

American Petroleum Institute (API) Joint Industry Task Force (JITF) “Subsea Dispersants – D3”

OLF Seminar: "Experience from subsea acute oil releases –
from the Gulf of Mexico to Norwegian conditions"

Oslo, Norway
3 February 2012

D3 Steering Committee Lead: Tim Nedwed (ExxonMobil)
EM&A Program Manager (for API): Joe Twomey
EM&A Subject Matter Experts (for API): Gina Coelho and Jim Clark



Team Members & Key Contributors

American Petroleum Institute
Anadarko
BP
Chevron
ExxonMobil
Marine Well Containment Company
Nexen Petroleum
Shell
Statoil
Total
Wild Well Control

In addition to industry membership, Technical Advisory Committee members from various agencies, international organizations, and academia are providing oversight and input

* D3 Steering Committee lead

D3 Program Overview

- **Objective:** To conduct research and development on subsea dispersant injection to provide optimal implementation methods. The program will include research on application methods, effectiveness, and potential environmental effects
 - *Focus is ice-free open-water environments*
- **Study Duration:** 3 years – start 1 Oct 2011, culminating in an open ocean field trial in 2014

Rationale and Considerations for Program Design

- Subsea injection is needed to maintain safe working environment for well containment
- In many well control scenarios, subsea injection should provide a net environmental benefit considering the limitations of other offshore response options

5 Project Teams

- Effectiveness
 - Chair/Co-Chair: BP / Chevron
- Fate and Effects
 - Chair/Co-Chair: Shell / Chevron
- Modeling
 - Chair/Co-Chair: Chevron / Shell
- Monitoring
 - Chair/Co-Chair: Wild Well / Chevron
- Communications
 - Chair/Co-Chair: ExxonMobil / Shell

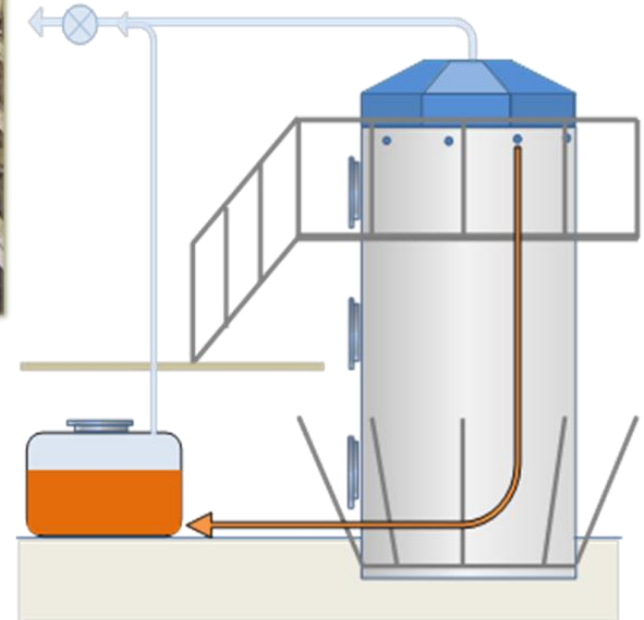
Effectiveness Project Team

Focus: Develop recommended subsea dispersant injection methodology and equipment considering cost and need

- Literature review
- Scaled testing to evaluate injection methods and determine dispersant-to-oil ratios
- Conduct field testing as needed



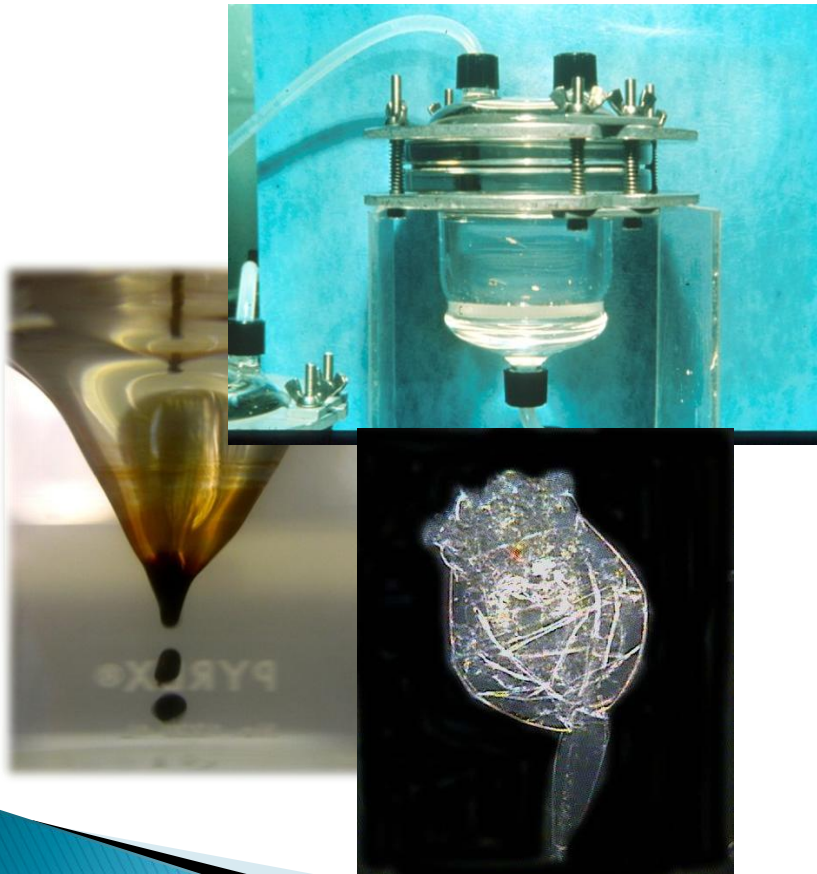
Left: S.L. Ross Tank Facility used to evaluate dispersant effectiveness



Right: Schematic of SINTEF Tank Facility for examining subsea release

Fate and Effects Project Team

Focus: Evaluate the biodegradation and toxicity of dispersants & dispersed oil on deepwater communities

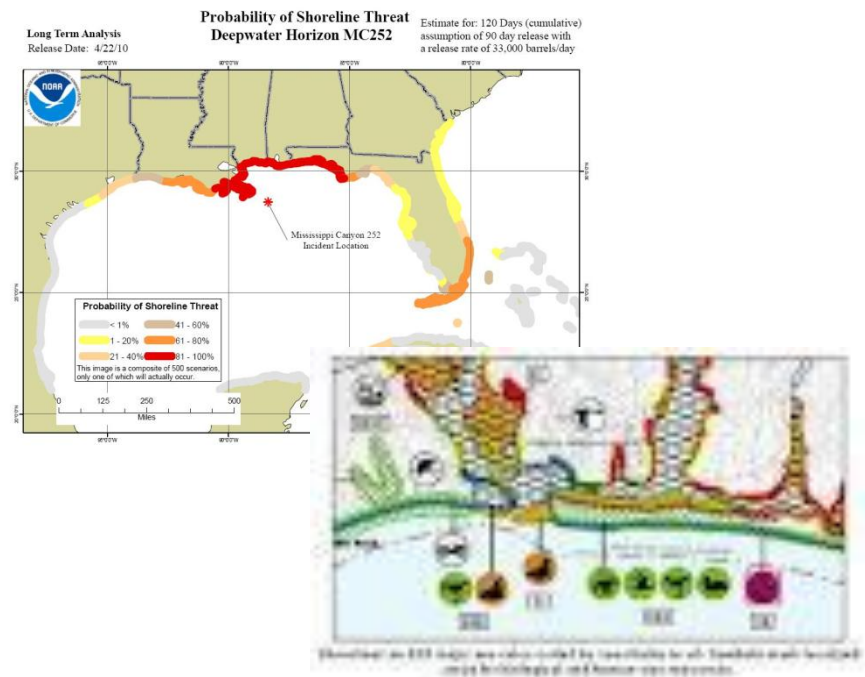


- Summarize previous research on dispersed oil biodegradation and toxicity
- Identify relevant deepwater test organisms and develop appropriate testing protocols
- Conduct biodegradation and toxicity tests on water samples and species representative of depth

Modeling Project Team

Focus: Enhance existing numerical tools to model dispersed oil plumes resulting from subsea injection

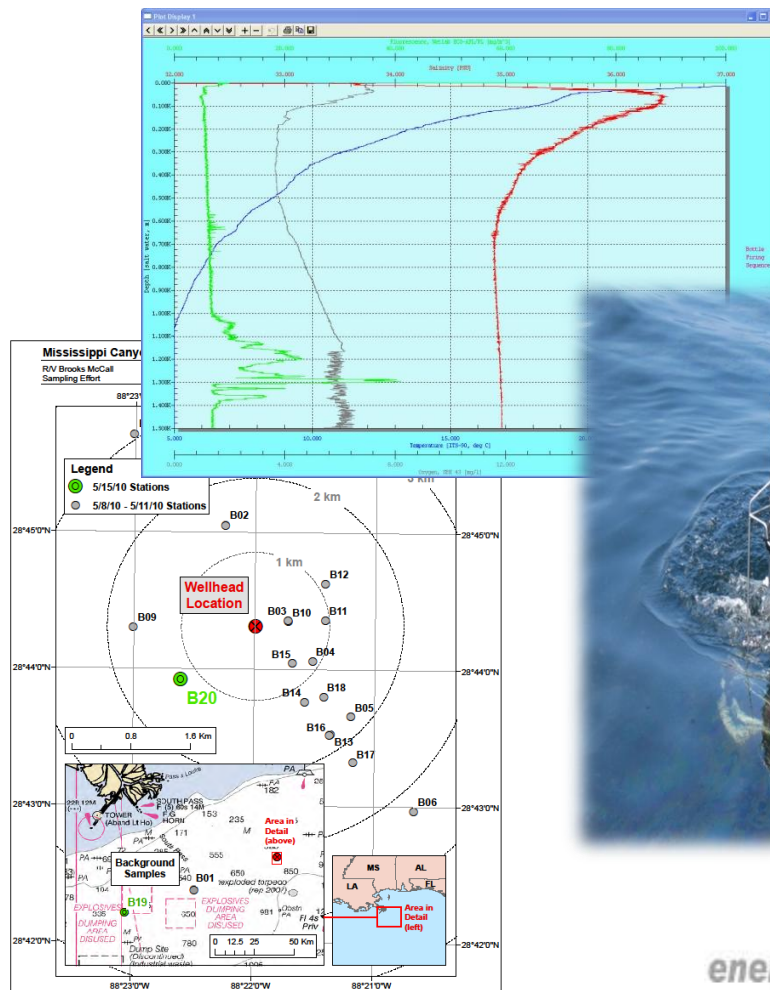
- Evaluate existing models to identify needs
- Upgrade models, as required
- Validate models using results of scaled/field testing



Monitoring Project Team

Focus: Establish field monitoring criteria and provide a recommended monitoring plan based on latest technology

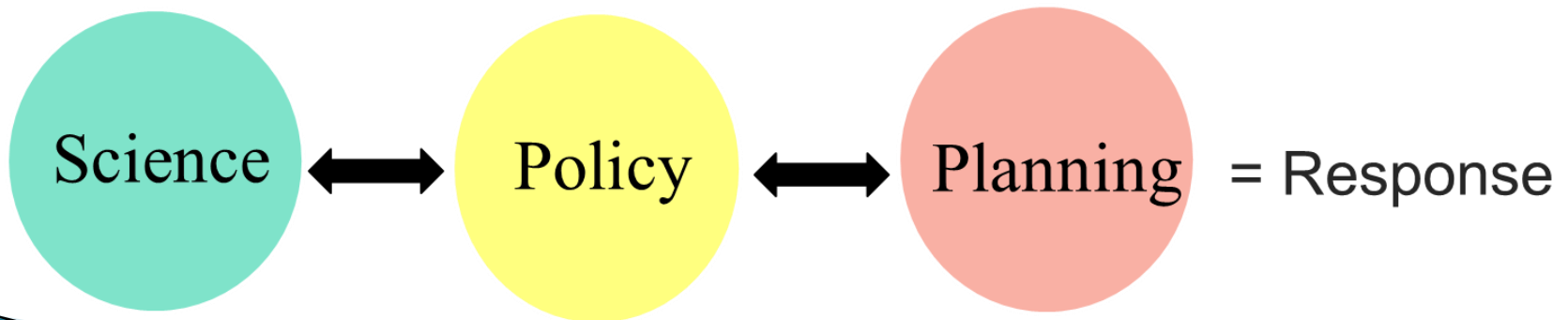
- Identify monitoring tools currently available
- Evaluate existing and emerging monitoring technologies
- Develop a recommended monitoring plan



Communications Project Team

Focus: This project will develop tools to communicate the resulting subsea dispersant injection research conducted by the other D3 project teams

- Education fact sheets will be developed
- Each project will have technical advisory teams to foster transparency
- Collaborate with other groups as much as possible
- Conduct NEBA workshops in an attempt to get pre-approval



Q&A

