

2nd NCWG MEETING
Monaco 26-29 April 2016

Paper for Consideration by the Nautical Cartography Working Group (NCWG)

Matters from HSSC7 of interest to NCWG

Submitted by:	NCWG Chair
Executive Summary:	A brief report on IHO meeting HSSC7, November 2015, for matters of interest to NCWG.
Related Documents:	1. NCWG2-04.01A – NCWG Report to HSSC7; 2. HSSC7 Report; 3. Summary report by IHB (at Annex).
Related Projects:	NCWG Work Plan

Introduction / Background

These notes provide a brief summary report of the 7th meeting of the Hydrographic Services and Standards Committee (HSSC7), hosted by KHOA in Busan, Republic of Korea, from 09-13 November 2015. It is for information only and limited to those issues that are most closely related to the activities of NCWG; it is not intended to summarise all matters, or to replace the official meeting Record and Actions List that is distributed to Member States (MS) by IHO Circular Letter.

All WG Chairs except for TWCWG and HDWG presented their respective WG reports to HSSC in person, attending as part of their national delegations. The TWCWG report was delivered by the national representative from France and the HDWG report by the IHB.

HSSC7 was attended by 19 IHO MS. Further participants came from industry and international affiliated bodies, with a total of 61 participants in attendance.

A half day “HSSC Open Session” was held on the afternoon of Thursday 12 November, with presentations related to developments in survey technologies and methods and S-100 development and related issues made by industry representatives and the IHB.

Analysis / Discussion

The final Minutes of HSSC7 can be found on the HSSC page of the IHO web site at:

http://www.iho.int/mtg_docs/com_wg/HSSC/HSSC7/Bulletin_report_HSSC-7_final.pdf

The following is a brief summary of discussions at HSSC7 that may be of interest to the NCWG, and actions on the NCWG; or related to the activities of the Working Group.

NCWG Report (HSSC7-05.6A):

The Working Group Report was endorsed. NCWG Work Plan progress was reported and acknowledged, and an updated Work Plan was endorsed by the Committee for inclusion in the HSSC Work Plan.

After comments received from the IHB on the proposed revised NCWG Terms of Reference (HSSC7-05.6G refers), an editing session took place out of session at HSSC7. The resultant revised Terms of Reference were subsequently adopted by the Committee. There was no discussion on the revised NCWG Detailed Procedures, however it was agreed that discussion of IHO Resolution 2/2007 will take place at the HSSC Chair Group meeting to be held in June 2016.

The Committee agreed with the NCWG recommendation that the 3rd recommendation included in paper HSSC6-05.5D related to standardization issues associated with information overlay services should be addressed by the WENDWG and the IRCC. However this, in addition to submission of papers HSSC7-05.6B (*WENDWG Report on AIO (IHB)*) and HSSC7-05.6C (*AIO and P/T updates in ENC (SE)*) prompted a wider discussion on additional (information) overlay services and in particular the Admiralty Information Overlay (AIO) Service. The outcome of these discussions was to task the S-101 Project Team of the S-100WG to develop improved functionalities for the provision and management of ENC Updates of a temporary and preliminary nature in ECDIS.

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT
5.1, 5.6	AIO	HSSC7/24	S-101 PT to address the need for improved functionality regarding T&P updates in future ENC/ECDIS.	HSSC-8

The Committee noted the establishment of a NCWG Correspondence Group to discuss issues related to the increasing use of ENC and ECDIS as the primary navigation product for SOLAS vessels and the possible impact of this on the future of the paper chart as a primary navigation product. The HSSC further instructed the NCWG to address this as a high priority activity and provide a report to HSSC8. The NCWG Work Plan has subsequently been updated to reflect this activity as High priority.

The HSSC was made aware of the possible retirements of both the NCWG Chair and Vice-Chair prior to HSSC8. The NCWG Chair was instructed to ensure that the Vice-Chair position was filled on the retirement of the current Vice-Chair, with the understanding that the incumbent would be prepared to take up the position of Chair of the Working Group on retirement of the current Chair.

S-4 Edition 4.6.0 (HSSC7-05.6D):

The proposed changes to S-4 Edition 4.5.0 were accepted by the Committee and it was approved to proceed to IHO Member States for adoption of Edition 4.6.0 (IHO CLs 92/2015 and 15/2016 refer).

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT
5.6	S-4	HSSC7/23	IHB to issue a CL to IHO Member States seeking their approval of S-4 Ed. 4.6.0.	(End of Nov. 2015)

S-11 Part A (HSSC7-05.6E):

A draft New Edition of S-11 Part A was prepared for HSSC7 after NCWG review of the draft submitted by the NSEHWG with assistance from the WENDWG (NCWG Letter 06/2015 refers). In addition to NCWG deliberations, the draft was also circulated by the IHB to Regional INT Chart Coordinators/ICCWG for consideration and comment. Comments considered by the NCWG Executive to be significant in relation to HSSC deliberation were submitted by Chile. These comments were submitted to HSSC7 along with the draft S-11 Part A for consideration.

The HSSC determined that there was merit in the comments from Chile, and instructed the NCWG to produce a revised draft of S-11 Part A incorporating guidance for ENC scheming as a separate section of the document.

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT
5.6	S-11 Part A	HSSC7/22	NCWG to re-consider S-11 Part A for addressing ENC scheming issues in a separate section and submit a new draft to HSSC.	NCWG-2 HSSC-8

The Future of the S-4 (HSSC7-05.6F):

The Committee rejected the proposal to establish a NCWG Project Team to investigate and discuss options for the future format, style and content of S-4 as it considered that there were no resources that could be committed to this task in respect to higher HSSC/NCWG priorities. However, the Committee agreed that such work will be required to be done in the future as resources become available and recommended this proposal be resubmitted to HSSC8.

Reports by Other HSSC Working Groups, Industry and Affiliated Organisations:

Issues related to the reports of the NIPWG, S-100WG, ENCWG, HDWG and DQWG will be raised as

separate reports to NCWG2 and therefore are not raised here. Additionally, discussions related to INF papers of relevance to the NCWG are included separate agenda items for NCWG2.

TWCWG: There are two S-100 based Product Specifications in development, including S-104 *Tidal Product for Surface Navigation*, S-111 *Surface Current Product Specification* and S-112 *Dynamic Water Level Data* that will need to be considered in association with discussions on the impact of future S-100 based Product Specifications on IMO Performance Standards, IEC related standards and ECDIS portrayal.

IRCC: The IRCC examined the management and monitoring of INT chart production and agreed on an experimental procedure for monitoring and validating new INT Chart production. This procedure will be coordinated and implemented by Regional INT Chart Coordinators or ICCWGs and will run for two years before further evaluation. This new implementation has been announced to the Member States by IHO CL 64/2015 and will be considered at the Workshop for Regional INT Chart/ENC Coordinators which will be held in conjunction with NCWG2.

IMO: MSC 94 approved and adopted the text of the mandatory *International Code for Ships Operating in Polar Waters* (the Polar Code) and a new chapter XIV to SOLAS on “Safety measures for ships operating in polar waters”. These will have an adoption date of 1 July 2016 and will come into force on 1 January 2017 for new ships constructed after that date. Ships constructed before 1 January 2017 will be required to meet the relevant requirements of the Polar Code by the first intermediate or renewal survey, whichever occurs first, after 1 January 2018. The HSSC has tasked the NCWG with considering improvements to S-4 which could facilitate the implementation of these provisions.

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT
5.5, 5.6, 7.2	Polar Code	HSSC7/40	NIPWG and NCWG to consider improvements to current IHO specifications or other actions which could facilitate the implementation of the provisions of the Polar Code related to charting issues (Part I-B, Additional Guidance to Chapter 9 (Safety of Navigation) refers).	HSSC-8

International Cable Protection Committee (ICPC): The ICPC gave a very comprehensive presentation to HSSC7 on the issues related to submarine cables and the potential areas of common interest between ICPC and the IHO. The Committee agreed to establish an MoU between the ICPC and the IHO (IHO CL 85/2015 refers), and the ICPC agreed to submit, as required, a paper to the NCWG proposing amendments to S-4 so as to provide improved charted information to the mariner for the protection of undersea cables.

Conclusions

The outcomes and all associated Actions from the NCWG Report, associated NCWG Papers and other HSSC7 Papers, as included in the HSSC7 Minutes, is as follows:

Outcome:

- The Committee noted the NCWG report and agreed the revised TORs in Annex A.
- The Committee invited the NCWG to address as a high priority the work item on the future of the paper chart and endorsed the work plan finalized under agenda item 10. The Committee welcomed the continuation of the liaison already established with the new working group on marine cartography of the International Cartographic Association.
→ Action [HSSC7/21](#)
- The Committee noted the views expressed by several IHO Member States regarding the Admiralty Information Overlay (AIO) service and referred them to the IRCC through the WENDWG for further consideration.
- The Committee considered the other documents submitted under this agenda item and decided:

- to separate the guidance on INT schemes and ENC schemes in S-11 Part A
- to endorse the proposed changes to S-4 Ed. 4.5.0
- to task the S-101 Project Team to consider improved functionalities for T&Ps updates in ENCs.

→ Actions [HSSC7/22](#), [HSSC7/23](#), [HSSC7/24](#)

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT
5.5, 5.6	S-1xx Portrayal Issues	HSSC7/18	NCWG to compile portrayal requirements relating to product specifications in general as part of its programme of work.	NCWG-2
5.5	S-122 test beds	HSSC7/20	For S-122, and assuming that sufficient information is available, NIPWG , in liaison with NCWG and S-100WG, to make use of test beds opportunities (e-navigation projects as appropriate).	HSSC-8
5.6	Working Groups' Officers	HSSC7/21	NCWG to announce the potential vacancy for Vice-Chair in its call for the NCWG-2 meeting.	Jan. 2016
5.6	S-11 Part A	HSSC7/22	NCWG to re-consider S-11 Part A for addressing ENC scheming issues in a separate section and submit a new draft to HSSC.	NCWG-2 HSSC-8
5.6	S-4	HSSC7/23	IHB to issue a CL to IHO Member States seeking their approval of S-4 Ed. 4.6.0.	(End of Nov. 2015)
5.1, 5.6	AIO	HSSC7/24	S-101 PT to address the need for improved functionality regarding T&P updates in future ENC/ECDIS.	HSSC-8
5.5, 5.6, 7.2	Polar Code	HSSC7/40	NIPWG and NCWG to consider improvements to current IHO specifications or other actions which could facilitate the implementation of the provisions of the Polar Code related to charting issues (Part I-B, Additional Guidance to Chapter 9 (Safety of Navigation) refers).	HSSC-8

Recommendations

NCWG Chairman to continue representing the WG at HSSC:

- by providing a report of NCWG's activities;
- seeking endorsement of our Work Plan, including new items and relative priorities;
- raising issues of wider interest for the Committee's attention, as required.

Justification and Impacts

None.

Action required of NCWG

The CSPCWG/NCWG is invited to:

- a. **Note** this report (and to refer to the full HSSC7 final report and actions).

Annexes:

HSSC7 Brief (for inclusion in IHO Bulletin)

7th MEETING OF THE IHO HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE (HSSC)

Busan, Republic of Korea, 10-13 November 2015

The seventh meeting of the Hydrographic Services and Standards Committee (HSSC) took place in Busan, Republic of Korea, hosted by the Korea Hydrographic and Oceanographic Agency (KHOA), from 10 to 13 November 2015. Mr Hyun Jung, Director of the Nautical Chart Division, welcomed delegates on behalf of Mr Jae-hyung Ryoo, Director General of KHOA, who could not be present due to unforeseen circumstances.



Welcoming address by Mr Hyun Jung, Director of the Nautical Chart Division, KHOA

The meeting was chaired by Dr Mathias Jonas, National Hydrographer of Germany, and attended by 48 representatives from 20 Member States, the IHB, and six international organizations accredited as observers. Director Gilles Bessero and Assistant Directors Yves Guillam and Tony Pharaoh represented the IHB. As agreed at the previous meeting, a half-day IHO Stakeholders' Open Session was included in the agenda of the meeting and attracted eight additional participants who attended all or part of the HSSC sessions as observers.

The Chair Group, composed of the Chairs of the HSSC and of its subordinate bodies, met on 9 November to discuss the major items on the agenda and prepare consolidated proposals for the further consideration of the Committee.

The Committee reviewed the activities, proposals, and work plans of its subordinate bodies and the decisions of other organs and organizations affecting its work and decided on a number of outcomes. The Open Session, which was held on 12 November, focussed on new survey techniques and crowd-sourced bathymetry and on issues related to the development and implementation of the S-100 framework.



HSSC-7 participants

A summary of the main outcomes is described below:

S-100 and related activities

The Committee acknowledged the work of the S-100 working group (S-100WG) and welcomed the progress in developing and implementing the S-100 framework, noting:

- the publication of Edition 2.0.0 of S-100 - *IHO Universal Hydrographic Data Model*;
- the on-going preparation of supporting documents (including the S-100 interoperability specification for ECDIS, UML models, and data quality models);
- the on-going development, test and implementation of S-100 product specifications both within the IHO and within partner organizations;
- possible additional requirements related to the provision of data services and to the establishment of an S-100 domain for Additional Military Layers (AMLs).

The Committee welcomed in particular the announcement that most operational ice charts will be available in S-411 format by December 2015 and that the first S-411 capable commercial ECDIS is expected to enter service in mid-2016.

The Committee established a project team that will report to the S-100WG to consider the development of a new product specification for the display of under keel clearance management information. The Committee endorsed the revised Edition 1.1 of the S-100 Master Plan, further upgrades of the S-100 Registry and the plan to publish an extended Edition 3.0.0 of S-100 in 2017. The Committee urged the IHO Member States to strengthen their support to the S-100WG and the associated project teams in order to meet the milestones of the work plan.

Noting the current limited expertise in the IHO concerning the portrayal of features in an S-100 based environment, the Committee tasked the Nautical Information Provision Working Group (NIPWG) and the Nautical Cartography Working Group (NCWG) to investigate further portrayal issues, through the use of test bed opportunities.

The Committee noted the intention of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) to submit a proposal for developing a maritime resource name scheme under the S-100 framework.

The Committee agreed that the IHO should take the initiative for developing further the maritime service portfolios (MSP) related to hydrographic services in the e-navigation environment.



HSSC in session

ECDIS matters

The Committee acknowledged the efficient coordination between the IHO and the International Electrotechnical Commission (IEC) in producing a coherent set of revised editions of the key ECDIS related standards thereby addressing the anomalies in the operation of some ECDIS.

The Committee tasked the ENC Standards Maintenance Working Group (ENCWG) to finalize the draft revised new editions of S-58 - *ENC validation checks* and S-66 - *Facts about Electronic Charts and Carriage Requirements* for review and endorsement by correspondence during the intersessional period.

The Committee noted the feedback from industry on the implementation of the new editions of S-52 - *Specifications for Chart Content and Display Aspects of ECDIS* and its Annex A - *Presentation Library for ECDIS*, and agreed to consider postponing the withdrawal of the previous editions, currently planned to occur on 31 August 2016 in accordance with the timeline reported to the International Maritime Organization. The Committee agreed on the benefits of holding an IHO-Industry ECDIS Forum in the context of the implementation of the revised ECDIS related standards and invited the IHB to liaise with the Secretariat of CIRM (Comité International Radio-Maritime) for the possible organization of such a forum.

The Committee expressed its support for the development of industry standards for software maintenance of shipborne equipment and invited the CIRM to coordinate with the ENCWG for the revision of the IHO check datasets for ECDIS and the possible introduction of an annual performance test for ECDIS.

Nautical cartography

The Committee endorsed the proposed changes to Edition 4.5.0 of S-4 - *Chart Specifications of the IHO* and tasked the NCWG to finalize the draft new edition 4.6.0 and forward it to the IHB which will then circulate it to IHO Member States for their consideration and approval. The Committee instructed the NCWG to develop a separate section on ENC schemes in the draft revision of S-11 Part A - *Guidance for the Preparation and Maintenance of International Chart Schemes*. The Committee invited the NCWG to address as a high priority the work item on the future of the paper chart.

Hydrographic Dictionary

The Committee requested the Hydrographic Dictionary Working Group to investigate options and associated resource requirements and timeline to produce and maintain a reference edition of S-32 - *Hydrographic Dictionary*. The S-100WG was tasked to specify its requirements regarding definitions included in the S-100 Registry.

Consideration of the need to establish a Hydrographic Surveys Working Group

The Committee considered the mixed responses from the Member States on the need to establish a Hydrographic Surveys Working Group, following the consultation initiated at its previous meeting. The Committee decided to establish a Project Team to investigate further the need for HSSC activities related to hydrographic surveys, define the scope and the possible tasks that may be considered in that respect and propose recommendations at the next HSSC meeting (HSSC-8).

Preparation of the International Hydrographic Conference or Assembly of the IHO in 2017

The HSSC Chair Group was tasked to prepare the contribution of the Committee to the revision of the IHO Strategic Plan and the preparation of the next pluriannual IHO Work Programme in accordance with the IHO Resolution on the planning cycle.

Relations with Stakeholders

The Committee acknowledged that the relations with stakeholders are a strategic issue to be considered by the HSSC Chair Group in its contribution to the revision of the IHO Strategic Plan.

The Committee noted the areas of common interest between the IHO and the International Cable Protection Committee (ICPC), and welcomed the possible contribution through the ICPC of bathymetric data to the IHO Data Centre for Digital Bathymetry, in the context of the development of trusted crowd-sourced bathymetry. The Committee supported the proposal of the ICPC to develop a Memorandum of Understanding between the IHO and the ICPC.

Contribution of the Republic of Korea

The Committee commended the significant contribution of KHOA to the development of IHO web services through the INTtoGIS project, which aims to develop a GIS-based version of S-11 Part B - *Catalogue of International (INT) Charts*, and the Digital Reference Tool for Cartographers (DRTC). The Committee also warmly thanked KHOA for the excellent meeting arrangements and the outstanding support provided to the participants.

Next Meetings

The next meeting of the HSSC (HSSC-8), will take place from 14 to 18 November 2016, in Monaco. HSSC-9 will take place in Ottawa, Canada in early November 2017. Germany offered to host HSSC-10 in Rostock in November 2018.

More Information

Further information is available on the IHO web site at [Home > Committees & WG > HSSC](#).