The Polar Code Implementation: Developments and Challenges

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The Polar Code in Brief: Adoption, Structure

Adoption

MSC 94 (November 2014):
Resolution MSC.385(94) – adoption of Part I of the Polar Code
Resolution MSC.386(94) – new Chapter XIV of SOLAS 74

MEPC 68 (May 2015):
Resolution MEPC.264(68) – adoption of Part II of the Polar Code
Resolution MEPC.265(68) – amendments to MARPOL Annexes I, II, IV and V

Structure

Introduction - goal, definitions, geographical limitations
Part I-A - Safety Measures
Part I-B - guidance / recommendations
Part II-A - Pollution Prevention Measures
Part II-B - guidance / recommendations
### The Polar Code in Brief: Entry into Force and Application

<table>
<thead>
<tr>
<th>Part I-A</th>
<th>Part II-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable to ships operating in polar waters, certified in accordance with Chapter I (SOLAS XIV/2)</td>
<td>Application to ships operating in polar waters, in accordance with relevant Annexes to MARPOL:</td>
</tr>
<tr>
<td>Ships constructed after 01 January 2017</td>
<td>Annex I – all ships (no reference to certification in accordance with Annex 1)</td>
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<tr>
<td>Ships constructed before 1 January 2017 shall meet the relevant requirements of the Polar Code by the first intermediate or renewal survey, whichever occurs first, after 1 January 2018</td>
<td>Annex II – all ships certified to carry NLS in bulk</td>
</tr>
<tr>
<td>Existing ships are exempted from certain structural requirements</td>
<td>Annex IV – all ships certified in accordance with this Annex (over 400 or certified to carry more than 15 persons, international voyages)</td>
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<td>Annex V – all ships to which this Annex applies</td>
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**Existing ships are exempted from structural requirements**

Operational requirements – applicability from 01 Jan 2017 (Category A ships / chapter 1 – postponement of implementation subject to Administration approval)

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### The Polar Code in Brief: Ship Categories

**Category A**
- Ships designed for operation in polar waters in at least medium first-year ice, which may include old ice inclusions

**Category B**
- Ships not included in Category A, designed for operation in polar waters in at least thin first-year ice, which may include old ice inclusions

**Category C**
- Ships designed to operate in open water or in ice conditions less severe than those included in Categories A and B

Reference to IACS URs “I” series and IACS Polar Classes
Surveys, Certification and Documentation

Surveys under the Polar Code do not form additional survey regime, requirements should be surveyed in the context of the surveys under SOLAS and MARPOL (III3 - Draft MSC, MEPC Resolutions and MSC-MEPC.5 Circular to introduce urgent amendments to the HSSC Guidelines)

Compliance with Part I-A: Polar Ship Certificate + RoE

Main components of the PSC:
1. Ship category, ice class information
2. Other applicable regulations (ship type, ice operations, low air temperature)
3/4. Provisions for alternative design and arrangements
5. Operational limitations (ice conditions, temperature, high latitudes)

PWOM – information on ship’s operational capabilities and limitations, including the methodology, risk-based procedures with regard to voyage planning, emergency response etc. (not subject to approval by flag/RO)


MEPC/Circ.856 – Guidance for issuing revised certificates, manuals and record books under Annexes I, II and V of MARPOL for compliance with environment-related requirements of the Polar Code.

Operational Limitations in Ice

Polar Code: Part 1-A, para. 1.3.7: Where applicable, the certificate shall reference a methodology to assess operational capabilities and limitations in ice to the satisfaction of the Administration, taking into account the guidelines developed by the Organization.

IACS contributed to the development of the methodology:

Polar Operational Limit Assessment Risk Indexing System (POLARIS)
Approved at MSC96 as MSC.1/Circ.1519

Assessment of ice conditions based on Risk Index Outcome (RIO) - Sum of (Ice Concentrations (C) x Risk Values (RV)) – available for IACS Polar classes, FSICs, ships with no ice class.

POLARIS can be used for voyage planning and on-board decision making in real time.
Next Steps

- Finalization of amendments to STCW Convention/Code (MSC97 to consider adoption, entry into force - July 2018)
- Class equivalency (issue to be addressed by IACS)
- Additional performance/test standards for the equipment and systems (SSE3, MSC 97 to decide)
- Next Phase – Application of safety provisions to non SOLAS ships, fishing vessels
- EEDI and MARPOL Annex VI discussions (black carbon) in the context of the PC
- Discussions on the use of HFOs in the Arctic
- Review of the Guidance on methodologies for assessing operational capabilities and limitations in ice (4 years after 01.01.2017?)

Implementation: Questions and Challenges

- Goal-based (Part I) versus prescriptive (Part II) approach?
- Different scope of application of Part I-A / Part II-A (confusions)
- Ships entering polar waters for a short period of voyage time – (compliance issue)
- Fire fighting operations (freezing of water and impact on stability)
- Zero discharge requirement for ships with long polar voyages (compliance issue)
- Port reception facilities (availability and sufficiency)
- Implementation of PC in national regimes of Arctic coastal states (Russian NSR, Canadian NWP)
Conclusions

Some issues remain open, but the Polar Code is in place and should be implemented consistently.

The work is on-going to assist the implementation (POLARIS, class equivalency), practical experience is required.

Further work to implement and support the compliance with the Code needs to be done by flag states, ROs, arctic coastal states.

Cooperation of all parties involved to provide feedback on implementation of the Polar Code is important in order to support the improvement of the Code in future.

Thank you!