Australian Government
Department of the Environment
Australian Antarctic Division

Polar Guidelines and Polar Code: Relative design impacts

Presentation to IRSO 2015

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1. History and Evolution

Tourist vessels lost in the Antarctic, and the opening up of northern polar waters lead to:

- Guidelines for Ships Operating in Polar Waters (Polar Guidelines)
  - Adopted by IMO Resolution A.1024(26) (Agenda item 10) on 2 December 2009
  - Voluntary guidelines
- International Code for Ships Operating In Polar Waters (Polar Code)
  - Adopted by IMO Resolution MSC.385(94) on 21 November 2014
  - Relaxed requirements (lowest common denominator)
  - Enforced and complemented by MARPOL and SOLAS changes
  - For ships built from 01 Jan 2017 (keel laying)

2. The big difference = “Pollutants”

- Guidelines has: “*Double bottoms should not be used for the carriage of pollutants except where a double skin construction complying with paragraph 3.4.1 is provided, or where working liquids are carried in way of main machinery spaces in tanks not exceeding 20 m3 individual volume*”, but what does that mean? Lloyds assessments note:
  - MARPOL Annex I does not include fuel overflow tanks in the definition of “fuel oil tanks”;
  - Cargo Fuel Overflow tanks may be considered as pollutants (big);
  - Other “Maybes” include : Helicopter Fuel Overflow, Black Water, Dirty Bilge, Sludge, Waste Oil, Slop, Oil sludge etc!
  - Reducing / dividing tanks to be <20m3 to comply may create operational issues (there isn’t unlimited volume!)
- Our solution? – mandate some tank changes & some operational constraints.

3. Other items missed out of Polar Code

- Chapter 3 for intact stability when ship operating or riding up in ice;
- Chapter 3 for damage stability resulting from hull penetration due to ice impact;
- Chapter 4, clause 4.2 for public address systems and other safety items;
- Chapter 6, clause 6.2 for anchoring arrangements;
- Chapter 6, clause 6.3 for towing arrangements;
- Chapter 7, clause 7.2.2.3 for polar machinery operation;
- Chapter 7, clause 7.2.3 for main propulsion component pollution;
- Chapter 8, clause 8.2.2 for pollution prevention matters;
- Chapter 9, clause 9.2 for electrical installation precautions; and
- Chapter 10, clause 10.3.1 for Fire-extinguishing systems.
- (Chapter 11, clause 11.2 for detail in personal and group Polar Kits etc)

6. Besides design…

I haven’t addressed the range of other issues to be addressed under the Polar code including:

- Fundamental drivers: Expected Ice conditions, Polar Service Temperature, Maximum expected time to rescue.
- Polar Waters Operations Manual (PWOM), and associated requirements for planning, specific procedures, special measures, etc
- Safety Equipment
- Manning and training

Other related issues

The Polar guidelines and code are aimed at vessel safety & environmental protection – not efficiency/efficacy of operations.

- Icebreaker (+)
  - Allows customised solution matched to your operations. E.g. putting strengthening where needed in way of “area factors” covering at-risk areas (customised areas and factors), and “pragmatic fatigue design” such as tonnage allowance for extended ship life.
  - We had Lloyds run a very useful workshop and invited tenderer to attend, with Lloyds writing output which provides clarity for all concerned. The associated discussions were very useful.
- Winterisation (D)
  - Allows customised capabilities to support your operations.
  - We had Lloyds run a very useful workshop and invited tenderer to attend, with Lloyds providing important understanding of process.

Multi purpose ship design teaser….


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