

1st MEETING OF THE IHO COUNCIL

Monaco, 17-19 October 2017



**REPORT OF THE IHO
HYDROGRAPHIC SERVICES AND
STANDARDS COMMITTEE**

REPORT OF THE HYDROGRAPHIC STANDARDS AND SERVICES COMMITTEE TO THE FIRST MEETING OF THE IHO COUNCIL

Introduction

1. The objective of the Hydrographic Services and Standards Committee (HSSC) is to promote and coordinate the development of standards, specifications and guidelines for official products and services to meet the requirements of mariners and other users of hydrographic information. This work is guided by the IHO Work Programme 2 “Hydrographic Services and Standards”. The report on the implementation of the Work Programme from 2012 to 2016 was presented to the first meeting of the Assembly (A-1). This document reports on the progress of the on-going implementation of the Work Programme for 2017 that may be of interest to the Council or require actions.

Technical Programme Coordination

2. This element monitors technical developments and oversees the development of IHO technical standards, specifications and publications through the coordination and interaction of the relevant IHO working groups reporting to the HSSC.

3. The Committee has not met yet in 2017. The 9th HSSC meeting will take place from 6 to 10 November 2017 in Ottawa, Canada, as announced through IHO CL 35/2017. The Committee decided to adjust the timing of subsequent meetings in order to provide timely input to the IHO Council. Accordingly, HSSC-10 is scheduled to take place in Rostock, Germany from 14 to 18 May 2018.

4. The HSSC contributed through the S-100 Working Group (WG) and the Nautical Information Provision WG (NIPWG) to preparing a joint IHO-IALA submission to the first meeting of the IMO/IHO Harmonization Group on Data Modelling (HGDM) to be held from 16 to 20 October 2017.

5. Considering the outcome of the meetings of Working Groups that took place during the first semester of 2017, the Chair of the Committee has invited the Committee to endorse by correspondence the proposed revised editions of three publications for submission to the Council with the view to seeking subsequent approval by the Member States. These proposals are presented in the relevant sections of the report.

Difficulties and challenges yet to be addressed

6. There is no significant change to the difficulties and challenges reported to A-1. Most of the actions agreed in October 2016 at HSSC-8 have progressed normally. The status of the performance indicators will be assessed at the end of 2017 and reported to the second meeting of the Council.

7. All four working groups that met after A-1 have elected or confirmed their chair and vice-chair and have designated a secretary.

Achievements/outputs/conclusions

Element 2.2 - Hydrographic Data Transfer Standards

S-100 and related activities

8. The new Edition 3.0.0 of S-100 was approved by the Member States and published in April 2017 (see IHO CL 32/2017). The development of a framework for session oriented services as a mechanism for data streaming services has been undertaken in liaison with IALA with a view to include it as a separate Part in the next edition of S-100.

9. The development of S-100 based product specifications is progressing at varying rates. The varying rate of development is due to the varying amount of resources and/or complex nature of the product specifications under development. It should be noted that product specifications that are dependent upon the use of the S-100 portrayal mechanisms have had their progress slowed, due to the shoring up of the S-100 infrastructure and the absence of a working Portrayal Catalogue Builder (PCB). However, the S-100WG chair will be proposing that product specifications that are not as dependent on portrayal aspects work to release a first edition for system implementation, so that the development community can appropriately shakedown that first edition. This is similar to the concept that was used for S-57 – where

the first edition, was not used for ENC production, but rather to resolve any large issues that may arise during implementation.

10. Taking into consideration the feedback from mariners related to the display of S-57 ENCs in ECDIS, the S-100WG has established a subgroup under the S-101 Project Team to carry out a study and produce a guidance document on the “Improvement of ENC display on ECDIS”.

11. The refinement of the S-100 Registry is progressing with contract support provided through the Republic of Korea (ROK). The biggest challenge is the machine readability of the complex symbolisation.

12. While the Registry has been upgraded and stabilized, it is just one part of the S-100 infrastructure. The lack of a working S-100 PCB continues to cause delays in the development of product specifications that are reliant on machine readable portrayal (for example: S-101 - *Electronic Navigational Chart (ENC)*). Currently, the ROK is assisting with setting up the PCB and connecting it to the newly refined Registry so that it may be properly tested against the development of various product specifications. One of the outcomes of this activity may be the need for the IHO to fund the fixes of any issues that may arise while the PCB undergoes stress testing.

ECDIS standards

13. As announced in the report to A-1, a second set of clarifications to the revised IHO Standards related to ECDIS was published by the ENC Standards Maintenance Working Group (ENCWG) as follows:

- S-52 Annex A - *IHO ECDIS Presentation Library*, Edition 4.0(.2), with clarifications up to July 2017;
- S-64 - *IHO Test Data Sets for ECDIS*, Edition 3.0.2, July 2017;

14. In accordance with the revised timeline endorsed by the 3rd session of the IMO Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) in March 2016, the transition period for upgrading existing ECDIS systems to meet the revised set of IHO standards will end on 31 August 2017. The withdrawal of the previous versions of the standards on 31 August 2017 was confirmed by the IHO at NCSR 4 in March 2017 without raising any comment. Following a reminder sent by the IHO Secretariat in early June 2017 to the main international organizations representing the shipping industry, the International Chamber of Shipping and INTERTANKO reported to the IHO Secretariat that some ship operators would have difficulties in meeting the deadline due in some cases to the late availability of ECDIS software upgrades. Noting that no concern had been expressed at the relevant sessions of IMO organs, the Secretariat suggested that ship operators be invited to report their concerns to their flag State administrations.

15. Edition 2.1.0 of IHO Publication S-65 - *Electronic Navigational Charts (ENCs) “Production, Maintenance and Distribution Guidance”* was approved by the Member States and published in May 2017 (see IHO CL 36/2017). The revision aligned S-65 with the latest version of the WEND Principles and Guidelines.

16. Edition 6.0.0 of IHO Publication S-58 - *ENC Validation Checks* was approved by the Member States and published in May 2017 (see IHO CL 37/2017). As agreed by the Member States, the implementation date will be 1 June 2018. After that implementation date, Edition 5.0.0 of S-58 will be retired and Edition 6.0.0 will be effective and require that ENC data must not contain any critical error. From that date:

- all new ENCs must comply with Edition 6.0.0;
- all ENC updates, new editions or re-issued ENCs must include any corrections required to ensure that the updated ENC comply with Edition 6.0.0.

17. HSSC-8 had endorsed the principles of the revision of S-66 - *Facts about Electronic Charts and Carriage Requirements*, and approved the provision of the draft revised Edition 1.1.0 for Member States approval by IHO Circular Letter, according to the provisions in place prior to the establishment of the Council. However, on review of the final draft by the IHO Secretariat, it appeared that a previous review conducted on S-66 Edition 1.0.0 by a dedicated S-66 project team established as an outcome of HSSC-5 had not been taken into account in the revision by the ENCWG. This was brought to the attention of the

ENCWG at its 2nd meeting in March 2017, resulting in a further review being carried out by the working group to produce a consolidated draft revision. The Committee agreed by correspondence to support the draft Edition 1.1.0 prepared by the ENCWG and to invite the Council to consider and endorse the proposed revision for subsequent submission to the Member States for approval by correspondence.

18. As part of its permanent task “Maintain S-57 ‘IHO Transfer Standard for Digital Hydrographic Data’”, the ENCWG considered the status of S-57 Appendix B.1, Annex A - *Use of the Object Catalogue for ENC*. The working group noted that there had been a number of clarifications and revisions made to the document since the publication of Edition 4.0.0 in June 2014. While many of these changes had been promulgated by ENC Encoding Bulletins and FAQs (Frequently Asked Questions), some changes had not been addressed. It was therefore considered that a revised Edition 4.1.0 should be published to incorporate all cumulative changes since Edition 4.0.0. All of these changes affect ENC production only and do not lead to any requirement to adapt ECDIS software. The Committee agreed by correspondence to support the draft Edition 4.1.0 prepared by the ENCWG and to invite the Council to consider and endorse the proposed revision for subsequent submission to the Member States for approval by correspondence.

Element 2.3 - Nautical Cartography

19. Edition 3.0.0 of IHO Publication S-11 - Part A - *Guidance for the Preparation and Maintenance of International (INT) Chart and ENC Schemes* was approved by the Member States and published in June 2017 (see IHO CL 41/2017).

20. Decision 2.4 of the 5th Extraordinary International Hydrographic Conference had tasked the Inter-Regional Coordination Committee (IRCC) to review arrangements for the collection and examination of INT Charts and to consider the need to amend or develop relevant IHO Resolutions. As a result, a procedure incorporating a basic check-list for reviewing INT charts developed by the NCWG and Regional INT Charts Coordinators was agreed at IRCC-7, and implemented on a trial basis. On the basis of the experience gained so far, the IHO Secretariat proposed to the IRCC at its 9th meeting (12-14 June 2017) to revoke IHO Resolution 1/1992 - *Monitoring of INT Charts* and to incorporate the new procedures in Section 100 of S-11 - Part A. The proposal was endorsed by the IRCC. A draft revised Edition of S-11 Part A had been prepared by the Nautical Cartography Working Group (NCWG) in anticipation of the endorsement of the proposed procedure by the IRCC. Subsequently to the endorsement by the IRCC, the HSSC agreed by correspondence to support the draft Edition 3.1.0 prepared by the ENCWG and to invite the Council to consider and endorse the proposed revision for subsequent submission to the Member States for approval by correspondence.

21. Edition 4.7.0 of IHO Publication S-4 - *Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO* was approved by the Member States and published in July 2017 (see IHO CL 42/2017).

Element 2.5 - Data Quality

22. The DQWG has refined a draft portrayal solution for data quality indicators (M_QUAL/CATZOC) on ECDIS chart display. Subject to the outcome of further review by correspondence and to the views of other relevant working groups (NCWG, S-100WG, ENCWG), the proposal should be submitted to HSSC-9.

23. HSSC-9 will also be invited to consider a proposed new IHO Publication on “Mariner’s guide to accuracy and reliability of electronic navigational charts (ENC)” and to endorse a revision of the terms of reference of the DQWG to ensure that the data quality aspects are addressed in an appropriate and harmonized way for all S-100 based product specifications.

Element 2.6 - Nautical Publications

24. A workshop on the visualization of nautical information held in conjunction with the 4th meeting of the Nautical Information Provision Working Group provided useful insight on the future use and maintenance of nautical products in an S-100-based environment. Significant progress was made in the development of S-122 - *Marine Protected Areas* and S-123 - *Radio Services* through contract support.

Element 2.7 - Tides and Water Levels

25. The draft editions of S-104 - *Water Level Information for Surface Navigation* and S-111 - *Surface Currents* have entered the testing and evaluation phase.

Element 2.10 - Hydrographic Data Acquisition and Processing

26. The Project Team on Standards for Hydrographic Surveys (HS PT) established by HSSC-8 held its kick-off meeting in Paris, France from 20 to 22 June 2017. The meeting identified a number of limitations in the current version of S-44 - *Standards for Hydrographic Surveys* and discussed why they were considered to be weaknesses. No clear consensus was reached on how to address the identified limitations with very diverse views being expressed, ranging from minimal revision to a radical new approach. The Project Team will seek guidance from the HSSC on the appropriate standards framework to develop further.

27. Meanwhile, a Customer Requirements Survey was initiated through the International Federation of Hydrographic Societies.

Element 2.11 - Hydrographic Dictionary

28. The Hydrographic Dictionary Working Group met for the first time in July and agreed on proposals to be further developed by correspondence for submission to HSSC-9. They include developing a database solution comprising an S-32 Hydrographic Dictionary Registry and undertaking the long-planned comprehensive review of the content of S-32.

Element 2.12 - ABLOS

29. The 9th ABLOS Conference, titled “Pushing the Limits of UNCLOS”, will be held in Monaco on 10 and 11 October 2017.

Comments on the Proposals submitted to the consideration of the Council

30. The HSSC has no comment to offer on the Proposals submitted to the consideration of the Council.

Actions required of the Council

31. The Council is invited to:

- a) note the report of the HSSC;
- b) endorse the following proposed revisions of IHO Publications supported by the HSSC that are posted on the IHO website at www.iho.int => Standards & Publications => Download IHO Publications => Draft Publications for Discussion (at the bottom of the webpage), accompanied by a summary document describing the changes to the current edition:
 - proposed Revision 1.1.0 of S-66 - *Facts about Electronic Charts and Carriage Requirements*,
 - proposed Revision 4.1.0 of S-57 Appendix B.1, Annex A - *Use of the Object Catalogue for ENC*, and
 - proposed Revision 3.1.0 of S-11 - Part A - *Guidance for the Preparation and Maintenance of International (INT) Chart and ENC Schemes*;
- c) instruct the Secretary-General to seek the adoption by Member States of the proposed revisions through voting by correspondence;
- d) take any other action as it may consider appropriate.