Standard Club

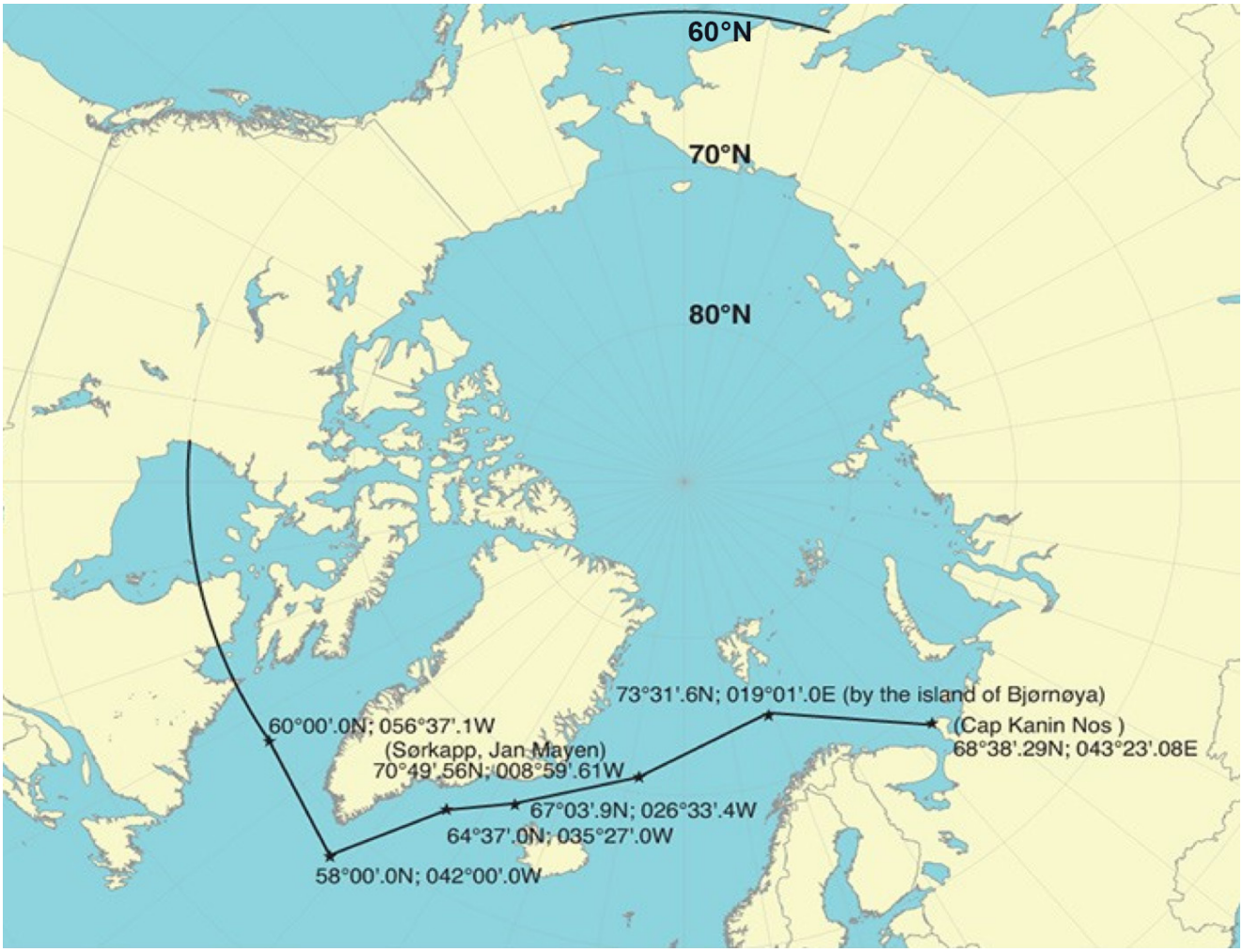
By your side

Loss prevention guidance:

Northern Sea Route

As climate change continues to affect sea ice in the polar regions, the Northern Sea Route is likely to see an increase in shipping as it becomes more commercially viable. However, this route also remains hazardous for much of the year and faces increased scrutiny regarding the protection of its fragile ecosystem. The Northern Sea route falls within the limits of the IMO's Polar Code and members must ensure vessels comply with its provisions.

Loss prevention advice



The Polar Code is implemented via amendments to SOLAS and MARPOL and covers the full range of shipping-related matters relevant to navigating the waters surrounding the two poles – Antarctic and Arctic.

The Polar Code includes mandatory measures covering safety part (part IA), pollution prevention (part IIA), and recommendatory provisions for both (parts IB and IIB).

Part IA

- The safety provisions of the Polar Code apply to new ships constructed after 1 January 2017. Ships constructed before 1 January 2017 must meet the relevant requirements of the Polar Code by the first intermediate or renewal survey, whichever occurs first, after 1 January 2018.

Part IIA

- The environmental provisions of the Polar Code have applied to both existing ships and new ships since 1 January 2017.

The STCW requirements – which came into force for both new and existing ships on 1 July 2018 – have two types of training & certification requirements:

1. Basic Certificate of Proficiency

The basic training applies to masters, chief mates and officers in charge of a navigational watch on ships operating in polar waters. They must do an approved basic training course to apply for a Certificate of Proficiency (CoP).

2. Advanced Certificate of Proficiency

The advanced training applies to masters and chief mates on ships operating in polar waters. They must have a basic certificate, at least two months of approved seagoing service in the deck department at management level, or while performing watchkeeping duties in the operational level, and must complete the advanced training course.

This table summarises the appropriate level of training required by the Polar Code.

Ice conditions	Tankers	Passenger ships	Other
Ice-free[1]	Not applicable	Not applicable	Not applicable
Open waters[2]	Basic training for master, chief mate and officers in charge of a navigational watch	Basic training for master, chief mate and officers in charge of a navigational watch	Not applicable
Other waters[3]	Advanced training for master and chief mate. Basic training for officers in charge of a navigational watch	Advanced training for master and chief mate. Basic training for officers in charge of a navigational watch	Advanced training for master and chief mate. Basic training for officers in charge of a navigational watch

1 Ice-free waters means no ice present. If ice of any kind is present, this term must not be used.
2 Open waters means a large area of freely-navigable water in which sea ice is present in concentrations less than 1/10.
3 Other waters means, based on deduction, those with ice concentration of 1/10 or over.

The Polar Code is very different to most existing regulation because it is, in part, goal-based rather than prescriptive. It sets out broad goals on a variety of topics including ship design, ship safety, operations, crewing and the environment. There are varying levels of requirements according to the vessel's profile.

Depending on the operational conditions the ship will face, the Polar Code divides ships into three categories:

- Category A ship means a ship designed for operation in polar waters in at least medium first-year ice, which may include old ice inclusions.
- Category B ship means a ship 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 ship means a ship designed to operate in open water or in ice conditions less severe than those included in Categories A and B.

The definition in the Introduction part of the Code uses general ice descriptors based on terms used by the World Metrological Organization (WMO).

The scope and applicability of the requirements is determined by the temperature and the expected ice conditions the vessel will operate in. For example, stringent requirements will apply to Category A ships rather than Category C ships.

Ships operating in polar waters must have a valid Polar Ship Certificate on board. To receive a Polar Ship Certificate, members must:

- conduct an operational (risk) assessment of the ship and its intended operations in polar waters. This assessment will include a hazard analysis based on the consideration of the hazards of the region, the characteristics of the operational area (such as operation in high latitude), and the polar service temperature (PST) established for the vessel
- prepare a ship-specific Polar Water Operational Manual (PWOM). This should address the hazards found in the operational assessment and provide enough information required to meet the code's measures
- ensure all machinery, systems and equipment are in working order and able to operate at the established PST
- carry out stability calculations (including allowances for ice and also in damaged conditions)
- get the ship surveyed to ensure it complies with the Polar Code's relevant requirements.

For more specific information on the Polar Code and to ensure vessels comply with the regulations for operating in polar waters, see our articles on:

- Polar Code amendments to STCW
- Implementation of the Polar Code and new STCW amendments
- Trading in polar waters and the Polar Code

If you have any other questions about the Northern Sea Route, the Polar Code or any other loss prevention issues, please contact lossprevention@standardclub.com.