



Nautical Cartography Working Group

Impact of the IMO Polar Code on NCWG Activities and IHO specifications

NCWG-2

26 – 29 April 2016, IHB, Monaco

Agenda item 9.3

IHB

Polar Code

- ✦ MSC 94 approved and adopted:
 - International Code for Ships Operating in Polar Waters (the Polar Code - Resolution MSC.385(94))
 - New chapter XIV to SOLAS on “Safety measures for ships operating in polar waters”
 - ↪ Adoption date: 1 July 2016
 - ↪ Applicable to new ships constructed after 1 January 2017
 - ↪ Applicable to existing ships by the first intermediate or renewal survey, whichever occurs first, after 1 January 2018



Polar Code

★ Action HSSC7/40

- NIPWG and NCWG to consider improvements to current IHO specifications or other actions which could facilitate the implementation of the provisions of the Polar Code related to charting issues

★ Doc. NIPWG2-37.1, *Impact of the Polar Code on the NIPWG Work*





NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

Know the Earth... Show the Way... Understand the World

Impact of the IMO Polar Code on NIPWG Work / **NCWG Work and IHO Specifications**

Michael Kushla (NGA)/Tom Loeper (NOS)

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Yves Guillam (IHB)





IMO POLAR CODE

Full Title: International Code for Ships Operating in Polar Waters.

Effective Date: 1 January 2017

A mandatory framework for ships operating in polar waters due to additional demands on ships, their systems, and operations which go beyond the *International Convention for the Safety of Life at Sea* (SOLAS) 74, the *International Convention for the Prevention of pollution from Ships*, 1973, as modified by the Protocol relating thereto (MARPOL), as amended, and other relevant binding IMO instruments. (*Preamble, Paragraph 2*)



The Polar Code consists of five parts:

1. **Introduction**—Goal, definitions, sources of hazards, structure of the Code, and illustrations of the Antarctic area and Arctic waters.
2. **Part I-A (Safety Measures)**—17 chapters.
3. **Part I-B (Additional Guidance Regarding the Provisions of the Introduction and Part I-A)**—12 sections.
4. **Part II-A (Pollution Prevention Measures)**—5 chapters.
5. **Part II-B (Additional Guidance to Part II-A)**—4 sections.



The main impact of the Polar Code is to provide technical and engineering guidance regarding vessels operating in the polar environment, as follows:

1. Vessel construction.
2. Vessel equipment.
3. Vessel manning and crew training.
4. Vessel operations.
5. Pollution prevention.

Out of a total of 38 chapters and sections of the Polar Code, 33 (87%) are devoted to engineering and technical specifications a vessel needs to follow in order to obtain a Polar Ship Certificate.



What areas of the Polar Code apply to NIPWG / NCWG?

1. Part I-A (Safety Measures):
 - a. Chapter 9 (Safety of Navigation).
 - b. Chapter 11 (Voyage Planning).
2. Part I-B (Additional Guidance Regarding the Provisions of the Introduction and Part I-A):
 - a. Section 3.2 (Guidance on Navigation with Icebreaker Assistance).
 - b. Section 10 (Additional Guidance to Chapter 9).
 - c. Section 12 (Additional Guidance to Chapter 11).



Part I-A (Safety Measures)

<u>Information Type</u>	<u>Polar Code Location</u>		<u>Product Specification</u>
Capability to receive current ice information	Chapter 9	Paragraph 9.3.1	S-126 (Physical Environment) S-123 (Radio Services)
Limitations of the hydrographic information and aids to navigation avail.	Chapter 11	Paragraph 11.3.2	S-4*, S-11, S-57, S-101, S-128 (Catalogue of NP) [C-55]
Ice—Extent, type, and ice bergs along route	Chapter 11	Paragraph 11.3.3	S-126 (Physical Environment)
Historical ice and temperature information	Chapter 11	Paragraph 11.3.4	S-126 (Physical Environment)
Places of refuge	Chapter 11	Paragraph 11.3.5	S-127 (Traffic Management)
Marine mammal information	Chapter 11	Paragraph 11.3.6	S-122 (MPA)
Ship routing systems/ vessel traffic services	Chapter 11	Paragraph 11.3.7	S-127 (Traffic Management)
Designated protected areas	Chapter 11	Paragraph 11.3.8	S-122 (MPA)

*Including INT-1 (C25, N60.x, N61, T30, ...)



Part I-B (Addition Guidance for Part I-A)

<u>Information Type</u>	<u>Polar Code Location</u>	<u>Product Specification</u>
Navigating with icebreaker assistance	Section 3.2	S-123 (Radio Services) ???
Inadequate chart coverage (status of hydrographic surveys, availability and quality of chart information, potential chart datum, established routes, shoals)	Section 10.2	S-126 (Physical Environment), S-11/ENC Catalogue, S-57/S-101, S-128, S-4 (quality indicators, ZOC)
Charts not based on full search of sea floor, mariners reporting to HOs	Section 10.3	S-4, S-57/S-101
Operations in the vicinity of marine mammals	Section 12.1	S-122 (MPA) ???
Minimizing impacts on areas of cultural heritage and significance	Section 12.2	S-122 (MPA) or S-127 (Traffic Management)

Additional Guidance to Chapter 9 (Safety of Navigation) (extract)

10.1

10.2 *As the chart coverage of polar waters in many areas may not currently be adequate for coastal navigation, navigational officers should:*

.1 exercise care to plan and monitor their voyage accordingly, taking due account of the information and guidance in the appropriate nautical publications;

.2 be familiar with the status of hydrographic surveys and the availability and quality of chart information for the areas in which they intend to operate;

.3 be aware of potential chart datum discrepancies with GNSS positioning;
and

.4 aim to plan their route through charted areas and well clear of known shoal depths, following established routes whenever possible.





Conclusions

- Only 13% of the Polar Code has the potential to affect NIPWG / **NCWG** work. These areas of the Polar Code delineate the types of nautical information vessels operating in polar environments must be able to access.
- NIPWG has developed test data sets for product specifications (S-122, S-123, S-126, and S-127) that would be used to display this information.
- No additional NIPWG work would be required to comply with the HSSC request.

Action required of NCWG

- ✦ **Note** the presentation
- ✦ In addition, noting the development by ARHC of an Arctic Voyage Planning Guide and the objectives of the Hydrography Priorities WG of the HCA, **consider the following recommendation**
 - Following initial assessment of the Polar Code by the US (NGA&NOS) and IHB (YG), considering the existing standards and publications in the remit of NCWG [and provided that no objection from NCWG Members (and from subject matter experts from the ARHC in particular) is received], NCWG to report to HSSC that no further work item needs to be added in the NCWG Work Programme, as far as IHO specifications are concerned

