PROGRESS TOWARDS THE DEVELOPMENT OF AN INTERNATIONAL POLAR CODE

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Presentation topics

IMO and ships operating in polar waters

- Existing regulatory framework for ice-covered areas
  - SOLAS, MARPOL and STCW requirements
  - Related guidelines and recommendations
  - Fishing vessels

- Current activities in IMO with regard to polar areas, specifically the ongoing development of a mandatory International Code of Safety for Ships Operating in Polar Waters
The regulatory framework

Requirements affecting ships operating in polar regions

Safety requirements apply to all ships which are subject to the Convention and operating in polar regions.

Legal framework governing the rights and responsibilities of nations in their use of ocean space.

Provides the mandatory level environmental protection with zero discharge requirements for Antarctica.

Newly adopted guidance and recommendations for training and competency of officers and masters on ships in polar regions.

- Legal framework governing the rights and responsibilities of nations in their use of ocean space
- In force since 1994, to date signed by 162 countries
- Article 234: “Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone ...”
### Chapter V navigational requirements

<table>
<thead>
<tr>
<th>Regulation V/5</th>
<th>Meteorological services and warnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• collection examination, dissemination and exchange of meteorological data by ships at sea, including ice data</td>
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<table>
<thead>
<tr>
<th>Regulation V/6</th>
<th>Ice Patrol Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• requires ships transiting the region of icebergs guarded by the Ice Patrol during the ice season to make use of the services provided by the Ice Patrol</td>
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<table>
<thead>
<tr>
<th>Regulations V/31 and V/32</th>
<th>Danger messages</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>• obliging masters to communicate information on dangers to navigation, including dangerous ice, and specifications</td>
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</table>
Ship stability

2008 Intact Stability Code

- mandatory (Part A) and recommendatory (Part B) provisions concerning intact stability of all types of ships covered by IMO instruments

- Part B, chapter 6 (Icing considerations) contains provisions for ships operating in areas where ice accretion is likely to occur which would adversely affect a ship’s stability and provides that icing allowances should be included in the analysis of conditions of loading
Guidelines for ships in polar waters

Recommendations for ships operating in polar waters

- 2002: MSC/Circ.506 on Guidelines for ships operating in Arctic ice-covered waters
- 2004: ATCM request to extend to Antarctic
- 2007: MV Explorer sinking
- 2009: A.1024(26) on Guidelines for ships operating in polar waters
Guidelines for ships operating in polar waters

- Adopted by 26th IMO Assembly in 2009

- Main features:
  - Requirements for ship construction, equipment, operation and environmental protection
  - Application extended to all polar waters, i.e. Arctic and Antarctic, and not only ice-covered
  - Only partially or totally enclosed lifeboats allowed
  - Qualifications of ice navigators
  - High standards for environmental protection
  - New damage stability provisions in line with revised SOLAS chapter II-1
Cold water survival

The Pocket Guide

- MSC.1/Circ.1185 – Guide to cold water survival
- Advice on how to prevent or minimize hazards of cold exposure, including self-help techniques
- Useful checklists for cold water survival and for rescuers
Remoteness from SAR facilities

IMO Guidance for ships operating in remote areas

- **Guidance for passenger ships operating in areas remote from SAR facilities (MSC.1/Circ.1184)**
  Enhanced planning arrangements for ships operating in remote areas, including close cooperation and liaison with relevant RCCs.

- **Guidelines on voyage planning for passenger ships operating in remote areas (A.999(25))**
  Recommends additions to voyage and passage plan, such as details on ice and ice formations, ice navigators, operational limitations due to ice, safe distance to icebergs, carriage of special or enhanced equipment.
### POLAR CLASS DESCRIPTION

<table>
<thead>
<tr>
<th>Polar Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC1</td>
<td>Year-round operation in all ice-covered waters</td>
</tr>
<tr>
<td>PC2</td>
<td>Year-round operation in moderate multi-year ice conditions</td>
</tr>
<tr>
<td>PC3</td>
<td>Year-round operation in second-year ice which may include multi-year ice inclusions</td>
</tr>
<tr>
<td>PC4</td>
<td>Year-round operation in thick first-year ice which may include old ice inclusions</td>
</tr>
<tr>
<td>PC5</td>
<td>Year-round operation in medium first-year ice which may include old ice inclusions</td>
</tr>
<tr>
<td>PC6</td>
<td>Summer/autumn operation in medium first-year ice which may include old ice inclusions</td>
</tr>
<tr>
<td>PC7</td>
<td>Summer/autumn operation in thin first-year ice which may include old ice inclusions</td>
</tr>
</tbody>
</table>

### IMO Polar Guidelines

- Only ships with Polar Class designation, based on IACS Unified Requirements for Polar Class Ships, should operate in polar waters
- Or comparable alternative standard of ice-strengthening
- Ice description follows WMO sea ice nomenclature (see box opposite)
MARPOL requirements

Antarctic – zero discharge protection

<table>
<thead>
<tr>
<th>MARPOL Annex I</th>
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<tbody>
<tr>
<td><strong>Control of discharge of oil and reception facilities</strong></td>
<td></td>
</tr>
<tr>
<td>• Prohibits any discharge into the sea of oil or oily mixtures from any ship in the Antarctic area; requires adequate reception facilities</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>MARPOL Annex II</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Control of discharge of residues of noxious liquid substances</strong></td>
<td></td>
</tr>
<tr>
<td>• Prohibits any discharge into the sea of noxious liquid substances or mixtures containing such substances in the Antarctic area</td>
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<table>
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<tr>
<th>MARPOL Annex V</th>
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<tbody>
<tr>
<td><strong>Disposal of garbage</strong></td>
<td></td>
</tr>
<tr>
<td>• Prohibits the disposal into the sea of all plastics and all other garbage; requires reception facilities, with special rules for the Antarctic area</td>
<td></td>
</tr>
</tbody>
</table>
Other MARPOL requirements

Prevention of oil pollution in polar regions

- **Use and carriage of heavy grade oil**
  New chapter 9 of MARPOL Annex I, establishing a ban on the use and carriage of heavy grade oils in the Antarctic area, entered into force on 1 August 2011.

- **Oil spill response in ice and snow conditions**
  The OPRC-HNS Technical Group operating under the MEPC is preparing guidance on oil spill response in ice and snow conditions.
Training and competency of seafarers

- **Training guidance for personnel on ships operating in ice-covered waters**

  Newly adopted guidance stresses importance for officers in charge of a navigational/engineering watch on board ships operating in polar waters to have sufficient and appropriate experience with polar waters.

- **Measures to ensure the competency of masters and officers of ships operating in polar waters**

  Recommends that Governments adopt measures to ensure that masters and officers of ships operating in polar waters have appropriate training and experience.
### Ice accretion

#### Torremolinos Protocol

**Regulation III/8 – Ice accretion**
- Icing allowances for stability calculations, ship design to minimize ice accretion, means for removing ice

#### Code of safety for fishermen and fishing vessels

**Part A, appendix 10, and Part B, section 3.8**
- Reduction of formation of ice and icing allowances for stability calculations for fishing vessels of 24 m and over in length

#### Voluntary guidelines for small fishing vessels

**Design, construction and equipment**
- Provisions regarding ice accretion and combating of ice formation for fishing vessels between 12 m and 24 m in length
New IMO instrument under development

- MSC 86 in 2009 approved proposals for development of mandatory Polar Code and instructed DE S-C
- DE 53 started work in 2010
- Draft *International Code of safety for ships operating in polar waters* developed
- Work is continuing in Polar Code Correspondence Group, to report to DE 58 in 2014
- Intersessional Working Group planned for autumn 2013
New routes may open up

Gain in distance: around 3,900 to 4,500 nm in both cases

Source: www.grida.no
### Polar Code structure

#### Part A – Mandatory requirements

| Requirements                                                                 | 
|------------------------------------------------------------------------------|---|
| Polar Water Operational Manual                                               |   |
| Structural integrity                                                        |   |
| Stability                                                                    |   |
| Watertight and weathertight integrity                                        |   |
| Machinery                                                                    |   |
| Operational safety                                                          |   |
| Fire safety/protection                                                       |   |
| Life-saving appliances and arrangements                                      |   |
| Navigation                                                                   |   |
| Communications                                                               |   |
| Alternative design                                                           |   |
| Operational management                                                       |   |
| Crewing/ manning/ training                                                   |   |
| Emergency control                                                            |   |
| Environmental protection                                                     |   |
Polar Code structure

Recommendatory Part B – Additional guidance regarding the provisions of Part A

- Recommendations for contents of PWOM
- Navigation in different ice conditions (structural integrity and propulsion capability)
- Minimum engine power for operation in polar waters
- Table of correspondence between different ice classes
- Personal and group survival kits
- Ballast water management provisions
- Anti-fouling provisions
Mandatory Polar Code

Categories of ships operating in polar waters

- Capable of operating in at least medium first year ice which may include old ice inclusions
  - PC 1 to PC 5 or equivalent

- Capable of operating in ice conditions other than those in A
  - PC 6 and 7 or equivalent

- Operating in ice-free waters or in new ice conditions with no ice class
Mandatory Polar Code

Current geographical boundaries Arctic/Antarctic (as set out in Polar Guidelines) under consideration
Making the Code mandatory

IMO instruments to be amended

- Adoption of the Code by MSC and MEPC resolutions
- Adoption of associated new SOLAS chapter (XIII)
- Adoption of associated amendments to each of the MARPOL annexes
- Adoption of associated amendments to other pollution-related instruments
  - BWM Convention
  - AFS Convention
Thank you for listening.

www.imo.org