ABSTRACT

Dispersant use can be a critical component of an effective response to offshore oil spills. When used appropriately, dispersants can reduce the potential for long-term environmental damage by preventing oil slicks from entering sensitive near-shore environments or stranding on shorelines. Preparedness is essential for successful dispersant application – product selection and inventory management are critical elements for ensuring global dispersant stockpiles are ready.

The Australian Marine Oil Spill Centre (AMOSC) and Oil Spill Response Ltd (OSRL) are two global Oil Spill Response Organisations (OSROs) with large scale dispersant stockpiles (i.e., Tier III Inventories) who are collaboratively developing international best practices relating to dispersant preparedness regimes in consultation with the Oil and Gas Industry.

This poster will describe the developments and the longer-term implementation of the regimes. It also serves to highlight some of the challenges – including dispersant shelf-life, robustness of testing data and requisite regulatory approvals.

PRODUCT SELECTION

A number of factors need to be carefully considered during the dispersant product selection process for Tier III Stockpiles:

- Breadth of Global Approvals
- Availability/Breadth of data demonstrating effectiveness
- Availability/Breadth of data on toxicity to marine life and response personnel
- Toxity Testing

STOCKPILE PREPAREDNESS

The storage, maintenance and management of the dispersant stockpiles are important to ensure that product quality is not compromised until manufacturers can ramp up production. The stockpiles are important to ensure that product quality remains stable over time.

STOCKPILE MAINTENANCE PROCESS

- Inside a warehouse (where possible) to control TEMPERATURE variation and minimize exposure to sunlight
- Climate controlled facilities may be required to conform to manufacturer’s recommendation for storage temperature
- Within SEALED CONTAINERS to reduce potential for contamination and prevent vapour loss
- All dispersant containers are issued with individual identification LABELS (IBC, Batch #, Equipment Tag)
- Maintenance NOTIFICATION received at scheduled intervals
- Sampling/Test SCHEDULE pre-determined, e.g., min 10% per batch, per location, stored under the same conditions
- Dispersant samples collected as per company sampling schedule
- Samples sent to accredited laboratory for Efficacy ANALYSIS (e.g., EXDET, Warren Springs Lab LR448, Baffled Flask Test)
- Efficacy testing is carried out on appropriate sample size, e.g., min 10% of the samples from the same location
- Sampling/testing result labels (e.g., QR codes) can be used to efficiently access ‘response readiness’ data
- Batches failing efficacy testing will be disposed of in accordance with the waste management policy

DISCUSSION

The use of dispersants (both surface and subsurface) may be critical in responding to large offshore spills, both to permit safe well intervention and as a general response tool. To be able to effectively apply dispersants may require the timely availability of large volumes of dispersant stocks. Global dispersant stockpiles have been established to address the need for dispersants during the initial phase of an incident until manufacturers can ramp up production. The storage, maintenance and management of these stockpiles is important to ensure that product quality remains stable over time.

OSROs such as AMOSC and OSRL have developed stockpile maintenance and management procedures for this purpose. Key components of a dispersant stockpile maintenance and management process include:

1. Storage strategies to minimize potential adverse impacts of environmental elements
2. Establishing proper maintenance protocols to ensure routine inspection for any adverse impacts
3. Efficacy testing at pre-determined intervals to monitor any variation to product quality. Records of the efficacy testing and other observations are maintained to enhance understanding and improve maintenance practices over time, if needed.

As dispersant stockpiles may be kept for a long time, it is critical to implement a systematic and comprehensive strategy to monitor product quality. Records of dispersant preparedness, maintenance and management procedures are maintained to enhance understanding and improve maintenance practices over time, if needed.

CONCLUSION

Industry and the global spill response community recognize that while a number of countries have regulatory requirements, the existence of harmonized stockpile management practices and the ability to share them has a number of practical benefits.