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

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January 26, 2012
Tromsø, Norway
Outline

• Background on JIP
• Objective
• JIP Organisation
• Current project status
• Questions
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
• 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
Arctic Response Technology: Joint Industry Programme Organization (January 2012)

Executive Committee
Mr. Peter Velez (SH) – Chair
Dr. James Hall (EX) – Co-Chair

Comprises of 1 representative from each JIP member

Programme Authority
Accountability
Financial Approval

Communications Committee
Mr. Phil Dyer (SH)

Communication, Outreach and Information Support to JIP

API Representative
Mr. Richard Ranger

Ex-Officio Member / Liaison to other projects

Programme Manager
Mr. Joseph Mullin

Project Coordination & Management / Contractor Liaison

Dispersants Working Group
Dr. Tim Nedwed (EX)

Project 1: Fate of dispersed oil under dynamic drift and pack ice

Environment / Effects Working Group
Mr. Joe Smith (EX)
Dr. Mathjis Smits (ST)

Project 3: Environmental impacts of Arctic spills and their response

Trajectory Modelling Working Group
Ms. Claire Channelliere (TD)

Project 4: Trajectory modelling in ice

Remote Sensing Working Group
Mr. David Sweeten (BP)

Project 5: Oil spill detection and monitoring in low visibility & ice

Mechanical Recovery Working Group
Dr. Victoria Broje (SH)

Project 6: Mechanical recovery in ice infested waters

In-Situ Burning Working Group
Mr. Nere’ Mable (BP)

Project 7: State of Knowledge
ISB Arctic / Ice

Experimental Field Releases
Mr. David Dickens (CH)

Project 8: Aerial Ignition capability
Project 9: Herders to expand ISB window

Project 10: Countermeasure verification through controlled field releases and exercises

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
JIP Projects

DISPERANTS

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
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
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
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
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
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
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
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
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
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
Summary

• There have been 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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