October 20, 2010

Working Towards a Mandatory Polar Code

ASOC Briefing

1. Background

Over ten years ago, work was undertaken within the International Maritime Organization (IMO) to develop a polar shipping code for both Arctic and Antarctic waters, but that work resulted only in Guidelines for ships operating in the Arctic\(^1\). In 1999, the Antarctic Treaty Consultative Parties (ATCPs) adopted a Decision\(^2\) on the need to develop Guidelines for Antarctic shipping and related activities. However, despite a meeting of Antarctic Treaty Experts in 2000\(^3\), progress on developing Antarctic Guidelines was slow. In 2004, the Antarctic Treaty Consultative Meeting (ATCM) adopted a Decision on Guidelines for Ships Operating in Arctic and Antarctic Ice-Covered Waters\(^4\) and agreed to send these to the IMO with a view to amending the IMO Arctic Guidelines. Work to amend the IMO Guidelines took place in 2008 and 2009, and in December 2009 the IMO adopted new Guidelines\(^5\) covering both Arctic and Antarctic waters.

During this work it became apparent that there was strong support to develop a new mandatory and legally binding instrument, and in February 2010, the IMO began considering a major new initiative - drafting of a legally binding Polar Code to cover both the Arctic and Antarctic. This initiative was endorsed by the Antarctic Treaty Consultative Meeting, and is expected to take two or three years to complete the work in the various IMO sub-committees involved.

Shipping and fishing continue to increase in the Southern Ocean, leading to an elevated risk of incidents and potentially disastrous accidents. In November 2007, the *M/S Explorer* was holed by ice and sank, spilling an unknown quantity of fuel; fortunately all passengers and crew were

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rescued. In the summer season 2008/09, two vessel groundings made headlines: In early December 2008, the *MV Ushuaia* ran aground at the entrance to Wilhemina Bay on the northwest Antarctic Peninsula, resulting in hull damage and the spillage of an unknown amount of fuel, and in February 2009 the *Ocean Nova* grounded, reportedly in extremely high winds, on the Western Antarctic Peninsula. In November 2009, the Russian icebreaker, *Kapitan Khlebnikov* was stuck in ice in the Weddell Sea for a number of days with 184 passengers, staff and crew on board.\(^6\) Several other recent incidents include a fire on the *Nisshin Maru* whale processing vessel in February 2007, which resulted in the loss of one life and loss of power for several days, and the loss of power to the *Argos Georgia* fishing in the Ross Sea, which drifted for 15 days until replacement parts could be airlifted to the vessel. Further there were reports of a number of fishing vessels beset in ice in the Amundsen Sea.\(^7\)

In Antarctica over the past decade tourism has been characterised by steep annual increases, diversification, and geographic expansion.\(^8\) Some operating companies are now owned by parent companies that are not traditional Antarctic operators, and involve practices such as the use of larger ships from the global cruise industry and the use of ships flagged by non-Antarctic Treaty parties. These changes are influencing the way ship-borne tourism is conducted, and with increased ships operating in the area comes an increased probability of maritime incidents. The potential for environmental problems are compounded as larger, non-ice class ships enter the market.

### 2. Recent Developments

In the past 2-3 years, a number of IMO committees and sub-committees have considered new measures of relevance to the management of vessels operating in the Southern Ocean. A detailed assessment of recent developments was provided by the IMO\(^9\) to an Antarctic Treaty Meeting of Experts (ATME)\(^10\) held in New Zealand in December 2009 and also to the 33\(^{rd}\) ATCM.\(^11\)

Following work to extend the Arctic Guidelines for ships operating in polar ice-covered waters to cover Antarctic waters\(^12\), and publication of the report into the sinking of the *M/V Explorer*\(^13\), the

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\(^6\)16 November, 2009 IAATO Press release.


\(^9\)Presented to ATCM XXXIII as IP11 New Zealand International requirement for ships operating in polar waters.


\(^11\)Antarctic Treaty Consultative Meeting (ATCM) XXXIII, Punta del Este, Uruguay, 3\(^{rd}\) – 14\(^{th}\) May, 2010.

\(^12\)The revised Guidelines for Ships Operating in Polar Waters were subsequently adopted by IMO Assembly Resolution A.1024 (26) on 2 December 2009.

ATCPs agreed to a Resolution\textsuperscript{14} on the urgent need to develop mandatory requirements for ships operating in Antarctic waters.

Work on the “Polar Code” is now underway and is discussed in greater detail below.

2008/09 Work undertaken to review, amend and extend the Arctic Guidelines to also cover Antarctic waters through IMO’s Ship Design & Equipment (DE) sub-committee and a correspondence group, also recognises the value of a mandatory instrument

May 2009: Publication of the Republic of Liberia’s Report\textsuperscript{15} of Investigation into the Sinking of the Explorer

May 2009: ATCM Resolution\textsuperscript{16} on a Mandatory Shipping Code for Vessels Operating in Antarctic Waters

June 2009: A decision by IMO’s Maritime Safety Committee (MSC)\textsuperscript{17} to instruct the Sub-Committee on Ship Design and Equipment (DE) to develop mandatory regulations for ships operating in Arctic and Antarctic waters.

December 2009: Revised Guidelines for Ships Operating in Polar Waters,\textsuperscript{18} which were adopted by IMO Assembly Resolution\textsuperscript{19} in December 2009 and take effect from January 1, 2011

December 2009: ATME\textsuperscript{20} on the management of ship-borne tourism

February 2010: IMO’s DE sub-committee commences work on the International Code of Safety for Ships Operating in Polar Waters, and establishes a correspondence group to work intersessionally

March 2010: A ban on the use and carriage of heavy fuel oil on vessels operating in the Antarctic Area\textsuperscript{21}, approved by the 59\textsuperscript{th} session of IMO’s Marine Environment Protection Committee (MEPC), adopted at the 60\textsuperscript{th} session in March 2010\textsuperscript{22}, and will take effect from 1\textsuperscript{st} August 2011

\textsuperscript{17} MSC 86/26 Paragraph 23.32, June 2009.
\textsuperscript{18} IMO Resolution A.1024(26) Guidelines for Ships Operating in Polar Waters.
\textsuperscript{19} Guidelines for Ships Operating in Polar Waters adopted by IMO Assembly Resolution A.1024 (26) on 2 December 2009.
\textsuperscript{20} Antarctic Treaty Meeting of Experts on the Management of Ship-borne Tourism in the Antarctic Treaty Area, Wellington, New Zealand, 9\textsuperscript{th} – 11\textsuperscript{th} December, 2009.
\textsuperscript{21} IMO’s MARPOL Convention defines the “Antarctic Area” as the sea area south of latitude 60° S.
\textsuperscript{22} The ban was adopted through an amendment to the International Convention for the Prevention of Pollution from Ships 1973 and Protocol of 1978 (MARPOL 73/78). Annex I, which contains provisions addressing prevention of pollution by oil and also defines heavy grade oils, is ratified by 150 contracting states representing over 99% of the world’s shipping tonnage, including all CCAMLR Members States.
May 2010: ATCM agreed a resolution\textsuperscript{23} on coordination between ATPs on proposal relevant to Antarctic shipping under consideration by the IMO.

October 2010: IMO’s DE sub-committee considers report of the correspondence group and establishes a working group to further the development of a Polar Code.

3. Importance of Recent Incidents

It is vital that the development of a Polar Code is informed by comprehensive analysis of recent incidents. For example, the report of the sinking of the Liberian flagged \textit{Explorer} in November 2007 reveals that the main cause of the accident was the Master’s misjudgement of the ice field encountered, believing it to be relatively thin first-year ice when it was actually harder, thicker land ice.\textsuperscript{24} Because of this judgment, the \textit{Explorer} hit the ice at speed, causing significant damage along 3.6 meters of the hull. This damage led to the extensive flooding and eventual sinking of the ship. The decision to abandon the ship when it was clear that flood abatement efforts had failed was timely, but the evacuation process was described by passengers as disorganized and chaotic. Established safety procedures were not followed and passengers had not been adequately briefed on what to do in such an emergency. Further, the equipment on board was inadequate for the conditions, including open lifeboats and no thermal gear. The Master also failed to remove the Voyage Data Recorder (VDR) and the Crash Survival Module prior to departing the ship. The report also reveals other problems, including the watertight door into the separator room being left open; door seals to the generator room failed, allowing water to leak near electrical equipment; three out of four lifeboat engines did not start; and passengers were unevenly distributed in the lifeboats, leading to the very risky transferring of passengers from overcrowded lifeboats on the open water while passengers and crew manually held the crafts together. Inoperable lifeboats meant that many passengers travelled in Zodiacs, which unlike lifeboats could not be hoisted onto the \textit{Nordnorge}’s deck during rescue. These passengers had to climb a rope ladder up the side of the ship.

\textit{Sinking of the Explorer – follow-up}

The report into the sinking of the Explorer was one of over one hundred casualty reports reviewed by an IMO Correspondence Group, and subsequently the report of the correspondence group\textsuperscript{25} was reviewed by a Working Group\textsuperscript{26} to the Flag State Implementation sub-committee in July 2010. Disappointingly, there is no reference to the sinking of the Explorer or any of the issues arising from the Republic of Liberia’s investigation report. Although the sinking of the Explorer is considered a “very serious casualty” there was no loss of life, while the...

\textsuperscript{23} ATCM Resolution H (2010) on Coordination Among Antarctic Treaty Parties on Antarctic Proposals under Consideration in the IMO.
\textsuperscript{25} FSI 18/6 Report of the Correspondence Group on Casualty Analysis. Submitted by Norway.
\textsuperscript{26} FSI 18/WP.1 Report of the Working Group on Casualty Statistics and Investigations.
overall assessment of 113 casualty reports includes a number of casualties involving loss of life. Another possible factor is that action is already being taken to address training for crews of ships in ice-covered waters\textsuperscript{27} and the development of a Polar Code provides an opportunity for other factors to be addressed. It will be important to ensure that the lessons and recommendations from the investigation are directed to the appropriate IMO committees and sub-committees as work on the Polar Code is taken forward.

In addition to the follow-up to the sinking of the Explorer by the IMO, there is another route by which the lessons can be learnt and recommendations identified and addressed through the development of Polar Code or other measures – a report to ATCPs from the permitting State i.e. Canada. Nearly three years after the sinking of the Explorer, there has not yet been a report from the Antarctic Treaty Party (ATP) responsible for permitting the Explorer.\textsuperscript{28}

\textit{Grounding of the Ushuaia and Ocean Nova – follow-up}

In December 2008 the MV Ushuaia, flagged by Panama, grounded at the entrance to Wilhemina Bay resulting in hull damage and spillage of an unknown amount of fuel, while in February 2009 the Ocean Nova, flagged by the Bahamas, grounded in extremely high winds on the Western Antarctic Peninsula. While neither Panama nor the Bahamas are ATCPs, the operators of both vessels would have been authorised by an ATCP – in the case of Ushuaia it would have been Argentina and for the Ocean Nova it would have been the USA. Neither incident has, so far, been formally reported to the Antarctic Treaty Consultative Meeting (ATCM).

\textbf{4. Latest Developments on the Polar Code}

A new high-priority work item to develop a mandatory Polar Code was approved at MSC 86 and tasked to the DE Sub-Committee. The development of a Mandatory Polar Code offers an opportunity to consolidate measures relevant to the operation of vessels in polar waters, to refine and fill gaps to ensure that the highest levels of safety and environmental protection are applied in the Antarctic and Arctic, and where appropriate, to harmonize requirements in Arctic and Antarctic polar waters. A timeframe of two years has been allocated for completion of the Polar Code.

\textsuperscript{27} In 2008, Finland submitted a proposal to IMO’s DE sub-committee on the development of training courses on operation of ships in ice-covered waters, and a year later Norway submitted a proposal to incorporate mandatory training and certification requirements for navigators on ships operating in ice conditions (within the context of an ongoing revision of the IMO International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) adopted in 1978). A Correspondence Group reported to 41\textsuperscript{st} Session of the Sub-committee on Standards of Training and Watchkeeping (STW) in January 2010, on preliminary proposed text for training guidance for personnel operating in Arctic and Antarctic ice-covered waters. Subsequently, the Conference of Parties to the STCW Convention adopted Guidance regarding training of masters and officers for ships operating in polar waters and a Resolution on Measures to ensure the competency of masters and officers of ships operating in polar waters, in June 2010.

\textsuperscript{28} Canada, which permitted the company, GAP Adventures.
The IMO sub-committee on Ship Design and Equipment (DE) met in February 2010 and commenced work to develop the International Code of Safety for Ships Operating in Polar Waters. A number of papers on the development of a Polar Code, including a paper co-sponsored by a number of ASOC members, which outlines the essential elements of a mandatory Polar Code were considered. A correspondence group, led by Norway, has been considering the components of the Polar Code intersessionally and its Report will be considered when the DE sub-committee next meets between 25th – 29th October 2010. It is anticipated that a working group will meet to progress the work on a draft mandatory Polar Code. The current aim is for the work to be completed in 2012.

Some preliminary decisions have already been taken with respect to the Code. It has been agreed that the Code should be risk-based with functional requirements supported by prescriptive provisions; the Code will contain both mandatory and recommendatory components; if necessary there will be separate requirements for the Arctic and the Antarctic; and the Code should be made mandatory via existing IMO instruments such as SOLAS and/or MARPOL.

5. ASOC Position on Issues to be Addressed

ASOC, in association with its members with consultative status at the IMO, has submitted a number of papers addressing the scope of a mandatory Polar Code. ASOC submits that the new Polar Code should be broad enough in scope to address mandatory measures for vessel design and construction, equipment, operations and planning, environmental protection, as well as crew training, search and rescue capabilities, environmental response, and infrastructure support including monitoring and information systems, port state control, and compliance for all vessels operating in Antarctic waters.

General provisions

Scope – the Code should be applicable to all vessels operating south of the Antarctic Polar Front, including fishing vessels operating in polar waters, and provisions should be applied to existing vessels, particularly where vessels are being converted for polar service.

Geographic coverage – the Code should apply to the full extent of Antarctic polar waters south of the Antarctic Polar Front.

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29 DE 53/18/3 Proposed Mandatory Code for Ships Operating in Polar Waters. Shipping management issues to be addressed. Submitted by FOEI, IUCN, Greenpeace, IFAW and WWF to the 53rd session of the sub-committee on Ship Design and Equipment.


Definitions – the Code should include a full and unambiguous definition of polar ice-covered waters which provides clear guidance on which waters will be considered ice-covered and which waters will be considered polar but not ice-covered, when such terms are used.

Comprehensive – the Code should address vessel safety, remote search and rescue and environmental response, and environmental protection, explicitly cross-referencing both existing instruments which are specific to Antarctic waters, and those which are relevant to Antarctic waters.

Mandatory – there should be a presumption that all provisions of the Code will be mandatory, unless a case is made for a specific provision to be recommendatory.

Safety provisions

Polar Class – the Code should require that only polar class vessels with adequate ice-strengthening operate in polar ice-covered waters.

Stability – the Code should ensure that the highest possible standards for the stability of all vessels (both intact and damaged) are required for vessels operating in Antarctic waters, taking into account the possible extreme sea and storm conditions and the potential for icing.

Icing – the Code should ensure that the threat of icing, both build-up on a vessels’ structure and icing of equipment, is adequately addressed, through prevention and mitigation, and includes reference to the environmental and vessel characteristics that can influence sea icing.

Life-saving equipment – the Code should require that proper life-saving equipment and operational provisions are applied to all vessels operating in Antarctic waters.

Training – the Code should require high standards of training for ice-navigators including both classroom / simulation training and “on the job” training alongside experienced ice-navigators.

Ship’s operating manual – the Code should require region-specific procedures for the protection of the polar environment to be included in the ship’s operating manual, which recognise the remoteness and sensitivity of polar environments.

Environmental Provisions

In 2000 an Antarctic Treaty Meeting of Experts\textsuperscript{32} agreed on seven Recommendations, including a proposal for Antarctic Guidelines for shipping to be developed. This Recommendation has now been fulfilled by the expansion of the Arctic Guidelines to encompass Antarctic waters and the subsequent commitment and work now underway to develop the mandatory Polar Code. However, one recommendation remains of interest at the current time:

• the ATCM is invited to consider the ATME 2000 working group summary reports and the report of the drafting group on Environmental Protection as a basis for further development of these issues.

Thus indicating that already 10 years ago, the intention was that environmental protection should be encompassed by the instrument under development.

Norway submitted a paper to MEPC 61\(^{33}\) providing input for an environmental chapter that such a Code could contain. IMO has already recognised that the polar regions require special measures to provide adequate protection from the potential impact of vessels operating in these waters e.g. the waters south of 60 degrees South are designated an Antarctic Special area for the purpose of MARPOL Annex I, II and V, and a recent amendment to MARPOL Annex I will prohibit the carriage and use of heavy fuel oils in these waters. ASOC\(^{34}\) has outlined a range of measures relevant to the MARPOL Convention Annexes (“MARPOL measures”) that would provide greater and proportionate protection for polar waters and that therefore should be included in the mandatory Polar Code\(^{35}\).

Environmental protection – the Code should include comprehensive provisions for environmental protection for all vessels operating in Antarctic waters, such as more stringent provisions for sewage, sewage sludge and grey water discharge, garbage discharge, air emissions, underwater noise, introduction of non-native species, antifouling systems, and ship strikes in sensitive polar waters.

Mandatory routes / areas to be avoided – the Code should address the need for the identification and establishment of mandatory navigation routes and areas to be avoided to reduce the risk of accidents, minimise impact of routine vessel operations in environmentally sensitive areas, reduce vessel disturbance to marine mammals and avoid areas with limited or lacking hydrographical data.

Emergency planning and response provisions

Search & rescue – the Code should address vessel reporting on a regular basis to the relevant regional maritime rescue coordination centres while operating in Antarctic waters.

Shipboard oil pollution emergency plan - the Code should require region-specific procedures and specialised procedures for operations under accident conditions to be included in the shipboard oil pollution emergency plan.

\(^{33}\) MEPC 60/21/1 Environmental aspects of polar shipping. Submitted by Norway.

\(^{34}\) The preparation of this paper for the IMO’s DE Sub-Committee was assisted by Clean Air Task Force, Earthjustice, and the Antarctic and Southern Ocean Coalition (ASOC), an umbrella NGO (whose members include FOEI, IFAW and WWF) with expert observer status at the Antarctic Treaty Consultative meetings (ATCM) and meetings of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

Emergency response – the Code should consider the needs and possible coordinated response for the Antarctic region in the event of a significant oil or chemical spill.

Compliance and Enforcement

Port state control – the Code should require enhanced vessel inspections and controls for vessels operating in the Antarctic area in order to ensure strict compliance with the highest safety and environmental standards.

Antarctic vessel traffic monitoring and information system – the Code should address the need for the development of an Antarctic vessel traffic monitoring and information system, building on existing systems such as long-range tracking and identification (LRIT) established by the IMO and CCAMLR’s monitoring of fishing vessels, to enhance safety and support environmental protection.

6. Conclusions

The development of a Mandatory Polar Code is arguably the most important development for the future management of all vessels operating in Antarctic waters, both existing and new vessels, and the full range of different vessel types. ASOC submits it is essential that the new mandatory Polar Code is not limited to those vessels defined by the Safety of Life at Sea (SOLAS) Convention, but encompasses all vessels operating in these remote areas and extreme conditions, including fishing vessels. Fishing vessels operating in Antarctic waters are not small and can pose a significant threat to the marine environment from shipping operations. In addition, the requirements for search and rescue will be similar as for other vessels.

Final decisions are yet to be made on the content of the Polar Code, but it is likely that as a minimum it will address areas covered by the Polar Guidelines, including construction provisions, on-board equipment, operational arrangements, and environmental protection. It is also likely that it will include both mandatory provisions and recommendatory provisions. An opportunity is presented now to ensure that the highest levels of safety and environmental protection are provided for all vessels operating in the Southern Ocean through the Polar Code.

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