



Maritime &  
Coastguard  
Agency

MARINE GUIDANCE NOTE

**MGN 637**

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## International Code for Ships Operating in Polar Waters (Polar Code)

**Notice to:-** all Shipowners and Operators, Recognised Organisations, Certifying Authorities, Shipbuilders, Ship Repairers, Masters and Officers, and Surveyors

This notice should be read with:-

*The Merchant Shipping (Polar Code) (Safety) Regulations 2021 (SI 2021/XXXX)*

*International Code for Ships Operating in Polar Waters (Polar Code), including the guidance contained in the Code*

*International Convention for the Safety of Life at Sea (SOLAS), 1974, in particular Chapter XIV (safety measures for ships operating in polar waters) and Chapter I (general provisions)*

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### Summary:

The International Code for Ships Operating in Polar Waters (“the Polar Code” or “the Code”), which was developed in the International Maritime Organization (“IMO”), is mandatory under both the International Convention for the Safety of Life at Sea, 1974 (SOLAS) and the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL). Through goal-based standards, the Polar Code covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles.

The Merchant Shipping (Polar Code) (Safety) Regulations 2021 implement the safety requirements of the Polar Code into UK domestic shipping legislation.

This guidance note considers the safety related provisions of the Polar Code. Reference should also be made to the guidance contained in the Polar Code (part I-B), and to the IMO guidelines referenced in the Polar Code. Separate guidance is available in relation to the pollution prevention provisions in the Polar Code (MGN 632 (M+F)).

## 1. Background

- 1.1 The safety of ships operating in the harsh, remote and vulnerable polar areas, and the protection of the pristine environments around the two poles, have always been matters of concern for the IMO and many relevant requirements, provisions and recommendations have been developed over the years.
- 1.2 Trends and forecasts indicate that polar shipping will grow in volume and diversify in nature over the coming years and these challenges need to be met without compromising either safety of life at sea, or the sustainability of the polar environments.
- 1.3 Ships operating in the Arctic and Antarctic environments are exposed to a number of unique risks. Poor weather conditions and the relative lack of good charts, communication systems and other navigational aids pose challenges for mariners. The remoteness of the areas makes rescue or clean-up operations difficult and costly. Cold temperatures may reduce the effectiveness of numerous components of the ship, ranging from deck machinery and emergency equipment to sea suction. When ice is present, it can impose additional loads on the hull, propulsion system and appendages.
- 1.4 The Polar Code covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles.
- 1.5 The move to develop a mandatory code followed the adoption by the IMO Assembly, in 2009, of guidelines for ships operating in polar waters (Resolution A.1024(26)), which were intended to address those additional provisions deemed necessary for consideration beyond existing requirements of the SOLAS and MARPOL Conventions, and in order to take into account the climatic conditions of polar waters and to meet appropriate standards of maritime safety and pollution prevention. As the Guidelines were only recommendatory, further work was undertaken in the IMO to develop a mandatory regime.
- 1.6 The Polar Code and related amendments to SOLAS were adopted during the 94th session of the IMO's Maritime Safety Committee, in November 2014. SOLAS was amended to insert a new Chapter XIV, which incorporated the safety related measures in the Polar Code. The environmental provisions were adopted as amendments to Annexes I, II, IV and V of MARPOL during the 68th session of the Marine Environment Protection Committee (MEPC) in May 2015. The Code came into force internationally on 1st January 2017.
- 1.7 Whilst Arctic and Antarctic waters have a number of similarities, there are also significant differences. The Arctic is an ocean surrounded by continents while the Antarctic is a continent surrounded by an ocean. The Antarctic sea ice retreats significantly during the summer season or is dispersed by permanent gyres in the two major seas of the Antarctic: the Weddell and the Ross. Thus, there is relatively little multi-year ice in the Antarctic. Conversely, Arctic sea ice survives many summer seasons and there is a significant amount of multi-year ice. Whilst the marine environments of both Polar seas are similarly vulnerable, response to such challenge should duly consider specific features of the legal and political regimes applicable to their respective marine spaces.

## 2. Ambulatory Reference

- 2.1 The Merchant Shipping (Polar Code) (Safety) Regulations 2021 ("the Polar Code Regulations") contain an ambulatory reference provision. The majority of the provisions in Chapter XIV and the Polar Code are cross-referenced in the Polar Code Regulations. This means that future amendments to the referenced provisions of Chapter XIV of SOLAS and the Polar Code in the Polar Code Regulations will automatically become part of UK law when they enter into force internationally. No further legislation will be required to bring amendments into force in the UK unless the change is outside the scope of the matters referenced in the Regulations; this is expected to be rare.

- 2.2 From a practical perspective, this means that ship owners, shipbuilders, and other interested parties can refer directly to the text of SOLAS Chapter XIV to determine both the UK and international requirements.
- 2.3 This will simplify the regulatory framework for both industry and regulatory users. It will also provide legal clarity for ship owners, shipbuilders and other industry professionals/ interested parties as they will only have to refer to the internationally agreed text in relation to SOLAS Chapter XIV and the Polar Code, instead of having to refer to a UK version of those provisions.

### **3. Definitions**

- 3.1 “Standards” means Standards referenced in this Note and the Polar Code as being acceptable and may include BS (British Standard), EN (European Standard accepted by the European Committee for Standardisation, CEN), IEC (International Electrotechnical Commission), ISO (International Organisation for Standardisation), MED (Marine Equipment Directive), MARPOL (International Convention for the Prevention of Pollution from Ships), SOLAS (Safety of Lives at Sea), IMO Fire Test Code, STCW (Standards of Training, Certification and Watchkeeping), the LSA Code (Life Saving Appliances), and includes any standards that amend or replace them.

### **4. Polar Code Summary**

- 4.1 The Polar Code is intended to cover the full range of shipping-related matters relevant to navigation in waters surrounding the two poles: ship design, construction and equipment; operational and training concerns; search and rescue; and, equally important, the protection of the unique environment and eco-systems of the polar regions.
- 4.2 The Code includes mandatory measures covering safety (part I-A) and pollution prevention (part II-A) and guidance for both (parts I-B and II-B). Careful consideration should be given to this guidance.
- 4.3 The Code requires ships intending to operate in the defined waters of the Antarctic and Arctic to have a Polar Ship Certificate. There are three categories of ship that may be provided with a Polar Ship Certificate: Categories A, B and C. Category A covers ships designed for operation in polar waters at least in medium first-year ice, which may include some old ice. Category B ships are those designed for operation in polar waters in at least thin first-year ice, which may also include some old ice. A Category C ship is one which is designed to operate in open water or in ice conditions less severe than those included in Categories A and B. A ship operating, or intending to operate in polar waters, must have a Polar Ship Certificate and which is to be held on board. Failure to comply with either requirement is a criminal offence.
- 4.4 Before a certificate can be issued, the ship must be assessed in respect of the anticipated range of operating conditions and hazards the vessel might encounter in the polar waters. This operational assessment must be organised by the owner, manager and/or operators of the vessel. The assessment must include information on identified operational limitations, and plans or procedures or additional safety equipment necessary to mitigate incidents with potential safety or environmental consequences. Further information on certification is provided in section 7.
- 4.5 A Polar Water Operational Manual (PWOM) must be carried on board a ship to provide the owner, manager, operator, master and crew with sufficient information regarding the ship's operational capabilities and limitations in order to support their decision-making process. It is critical that the ship is operated in compliance with the procedures contained in the PWOM and failure to do so is a criminal offence.

4.6 The various chapters in part I-A of the Code each set out goals and functional requirements and include: ship structure; stability and subdivision; watertight and weathertight integrity; machinery installations; operational safety; fire safety/protection; life-saving appliances and arrangements; safety of navigation; communications; voyage planning; manning and training. Part II-A covers prevention of oil pollution, prevention of pollution from noxious liquid substances from ships, prevention of pollution by sewage from ships and prevention of pollution by discharge of garbage from ships.

## **5. Impact of the Polar Code on ship safety**

5.1 Ships sailing in polar waters must carry equipment capable of clearing melted ice, freezing rain, snow, mist, spray and condensation from the windows on the bridge. All lifeboats must be partially or completely enclosed. There must be adequate thermal protection for all persons on board; on passenger ships, an immersion suit or thermal protective aid for each person must be available. Special ice equipment for ice removal, such as electrical and pneumatic devices, and tools such as axes or wooden clubs must be on board the vessel. Extinguishing equipment, operable in cold temperatures, must be protected from ice. These extinguishers must be suitable for persons wearing bulky and cumbersome cold weather gear.

5.2 With regard to vessel design and construction, there are, as mentioned above, three categories of ship which can operate in polar waters. These are based on whether a ship is equipped for operation in medium first-year ice, thin first-year ice, or open waters or ice conditions less severe than the first two categories. Sufficient stability in intact condition when subject to ice accretion is paramount and stability calculations must take into account the icing allowance. Ships intended to operate in low air temperatures must be constructed with materials suitable for operation in such temperatures. In ice strengthened vessels, the structure of the ship must be able to resist both global and local structural loads.

## **6. Protection of the Environment**

6.1 Part II-A of the Polar Code sets out the mandatory pollution prevention measures in respect of polar waters. Each chapter of part II-A supplements the obligations in MARPOL Annexes I, II, IV and V (respectively, prevention of pollution by oil, noxious liquid substances in bulk, sewage and garbage) where a ship operates in polar waters. These obligations have been implemented in UK law in merchant shipping regulations. Guidance is available to supplement the legislation (MGN 632 (M+F)).

## **7. Training Requirements**

7.1 Chapter 12 of the Polar Code (manning and training) is implemented by way of an amendment to the Merchant Shipping (Standards of Certification, Training and Watchkeeping) Regulations 2015 (S.I. 2015/782).

7.2 Chapter 12 of part 1-A of the Polar Code (manning and training) requires companies to ensure that masters, chief mates and officers in charge of a navigational watch on board ships operating in polar waters have completed appropriate training, taking into account the provisions of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and its related STCW Code.

7.3 Minimum requirements for the training and qualifications of masters and deck officers on ships operating in polar waters were adopted by the IMO's Maritime Safety Committee in November 2016. They became mandatory under the STCW Convention and the STCW Code from 1st July 2018. These amendments require compliance with the provisions of chapter 12 of part 1-A of the Polar Code. To ensure that operators, masters and deck officers are compliant with the Polar Code, the latest version of STCW and

the Merchant Shipping (Standards of Certification, Training and Watchkeeping) Regulations 2015 must be used for the purposes of training.

## **8. Voyage Planning in Remote Areas**

8.1 In November 2007, the IMO Assembly adopted Resolution A.999(25) - guidelines on voyage planning for passenger ships operating in remote areas. This was in response to the growing popularity of ocean travel for passengers and the desire for exotic destinations, which have led to increasing numbers of passenger ships operating in remote areas. When developing a Polar Water Operations Manual (PWOM) for voyages to remote areas, special consideration should be given to the environmental nature of the area of operation, the limited resources, and navigational information.

8.2 The detailed voyage and passage plan should include the following safety-related factors: safe areas and no-go areas; surveyed marine corridors, if available; and contingency plans for emergencies in the event of limited support being available for assistance in areas remote from search and rescue facilities.

8.3 In addition, the detailed voyage and passage plan for ships operating in Arctic or Antarctic waters should include the following factors: conditions when it is not safe to enter areas containing ice or icebergs because of darkness, swell, fog or pressure ice; safe distance to icebergs; and presence of ice and icebergs, and safe speed in such areas.

## **9. Approvals and Polar Ship Certificate**

9.1 The Secretary of State, or anyone authorised by the Secretary of State, may grant an approval in relation to a United Kingdom ship for anything in part 1-A of the Polar Code requiring the consent of a flag State.

9.2 Equipment required under part 1-A of the Polar Code and placed on board a United Kingdom vessel, must be of a type that has been approved under the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016/1025). The 2016 Regulations contain the approval procedure and testing requirements.

9.3 To apply for a Polar Ship Certificate, a shipowner, or manager or operator, should contact a Certifying Authority. A survey will then be conducted after an initial or renewal survey. If satisfied that the ship complies with the requirements for ships operating in polar waters, the Certifying Authority will advise the Foreign, Commonwealth and Development Office (FCDO), which has overall policy responsibility for polar waters, that certification to operate in Polar Waters has been granted. The certificate will be issued in respect of the ship by the Certifying Authority, with the consent of the FCDO.