MS 12 – Nautical publications service

12.1   Submitting organization

IHO

12.2   Coordinating bodies

IMO and IHO

12.3   Description of the Maritime Service

This Maritime Service delivers a set of nautical information available for a particular marine area. The aim of the Nautical publications service is to provide information as a support to the navigation process. This comprises information to complement nautical charts, such as information on ports and sea areas, as well as the contact information of authorities and services for a sea area or port. It further describes regulations, restrictions, recommendations and other nautical information applicable in these areas.

Nautical publications services include:

.1   the information traditionally provided within updated nautical publications such as sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage (SOLAS regulation V/27). The majority of the information can be delivered from shore to ship in a digital format. This will enhance the usability, increase the quality and update rate and give the navigator an opportunity to tailor made the information needed;

.2   a discovery service to allow users to determine what is available in their area of interest (geographic and context);

.3   an ordering service to allow users to order the information required from the service providers identified; and

.4   a delivery service to allow the user to receive the information required.

12.4   Purpose

The purpose of this Maritime Service is to electronically provide the mariner with information to complement ENCs/nautical charts for advance planning and to navigate a ship safely during the intended voyage.

The Nautical publications service provides information which is continuously updated and which is required for voyage planning and execution. It improves the situational awareness during the voyage.

SOLAS regulation V/2 defines the provision of nautical publication information in digital format as a database and SOLAS regulation V/27 requires the carriage of nautical publications suitable for the intended voyage. The combination of both is a digital provision of nautical information requested for navigation according to SOLAS chapter V.

The information covered in nautical publications is either provided as printed paper publications (NP1) or as digital publications based upon existing paper publications (NP2). The next evolutionary step is the provision of information in digital datasets based on internationally harmonized and appropriate data models (NP3). The datasets will be distributed by appropriate methods to electronic onboard equipment.

The anticipated steps in the transition to full digital delivery can be described only in general terms at this time:

.1 development of product specifications (including data models) for digital data products;

.2 conversion of appropriate parts of the content of existing NP1 and NP2 nautical publications to NP3 data products;

.3 integration of appropriate new sources of nautical publications information into the supply and production chain for NP3 data products;

.4 delivery infrastructure and methods – either the design and construction of new delivery infrastructure/methods, or the integration into existing or under-development delivery infrastructure/methods;

.5 application upgrades or new application development to make best use of the digital products; and

.6 test beds for the data products, delivery methods and applications.

12.5 Operational approach

The data model is based on the IHO S-100 Hydrographic Data Model and derived product specifications. It enables the information provision in a harmonized way. The products are designed for a display based on *Interim guidelines for the harmonized display of navigation information received via communication equipment* (MSC.1/Circ.1593) and the data provision should take into account a harmonized display of navigational information. The used product specifications comprise rules for interoperation and harmonized graphical presentations of datasets that will be interacting one each other and with the ENC information when used by a navigation system such as ECDIS.

The provision of Nautical publications services should use distribution strategies, methods, and technologies which can adapt to serve vessels in locations or conditions that are highly challenging for information transfer.

The data provision follows the S-100 based data protection schema.

12.6 User needs

The primary users are mariners responsible for maritime navigation. Access to the information is required both onshore and at sea.

SOLAS regulation V/19.2.1.4 describes the requirement for ships to carry "*nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage*". Timely and simple access to uniform up-to-date nautical information for a particular sea area is essential for the conduct of safe voyages.

The nautical publications service provides navigational information for safe navigation on open sea, for making landfall, and for navigation in confined waters.

The nautical publications service provides information on Maritime Services available and provides details to get access to responsible authorities and services provided by those authorities.

Secondary users such as Pilot services, defence, VTS Authorities or any individuals or organizations, onshore and at sea, require access to the information for reference.

12.7   Information to be provided

The appropriate resolutions and recommendations adopted by IHO provide the recommended set of information to be covered by the Nautical publications service.

Information related to:	Examples:
Transits and routeing	• Routes in constricted shipping lanes • Routeing measures, traffic separation schemes and shipping lanes • Associated Vessel traffic service • The mandatory reporting of vessel traffic movements • Associated Ship reporting system
Ports approaches and entry	• Hazards, directions, limiting conditions • Pilot service, outer anchorages • Traffic regulation, arrival procedure
Summary information about port facilities	• Function, port authority • Basins and berths • Depth alongside berths, and quay lengths • Cargo handling facilities at specified terminals and berths • Specific vessel parameters, such as length, draft, beam
Marine radio services	• Geographic availability of services • Frequencies and channels used and broadcast schedules • Purposes supported – weather forecasts, MSI, telemedical assistance, etc.
Protected area information	• Locations of marine protected areas • Restrictions and regulations applicable within specific areas
Prevailing natural conditions	• Seasonal hazardous conditions • Periodic (e.g. tide-related) or irregular hazardous conditions
Regulatory information	• Laws and regulations applicable in specific locations • Laws and regulations applying to vessels of specific dimensions or carrying specified cargo • Local rules regarding use of specific pilot boarding places by vessels exceeding specified dimensions or carrying hazardous cargo
Port Services	• Waste disposal, collection of ship pollutants such as oily wastes • Repair, bunkering • Availability of potable water • Issuing of Ship Sanitation Certificates • Pilot services contact information and notice times
Navigation aids	• descriptions of lights • descriptions of buoys

Information related to:	Examples:
Climatic Information, predictions	• Tide surge prediction tables and tidal stream atlases • Weather routeing, solar radiation and precipitation • Cold/hot durations and warnings • Air temperature, wind speed and direction • Cloudiness and barometric pressure • Ephemerides and nautical almanacs for celestial navigation
Planning	• Mariners' routeing guides
Controlled areas	• Vessel traffic service contact information • Ship reporting system contact information • Exercise Area contact information
Chart catalogue	• Graphically display a chart catalogue[2]

The Nautical publications service provides up-to-date information pertaining to the area along the planned route.

Users should be enabled to report discrepancies between the real world and the information provided by the Nautical publications service with no or minimal human interference.

Corrections to Nautical publications service information should be provided as updates (either as updates of the whole dataset or as incremental updates) in a format which supports the automatic correction and the traceability of the corrections of the onboard datasets.

12.8   Associated technical services

IHO does not provide any technical services to deliver charts and nautical publications to the end user. This will be done by the technology which is developed by the value added resellers.

By having established sophisticated secure quality proof transmissions, IHO only insures that the data will not be corrupted during the transport from the producing HO to the end user.

The service should be capable to work within multiple levels of bandwidth limitations. The service should provide the data in various data packages according to the bandwidth capability.

(To be further developed)

12.9   Relation to other Maritime Services

Nautical publications service provides overviews of other Maritime Services. It summarizes content information which is covered by other Maritime Services in more detail. Other Maritime Services may reuse information which is provided by the Nautical publications service.

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[2]   To fulfil IEC61174 "in order to identify the date and origin of the ENC in use, the ECDIS shall include a graphical index of ENC data available, presented upon the mariner's request and providing access to the edition and date of each cell."

Maritime Service	Examples of information related to MS 12
MS 1 – VTS Information service (INS)	Area of the service, functions, contact information, communication, local sensor information such as CCTV, Radar, AIS. Regulations. Other traffic. Information regarding regulations and special traffic.
MS 2 – VTS Navigational assistance service (NAS)	Recommended routes, directions, navigation advices
MS 3 – Traffic organization service (TOS)	Not relevant
MS 4 – Port support service (PSS)	Port security, facilitation and anchorage area, services related to the vessel, arrival procedure, contact information, communication
MS 5 – Maritime safety information (MSI) service	Area of the service, contact information, communication, navigational warnings issued by the MSI service
MS 6 – Pilotage service	Applicability, contact information for pilotage, pilot assistance, pilot request
MS 7 – Tug service	Availability, contact information, regulations
MS 8 – Vessel shore reporting	Applicability, information about the reporting formalities, local regulations, contact information
MS 9 – Telemedical assistance service (TMAS)	Contact information
MS 10 – Maritime assistance service (MAS)	Contact information
MS 11 – Nautical chart service	Charted information, notice to Mariners
MS 13 – Ice navigation service	Ice routes, ice-breaking assistance
MS 14 – Meteorological information service	Local weather phenomena, climatic information, wave information
MS 15 – Real-time hydrographic and environmental information services	Information about sensors in an area, radio services information
MS 16 – Search and rescue (SAR) service	Search and rescue contact information, communication, SAR capacity, SAR areas of responsibility