

Agenda Item 4

HSSC

Report to IRCC14

Denpasar - Bali, Indonesia + VTC (Hybrid Meeting)

6 – 8 June 2022

By Magnus Wallhagen

HSSC Chair



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IRCC14-04

Meetings and Key Priorities

- HSSC 12, VTC, 19 – 22 October 2020
- HSSC 13, VTC, 3 – 6 May, 2021 including a Stakeholders forum
- HSSC 14, Denpasar Bali Indonesia + Hybrid option, 16 – 19 May 2022
- Continue the S-100 implementation according to the IHO Roadmap for the S-100 Implementation Decade (2020-2030)
 - Support the IHO work on proposed amended on the IMO ECDIS Standards
 - Dual-Fuel Concept for S-100 ECDIS
 - Interoperability between S-101 ENC's and additional S-100 products
- Hydrographic Survey WG, MASS PT and S-130 PT established and in progress



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Roadmap for the S-100 Implementation Decade

- IHO Council 5 agreed on an amended version of the S-100 Roadmap (version 2.0), with three additional annexes, available at IHO Council website.
- Annex 2, under the remit of HSSC, includes priorities of the development of S-100 product specifications, a version controlled timeline and a synoptic diagram for options on parallel production of S-57 and S-101 ENC.
- At Council 6 HSSC will propose to add an Annex 4 providing the Executive Summary of the Dual Fuel Concept for S-100 ECDIS.



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S-100 Development

- A proposal* to amend several existing IHO Resolutions, in order to promote the S-100 concept, was endorsed by HSSC14. Will be submitted to C-6 and if endorsed by the Council then for adoption by IHO MS.
- HSSC has approved the 1.0.0 edition of the Product Specifications for Interoperability S-98, Water Level S-104 and the Catalogue of Nautical Products S-128. Now ready for experimenting and testing in liaison with industry partners.
- HSSC endorsed new editions of S-99 (Management of the S-100 GI Registry), S-100 ed 5.0.0 and Bathymetry S-102.

* Following a pending proposal by ROK at A-2, the HSSC14 proposal was prepared by the IHO Sec.



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S-101 and IHO Geospatial Information Registry

- The development of the Product Specification of ENC S-101 is still following the timeline presented at Council-5. Operational edition ready 2024.
- Though there is a critical need to encourage IHO Member States and wider stakeholders to actively support the development of S-101. The Project Team is under pressure.
- The HSSC ISO 9001 follows the S-101 development and has identified challenges on the resilience of the IHO GI Registry. This proves the usage of the ISO 9001 Cell and the IHO Sec and KHOA will now consider recommendations for a more robust situation.



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Dual-Fuel Concept for S-100 ECDIS

- HSSC endorsed the draft Ed. 1.0 of the governance document named *Dual-Fuel Concept for S-100 ECDIS*.
- Available at the HSSC14 website [link](#). HSSC would welcome any comments and inputs from IRCC.
- HSSC will submit the document for endorsement by Council-6 and if endorsed for the Council Chair to submit it at Assembly-3 for MS approval.
- HSSC suggest that an executive summary will be added as an Annex to the S-100 Roadmap (the full document as an Appendix).
- New work item for ENCWG to develop an encoding guidance for conversion from S-101 to S-57.



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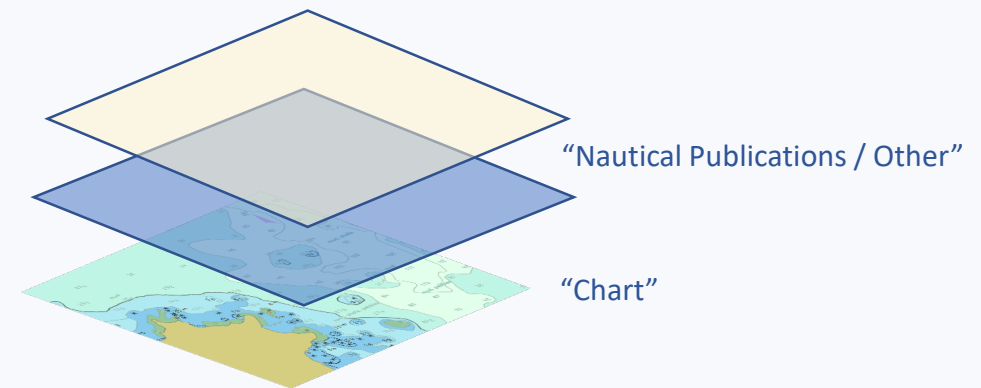
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S-98 Product Interoperability

- S-100 fundamentally changes what is on the ECDIS.
- Single Layer official S-57 ENC's are replaced by multiple, interacting layers of navigational data.



S-100 ECDIS



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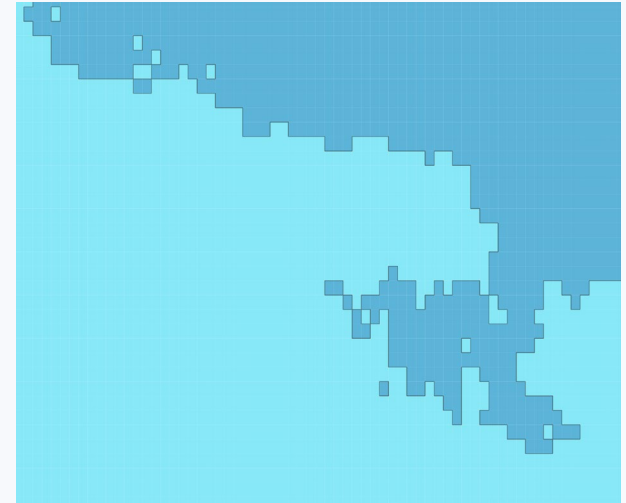
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S-98 Product Interoperability – Flexible Safety Contour with Water Level Adjustment

- On an S-57 ECDIS a Safety Contour is drawn to separate Safe water from unsafe water.
- A selection of possible contours are contained in the ENC, from which the closest to the user selected value is used.
- Depths/Soundings, Heights and elevations exist in various parts of the ENC.
- There is no ability to adjust depth data for tide or water level.
- In S-100 ECDIS S-102 and S-104 can be added to S-101 ENCs.
- **S-98 defines how multiple layers are portrayed**
- **S-102 contains a grid of depth values with no predefined contours**
- **S-102 suppress S-101 Depth Areas.**
- **S-98 now defines how to draw a safety contour on a grid of S-102 depths**
- **S-98 also defines how to adjust ALL depth values according to S-104**



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S-102 Bathymetry

- HSSC noted the results of the S-102 Impact Study and endorsed the proposed move towards a navigation implementation of S-102.
- HSSC endorsed Ed. 2.1.0 of S-102, with the new scoping. To be used for implementation and testing. Ed. 3.0.0 will be the operational edition of S-102. Could still be used for data exchange.
- HSSC endorsed the suspension of IHO Resolution 2/2007 for S-102 Ed. 2.2.0 until Ed. 3.0.0 to allow for iterative development to align with S-98, S-101 and S-104 (all still in testing stage Ed. 1.0.0).
- IHO Secretariat to issue an IHO CL seeking the approval by Member States of Ed. 2.1.0 of S-102 including a call for the approval by Member States of the suspension of IHO Resolution 2/2007.



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S-128 Catalogue of Nautical Products

- The scope of S-128 has changed from a pure catalogue of products to both a catalogue of products and a service to provide a machine readable way to verify the up-to-dateness of the data in ECDIS.
- The extended scope comes with an extended responsibility placed on data producers and may move the production of S-128 from optional to mandatory to fully provide the end users an accurate report of up-to-dateness of the onboard data.
- HSSC approved the S-128 draft Edition 1.0.0 dated 11 March 2022- Catalogue of Nautical Products for implementation and testing.
- HSSC advised NIPWG to liaise with S-100WG on issues identified regarding responsibility of stakeholders in producing and distributing S-128 and for NIPWG to provide an input paper to WENDWG13.



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S-124 Navigational Warnings

- HSSC noted the progress made by S-124 PT to forward a draft Ed. 1.0.0 to WWNWS-SC14 in September 2022.
- HSSC and IRCC Chair have agreed upon that if the draft S-124 Ed. 1.0.0 is endorsed by WWNWS-SC it can be directly submitted to HSSC for approval by HSSC MS.



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Revision of IMO ECDIS Performance Standards MSC 232 (82)

- HSSC noted the proposed revision of MSC232(82) - ECDIS Performance Standards submitted by IHO, CIRM and INTERTANKO to NCSR9, including the introduction of some new terms (ENDS* and SENC replaced by System Database). Link to [IMO NCSR 9/16/1](#) and draft [Redline version](#) of MSC 232(82).
- Encourage IHO Member States Hydrographic Offices at their NCSR pre-meeting preparations and in general engagement with their national maritime administrations to propose support for the proposed revision. Critical to the success of the Roadmap for the S-100 Implementation Decade

* Electronic Navigational Data Service



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Highlights HSSC14 – WGs and PTs

- HSSC noted the view from ENCWG, supported by CIRM, that the best solution to address limited availability of depth data in current ECDIS is to increase production of HD ENCs. HSSC would like to forward these recommendations to IRCC, since data dissemination is under the remit of IRCC.
- US proposed to task the NCWG for establishing minimum guidelines for automated paper chart output from S-57 ENCs. HSSC did not approve an additional task, noting other priorities. However HSSC invited the US to keep the NCWG informed about their national development. A number of IHO Member States were in support of the US statement to reconsider what the Future of the Nautical Paper Chart should be. To be discussed at Council-6.



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Highlights HSSC14 – WGs and PTs

- The Data Quality WG have now a vacancy at the Chair and Secretary position. A risk that DQWG activities are put on hold.
- HSSC endorsed the Hydrographic Survey Standard S-44 draft Edition 6.1.0. An IHO CL will be issued for IHO MS approval.
- Hydrographic Survey WG two new Project Teams, one in charge of the revision of C-13 - *Manual on Hydrography* and the second on Satellite Derived Bathymetry.
- HSWG to consult IBSC and CBSC directly when appropriate during the revision process of C-13. Once the final proposed revised Edition of C-13 is ready, incl. inputs from CBSC and IBSC if any, HSWG to submit the final proposed revised Edition to HSSC for approval.



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Highlights HSSC14 – WGs and PTs

- HSSC agreed that the term “Hydrospatial” is not a technical term. Within IHO technical standards the term hydrography or other relevant disciplines should continue to be used. Hydrospatial should be considered a slogan. Given this the term shall not be included in the Hydrographic Dictionary.
- The MASS PT presented their first status report. Final report is expected at HSSC15/16.
- The S-130 PT on Polygonal Demarcation of Global Sea Areas has just been established and gave their first status report. An operational edition of S-130 is expected 2024.



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Highlights HSSC14 – other bodies affecting HSSC

- HSSC agreed to consider the requests from the IHO e-learning centre for providing contents, as appropriate. Requests to be submitted at least 7 weeks prior to HSSC meetings (and/or WGs meetings).
- It should be noted that a Joint IALA-IHO Workshop on S-100/S-200 will be arranged in Ålesund Norway, 5 – 9 September 2022.
- IEC reported on the critical path between IHO Standards and their revision of the 61174 ECDIS Test Standard. HSSC invited IEC to consider the possibility of reviewing Annex 1 of the Roadmap on the S-100 Implementation Decade.
- HSSC invited OGC to consider the possibility of reporting on S-122 implementation experimentation (pilot projects) and IGIF Roadmap in Baltic and North Sea to NIPWG and WENDWG at their next meetings.



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Actions Requested by IRCC14

- Note the HSSC Report
- HSSC would welcome any comments and inputs from IRCC on the governance document on Dual Fuel Concept for S-100 ECDIS.
- To approve the suggested way forward for the revision of C-13 (Manual on Hydrography):
 - PT to submit their work to HSWG,
 - then HSWG to consult IBSC and CBSC and include their input before,
 - HSWG submit the final proposed Edition to HSSC for approval.
- Take any further action as deemed appropriate.



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