OGP Arctic Oil Spill Response Technology Joint Industry Programme (JIP)

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Outline

- Background on JIP
- Objective
- JIP Organisation
- Current project status
- Questions

Photo: DF Dickins

Photo: DF Dickins

Background on JIP

- Increased focus on oil exploration in Arctic and sub-Arctic regions
- Unique aspects of Arctic exploration present different challenges for environmental protection
- Last few decades have seen significant advances in Arctic spill prevention and response technology
- Example oil spill research projects:
  - SINTEF Oil in Ice JIP
  - OHMSETT Dispersant work
  - Spill detection/Monitoring Trials

Background on JIP (cont.)

- Joint committee of IPIECA and API formed to review past research on spills in ice; identify advances; prioritise determine research needs
- Resulted in recommendation to establish a new JIP to undertake research in seven key areas:
- Dispersants
- Environmental Effects
- Trajectory Modelling
- Remote Sensing
- Mechanical Recovery
- In Situ Burning
- Experimental Field Releases

JIP Objectives

- Create an international research programme to further enhance industry knowledge and capabilities in the area of Arctic oil spill response
- Raise awareness of existing industry OSR capabilities in the Arctic region
- Working together, the JIP companies are ensuring the most efficient use of resources, funding and expertise to improve technologies and methodologies for Arctic spill response

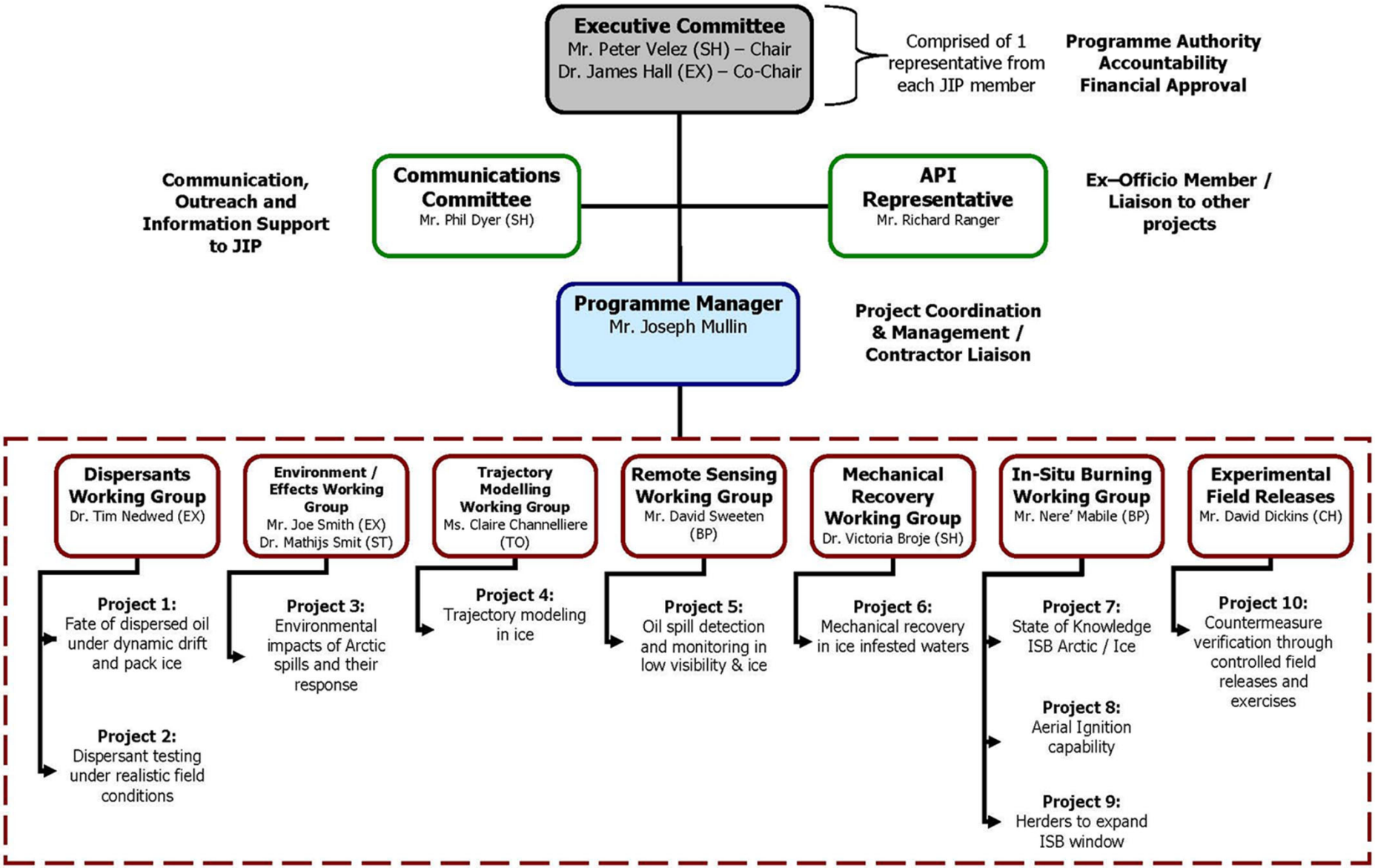
Current Status

- 9 participating companies:
  - BP
  - Chevron
  - ConocoPhillips
  - Eni
  - ExxonMobil
  - North Caspian Operating Company
  - Shell
  - Statoil
  - Total

Photo: DF Dickins

UPDATED: January 2012

Arctic Response Technology: Joint Industry Programme Organization (January 2012)



Technical Direction, Expertise and Review; Each Working Group has a Project Lead and a representative focused on providing technical guidance and review.

Proposal Selection Process

Contracts will be awarded by a two stage selection process

- A Background Paper each of the identified topic areas will be prepared.
- Expressions of Interest (EoI) will be made by advert at www.mytenders.com.
- EoI submissions will be reviewed for technical merit and capability by members of the JIP.
- Contractors preparing successful EOI's will be invited to prepare fully-costed proposals, which will then be assessed by the JIP.
- Subsequent contract negotiations will be conducted with OGP.

Communications Team

Will provide information and education and outreach materials on the oil industries experience and capabilities in Arctic spill response

Work with the Technical Working Groups to disseminate research results and provide information for education and outreach

- Developed Publicity Plan for Launching JIP at Arctic Frontiers Conference
- EoI for Communications Support – 1Q/12
- Contract Award 1Q/12

Photo: J. Mullin

Photo: Ohmsett

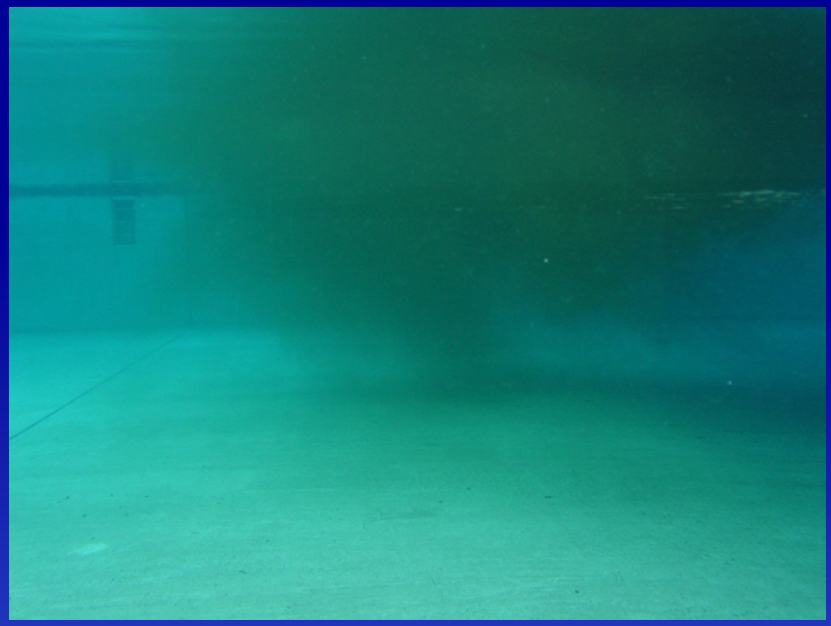
JIP Projects

DISPERSANTS

1. Fate of dispersed oil under dynamic drift and pack ice

Develop a numerical model to predict the fate of a dispersed oil plume that develops under ice, particularly the resurfacing potential

- EoI issued in 1Q/12
- RFP to highest qualified contractors 1Q/12
- Contract Award expected late 2Q/12
- Initial deliverables 3Q/12
- Model development starting 3Q-4Q/12



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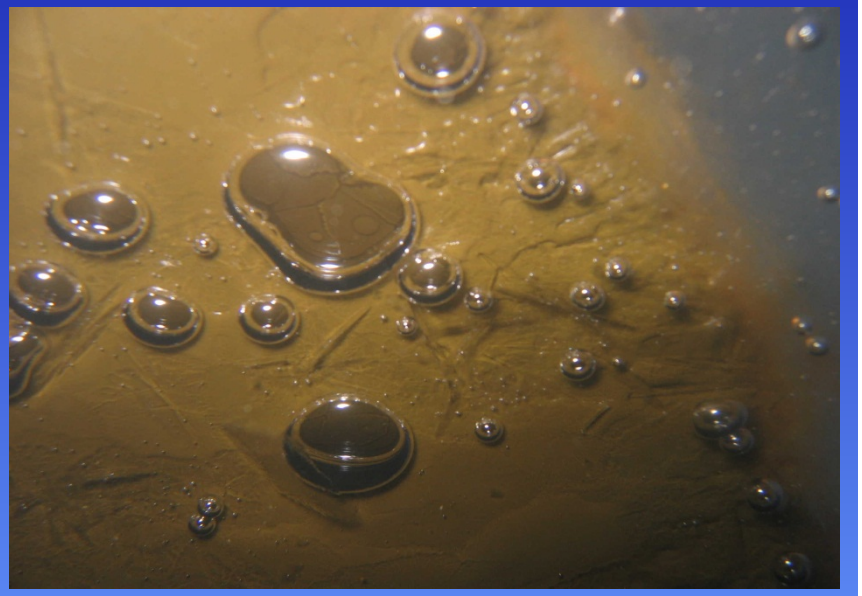


Photo: DF Dickins

JIP Projects

2. Dispersant testing under realistic field conditions

Understand operational needs for dispersant and mineral fines application in Arctic conditions

Conduct large-scale basin tests and field verification on the efficacy of dispersant and mineral fines in Arctic marine waters

Define the regulatory requirements and permitting process for dispersant and mineral fines use for each Arctic nation/region

- EoI issued in 1Q/12
- RFP to highest qualified contractors 1Q/12
- Contract award expected 2Q/12
- Initial deliverables starting 3Q/12 with large-scale basin tests in 4Q/12-1Q/13

Photo: Ohmsett

Photo: DFO Canada

JIP Projects

ENVIRONMENTAL EFFECTS

3. Environmental impacts of arctic spills and their response

Provide a robust information base that will support the use of net environmental benefit analysis (NEBA) for Arctic oil spill environmental impact assessments and response decision-making

- EoI issued in 1Q/12
- RFP to highest qualified contractors 1Q/12
- Contract award expected 2Q/12
- Initial deliverables starting 3Q/12
- Environmental studies starting in 4Q/12 - 1Q/13

Photo: DF Dickins

Photo DF Dickins

JIP Projects

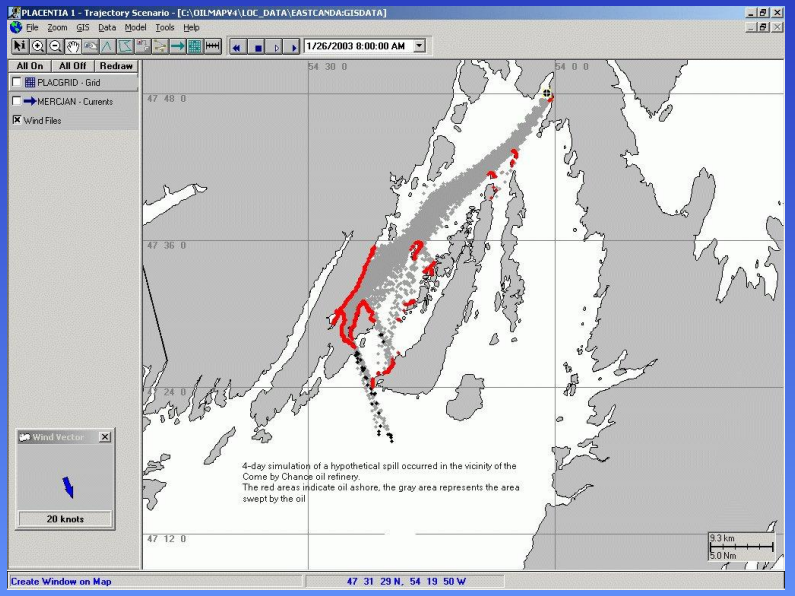
TRAJECTORY MODELLING

4. Trajectory modelling in ice

Create or adapt an existing numerical model that is capable of modelling the trajectory of spilled oil in various ice concentrations

- The Technical Working Group is currently developing the scope of work and deliverables for this project
- EoI is expected to be issued in late 1Q/12 and could include one or more focused workshops in 2Q/12
- Model development/enhancement commencing 4Q/12

Photo: SINTEF



JIP Projects

REMOTE SENSING

5. Oil spill detection and monitoring in low visibility and ice

To advance and expand the oil and gas industry's oil spill remote sensing and mapping capabilities and technologies in Arctic Conditions. Two focus areas:

- Surface remote sensing that includes Satellite-borne, Airborne, Shipborne, and On-Ice sensors
- Undersea remote sensing that includes Mobile-ROV or AUV based, and Fixed sensors.
- EoI issued in 1Q/12 with contract award expected 2Q/12
- Initial deliverables starting 3Q/12
- Technology R&D and verification 4Q/12-1Q/13

Photo: Transport Canada

Photo: DF Dickins

JIP Projects

MECHANICAL RECOVERY

6. Mechanical recovery in ice infested waters

The objective is to create a step change in recovering spilled oil in ice-infested waters

- Planning for focused workshop initiated 3Q/11
- Workshop will be conducted March 6-8, 2012 in London, UK
- Counter-Intuitive Problem Solving approach will be used to generate breakthrough ideas at the workshop
- Workshop report 2Q/12 with findings and recommendations

Photo: Ohmsett

Photo: H. Jensen

JIP Projects

IN-SITU BURNING (ISB)

7. State of knowledge

To prepare a foundation document for subsequent educational and outreach materials to educate and make stakeholders aware of the significant body of existing knowledge on ISB

- Project to be conducted in two concurrent phases
- State of knowledge on in situ burning in Arctic offshore environment
- Preparation of education and outreach Materials
- RFP Issued in 1Q/12
- Deliverables in 3Q/12

Photo: SINTEF

Photo: Industry Task Group

JIP Projects

8. Aerial ignition systems

To provide technology improvement that will deliver a safe, reliable, and more precise means of aerial ignition and improve oil slick targeting to support the use of in situ burning

- Phase 1: Establish an Aviation and Marine Subcommittee Planned 1Q/13
- Phase 2: Evaluate ignition options to recommend platform and equipment systems
- Phase 3: Development and testing of improved ignition systems
- Project will be coordinated with existing efforts to avoid duplication and to gain leverage of programme

Photo: J Mullin

Photo: A Allen

JIP Projects

9. Chemical herders to expand ISB window of opportunity

Conduct large-scale basin research and field verification experiments with chemical herders to enhance and improve the effectiveness of ISB in specific Arctic ice environments

- Prepare a summary report of previous herder research
- The summary report will guide the development of test programs for large-scale basin experiments.
- EOI issued in 2Q/12
- RFP to highest qualified contractors and contract award expected 2Q/12
- Initial deliverables starting 3Q/2012 with Basin tests planned in 4Q/12-1Q/13

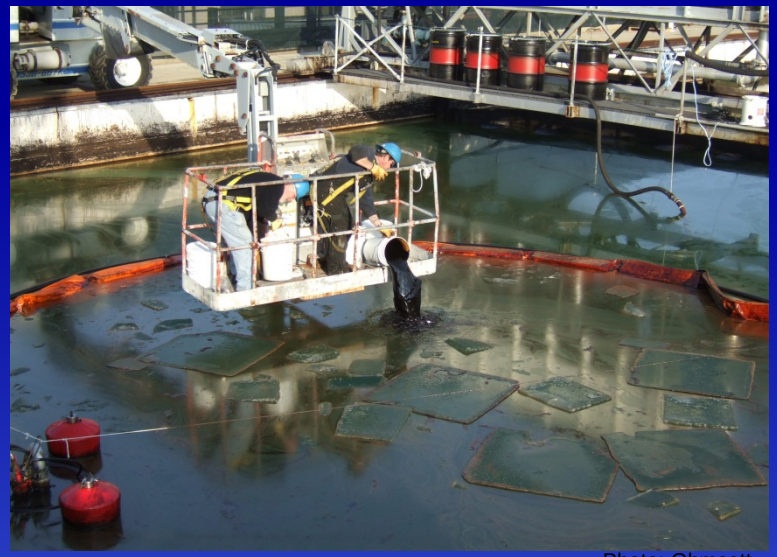


Photo: Ohmsett

Photo: J Mullin

JIP Projects

EXPERIMENTAL FIELD RELEASES

10. Countermeasure verification through controlled field releases and exercises

To create opportunities for the JIP technical working groups to test, evaluate, and verify selected technologies and to conduct related research (for example, environmental effects) in a field setting

To obtain the necessary permits and permission to conduct a series of intentional oil releases for research purposes in different geographic regions

- 1Q/12 - Identify most promising nations and regions to begin the initial evaluations
- 1Q/12 - Work with the TWGs to develop test scenarios

Photo: J Mullin

Photo: DF Dickins

Summary

- There have seen significant advances in Arctic spill prevention and response technology
- This is an international research programme to further enhance industry knowledge and capabilities in the area of Arctic oil spill response
- To raise awareness of existing industry OSR capabilities in the Arctic region
- Working through a JIP will ensure the most efficient use of resources, funding and expertise to improve technologies and methodologies for Arctic spill response

Questions??

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