Arctic Marine Shipping Assessment
The Way Forward
AOR Workshop ~ Washington, DC
13 September 2010

Topics:
AMSA Reflections
Recommendation I.C.: Uniformity of Arctic Shipping Governance
Select Post-AMSA Changes & Events
UAF AMSA Workshop Report

Lawson W. Brigham, PhD
Professor, University of Alaska Fairbanks
Chair, Arctic Marine Shipping Assessment (2005-09)
AMSA 2009 Report:

- Baseline Assessment ~ Marine Activity
- Strategic Guide

www.pame.is

[Report & AMSA Background Papers]
AMSA Recommendation 1.C.: Uniformity of Arctic Shipping Governance

• That the Arctic states should explore the possible harmonization of Arctic marine shipping regulatory regimes within their own jurisdiction and uniform Arctic safety and environmental protection regulatory regimes, consistent with UNCLOS, that could provide a basis for protection measures in regions of the central Arctic Ocean beyond coastal state jurisdiction for consideration by the IMO.

Mandatory Polar Code Implementation by the Arctic States
Harmonize Regulatory Regimes ~ Uniformity & Consistency
Select Changes & Events

- Development of the Varandey Tanker Shuttle
- Full Fleet ~ Norilsk Nickel Operation
- Snovit ~ LNG Shipped to Spain & USA
- Continued Retreat of Arctic Sea Ice
- Offshore Drilling ~ West Greenland
- IMO Plan for Mandatory Polar Code
- Norway-Russia Barents Sea Agreement
- NSR/NEP Experimental Voyages
  -- Summer 2009: Beluga Ships
  -- Summer 2010: SCF Baltica & Nordic Barents
- 2010 Navigation Season: Tanker Collision Along the NSR, Groundings in the Canadian Arctic

~ Summary Observation: Natural Resource Development Driving Arctic Marine Operations
Select Changes & Events

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~ Summary Observation: Natural Resource Development Driving Arctic Marine Operations
Groundings ~
Canadian Arctic
Aug-Sept 2010
Bering Strait Region shipping by vessel type:
1 May – 6 September 2010
CONSIDERING A ROADMAP FORWARD: THE ARCTIC MARINE SHIPPING ASSESSMENT

CONSIDERING A Roadmap Forward: The Arctic Marine Shipping Assessment

Workshop
October 22-24, 2009
Introduction and Background

- Second workshop for the UArctic Institute for Applied Circumpolar Policy
- Topic: Policy review of the recommendations from the Arctic Council’s Arctic Marine Shipping Assessment
- 60 experts from broad array of stakeholders and actors
- Sponsors: Holland America Lines, UAF Chancellor’s Office, U.S. Arctic Research Commission, Institute of the North
- AMSA can be viewed as:
  - baseline assessment
  - strategic guide
  - policy document of the Arctic Council
Identifying Stakeholders and Actors

Experts in the three Workshop Working Groups (Enhancing Arctic Marine Safety, Protecting Arctic People and the Environment, and, Building the Arctic Marine Infrastructure) identified a host of stakeholders and actors who are believed to have some involvement and influence in AMSA and in the future of Arctic marine activity. As might be expected, there were significant overlaps among the working group listings, and discussions on who might be relevant stakeholders and actors. The primary decision-makers and ‘players’ in this review are considered to be the eight Arctic sovereign states, the flag states, and the indigenous groups who make up the six Permanent Participants of the Arctic Council. The below should be considered examples of the key stakeholders & actors, however, not an exhaustive list.

- Sovereign States (Regulatory and response agencies, regional authorities, national hydrographic services, national ice services, national pollution funds, Flag States)
- Indigenous Groups (Including domestic tribal groups, Arctic Council Permanent Participants)
- Maritime Industry (Shipping companies, Offshore drilling companies, Ship classification companies, International Association of Classification Societies (IACS), Interlaken, Simco, Cruise Lines International Association, Oil Companies International Marine Forum, Offshore Marine Services Association, International Oil and Gas Products, BIMCO, International Association of Drilling Contractors, International Association of Arctic Explorers)
- Marine Insurers (Marine insurance companies, International Union of Marine Insurance, American Institute of Marine Underwriters)
- Private/Independent (NGOs, Non-profit foundations, academic & training institutions, research organizations (public and private))
Results of the Working Group Discussions on the AMSA Recommendations:

Roadmap and Actions & Key Issues for

I – Enhancing Arctic Marine Safety
II – Protecting Arctic People and the Environment
III – Building the Arctic Marine Infrastructure
I. Enhancing Arctic Marine Safety

I.A. Linking with International Organizations

**ROADMAP AND ACTIONS**
- FAME to bring together experts on shipping from the Arctic states to identify common interests and develop unified positions and approaches.
- Identify an Arctic state lead country to facilitate an IMO meeting of experts on Arctic safety issues.
- For a consistent approach on Arctic shipping issues, the Arctic states should coordinate:
  - Input from all actors and stakeholders in each state, including regional interests.
  - Input from different government agencies who attend various international organizations (for example, IMO, ILO and WMCO).
- Input from stakeholders and government departments who attend a particular organization (such as IMO).

**KEY ISSUES**
- Taking into consideration the opinions and ideas of other interested stakeholders before approving international organizations (such as IMO), the Arctic states may have a potential agreed position.
- Knowing who is and is not represented at the international organizations.
- Early, proactive actions and improve communications on all Arctic shipping issues.

I.B. IMO Measures for Arctic Shipping

**ROADMAP AND ACTIONS**
- Guidelines have been updated to become the IMO “Guidelines for ships operating in polar waters.”
- Arctic Councils to send a letter to Arctic marine interests as a whole to promote the December 2009 IMO Assembly resolution applying guidelines to polar waters.
- Arctic states to promote the application of the polar guidelines with industry and others as appropriate, to national and international interests.
- IMO Maritime Safety Committee (MSC) has tasked the Design and Equipment Subcommittee to develop a mandatory polar code by 2012, which will be in place by 2015. The first draft of this code will be presented in 2013.
- Adoption will be by 2016 or covered by international agreements.
- Having agreed the polar code to be become mandatory, the Arctic states encourage other international states/party to participate, engage and support adoption and implementation of the polar code.
- Influential for communication and consensus building for the mandatory polar code are the Consultative Parties of the Arctic Treaty.

**KEY ISSUES**
- These Guidelines now apply to Arctic and Antarctic waters whether ice covered or not.
- Polar code will have a mandatory Part A and recommendations in Part B.
- Construction requirements (on hull and machinery) will be in both the polar code and International Association of Classification Societies (IACS) rules.
- Ice navigator competence requirements must be explicitly defined in STCW Convention, requirements to have one ice navigator aboard will be in the polar code.
- Need for a model ice navigation course and to establish acceptance criteria for simulations as partial training fulfillment.
- Need for theoretical training, including the incorporation of contemporary local knowledge, together with practical experience in ice.
- Lack of Arctic marine infrastructure needs to be considered for independent operations.
- Endorsement of certificates to include bridge and navigational personnel, desirable for operators to be familiar with ship conditions when operating in remote and ice-covered waters.

I.C. Uniformity of Arctic Shipping Governance

**ROADMAP AND ACTIONS**
- FAME to conduct a survey/inventory of national and regional regulations, standards and guidelines with the aim of harmonizing safety and pollution prevention measures in keeping with UNCLOS.
- Required surveys and inventories from the AMSA research agenda include:
  1. Comparative study of how Arctic States address liability and compensation, especially for tanker fuel spills and flammable/irreplaceable substances incidents.
  2. Survey of existing and potential fire systems for withdrawing and other Arctic vessels, such as navigational aids, sharing, SAR, and ice information services, provided by the Arctic states.
  3. Survey of Arctic water practices and invasive species threats from Arctic shipping and a comparison of Arctic state approaches to Arctic water exchanges and treatments.
  4. Review of ice (natural and regional) coordination in addressing Arctic marine operations might be enhanced using other international approaches and experiences.
- Draft language for a potential International Agreement on Arctic Shipping (PIASA) in keeping with UNCLOS on safety and pollution prevention measures in regions of the central Arctic Ocean beyond the coastal state jurisdiction for consideration by IMO.

**KEY ISSUES**
- Key elements of Arctic state regulations to possible integration in the harmonization of measures:
  - Global Reporting System, guidelines for cruise ship operations, includes guidelines for tankers and tugs, equivalent permit to do for construction of Arctic ships, Arctic shipping/ice pollution prevention regulations, and transfer guidelines.
  - Russian Guidelines for operation on the Northern Sea Route, Arctic port regulations.
  - United States Marine Mammal Protection Act, cruise ship discharge regulations in Alaska.
  - International Code for the Safe Design and Operation of Ships in Arctic Waters.
  - Industry and NGO surveys and standards.

I.D. Strengthening Passenger Ship Safety in Arctic Waters

**ROADMAP AND ACTIONS**
- Include in an Arctic Council letter for distribution of polar guidelines to operators, the IMO enhanced containment guidelines for cruise ships in polar waters.
- Request cruise ship associations (CSSA and AECO) to develop harmonized best practices for operating in remote and ice-covered waters (for example, mother ship and tender). Polar code.
- Invite cruise ship associations to make presentations to FAME and Arctic expert meetings at IMO.
- Organize an international workshop/conference on cruise ship safety in Arctic waters with cruise operators and regulators.

**KEY ISSUES**
- Need to encourage the formation of cruise ship associations that cover all Arctic waters, such as IBA in Antarctic waters.
- Safe passenger ship operations in polar waters to be carried out in tandem with sufficient capacity for mutual rescue.
- Passenger ship operators and governments to document and mitigate risks and hazards associated with potential grounding in poorly charted waters.

I.E. Arctic Search and Rescue (SAR) Instrument

**ROADMAP AND ACTIONS**
- U.S. currently chairs an Arctic Council task force to draft a multilateral Arctic SAR agreement, to be completed by 2015 by signature by the Arctic Ministers. First meeting: December 2009.
- Compile the use of existing resources and deploy them in the most effective manner that will cover any response gaps.
- Arctic Council to urge all Arctic States, and EPPR, to participate in the process for a SAR agreement.

**KEY ISSUES**
- Requirement for a comprehensive review of current, national SAR (maritime and aviation) capabilities at the Arctic.
- Evaluation of the adequacy of cooperative SAR agreements and arrangements for addressing increasing commercial use of the Arctic Ocean and Arctic airspace.
II. Protecting Arctic People and the Environment

II.A. Survey of Arctic Indigenous People in the Marine Use

RECOMMENDATIONS
- Foster meaningful engagement to ensure alignment of local and national priorities.
- Encourage communication and collaboration between local and federal stakeholders.
- Promote responsible resource management.
- Enhance economic opportunities for local communities.
- Improve access to education and employment opportunities.

II.B. Engagement with Arctic Communities

RECOMMENDATIONS
- Strengthen partnerships with local communities to facilitate meaningful engagement.
- Foster cultural exchange and understanding.
- Promote sustainable resource management practices.
- Ensure equitable distribution of benefits.
- Enhance preparedness for emergencies and disasters.

II.C. Areas of Heightened Ecological and Cultural Significance, and II.D. Specially Designated Arctic Marine Areas

RECOMMENDATIONS
- Identify and protect areas of unique ecological and cultural value.
- Establish marine protected areas and safeguards against development.
- Enhance research and monitoring efforts.
- Promote community engagement and involvement.

II.E. Oil Spill Prevention

RECOMMENDATIONS
- Develop and implement comprehensive oil spill contingency plans.
- Strengthen emergency response protocols.
- Enhance preparedness and training.
- Promote public awareness and engagement.

II.F. Protection from Invasive Species

RECOMMENDATIONS
- Conduct ongoing monitoring and surveillance.
- Implement preventative measures to prevent introduction.
- Enhance response capacity and preparedness.
- Support research and development of control technologies.
- Promote public education and awareness.

II.G. Addressing Impacts on Marine Mammals

RECOMMENDATIONS
- Implement measures to mitigate noise impacts.
- Reduce harassment of marine mammals.
- Promote responsible tourism practices.
- Enhance research and monitoring efforts.
- Ensure effective communication and engagement.

II.H. Reducing Air Emissions

RECOMMENDATIONS
- Develop and implement strategies to reduce air emissions.
- Enhance monitoring and enforcement efforts.
- Promote technological innovations.
- Foster community engagement and education.
- Support ongoing research and development.
Building the Arctic Marine Infrastructure

III. Building the Arctic Marine Infrastructure

III.A. Addressing the Infrastructure Deficit

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<thead>
<tr>
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<tr>
<td>Institute an &quot;Infrastructure deficit awareness program.&quot;</td>
<td>Prioritize hydrographic surveys.</td>
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<td>Industry notification of communities at all stages.</td>
<td>Industry funding identification for public-private partnerships.</td>
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<td>Port and shore side development phases in all states.</td>
<td>Development of new schemes for cost recovery of all marine infrastructure.</td>
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<td>Coordinate and identify public and private/industry funding</td>
<td>International operation of Arctic, Northern and Baltic ports and infrastructure.</td>
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<td>Survey existing ports and port needs.</td>
<td>Review links between large ports, small ports, and river infrastructure.</td>
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<td>Develop national Arctic port strategies.</td>
<td>Launch of Arctic-wide navigation requirements review.</td>
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<tr>
<td>Explore &quot;hemispheric&quot; (primary &amp; secondary) approach.</td>
<td>Prioritization of areas for hydrographic response.</td>
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<tr>
<td>Match government and industry priorities enhancing cooperation.</td>
<td>Review and assess Arctic long-range electronic navigation requirements.</td>
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<tr>
<td>International consensus of Arctic, Northern and Baltic states.</td>
<td>Continuous enhancement of navigational service products and products.</td>
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<tr>
<td>Review links between large ports, small ports, and river infrastructure.</td>
<td>Continued research on Arctic search and rescue and the need for remote servicing techniques.</td>
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<tr>
<td>Launch of Arctic-wide navigation requirements review.</td>
<td>Explore concept of virtual ice center for the Arctic Ocean.</td>
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<tr>
<td>Key issue: Arctic port planning—close Arctic state cooperation and coordination.</td>
<td>Improved sea ice and ice edge detection (national and international).</td>
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III.B. Arctic Marine Traffic Systems

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<tr>
<td>Mandatory Automatic Identification System (AIS) coverage.</td>
<td>Identification of potential marine protected areas (MPAs) for infrastructure and navigation systems development.</td>
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<tr>
<td>Mandatory electronic traffic reporting.</td>
<td>Status of essential services legislation that could impact safe operations.</td>
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<td>Assessment of potential vessel traffic separation schemes in selected Arctic waters.</td>
<td>Sharing traffic information with regional governments and local communities.</td>
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<td>Potential harmonization of mandatory reporting systems (for example, between the Northern Sea Route, Canadian Arctic and Bering Strait regions).</td>
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<td>Continuous improvement of crossing maritime border crossing practices to ensure the safety and security of vessels.</td>
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<td>Developing consolidated coast pilot &amp; sailing directions for the Arctic (ensuring safe navigation).</td>
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III.C. Circumpolar Environmental Response Capacity

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<td>Permanent pool of Arctic responders and management: spill prevention</td>
<td>Responses to incidents involving coastal nations in the Arctic Ocean.</td>
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<td>Enhanced 500,000 blue: discovery of oil, ice, shipping, and shipping activities.</td>
<td>Need for an Arctic oil spill liability trust fund.</td>
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<td>International cooperation on Arctic oil spill response capability</td>
<td>Potential for arctic state agreement on emergency environmental response capability.</td>
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<tr>
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<tr>
<td>Encouragement of regional, bilateral agreements (for example, Canada/Finland, US/Canada)</td>
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<td>Assessment and support of emergency and oil transportation capabilities for all oil spill response equipment.</td>
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<td>Inclusive discussions regarding hazardous material and chemicals in the Arctic.</td>
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III.D. Investing in Hydrographic, Meteorological and Oceanographic Data

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<td>Improved quality and coverage of meteorological information.</td>
<td>Increased levels of cooperation and collaboration.</td>
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<tr>
<td>Improved quality and coverage of oceanographic data.</td>
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UNIVERSITY OF ALASKA FAIRBANKS
Funding Issues

Key issues not addressed in AMSA are the broad financial and funding concerns linked to each of the AMSA recommendations. The Fairbanks workshop agreed on the need for surveys of indigenous marine use. One significant area that requires near-term funding and also reviewed issues related to the need for liability and compensation mechanisms in the Arctic.

Indigenous Marine Use Surveys — A key requirement in most regions of the Arctic, one of the AMSA recommendations, is the need for surveys of indigenous marine use. Up-to-date baseline data on regional and local patterns of indigenous use of Arctic waters is necessary to assess the impacts from increasing Arctic marine operations. Significant discussions were held on this topic in Fairbanks due the complexities and sensitivities of conducting such surveys. There was general agreement that the surveys could not be conducted in one unified circumpolar effort (although the baseline data could be merged later to construct a unified picture). Public appropriations from national and regional governments are key since these surveys relate to subsistence living, marine safety, environmental protection and multiple-use management of Arctic marine waters. Broad scale surveys are normally the responsibility of governments, national and regional. However, private sources of funding, such as from NGOs and nonprofit foundations, could also be important at the local, community level for detailed studies and surveys. Grants or surveys from industry sources (for example, natural resource development related to mining) could be used to support surveys in preparation of new marine transportation systems and navigation in local waterways.

Marine Infrastructure Elements — The lack of adequate marine infrastructure in most of the Arctic (except for the Norwegian coast and northwest Russia) to support current and future levels of Arctic marine activity is a key finding of AMSA. Large public and private investments will be necessary to provide an adequate safety net for marine operations and environmental protection. Public and private funding for satellite communications and environmental monitoring are urgently required to fill existing Arctic gaps in coverage. Enhancing environmental response capacity may require public-industry funding of equipment to be cached in remote Arctic locations. A mandatory ship tracking and monitoring system will require public appropriations and the potential for pooling funding among the Arctic states. Public funding of enhanced Arctic weather and sea ice information may also mandate cost recovery schemes. Hydographic surveys and charting are urgent requirements and these activities need significant national investments. Cost recovery through industry user fees may be necessary, for example, in remote Arctic regions of seasonal marine traffic. The World Bank and other international financial institutions should be considered for Arctic port facilities and overall marine infrastructure. Coordinated investments for such elements as ports and aids to navigation should be discussed by the Arctic states.

Liability and Compensation Challenges — Robust, effective oil spill liability trust funds are required in the Arctic. Funds can come from public-private partnerships and they could be based on regional or bilateral agreements. Two national models are Canada’s Ship-source Oil Pollution Fund and the U.S. Oil Pollution Act of 1990. A conference on liability-compensation issues for Arctic marine incidents should be organized by the Arctic states and industry interests.
Summary ~ Key Policy Issues Ahead

During the course of the workshop discussions a number of high priority issues as critical outcomes of AMSA. The Co-editors of this report have identified a list of key policy issues from the discussions in Fairbanks that require attention in the near term to enhance Arctic marine safety and marine environmental protection. Throughout the workshop the highest priority issue consistently noted was the urgent need for a mandatory Polar Code developed by the International Maritime Organization. Implementation of mandatory rules for polar ship construction, design, equipment, operations and ice navigator competency was considered by participants as the crucial first step for protecting Arctic people and the environment in an era of increased marine operations in the Arctic Ocean.

The following list provides a summary of Arctic policy issues derived from the expert discussions of the AMSA Workshop:

I. Highest Priority Arctic Policy Issues Related to AMSA:
   - Mandatory Polar Code developed by the IMO.
   - Full tracking and monitoring of Arctic commercial ships (Mandatory AIS).
   - An Arctic SAR agreement – an ongoing Arctic Council SAR Task Force is to produce a binding agreement by spring 2011.
   - Surveys of indigenous marine use so that multiple use strategies in Arctic waterways can be developed.
   - A circumpolar response capacity agreement – an agreement among the Arctic states (and possibly non-Arctic states) for pooling resources and enhancing regional capacity.
   - Implementation of an Arctic Observing Network among the BArctic states and non-Arctic states – a network to support scientific research and marine operations.

II. High Priority Arctic Policy Issues Related to ASMA:
   - A critical Arctic marine infrastructure requirement – increased hydrography and surveys of Arctic waters for enhanced navigation charts.
   - Oil spill research on prevention best practices and responses to oil released in Arctic ice-covered waters.
   - Enhanced research, including mitigation measures, on the impacts on marine mammals and other migratory fauna, of increased Arctic marine operations.
   - Identification of specific ballast water invasive species issues and prevention strategies related to Arctic marine operations.
   - A comprehensive study to identify potential Arctic marine areas, including the central Arctic Ocean, for possible designation as IMO Particularly Sensitive Sea Areas (PSSA).
   - Marine industry development of harmonized best practices for all cruise ships operating in Arctic waters, including operational strategies for mutual rescue.
   - Studies on the application of ecosystem-based management to Arctic coastal regions.
   - A comparative study of Arctic state liability and compensation strategies for marine incidents with a view to developing future uniform measures.
   - Fully developed IMO-recognizable competency requirements included in the STCW mandatory requirement for onboard ice navigator as part of the Polar Code.
   - Enhanced marine communications systems in the Arctic, including full coverage satellite communications in the central Arctic Ocean.
Thank you