



# 12<sup>th</sup> Meeting of the Hydrographic Services and Standards Committee

## Report of the ENCWG

Presented by Tom Mellor  
Chair of IHO ENC Standards Maintenance  
Working Group

HSSC-12, Bristol, United Kingdom, 11 – 15 May 2020



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# **PRINCIPAL ACTIVITIES AND ACHIEVEMENTS**

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The key priority of the IHO Work Programme 2019-2020 tasked to the ENCWG is as follows;

## **Consolidation and clarification of standards in relation to ECDIS/ENC**

1. Publication of IHO S-65 Annex A HDENC Production and Maintenance Guidance, Jan 2020
2. Publication of IHO S-63 clarification edition 1.2.1, Mar 2020
3. S-58 edition 6.1.0 became operational Sept 2019
4. S-52 and S-64 clarification editions due for publication April/May 2020
5. Final draft document “Information on ENC Generalization, Over-Scaling and Safety Checking Functions in ECDIS” prepared for HSSC approval
6. S-57 Appendix B-1, Annex A submitted to IHO MS for adoption (IHO CL 08/2020)

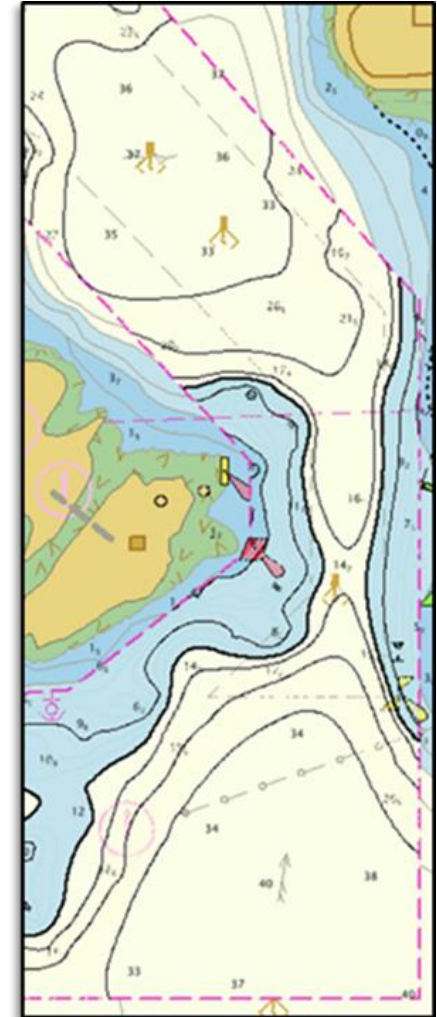


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# IHO S-65 HDENC ANNEX A

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- Jan 2020 Publication of S-65 Annex A - HDENC Production and Maintenance Guidance
- Increased safety in depth constrained waterways
- Provides both the Master and Pilot with enhanced data for berth to berth planning and monitoring





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# S-63 IHO DATA PROTECTION SCHEME - CLARIFICATION

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- Intertanko requested the IHO investigate standardizing the content of a README.txt file within an ENC exchange set.
- ENCWG in consultation with RENCs and Data servers developed a new structure for the file which forms part of the IHO S-63 standard.

Section 1 – Important General Information

Section 2 – HO's information:

Section 3 – Withdrawn Cell

Section 4 – Miscellaneous Information

- Standardising the README.TXT file structure will enable OEMs to display the file content within ECDIS, in a consistent way.
- Important note, as this clarification does not affect ECDIS and there is no need for software upgrades.



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# IHO S-58 CRITICAL ERRORS

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- S-58 edition 5.0 was retired **on** 1<sup>st</sup> September 2019 at which time Edition 6.1.0 became the effective standard as advised by IHO CL37/2019.
- The main change was the introduction of a new critical error test.
- Both Regional ENC Coordination Centres (RENCs) confirmed their intention to follow the conformance rules contained in S-58 edition 6.1.0 and advised their members **that** they would not publish any new ENC cell, new edition or update if it contained a critical error.
- There were a small number of ENCs withheld from distribution to correct critical errors.
- Collection of user feedback is ongoing to further refine the critical error checks in S-58.

|   |                |   |
|---|----------------|---|
| C | Critical Error | An error which would make an ENC unusable in ECDIS through not loading; or causing an ECDIS to crash; or presenting data which is unsafe for navigation.        |
| E | Error          | An error which may degrade the quality of the ENC through appearance or usability but which will not pose a significant danger when used to support navigation. |
| W | Warning        | An error which may be duplication or an inconsistency which will not noticeably degrade the usability of an ENC in ECDIS.                                       |



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# **PROBLEMS OR OUTSTANDING ISSUES**

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## **1. Cyber Secure ECDIS – Possible S-63 new edition**

The IMO require all vessels to include in their SMS, cyber risk management no later than the first annual inspection after 1st January 2021.

In response IEC have developed IEC 63154 ED1 “Maritime navigation and radiocommunication equipment and systems – Cybersecurity – General requirements, methods of testing and required test results”, allowing OEMs to type approve their equipment to meet the IMO requirement.

To ensure the entire solution is protected (i.e. equipment and data supply), S-63 needs to be modified to improve the resilience of all associated IHO standards.



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# **IHO S-63 CYBER SECURITY**

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- A proposed solution to address the S-63 vulnerability has been developed and test data has been created.
- Information has been sent to OEMs and IHO data servers
- ENCWG to carry out impact assessment to ascertain the viability of solution and impact on the IHO, HO's, OEMs and shipping industry

**ENC exchange set files currently not digitally signed.**

|              |            |
|--------------|------------|
| CATALOG.031  | MEDIA.TXT  |
| README.TXT   | PERMIT.TXT |
| PRODUCTS.TXT | SERIAL.TXT |
| STATUS.TXT   |            |



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# FUTURE WORK PROGRAMME

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1. New Work Item - S-57 to S-101 Conversion, to support fully automated conversion tools transforming S-57 to S-101 ENC's there is a requirement to add additional attribution into the S-57 data. ENCWG to update the S-57 Use of the Object Catalogue to assist HO's with S-57 ENC encoding to support conversion to S-101 ENCs.
2. New Work Item – Assessment of S-63 impact study and potential production of a new edition of S-63.





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## ACTIONS REQUESTED FROM HSSC

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1. Approve the Mariner Information paper ENC Generalization, Over-Scaling and Safety Checking Functions in ECDIS.

Based on the Accident Investigation report from the Roebuck grounding on the Great Barrier Reef, AU requested the ENCWG to develop an information paper highlighting the importance of understanding the safety features in ECDIS designed to guard against over scaling.