

Paper for Consideration by HSSC

The Future of Digital Charting

Submitted by:	UK, Australia, Ireland, New Zealand, Nigeria, Spain & Suriname, Türkiye
Executive Summary:	This paper requests HSSC establish a PT to investigate and recommend how the use of S-57 & S-100 data can be supported in ECS and navigational systems that fall below the ECDIS regulations, noting the paper submitted by UK the 3 rd IHO Assembly.
Related Documents:	A3 PRO- 2.3
Related Projects:	S-100

Introduction / Background

Over the last five years there has been a steady decline in demand and use of paper charts, driven by the SOLAS mandate for the use of ECDIS and by the unquestionable safety and operational advantages of moving to digital products and services.

As we look to the S-100 future, the core purpose for Hydrographic Offices remains the same as always, ensuring the navigational safety of all shipping activities in national waters. It is however widely recognised that there are a huge number of vessels using unregulated electronic hardware and unofficial data products for navigation. The growing use of unofficial digital navigation products in the non ECDIS Vessel sector should be of concern to us all. How can we ensure safe navigation in our national waters if a large proportion of users are not using our products?

The aim of the IHO is to create a global environment in which Member States can provide accurate and timely hydrographic data, products and services, in support of safe navigation.

This goal has been successfully achieved when Mariners are using ECDIS, the IHO have provided all the standards and specifications necessary for digital data creation, validation, presentation, and encryption. These are all referenced in the IMO ECDIS Performance Standard and in the IEC ECDIS testing standard 61174. But in the vessel types that fall under the IMO mandate they are not present and as such users are unable to fully benefit from a digitally regulated infrastructure. Many vessels are navigating on unregulated digital hardware systems that have not been independently approved and are using unofficial chart data compiled from a variety of unregulated sources.

Analysis/Discussion

UK believe all Mariners irrespective of vessel type should be able to benefit from regulated hardware and updated official S-57 and S-100 data from Hydrographic Offices. Having an internationally agreed harmonised approach to the data creation, validation and provision of the information to this user group will minimise navigational safety risks and in time could negate the need to carry paper charts just to meet carriage requirements.

To maximise the safety of navigation in national and international waters, data from Hydrographic Offices should be used as widely as possible on all digital navigational displays. This reduces the production burden on HOs, creating data once in a single format and it being widely used on all digital navigational systems. In addition, having a common view/presentation of the hydrographic data across all vessel types will simplify the chart based training. However, the regulations, standards and infrastructure required to use official hydrographic data in systems below the ECDIS mandate are currently not in place.

Therefore, UK, Australia, New Zealand and Spain seek HSSC form a Project Team under the management of the ENCWG to investigate and recommend how regulated and approved data can be used on non ECDIS vessel equipment. Analysis of the current S-57 and S-100 standards is needed to understand if there are any gaps for use in ECS and how these would be best addressed.

UKHO will offer to lead the PT which would be tasked with engaging with current industry, ECS manufactures (Garmin, Navionics, Raymarine, etc), IEC and RTCM to discuss S-57 and the transition to S-100, identifying gaps in regulations and standards,. The group would review standards for ECS, specifically RTCM standard for ECS – and compatibility with S-100, S-100 part 15 (encryption), Feature and Portrayal catalogues. The group would also make recommendation to HSSC and Member States on how the information and work progress of the PT should be shared and communicated with IMO.

Conclusions

It is recognised there needs to be an international harmonised approach to providing a solution to vessels and national regulators that fall below the ECDIS mandate. This cannot be achieved by a single Member State but requires collaboration and co-operation from us all to develop the best possible outcome to ensure the widest use of our data possible.

The overarching expectation is that the PT will conclude many of the current S-57 and future S-100 IHO standards and specifications will meet the needs of the ECS market. It is however envisaged that a modified version of the S-100 security scheme maybe needed to differentiate the ECS from ECDIS, which in turn would allow for different licencing terms and durations specific to this user group.

Recommendations

UK, Australia, New Zealand and Spain recommends HSSC agree to the formation of an ECS PT under the oversight of the ENCWG. This will ensure a collaborative and joined up approach is taken if it is deemed necessary to develop IHO standards or specifications.

Justification and Impacts

This work will not detract from S-100 development but would rather give IHO a larger OEM base to test and develop the new S-100 product specifications.

Action Required of HSSC

The HSSC is invited to:

- a. note and discuss this paper
- b. Agree to the formation of an ECS PT