RECENT DEVELOPMENTS IN ENHANCING SAFE NAVIGATION IN THE ARCTIC

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Panel IV: Safety and Navigational Freedom
Conference on Globalization and the Law of the Sea
OUTLINE

• Arctic Marine Shipping Assessment
• Trans-Arctic Shipping
• Bering Strait
• Polar Code
• Seafarerer Training
• Arctic Nautical Mapping
• New Arctic Warning Areas and MSI Services
• Arctic Search and Rescue Negotiations
• Unilateral Regulation in Arctic
ARCTIC MARINE SHIPPING ASSESSMENT

• Approved by Arctic Council Ministers meeting in Tromsø April 2009
• Many recommendations in three themes
  – Enhancing Arctic Marine Safety
  – Protecting Arctic People and the Arctic Environment
  – Building Arctic Marine Infrastructure
• Our Focus on Safety of Navigation
• Document online at http://pame.is/amsa/amsa-2009-report
General Portrayal of the Major Arctic Marine Routes

TRANS-ARCTIC SHIPPING

• Trans-Arctic shipping is happening
• During summer 2010 there were at least 24 transits of the Arctic Ocean
  – Five via Northern Sea Route
  – 18 via the Northwest Passage
  – One circumpolar
• More transits are expected in 2011
• 135 documented full transits of Northwest Passage 1903-2009
ARCTIC SEA ROUTES
Northwest Passage and Northern Sea Route

NORTHWEST PASSAGE AND NORTHERN SEA ROUTE compared with currently used shipping routes

BERING STRAIT

- 51 nm wide, divided into two straits
  - East of Little Diomede Island (US)
  - West of Big Diomede Island (Russian)
  - Each about 22.5 nm wide
  - Diomedes are about 2.4 nm apart
- No routeing measures in place
- Some AtoN
- 2 year PARS underway by USCG
NOAA NAUTICAL CHART of BERING STRAIT

Source: Wikipedia, Bering Strait
SOLAS REGULATION V/10(5)

- Where two or more Governments have a common interest in a particular area, they should formulate joint proposals for the delineation and use of a routeing system therein on the basis of an agreement between them. Upon receipt of such proposal and before proceeding with consideration of it for adoption, the Organization shall ensure details of the proposal are disseminated to the Governments which have a common interest in the area, including countries in the vicinity of the proposed ships’ routeing system.
POLAR CODE

• International Code for Safety of Navigation in Polar Waters
  – Being drafted by IMO DE Sub-Committee and Correspondence Group (Norway lead)
  – Completion date 2012
  – To be mandatory, through amendment to SOLAS
  – Common provisions plus tailored separate provisions for Arctic and Antarctic waters

• To replace *Guidelines for Ships Operating in Polar Waters, 2009*
GEOGRAPHIC AREA FOR POLAR CODE

Source: Guidelines for Ships Operating in Polar Waters, IMO Resolution A.1024(26), Dec. 2, 2009, p. 9, fig. 1
SEAFARER TRAINING

• STCW Manila Conference June 2010
  – Guidance regarding training of masters and officer for ships operating in polar waters (STCW Section B-V/g)
  – Resolution 11, Measures to ensure the competency of masters and officers of ships operating in polar waters

• DE 54 October 2010
  – invited MSC 89 (May 2011) instruct STCW Sub-committee to develop training requirements and model course for navigation in polar waters
  – No mandatory requirements until Polar Code adopted
ARCTIC MAPPING

• Less than 10% of Arctic waters charted to modern standards
• Arctic Regional Hydrographic Commission
  – Established October 6, 2010 by five Arctic coastal states
  – Exchange knowledge and information among national Hydrographic Offices
  – Provide quality assured data
• Use of ECS bathymetric data
NEW WARNING AREAS FOR ARCTIC

• Five new Arctic NAVAREAs/METAREAs established for Arctic waters

• International SafetyNET Service
  – Broadcast navigational warnings and meteorological warnings and forecasts
  – Initial operating capability began July 1, 2010
  – Full operational capability June 1, 2011

• Part of IMO/IHO World-Wide Navigational Warning Service (WWNWS)
NAVAREAS FOR RADIO NAVIGATIONAL WARNINGS

Source: US Department of State OES/OPA
ARCTIC MSI SERVICES

• Revised International SafetyNET Manual
  – IMO MSC.1/Circ. 1364, May 24, 2010

• Revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)
  – IMO MSC.1/Circ. 1310, June 8, 2010
ARCTIC SEARCH AND RESCUE

• Arctic Council April 2009 ministerial mandate to negotiate an Arctic SAR agreement
• Final negotiating round scheduled for mid-December 2010
• To be adopted at next Arctic Council ministerial meeting in Nuuk, Greenland May 12, 2011
ARCTIC SAR NEGOTIATIONS

- Objective to strengthen cooperation and coordination in air and maritime SAR operations in Arctic
- 8 Parties: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, USA
- Based on IMO SAR Convention and Annex 12 to ICAO (Chicago) Convention, and article 98 of LOS Convention
DRAFT LINES OF DELIMITATION OF SRRs

Arctic Circle


Russian Federation Application: “To the Arctic Circle from the boundary with the Finnish Search and Rescue Region to 190 longitude, then south to 60.00N.”

Arctic SAR Agreement:
Lines of Delimitation and National Application
(As of 15 Nov 10)

Delimitation of Denmark-Iceland SAR Regions (Purple)

Denmark Application: “To the southernmost extent of the Danish Search and Rescue Region around Greenland.”

Delimitation of Iceland-Norway SAR Regions (Orange)

Iceland Application: “To the southernmost extent of the Icelandic Search and Rescue Region”

U.S. scope of application: U.S. aeronautical and maritime SRRs to 56-83N (Brown). (See page 4)

Delimitation of Canada-Denmark (Greenland) SAR Regions (Blue)

Canada Application: “To 60N”

Delimitation of US-South Korea SAR Regions (Red)

Seoul SRR (Korea)

Delimitation of Japan-South Korea SAR Regions (Blue)

Tokyo SRR (Japan)

Agreement Application:
Finland: To the Arctic Circle
Norway: Pending
Sweden: To the Arctic Circle

Delimitation of SAR Regions:
Denmark-Norway: Pending
Finland-Norway: Land Border
Finland-Sweden: Land Border
Finland-Russian Federation: Land Border
Norway-Sweden: Land Border
Norway-Russian Federation: Pending
NATIONAL ARCTIC LEGISLATION

CANADA

• Arctic Waters Pollution Prevention Act 1970
  – Arctic Waters Pollution Prevention Regulations
  – Arctic Shipping Pollution Prevention Regulations

• Canada Shipping Act 2001

• Ice Navigation in Canadian Waters (CCG)

• NORDREG

RUSSIA

• Navigation along the waterways of the Northern Sea Route, article 14 of Federal Act 1998
  – Regulations for Navigation on the Seaways of the Northern Sea Route 1990 (under revision)
  – Regulations for Icebreaker-Assisted Pilotage of Vessels on the NSR, 1996
  – Requirements for Design, Equipment, and Supply of Vessels Navigating the NSR, 1996

Source: V.M. Santos-Pedro, Transport Canada 2008
UNILATERAL REGULATION

• CANADA – NORDREG
  – Mandatory ship reporting in NORDREG Zone
  – SOLAS Regulations V/11 and V/12 vs. Article 234 LOS Convention (LOSC)
  – Article 42 LOSC vs. requiring reporting

• RUSSIA - NORTHERN SEA ROUTE
  – Article 14, Federal Act 1998
  – Compatibility of earlier regulations with LOSC
MAXIMUM ARCTIC SEA ICE MARCH 30, 2010

Source: http://www.nasa.gov/topics/earth/features/ice-max-2010.html
MINIMUM ARCTIC SEA ICE FOR 2010: SEPTEMBER 19

Source: http://earthobservatory.nasa.gov/IOTD/view.php?id=46282