



**REPUBLIC OF
THE MARSHALL ISLANDS**

Marine Guideline

**OFFICE OF THE
MARITIME ADMINISTRATOR**

No. 7-41-1

Rev. 11/12

**TO: ALL SHIPOWNERS, OPERATORS, MASTERS AND OFFICERS OF
MERCHANT SHIPS, AND RECOGNIZED ORGANIZATIONS**

**SUBJECT: Safety of Navigation, ECDIS, Navigation Chart Correction and Use, Speed
Input to ARPA Equipped Radars and Traffic Separation Lanes.**

- References:**
- (a) Marshall Islands Marine Notice 7-041-6
 - (b) International Convention on Safety of Life at Sea, 1974 (SOLAS 74), Chapter V (Revised July 2002)
 - (c) COLREGS Rule 15
 - (d) STCW Convention, 1978, as amended – Regulation II/1-3
 - (e) SN/Circ.213, dated 31 May 2000
 - (f) SN.1/Circ.207/Rev.1, dated 22 October 2007
 - (g) SN.1/Circ.255, dated 24 July 2006
 - (h) SN.1/Circ.266/Rev.1, dated 7 December 2010
 - (i) SN.1/Circ.276, dated 10 December 2008

PURPOSE:

This Marine Guideline provides advice and guidance to mariners on the importance of initiating and maintaining a regular and efficient system of chart and publication updating, the proper use of ARPA Radar, and Rules of the Road in Traffic Separation Lanes. Nautical chart and publication carriage requirements are addressed in reference (a) above. This Guideline supersedes Rev. 12/11 and reflects the addition of new section 1.4 with the rest renumbered, the expansion of section 3.0 on ECDIS and the addition of references (e) through (i) above.

APPLICABILITY:

1. This Guideline applies to ships using the Electronic Chart Display Information Systems (ECDIS), and all ships equipped with Automatic Radar Plotting Aids (ARPA).
2. Additionally, this Guideline applies to all ships as Regulation 27 of reference (b) above requires ships to carry nautical charts and nautical publications such as sailing directions, list of lights, notice to mariners, tide tables and all other nautical publications necessary for the intended voyage.

GUIDELINES:

1.0 Navigational Chart Correction and Use

- 1.1 The investigation of strandings and Traffic Separation Scheme and Route System contraventions continue to indicate a failure on the part of some mariners to keep charts and publications up to date. It is essential that any nautical publication which is likely to be affected by changes in navigational or hydrographic conditions be corrected and updated by every available means, primarily Radio Navigational Warnings, e.g., NAVTEX, SafetyNET and Notices to Mariners. Failure to follow this basic procedure can place the master, his vessel, and owners in an untenable legal position in the event of an accident.
- 1.2 Chart corrections have proven to be a major source of problems with Port State Control inspections as well. While it is appreciated that many vessels may be engaged in worldwide trading calling at ports in countries where Notices to Mariners and other publications may not be available, it is possible to order well in advance the current editions of sailing directions, tide and current tables, charts and chart corrections for delivery to the ship on a regular basis.
- 1.3 The Republic of the Marshall Islands (RMI) Maritime Administrator (the “Administrator”) recognizes several companies that offer quick and efficient means of updating and correcting nautical chart and publications and issue Notice to Mariners to ships at sea by way of INMARSAT and email. Computer CDs containing the same information are also available. Provided the data contained in these products is promptly and correctly applied to affected nautical charts and publications aboard the ship, these new systems meet the requirements of Regulation 27 of reference (b) above. A list of recognized companies is located in RMI Marine Notice 1-000-3 that is updated as products are reviewed by the Administrator.
- 1.4 A concise guide to correcting charts and chart management is a pamphlet titled How to Correct Your Charts the Admiralty Way (NP294). This easy to use guide provides a variety of examples of step-by-step techniques to correct charts based on SOLAS best practice, which of course is the basis for ISM Code auditing. This product may be purchased from Admiralty Charts and Publications at their website www.ukho.gov.uk/how_to_buy.html.
- 1.5 RMI Nautical Inspectors are instructed to pay particular attention to the carriage onboard of nautical charts and publications appropriate to the voyage and/or service in which the ship is engaged. In the event that a Nautical Inspector determines the charts/publications are inadequate, or that an efficient correction procedure does not exist, the ship may be prevented from proceeding to sea until appropriate action is taken to correct the situation.
- 1.6 Masters and Officers should be aware of the danger of navigating without adequate under keel clearance. The practice of navigating through waters barely adequate in depth with a finely assessed under keel clearance based upon predicted tidal heights is not recommended, as the actual tidal rises may be appreciably lower than predicted. Wind conditions that may cause negative tidal surges should always be considered. Charted depths or soundings may not be current or may be based on surveys taken many years in the past.

- 1.7 Even charts based on recent surveys may not show all seabed obstructions or the shallowest depths. Hydrographic surveys have inherent technical limitations, due partly in some offshore areas to difficulties in accurately calculating tidal ranges. Furthermore, in some cases the depth of the seabed is constantly changing. Nautical charts should, therefore, not be absolutely relied upon in their representation of depth and, when tidal predictions are applied to the chart as if they were actual tide levels, the uncertainties are thereby compounded.
- 1.8 In areas such as estuaries and approaches to ports, where optimum under keel clearance cannot be obtained, Masters should carefully consider what is an appropriate speed having regard to the ‘squat’ characteristics of their particular ship and monitor depth sounding equipment closely. Masters are cautioned against being influenced by any interests outside the ship, commercial or otherwise, to proceed at a speed inconsistent with safe navigation.

2.0 ARPA Radar

Ground stabilized true motion was found to have been a contributing factor in the collision between the BLUE SKY and PLATINA REEFER in the English Channel on 4 February 1995. Regulation 19 of reference (b) above clearly states that speed input to ARPA on all ships of 10,000 gross tons and upwards must indicate speed and distance *through the water*. ARPA equipped ships of lesser tonnage should heed this standard as well. Mariners are cautioned that inputs providing *speed over the ground are not to be used* for collision avoidance decisions when using ARPA since doing so may lead to a dangerous navigation situations and/or erroneous collision avoidance solutions.

3.0 ECDIS

- 3.1 The precautions that must be taken with ARPA also apply to the use of ECDIS equipment. Inputs determine the information that is displayed to the user. The mariner should be properly trained in the use of ECDIS to minimize the possibility of incorrect information being set up in the system and that the peripheral equipment is supplying information properly to the system.
- 3.2 In keeping with the requirements established in Section 6.3 of the International Safety Management Code, owners and operators of RMI flagged vessels should ensure that Masters and Navigation Watch Officers serving onboard their vessels have received ECDIS training and that they are familiar with the specific equipment installed onboard the vessel on which they are serving. They should also be familiar with the Administrator’s requirements in MN-7-041-6 as well as any coastal State requirements regarding the use of ECDIS in their waters.
- 3.3 The International Maritime Organization’s (IMO) SN.1/Circ.276 (reference (i) above) includes general guidance as well as references that may be of use when determining company ECDIS-related training requirements for Masters and Navigation Watch Officers:
- .1 IMO Model Course 1.27 on Operational Use of Electronic Chart Display and Information Systems (ECDIS).

- .2 The International Hydrographic Organization (IHO) provides an online chart catalogue that details the coverage of Electronic Navigational Charts (ENC) and Raster Navigational Charts (RNC) (where they exist and where there is not yet ENC coverage) together with references to coastal State guidance on any requirements for paper charts (where this has been provided). The catalogue also provides links to IHO Member States' websites where additional information may be found. The IHO online chart catalogue can be accessed from the IHO website at: www.iho.int.
 - .3 In addition to national and international rules, regulations, the IMO model course and performance standards, the IHO has published an online publication *Facts about electronic charts and carriage requirements*. It is a recommended source of information on ECDIS hardware, training and the technical aspects of electronic chart data. Copies are available free of charge from various sources including: www.iho.int and http://www.ic-enc.org/page_news_articles2.asp?id=12.
 - .4 Another useful source of information on ECDIS is *The Electronic Chart*, 2nd edition, by Hecht, Berking, Büttgenbach, Jonas and Alexander (2006). This book describes the basic components, functionality and capabilities and limitations of ECDIS. *The Electronic Chart* is published by GITC, The Netherlands, ISBN: 90-806205-7-2 and is available via: www.hydro-international.com.
 - .5 Reference should also be made to other Safety of Navigation Circulars (SN/Circs.) issued by the IMO, in particular, SN/Circ.213 on Guidance on chart datums and the accuracy of positions on charts, SN.1/Circ.207/Rev.1 on Differences between RCDS and ECDIS, SN.1/Circ.255 on Additional guidance on chart datums and the accuracy of positions on charts and SN.1/Circ.266/Rev.1 on Maintenance of Electronic Chart Display and Information System (ECDIS) software (references (e) through (h) above). These and other IMO guidance material can be downloaded from the IMO website, www.imo.org.
- 3.4 By regulation, ECDIS training is required at two levels. First, shore-based generic training in the use of ECDIS and its capabilities is required that provides the mariner with a thorough understanding of electronic chart data, data accuracy, presentation rules, display options, and other chart data formats. This training alerts the mariner to the dangers of over-reliance in the ECDIS system. Also the generic training provides the mariner with techniques that will help him/her develop proficiency in the operation, interpretation and analysis of the information that is obtained from the system. Additionally, the mariner will learn how to use the required functions of the equipment that is integrated with the ECDIS system to enable him/her to properly adjust and monitor that information to enhance the mariner's situational awareness. Second, type specific training on the use of the particular unit(s) that is(are) found on board the vessel to which the mariner is assigned must be completed prior to the officer assuming a navigational watch by a qualified officer on board the vessel.

4.0 Traffic Separation Lanes

Mariners are cautioned that the provisions of reference (c) above, Rule 15, Crossing Situation rules apply equally to vessels navigating in, near and outside Traffic Separation Lanes.