a large spill event. It is recommended that research on the environmental effects of dispersants (see above) should be used to develop an agreed global protocol for dispersant testing. Dispersant supply plans should be developed that demonstrate how appropriate supplies of pre-approved dispersants can be accessed, considering dispersant types and approval issues, the logistics of product delivery and the “ramping-up” of manufacturing capability during an extended event. Industry members should be encouraged to include comprehensive dispersant re-supply plans in their contingency planning processes. Global dispersant supply chains should be catalogued.

Dispersant Effectiveness Monitoring

There is no globally applied Recommended Practice for dispersant effectiveness monitoring. The SMART protocol has been widely adopted in the USA and is accepted by the regulatory authorities for surface-applied dispersants. However its use is not widespread outside of the USA. The PREMIAM guidelines for post-spill monitoring could also be usefully evaluated here. It is recommended that the available protocols be evaluated for worldwide application, and if found suitable, implemented through incorporation in a good practice document.

In Situ Burning (ISB)

Globally, there is considered to be relatively limited information available on ISB applicability as well as the practices and techniques employed during ISB deployment. Given the recent success of this technique, a range of documents, approval protocols, and standard methodologies should be developed, to optimise its deployment in the future.

Assessing Response Preparedness

In general, industry spill response and risk/hazard assessment models do not tend to be well understood by regulators. These models should be developed and disseminated in order to assist regulators in understanding and quantifying risk and in confirming that realistic response capability is put in place to respond to a potential hazard. When these models are completed, a Recommended Practice should be developed and communicated to regulators and other stakeholders. A communication package on this subject should also be developed.

Effective exercises

Exercises should be planned with the objective of comprehensively testing all aspects of oil spill response capability. This includes notification, assessment, communications, personnel availability, resource mobilisation and equipment deployment, cross-border movement of equipment and personnel, as well as testing an overall command and control structure. While some guidance exists, a consistent standard on frequency and technique has not been adopted globally. A Recommended Practice on response exercises should be developed and inculcated in member companies via the IPIECA Good Practice Guidelines.

Surveillance of Oil Spills

Current practices for the surveillance and tracking of oil spills appear to be region specific and may not fully capitalize on the range of emerging technologies. Given the cross-functional nature of imagery and geospatial data in any oil spill response, a task force or committee should be formed to develop a Recommended Practice on the Surveillance and Tracking of Oil Spills. Tasks would include the development of an Recommended Practice in cooperation with existing OGP Geomatics,

Environment, Metocean and Safety Committees and the IPIECA Oil Spill Working Group (OSWG).

Tier 2 and Tier 3 Capability

The present model of Tier 3 response organisations and their location should be reviewed to confirm continued fitness for purpose and consider whether there could be an increase in Tier 2 locations closer to areas of perceived risk with the ability to respond more quickly before the arrival of the Tier 3 resources. It is recommended that an assessment of potential industry exposure is conducted based on current Tier 2, Tier 3 and commercial response bases to help inform the potential location of any additional resources.

Oil Spill Trajectory and Subsea Plume Modelling

During the operational phase of a spill there is a risk that a lack of adequate real time and model data at sufficient temporal and spatial resolution may impede initializing and running the models to an optimal level of accuracy. Existing methodologies and models for oil spill modelling should be reviewed and improvement areas identified.

Communications: forming a “Common Operating Picture”

During the Macondo response effort, there was significant innovation in the use of communications and IT technical tools over a wide range of activities in the management and tracking of the response. The communications tools used in managing the Macondo response effort should be captured and made available as an example of good practice for other organizations/countries.

IPIECA Oil Spill Working Group Report Series

In October 2010, the IPIECA Executive Committee recommended that the IPIECA Oil Spill Report Series be updated with some urgency following the Macondo incident to more accurately reflect Oil Spill Preparedness and Response priorities in respect of Exploration and Production (E&P); in recommending this, it is recognized that a decision also has to be made on whether the level of technical detail in the IPIECA Oil Spill Series should be increased.

Indemnification of responders, oil spill response equipment and associated materials

There are a range of potential liability issues associated with the secondment of personnel to assist with a major incident which, if not addressed promptly and effectively, could impede efforts in the critical early stages of a response. A Recommended Practice on mutual aid responder indemnification and liability should be developed.

Airborne Dispersant Delivery Systems (ADDS)

The high volume airborne surface dispersant application platforms such as the Hercules have a finite life. While in the US there are still many available mid-life airframes, elsewhere many of these airframes are expected to be withdrawn over the next 5 – 10 years. It is recommended that industry look ahead to the replacement of the ADDS pack/Hercules option with other airframes and systems. The Oil Spill Response Organizations (OSROs) should work with airframe manufacturers to define future aerial dispersant platform(s).

Mobilizing, managing and integrating responders in-country

There is varied understanding on the use of national guards, military, etc. as responders in various countries around the world. It is recommended that good practice on volunteer management should be formalised. A Recommended Practice and accompanying advocacy package on mobilizing and managing and integrating military and volunteer responders should be produced.

Monitoring oil in the water column

Water column monitoring is well accepted in the USA for surface dispersant application (using the SMART protocol) but there is currently no consensus on monitoring the effect of subsea dispersant application and the transport and weathering of oil released at depth. It is recommended that short-term, the methods used on Macondo for tracking oil in the water column are reviewed and a Recommended Practice is developed for international use. Longer-term, technology for sampling and tracking dispersed oil plumes using AUV's should be evaluated.

Decanting of Temporary Offshore Storage Devices (TSD's)

There is a need to define good practices for the use of temporary storage devices. In certain jurisdictions, restrictions on discharging separated water during offshore collection and storage may potentially impede efficient response. Educational material on the use of TSD's should be developed and communicated widely.

Use of Personal Protective Equipment (PPE) during Spill Response

There is no universal guidance on the use of PPE in various countries around the world and guidance is needed for responding workers and volunteers during oil spill clean-up activities. An industry Recommended Practice on the health and safety of responders and all those involved in response activities should be developed and communicated widely.

Responding to different types of oil

There are databases available that document crude oil types versus the properties that are important in oil spill response. However, many of these databases are not current, and some do not sufficiently document the range of oils currently being produced. It is recommended that data is gathered from operators on the range of oil characteristics that could influence safety, behaviour, fate, potential effects and response options/techniques.

Progress

A Joint Industry Program to deliver the work recommended in the JIP was established on December 13th 2011. Fourteen industry participants have signed up to the three-year, four million dollar effort to implement the recommendations. Initial work is concentrating on the recommendations on Dispersants, Risk Assessment, In-Situ Burning, and Responder Safety.