

Paper for Consideration by ENC WG

Use of IHO S-102 Bathymetric Surface in 'S-57 ECDIS'

Submitted by:	SevenCs / ChartWorld (2022-01-31)
Executive Summary:	Outlining the benefits for use of S-102 in 'S-57 ECDIS' prior to the introduction of S-100 ECDIS.
Related Documents:	S-98 (Draft), S-100 (Part 16), S-102 PS 2.1, S-52 6.1.1, S-64 3.0.3., MSC 232.(82), IEC 61174:2015
Related Projects:	ECDIS Dual Fuel workshop

Introduction / Background

IHO (S100WG) is currently working together closely with CIRM, IEC, and ECDIS OEMs to ensure that the revisions to the IMO PS are consistent with the needs of a full S-100 ECDIS. Given that various bodies (IHO, IMO, IEC, MS) are involved in the standardization processes related to this, much is still to be done until an S-100 ECDIS Performance Standard is available and compliant ECDIS are introduced into the market. In an optimistic view, we are talking about a time frame between 2026 and 2030.

Analysis/Discussion

For a long time, mariners have voiced complaints about insufficient representation of detailed depth information in S-57 ENC. Data producers have been encouraged by IHO to produce High Density ENCs but remain very reluctant to do so. As of today, 3 producing agencies have produced HD ENCs for 6 locations (23 cells in total). During the discussions at the S-100 WG in January 2022 it became clear that some producing agencies want to investigate HD ENC production capabilities in the future; by contrast, others made clear that they have no intention of producing HD ENCs.

S-102 gridded bathymetry could help to solve this problem and provide a **complementary method** to make detailed depth information available to ECDIS users. Producing the data for this does not entail labour-intensive cartographic processing. S-102 can be more or less directly extracted from the existing bathymetric data held. Unfortunately, due to current ECDIS regulations, the data required for this service cannot be made available to SOLAS vessels for use in ECDIS. This means mariners would have to wait until the end of this decade before they can use high-density bathymetry in ECDIS.

Conclusions

The availability of S-102 data for ECDIS users could be accelerated dramatically if that data were to be integrated into 'S-57 ECDIS'. It is not necessary to go through a lengthy process of revising the IMO ECDIS PS if relevant IHO standards are amended. MSC (232) and IEC 61174 as such would not be affected by those amendments because they refer to the relevant IHO standards.

Recommendations

It is recommended to extend IHO S-52 and IHO S-64 to include the minimum requirements for **optional** use of S-102 data in 'S-57-ECDIS'. These minimum requirements should be extended to define the interoperability of S-102 with S-57 ENCs. They can be adopted from S-98. Amendments should clearly define how S-102 data is put to use in conjunction with ECDIS functions.

Justification and Impacts

The proposed approach would make high-density bathymetry data available to the SOLAS market much earlier, without compromising the current S-100 ECDIS PS activities. This interim step will help to improve safety of navigation, satisfy mariners' needs, and contribute to a much better overall acceptance of S-100. Data producers could start producing high density bathymetry data, choosing the method (HD ENC or S-102) that best suits them.

Action Required of S-100 WG

The ENCWG is invited to:

- a. discuss this proposal
- b. endorse this proposal in order for it to be formally submitted to HSSC
- c. note SevenCs' willingness to get involved in the activities of such a work item