

# Standardization of Mariners' Routing Guides

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IHO



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## FOREWORD

IHO Publication S-49 provides a standardized structure for the preparation and publication of Mariners' Routeing Guides.

The updated text of this document (S-49) was prepared by the IHO Nautical Information Provision Working Group (NIPWG) in 2019. It is the result of a comprehensive review of Edition 2.0.0, published in 2010 and titled "Standardization of Mariners' Routeing Guides (IHO Publication S-49), which is superseded by this update.

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## 1. Introduction

The IHO publication 'Standardization of Mariners' Routeing Guides' evolved in response to an opinion by the International Maritime Organization (IMO) that in areas where there is a complex routeing system, comprising several related routeing measures with lengthy special provisions and associated recommendations on navigation by vessels using the system, a special routeing guide might be prepared which would give full information on all aspects of the routeing measures and that it would be desirable to have a degree of standardization of such guides.

The background on the establishment of the original ad hoc Working Group (WG), which prepared Special Publication (SP) No. 49 Edition 1 and its procedures, appears in the progress report presented to the XIIth International Hydrographic Conference (IHC) in April 1982 (CONF.XII/DOC.18). The background on the establishment of the sub-WG of Chart Standardisation and Paper Chart Working Group (CSPCWG), which prepared Edition 2, and its procedures, appears in Committee on Hydrographic Requirements for Information Systems (CHRIS)<sup>1</sup> paper 19-11.1A, based on an explanatory note provided by Finland to the 12<sup>th</sup> Baltic Sea Hydrographic Commission (BSHC) Conference. The revision of SP No. 49 was assigned to the CSPCWG under CHRIS Action Item 19/24. It was affirmed by the 20<sup>th</sup> meeting of CHRIS in its review of CHRIS papers 20-01D and 20-06.5A.

The revision (for Edition 2.0.0) was based on consideration of the content of several existing Mariners' Routeing Guides produced by various Hydrographic Offices and is a result of an interactive process between the sub-working group members.

The updates (for this Edition 2.1.0) were originally based on including Underkeel Clearance Management Systems in the Mariners' Routeing Guides. Further discussions reflected concerns that sufficient time had elapsed since the issuing of Edition 2.0.0 to investigate and research whether certain information/subject matter contained in Edition 2.0.0 was no longer appropriate and more recent information/subject matter needed to be added.

## 2. Recommendations

### 2.1 Format

Mariners' Routeing Guides should normally be designed in paper chart format, although in certain circumstances a booklet format may be more appropriate. The size and shape of the geographic area to be covered and the amount of information to be included are key factors in the selection of the format.

Mariners' Routeing Guides may also be produced in digital form. In digital form, it is recommended that the content is in accordance with S-49 recommendations. However, the design of a digital format 'Mariners' Routeing Guide' is not within the scope of this S-49 document.

### 2.2 Layout

The layout of a guide should include both a plan of the relevant geographic area on which the routeing measures, major aids to navigation, etc. are shown graphically, and text giving appropriate guidance concerning passage planning, routeing, etc.

The guide, if in chart form, should be designed to be folded, so that it can be easily utilised by the mariner at the chart table, in conjunction with the appropriate nautical charts for the area.

### 2.3 Title

The title should be 'Mariners' Routeing Guide' followed by the appropriate geographic area name. This reflects the IMO-defined term, 'Routeing', noting that the guide must cover a complex routeing system, and the fact that the guide is designed for use by the mariner (as opposed, for example, to the IMO publication 'Ships' Routeing', which is designed for use by Administrations). It should also help differentiate such guides from other special guidance products (approaches to ports, etc.) which are highly useful in their own way but do not relate to IMO-adopted routeing systems.

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<sup>1</sup> Now, Hydrographic Services and Standards Committee (HSSC)

## 2.4 Maintenance

Maintaining the guide by Notice to Mariners (NtM) is necessary to ensure the credibility of the product in the eyes of the mariner. Experience with existing guides has shown that comparatively few NtM are required to keep them maintained. Recommended criteria for the selection of information to be included in the guide excludes information subject to frequent change - such information should rather appear in the basic nautical product dealing with the subject matter, such as standard nautical charts, electronic nautical charts, and associated nautical publication information.

## 2.5 Language and symbology

The 'Mariners' Routeing Guide' (MRG) is normally designed to be used for international shipping and therefore should be produced in the English language. Other options are:

- a. The MRG may be produced in a national language(s) other than English
- b. The MRG may be bilingual/multilingual in languages including English
- c. The MRG may be bilingual/multilingual in languages other than English

**INT chart versions.** The MRG is recommended to be an International (INT) Chart series product. An INT chart MRG must be produced in the English language. The INT chart producer should be identified by the relevant Regional Hydrographic Commission (RHC) or its delegated International Charting Coordination Working Group. If a printer nation removes the English language from an INT chart MRG, then all INT references must be removed and the chart published as a national chart, adopted under a bilateral arrangement.

Symbols and abbreviations in the guide should be according to IHO chart specifications (S-4 and INT 1) for nautical charts; exceptions should be explained in the guide.

## 2.6 Use of acronyms and abbreviations

In all text, acronyms and other abbreviations which may be unfamiliar to the average navigator should be avoided unless their definitions are also included in the guide (i.e. written in full at first use in a section or included in a glossary).

## 2.7 Geographic areas requiring guides

Routeing Guides should only be published for those waters where there is a clear need, which must include complex routeing system(s). Such guides will therefore serve as a forewarning to the mariner of the need for special care in the area covered. The views of the mariner on the areas for which guides would be most useful should be sought before embarking on the development of the product.

## 2.8 Type of Information

The recommendations contained in Section 3 are focused on the following:

- a. The type of information essential to be included.
- b. The type of additional information which might usefully be included if space permits.
- c. The type of information which should not be included because, for example, it would either encourage misuse of the guide or would be subject to such frequent change that it would present a significant maintenance problem.

## 3. Recommended content of a Mariners' Routeing Guide

### 3.1 Definitions

#### 3.1.1 Mariners' Routeing Guide (MRG)

A guidance document designed to be used in conjunction with nautical charts and other nautical publication information for geographic areas where there are IMO-adopted, complex routeing systems comprising several related routeing measures with lengthy special provisions and associated recommendations on navigation by vessels using the system. The MRG is intended to provide the mariner with the special information required for planning safe navigation in the described area.



### **3.1.2 Essential**

Items recommended as ESSENTIAL for a Mariners' Routeing Guide concern those subjects of major importance to safety of navigation guidance information. Not all items may be applicable to all geographic areas considered by such guides because of differences in either environmental or administrative conditions. However, where an ESSENTIAL subject is not applicable (e.g. tides are a negligible factor, or there is no Broadcast Information Service) consideration should be given to the inclusion of a statement that the particular subject is not of significance or does not exist in the area.

### **3.1.3 Useful**

Items recommended as USEFUL for a Mariners' Routeing Guide concern subjects of importance to safe navigation in a particular geographic area on which information would be helpful to the mariner and its collection in an MRG would facilitate its use. Not all items will be applicable to all geographic areas considered by such guides, and the relative importance of the items will vary between geographic areas. USEFUL items should be reviewed for each geographic area and those deemed of higher priority should be included in the guide whenever space permits.

### **3.1.4 Not appropriate**

Items recommended as NOT APPROPRIATE for a Mariners' Routeing Guide are those which either do not contribute to the enhancement of safety of navigation, or those which by their inclusion may actually reduce safety by obscuring presentation of essential information or by enticing the mariner to use the MRG as a nautical chart. In addition, information subject to frequent change should be avoided, being left to appear in the appropriate nautical document that is regularly updated and maintained.

## **3.2 Use of IMO 'Ships' Routeing'**

'Ships' Routeing', published by the IMO, is the authoritative publication to which hydrographic offices should turn for details of routeing measures adopted by IMO. The publication is primarily directed to Administrations and not designed for shipboard use. Hydrographic offices should take this into account in ensuring that all general and special rules, provisions, and recommendations from the publication are given in adequate detail in any relevant guide.

### 3.3 Subject Matter

#### 3.3.1 Enumeration order

Items are ordered according to the following enumeration for the categories ESSENTIAL (E), USEFUL (U) and NOT APPROPRIATE (N):

- 1. Plan(s) of the area (graphics).
- 2. Passage planning (textual).
- 3. Routeing (textual).
- 4. Communications (textual).
- 5. Pilotage (textual).
- 6. Natural Environment (textual).
- 7. General.

#### 3.3.2 Subject matter considered ESSENTIAL

No.	Item	Special Comments
E 1	<b>Plan(s) of the area (graphics), depicting:</b>	Graphics should be as large scale as possible to cover area required.
E 1.1	Routeing Measures.	Traffic separation schemes, deep-water routes, areas to be avoided, two-way routes and associated roundabouts, precautionary areas, inshore traffic zones, etc. – use standard chart symbols, where possible. Principal lines of traffic flow may be clarified by the use of tinted flowlines.
E1.2	Major Aids to Navigation associated with Routeing Measures, including those which help to relate routeing locations to features shown on standard charts.	Show position and any associated identifying name for correlation with the text, but do not show characteristics (e.g. light description), to reduce maintenance effort.
E 1.3	Warning that Plans are to be used for Navigational planning only and that this Guide must be used only in conjunction with, and as supplementary information to, the appropriate standard nautical chart(s) and other nautical publication information while navigating in the area.	
E 1.4	Legend (key or symbols). Plan(s) to have graduated borders. Plan(s) to show significant names.	To facilitate cross-reference to other nautical publication information and the inclusion of changes notified in NtM.
E 1.5	Pilot boarding places. Officially designated anchorages or waiting areas. Cargo transshipment areas.	
E 1.6	Points, or lines marking boundaries, where radio reporting is required.	Graphic to complement information in text.
E 1.7	Locations with names of Traffic Surveillance Stations.	

No.	Item	Special Comments
<b>E 2</b> <b>Passage Planning (textual)</b>		
E 2.1	IMO-approved Rules or Recommendations on planning a passage through the area.	Not necessary to include the verbatim text of the IMO 'Rules and Recommendations on Navigation' which accompany some routing measures, but give enough detail to remove need for the mariner to consult the verbatim text which appears in the IMO document 'Ships' Routing' and in nautical publications. Consideration should be given to distinguishing IMO-approved rules and recommendations from other advice, e.g. by sidelining, or printing in a distinctive colour.
E 2.2	Specific advice, extracted where necessary from national Sailing Directions, on planning a passage through the area.	
E 2.3	Underkeel clearance criteria, including Underkeel Clearance Management Systems, and specific advice to deep draught vessels (if not included in E 2.1 or E 2.2).	Cross-referenced to U 6.1. Could include diagram to show predicted squat for large vessels, examples of calculations of 'Tidal Windows', etc.
<b>E 3</b> <b>Routing (textual)</b>		
E 3.1	IMO-adopted Special Provisions and Warnings relating to specific Routing Measures.	Not necessary to include the verbatim text of the IMO adopted 'Special Provisions' and 'Warnings' but give enough detail to remove any need for the mariner to consult the IMO document 'Ships' Routing', or verbatim text from that document reproduced in nautical publications.
E 3.2	National rules and recommendations relating to specific Routing Measures.	
<b>E 4</b> <b>Communications (textual)</b>		
E 4.1	Vessel Reporting Systems.	Voluntary and mandatory radio reporting, with message formats.
E 4.2	Broadcast Information Services (Shipping movements, Navigational Warnings, Weather).	Giving times if practicable, frequencies, languages of broadcasts, etc.
<b>E 5</b> <b>Pilotage (textual)</b>		
E 5.1	Compulsory Pilotage Information.	Primarily offshore or deep-sea pilotage, rather than harbour pilotage.
E 5.2	Contact and Boarding Area Information.	
E 5.3	Helicopter Boarding Guidance, where specific to the area.	

**3.3.3 Subject matter considered USEFUL**

<b>No.</b>	<b>Item</b>	<b>Special Comments</b>
<b>U 1</b>	<b>Plan(s) of the area (graphics), depicting:</b>	
U 1.1	Selected Depth Contours.	
U 1.2	All significant Aids to Navigation in area associated with Routeing Measures, including those helping to relate routeing locations to features shown on standard nautical charts.	Show positions and any associated identifying names for correlation with the text, but do not include characteristics (e.g. light characteristics), to reduce maintenance effort.
U 1.3	Positions and names of Rescue Centres.	
U 1.4	Ferry crossings.	If they regularly represent possible hazards.
U 1.5	Indication of general pattern of traffic flow.	Occasional possible hazards (e.g. military practice and exercise area, oil exploration activity, yachting activity) may be mentioned in text.
U 1.7	Zones, with times, of heavy fishing in vicinity of routeing measures.	
U 1.8	Zones under Constant Radar Surveillance.	
<b>U 2</b>	<b>Passage planning (textual)</b>	
U 2.1	General Planning Principles.	Include four stages: Appraisal, Planning, Execution, and Monitoring.
<b>U 3</b>	<b>Routeing (textual)</b>	
U 3.1	Selected quotations from IMO's document 'Ships' Routeing', Part A, General Provisions.	Particularly relevant for navigators are: § 2 Definitions and § 8 The use of routeing systems.
U 3.2	Quotations from, or discussion of, Rule 10 COLREG.	
<b>U 4</b>	<b>Communications (textual)</b>	
U 4.1	Maritime Assistance Service.	General introduction and contact details.
U 4.2	Maritime Safety Information.	Type of information provided and appropriate transmission methods. If not covered under E 4.2.
U 4.3	Weather forecast areas.	If not covered under E 4.2.
U 4.4	NAVTEX areas.	If not covered under E 4.2.
U 4.5	Communication with port of destination.	
U 4.6	ISPS Reports.	Only if specific to area.
U 4.7	Reports according to supra-national guidances.	Only if specific to area.
<b>U 6</b>	<b>Natural Environment (textual)</b>	
U 6.1	Tidal height (e.g by co-tidal diagrams or other suitable methods as appropriate), negative surges, and swell.	Important feature where underkeel margins are critical and where tides must be exploited for safe passage of deep draught vessels. Details will depend on situation.
U 6.2	Currents and tidal streams.	
U 6.3	Visibility restrictions.	
U 6.4	Ice information.	Only if specific to area. Preferably to indicate maximum limit of coverage.
U 6.5	Sea level.	Only if specific to area.
U 6.6	Seismic activity.	Only if specific to area. Includes earthquakes, volcanoes, and tsunamis.
U 6.7	Magnetic anomalies.	Only if specific to area.

No.	Item	Special comments
<b>U 7</b>		<b>General</b>
U 7.1	References to other publications.	
U 7.2	Nautical Chart Index.	Not necessary to include if space is limited; reference to chart catalogue is preferred.
U 7.3	Recommended Nautical Charts.	General remark stating that the appropriate nautical charts with the best scale available should always be used and noting the best-scale chart may be either paper or electronic/digital.
U 7.4	Anchorage Area Guidance.	

### 3.3.4 Subject matter considered NOT APPROPRIATE

No.	Item	Special Comments
<b>N 1</b>		<b>Plan(s) of the area (graphics), depicting:</b>
N 1.1	Soundings.	To discourage the use of Guide plans as substitutes for nautical charts.
N 1.2	Detailed characteristics of local Aids to Navigation.	
N 1.3	Locations of Coast Radio Stations, with names and call signs.	
<b>N 2</b>		<b>Passage planning (textual)</b>
N 2.1	Verbatim wording of preambles to IMO Resolutions, although the resulting rules and recommendations themselves will often appear under E 2.1.	For example, 'The Assembly, recalling Art. 16 (1) of the Convention...being aware of...being also aware of...'
<b>N 4</b>		<b>Communications (textual)</b>
N 4.1	Two-way Radio Communications other than vessel reporting systems.	
N 4.2	GMDSS.	Not considered necessary as general information, not specific to area.
<b>N 8</b>		<b>Reference to electronic navigational aids (textual)</b>
N 8.1	Racons.	
N 8.2	Automatic Information System (AIS).	Only refers to AIS used as an aid to navigation. Does not apply to regulatory-required information (such as vessel parameter information supplied to a ship reporting system or a vessel traffic service by a vessel via AIS).

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