



Reducing environmental risks and impacts in Arctic coastal and offshore oil and gas exploration

Barrow, November 12-14, 2008

Theme: How can technological advances, local knowledge, science and adaptive management minimize environmental risks and impacts of offshore oil and gas, particularly in the exploration phase?

Meeting goals:

1. Review international state-of-the-art technologies for Arctic offshore oil and gas exploration to identify innovative approaches for offshore Alaska to reduce environmental risks and impacts, including those stemming from underwater noise, discharge, or oil spills.
2. Identify opportunities to reduce environmental risks and impacts through more effective utilization of local and traditional knowledge in oil and gas planning and emergency spill response.
3. Identify opportunities and needs for improved environmental and social-science data and information for industry and agency decision-making.
4. Identify opportunities to improve communication, coordination, or flexibility for responsive decision-making in the changing Arctic offshore environment, and make recommendations to state and federal policymakers as appropriate.
5. Frame issues for discussion at a second workshop, including assessment of state, federal, and industry standards and regulations for Alaska offshore exploration in light of the latest standards and emerging best practices internationally to identify opportunities to reduce environmental risks.

Sponsors: “North by 2020 Oil and Gas: A Forum for Local and Global Perspectives on the North” – an IPY collaboration funded by the University of Alaska, the Department of State (through Federal Initiative Funds); NSSI ; NOAA Coastal Research & Response Center; BP; Shell, ASRC ,and Alaska Ocean Observing System.

Program Chair: Hajo Eicken, Geophysical Institute, University of Alaska Fairbanks, and Sharman Haley, Institute of Social and Economic Research, University of Alaska Anchorage

Workshop Program (as of 7 Nov. 2008):

Wednesday November 12, 2008

Wednesday morning - Arrival of participants on morning flight.

12:00-1:00 Lunch
 Invocation -
 Welcoming remarks - Mayor Edward Itta, North Slope Borough

1:00-2:00 **Session I. Introduction/ overview**

1. Hajo Eicken: Introduction to the Workshop
2. Richard Glenn: Perspective from the North Slope
3. Sharman Haley: Learning to reconcile divergent interests
4. John Payne: Report from the US-Canada Northern Oil and Gas Research Forum

Session II. Oil spill response and clean-up in Arctic waters

Moderator: Nancy Kinner, Co-Director of NOAA Coastal Research and Response Center

2:00-3:30 **Part A: What are the questions?**

1. What are the issues? Summary of the NSB Scientific Advisory Committee meeting 11/10-11 on oil-spill clean-up in ice. Craig George, North Slope Borough
2. Oil spill prevention technologies. Cody Teff, Shell
3. Oil spill response technology for Alaska offshore. Alan A. Allen, Spiltec
4. What is the state of oil spill response modeling? Debbie Payton, NOAA
5. What are the realistic expectations of an effective oil response in Arctic waters? Tim Robertson, Nuka Research

3:30-4:00 Coffee

4:00-5:30 **Part B: What is the state of the research and planning?**

1. What is the state of the science and technology? Review and summary of oil-spill scenarios developed by Joint Industry Program (JIP) on Oil and Ice, and brief review of state-of-the-art spill clean-up technologies in ice-covered waters. Liv-Guri Faksness, SINTEF
2. What are the challenges in oil-spill response and how are they being addressed in Canada? Ken Lee, Department of Fisheries and Oceans, Canada
3. What is the plan in the event of a spill? USCG review of Coast Guard role in spill response and community linkages. Senior Chief Paul Moyer, USCG
4. Moderator-led discussion

Wednesday evening: Dinner and cultural program at Iñupiat Heritage Center, 7pm.

Thursday November 13

8:30-10:00 **Session III. How can indigenous and local knowledge enhance hazard response?** *Developing the channels so that local knowledge is made available, and finding a way for it to be accepted and incorporated.*

Moderator: Scott Pegau, Oil Spill Recovery Institute

1. What is the role of village responders? - Contribution from Village response team leader Charles Hopson, LCMF, Village Response Team Coordinator
2. How can local knowledge contribute to emergency response? Inupiaq knowledge on sea ice, currents, biology and other conditions, and its relevance for hazard response; discussion of coastal and offshore knowledge. Eugene Brower, President, Barrow Whaling Captains Association; Oliver Leavitt, Whaling Captain; and Joe Leavitt, Whaler
3. What have we learned from other spills about the use of local expertise in first response? Ron Morris, Alaska Clean Seas
4. What have we learned from other spills about the use of local expertise in first response? Liesel Ritchie, Natural Hazards Center
5. How does Canada address community involvement/LEK? Duane Smith, Inuit Circumpolar Conference
6. Facilitator-led discussion: Review of JIP spill scenarios and development of additional sets of scenarios or modifications based on indigenous knowledge; role of indigenous knowledge and local organization in hazard and spill response. How can we better institutionalize channels of communication between local knowledge-holders, agencies, industry, and scientists? Hugh Short, Alaska Growth Management

10:00-10:30 Coffee

Session IV. Cutting edge technologies and practices in exploration

Moderator: Ove Tobias Gudmestad, University of Stavanger, Norway

10:30-12:15 Part A: Noise

1. What are the issues? Acoustic research and framing concerns. Robert Suydam, NSB-Department of Wildlife Management
2. What are the emerging and proposed technologies for noise reduction? Bill Streever, BP
3. Technology for sound mitigation during exploration, including vessel noise. Allan Reece and Michael Macrander, Shell
4. Moderator-led discussion to identify frontiers for research, development, policy, and mitigations on noise reduction.

12:15-1:15 Lunch

1:15-3:30 **Part B: Discharges**

1. Brief overview of definitions in the context of applicable regulations. Dianne Soderlund, Environmental Protection Agency
2. What are the issues? NSB-DWM framing concerns over discharges into the air and water and identifying types of discharges to address. Ben Greene and Cheryl Rosa, North Slope Borough
3. What is the prior experience in Alaska and Canada? McCovey and Devon case study and potential for alternative well kill systems. Capt. Don Connelly, Chevron
4. How will the emerging and proposed technologies for the Beaufort and Chukchi perform with respect to discharges? Cody Teff, Shell
5. How will the emerging and proposed technologies for the Beaufort and Chukchi perform with respect to discharges? Dave Beardmore, Conoco-Phillips
6. Facilitator-led discussion to identify differences in stakeholders' framing of risks concerning discharges (i.e. defining "hazardous" discharges under conditions of uncertainty and identifying risk thresholds) and identify frontiers for research, development, and policy for reducing discharges. Hugh Short, Alaska Growth Management

3:30-4:00 Coffee

4:00-5:30 **Session V. Frontiers in science, Local Environmental Knowledge (LEK) and adaptive management for reducing environmental risks in exploration**

Moderator: Peter Gadd, Coastal Frontiers

1. What is the state of information? How can the University help? Technologies and approaches to integrate data and information from environmental observing systems. Hajo Eicken, UAF
2. How can LEK contribute to continuously improving design, regulations, and decision-making? What are the issues or sticking-points? Ben Greene and Gordon Brower, NSB
3. What are the barriers to making the management regime more responsive to changing conditions in the environment, in the state of information, or in the constellation of stakeholder concerns? Diane Soderlund and Ted Rockwell, EPA
4. Lessons learned from the Bodø University (Norway) Arctic Dialogue Series with stakeholders in oil and gas development. Andrew Browning, HBW Resources and Bodø University
5. Presentation and discussant-led discussion: How can LEK and environmental sciences contribute? How can we build communication channels and collaboration? What are the key issues for further study and development? Taylor Brelsford, URS

Thursday evening optional activities:

- Work session for program committee, discussion leaders, and rapporteurs.
- 7:00pm "Norwegian Perspectives on Offshore Oil & Gas Development." Over Tobias Gudmestad et al.; a public lecture at Inupiat Heritage Center.

Friday November 14, morning

9:00-12:00 **Session VI. Synthesis and final discussion**

Facilitator: Hugh Short, AK Growth Capital

- Discussion leaders: North by 2020 Oil and Gas theme leaders and local community representative (Richard Glenn, NSB representative)
- Discussion builds on previous sections: What is missing and how can we synthesize?
- Potential basis for discussion: Draft outline of meeting summary and recommendations (to be prepared by organizing committee/rapporteurs/discussion leaders on the prior evening)
- Issues for the next workshop or other venue: regulations, defining “hazardous” discharges, mitigations

12:00-1:00 Lunch
 Closing

Friday afternoon: Optional field trip for visitors

1-5:00 pm: Work session for program committee, discussion leaders, and rapporteurs

7:30 *leave on evening flight*

Saturday November 15

Morning: Organizers’ interview with KBRW

Products:

1. Workshop summary and recommendations: What is needed in the way of resources, research, education, technology, integration of local knowledge to advance the state-of-the-art and best practices in offshore oil & gas exploration in Arctic regions?
2. White paper that addresses the following questions: How can the increasing resources of nascent Arctic observing systems provide information that is of value to decision-makers? What additional geophysical, biological and social science data do stakeholders need in the context of an Arctic observing network?
3. Contribution to the synthesis chapter of North by 2020 book identifying challenges relative to the state of the art and recent developments with respect to climate change, socio-economic and geopolitical change for coastal & offshore exploration and potential development in near- (5 yrs), mid- (10 yrs), and long-term (>10 yrs). Based on that, the chapter would then outline implications for future research needs as well as try to address the problem of a more holistic approach of identifying best practices. This paper would still be quite specific and technical and might draw on regional examples as well as hint at policy implications.
4. Scientific paper that synthesizes aspects of meeting relevant to integration of traditional and local knowledge in coastal and offshore oil and gas planning and management . [There should be a clearly stated set of questions to be addressed during the meeting in order to be able to develop this product.]
 - 1) How can LEK be incorporated into spill response planning?
 - 2) What information is available; what is most needed?
 - 3) How should the information be communicated?
 - 4) How can LEK be incorporated into an actual spill response?
 - 5) Others such as QA/QC issues?]
5. Concept outline for second workshop