Paper for Consideration by NIPWG

The Necessity for S-100 Based Digital Sailing Directions

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Executive Summary: This paper aims to initiate a discussion about making a new S-100 product that meets the need for digital Sailing Directions. If agreed by the NIPWG, the proposal for the new S-10x product specification is to be submitted to HSSC.

Related Documents: N/A

Related Projects: N/A

Introduction/Background

According to IHO, the S-100 standard provides flexibility in the development of digital products and services required for the maritime community. There are already several S-100-based product specifications that are intended to include the elements of Nautical Publications published by Hydrographic Offices. For example, S-127 Marine Traffic Management includes routing measures – however, it is mostly suitable for use by traffic control and not by mariners onboard the vessels. At present, there is no S-100-based product specification that would cover the full content of Sailing Directions. This makes it difficult for Hydrographic Offices both to digitize the content of their Sailing Directions and to use one digital source for publishing both paper products and digital products delivered to the mariners. From the user perspective, having fully digital Sailing Directions will improve the process of voyage planning and voyage execution, when used in combination with the other S-100-based digital products in ECDIS.

Analysis/Discussion

1)   Product Expectations

In general, the digital Sailing Directions should include geo-referenced feature objects covering the content of the paper Sailing Directions, classified by feature types, for example.

-    Country information (e.g. general description or languages)

-    Navigational dangers and hazards (e.g. coastal conditions or mine-danger areas)

-    Traffic and operations (e.g. routeing or inshore traffic zones)

-    Aids to Navigation (e.g. landmarks or buoyage)

-    Pilotage

-    Regulations (e.g. Traffic Separation Schemes or port entry)

-    Natural conditions

-    Currents and tidal streams, climate and weather

-    Other relevant information

The feature objects should be referenced geographically and/or include a reference to a specific port or passage.

Some similar information could be obtained from the other product specifications. Nonetheless, mariners are used to reading the navigational guidance and Sailing Directions in the same way as they do when using paper publications.

2)   Benefits

Having all this information in one place will help the mariners to filter the required information and get only what is necessary for a specific voyage.

Having the geo-referenced and structured Sailing Directions will help data service providers to include only relevant information in the service. There will be no need to deliver the full library as books or scanned PDFs.

For Hydrographic Offices, it makes the digitalisation process for Sailing Directions straightforward. It also allows those offices to optimise their production process and shorten the time to market for the S-100-based products.

3) Use Case

Voyage plan preparation.

When the voyage plan is prepared onboard, according to IMO that plan should consider all relevant information, including nautical publications such as Sailing Directions.

The data service provider could retrieve a preliminary voyage plan (route) from the mariner and use it for selecting the Sailing Direction feature objects that are relevant to the specific voyage.

The mariner receives extracts from the Sailing Directions relevant for the voyage; he/she can display this information on top of the map in the planning station or print it as a supplement to the voyage plan.

Execution of the Voyage

During the execution of the voyage, the Sailing Directions information can pop up on a display of the planning station; alternatively, availability of such information could be indicated in the ECDIS. There is no need to display the full content of the Sailing Directions on the ECDIS screen because it can be accessed from the back-of-bridge software or printed.

4) Legislation and Regulatory

The digital Sailing Directions, published by Hydrographic Offices in S-100-based format and distributed by qualified data service providers, must be accepted by regulatory authorities as an equivalent of paper publications or of existing applications such as Admiralty E-NP.

Action required of NIPWG:

The NIPWG is invited to:

a.   Discuss this proposal at NIPWG.

b.   Provide feedback on suggestions made.

c.   Submit a paper to HSSC with regard to opening a work package for new S-100-based Sailing Directions.