

PAME I-2015 –Agenda Item 4.6(a, bullet #3)
AMSA Recommendation II(D)
Using NAVAREA Warnings and IMO Circulars
to Alert Mariners to Drifting Ice in the Arctic

BACKGROUND

AMSA Recommendation II(D) provides:

“That the Arctic states should, taking into account the special characteristics of the Arctic marine environment, explore the need for internationally designated areas for the purpose of environmental protection in regions of the Arctic Ocean. This could be done through the use of appropriate tools, such as ‘Special Areas’ or Particularly Sensitive Sea Areas (PSSA) designation through the IMO and consistent with the international legal framework in the Arctic.

PAME II-2014 adopted a ROD inviting member governments to develop a paper that explores options other than ATBAs and PSSAs for making mariners aware of the ecological significance of and hazards to navigation posed by the globally unique drifting multi-year ice pack, such as NAVAREA warnings and IMO Circulars.

USA RESPONSE

To ensure vessel safety at sea, the International Hydrographic Organization (IHO) and the International Maritime Organization (IMO) established the World Wide Navigational Warning Service, a coordinated global service for the promulgation of navigational warnings. The World Wide Navigational Warning Service provides Maritime Safety Information (MSI) or “navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcasts to ships” as defined by the Safety of Life at Sea Convention (SOLAS).¹ The navigational warnings are described as broadcast messages containing urgent information relevant to safe navigation.² To make sure that vessels receive this information, SOLAS regulation IV/12.2 states “every ship, while at sea, shall maintain a radio watch for broadcasts of maritime safety information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating.”³

¹ Safety of Life at Sea Convention, ch. IV/2.1.9, May 25, 1980, 32 UST 47, 1184 UNTS 278 [hereinafter SOLAS].

² Guidance of the IMO/IHO World-Wide Navigational Warning Service adopted by the Organization by resolution A. 706(17), as amended.

³ SOLAS, ch. IV/12.2.

A. NAVAREA Warnings

To organize these warnings, the World Wide Navigational Warning Services divides the globe into 21 geographical regions called “NAVAREAS” denoted by Roman numerals. See Annex 1. The nation charged with collecting and issuing navigational warnings for each region is called the NAVAREA co-coordinator. NAVAREA coordinators send out navigational warnings through the Global Maritime Distress and Safety System (GMDSS) to vessels in the region for which they are responsible. GMDSS is an international system which uses terrestrial and satellite technology and ship-board radio systems to ensure rapid, automated alerts.

Under SOLAS, all passenger ships and all cargo ships over 300 gross tons on international voyages must carry specified satellite and radio communication equipment for sending and receiving distress alerts and maritime safety information as well as for general communications.⁴ Many of the broadcasts are scheduled to transmit over the system by NAVAREA region to ensure users know when to receive required MSI for a given area.⁵ Others such as severe meteorological warnings or shore-to-ship distress alerts, are unscheduled broadcasts and given urgency or distress priority.⁶ The warnings are repeated until the danger is gone or has moved elsewhere.

B. The High Seas of the Central Arctic Ocean

The oceans are split into different areas depending on their distance to a coast station with Digital Selective Calling. Digital Selective Calling is a means of communication through radio stations using digital codes.⁷ The Central Arctic Ocean is designated as an A4 area.⁸ A4 areas are the high seas generally outside the reach of any geosatellite or radiobroadcasting provided by GDMSS. Because the satellites are positioned above the equator, their communication cannot fully reach the Central Arctic Ocean.⁹ The exact limits for the geospatial satellites are:

- At 67°N just north of the Bering Strait
- At 67°N across the Davis Strait between Greenland and Canada; and
- At 71°N across the Norwegian and East Greenland Seas from the Norwegian North Cape to the Greenland Coast.¹⁰

In 2007, five new NAVAREAs were created to cover the Arctic. The three coordinators in the Arctic -- Canada, Norway and the Russian Federation -- have implemented their own high frequency (HF) systems for navigational warnings above 76°N. See Annex 1.

⁴ SOLAS, ch. IV/1.1.

⁵ The SafetyNET Handbook, 5. *See* pg. 11 for the transmission schedule.

⁶ *Id.* at. 5.

⁷ SOLAS, ch. IV/2.3.

⁸ *Id.* at Chapter IV/ 2.1.15 defines area A4 as “Sea area outside sea areas A1, A2, and A3.”

⁹ *Id.*

¹⁰ Marine Information, Arctic Maritime Safety Information (AMSI) available at http://msi.nga.mil/MSISiteContent/StaticFiles/Files/Marine_Info.pdf.

- Canada, which is the coordinator for NAVAREA XVII and XVIII, uses High Frequency Digital Selective Calling System (HF/DSC);
- Norway, which is the coordinator of NAVAREA XIX, uses High Frequency Direct Printing Telegraph System (HF NBDP); and
- The Russian Federation, which is the coordinator of NAVAREA XX and XXI, uses High Frequency Narrow Band Printing System (NBDP).¹¹

For the area below 76°N in the NAVAREA regions, the coordinators can use SafetyNET. According to SOLAS, vessels traveling through the A4 region (Arctic) must have SafetyNET (Inmarsat Enhanced Group Call (EGC) receiver).¹² Inmarsat C SafetyNET is a satellite-based worldwide maritime safety information broadcast service of high seas weather warnings, navigational warnings, radio navigation warnings, ice reports, International Ice Patrol warnings and other similar information.¹³ SafetyNET has automatic reception of MSI via EGC systems and its receiving capability is part of the mandatory equipment required to be carried by SOLAS compliant ships.¹⁴ Such vessels must also:

- have an MF/HF radio installation capable of transmitting and receiving on all distress and safety frequencies in the (marine) bands between 1,605 kHz and 27,500 kHz using DSC, radiotelephony and NBDP;
- have an MF/HF watchkeeping receiver capable of maintaining Digital Selective Calling (DSC) watch on 2.187.5 kHz, 8,414.5 kHz and on at least one of the distress and safety DSC frequencies 4,207.5 kHz, 6,312 kHz, 12,577 kHz or 16,804.5 kHz; at any time, it shall be possible to select of these DSC distress and safety frequencies;
- be capable of transmitting and receiving general radio communications using radiotelephony or direct-printing by an MF/HF radio installation operating on working frequencies in the (marine) bands between 1,605 kHz and 27,500 kHz;¹⁵ and
- have the minimum equipment requirement, including equipment for NAVTEX, necessary for all vessels in accordance with SOLAS.¹⁶

¹¹ COMSAR 11/18, 3.17 pg. 12.

¹² Enhanced Group Call (EGC) is the system for broadcasting messages via satellite communications system. See SafetyNET Users Handbook, *supra* note 6 at 3. "Its unique capabilities allow messages to be sent to all vessels in fixed geographical areas or to predetermined groups of ships." Richard L. Hornberger, Navigational Warnings and Safety at Sea, available at http://msi.nga.mil/MSISiteContent/StaticFiles/NAV_PUBS/APC/Pub105/105article.pdf.

¹³ Frequently Asked Questions about the GMDSS, available at www.imo.org/blast/mainframe.asp?topic_id=69&doc_id=581.

¹⁴ The SafetyNET Users Handbook, *supra* note 5 at 3.

¹⁵ SOLAS, ch. IV/11.

¹⁶ *Id.* at ch. IV/7.

C. Arctic Maritime Safety Information

Before the Arctic was split into the five NAVAREAs, the U.S. National Imagery and Mapping Agency (now named the National Geospatial-Intelligence Agency or NGA) implemented the Arctic Maritime Safety Information (AMSI) database.¹⁷ NGA recognized that there was no centralized system for collecting and distributing maritime safety data in the Arctic Ocean so it helped create an internet based system that can be queried by mariners to obtain a list of all submitted hazards in anticipation of traveling through the Arctic.¹⁸ This system creates the HYDROARC reports which contain information about maritime hazards to surface vessels in the Arctic. Mariners can obtain a list of all submitted hazards in anticipation of their voyage.¹⁹

D. IMO Circulars

The IMO produces circulars to provide information on various subjects to the public. “Any information that needs to be made public - sometimes it could simply be a request by a government to make their communication available to IMO Member States - is generally distributed under cover of a circular or circular letter.”²⁰ Most circulars are accessible on the IMO network and its public website.²¹ The IMO Library Services maintains a list of all MSC and MEPC circulars. All circulars can be accessed via IMODOCS. The process of publishing has recently become much simpler as any newly prepared circular is immediately uploaded to the IMODOCS section of the IMO website.²² Member States that have access to IMODOCS simultaneously receive a notification on the newly issued circular in their email inbox.²³

RECOMMENDATIONS

The United States recommends that:

- PAME prepare for consideration by Arctic States one or more draft proposed NAVAREA navigational warnings – or a template therefor -- pertaining to (drifting) ice packs in the high seas area of the Central Arctic Ocean for transmission by the HF systems of each of the relevant Arctic NAVAREA coordinators and submission to the Arctic Maritime Safety Information (ASMI) database; and
- PAME prepare for consideration by Arctic States one or more draft proposed IMO Circulars to inform mariners that navigational warnings pertaining to (drifting) ice packs in the high seas area of the Central Arctic ocean will be transmitted through NAVAREA

¹⁷ AMSI, *supra* note 10.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ Personal communication with Monia Spinardi, IMO Legal Affairs Office.

²¹ IMO Library Services External Relations Office, IMO Documents available at http://www.imo.org/blast/mainframe.asp?topic_id=904&doc_id=4706#13.

²² Spinardi, *supra* note 20.

²³ *Id.*

warnings by the HF systems of the relevant Arctic NAVAREA coordinators and made available via the Arctic Maritime Safety Information (ASMI) database.

Annex 1

