

Paper for Consideration by HSSC

[Revision to IHO Resolutions following the introduction of S-100]

Submitted by:	IHO Secretariat
Executive Summary:	At A-2, KHOA (Republic of Korea) proposed to revise five IHO Resolutions (1/1987, 4/2002, 1/2007, 1/1997, 1/2018) to facilitate the development of S-100 series and implement the Roadmap for the S-100 Implementation Decade (2020 – 2030). It was recommended to wait for the adoption of the WEND-100 Principles (IHO Resolution 1/2021). This paper suggests a way forward.
Related Documents:	A-2 PRO 2.3, Doc. HSSC12-05.1G, Actions HSSC13/05 and WENDWG12/09.
Related Projects:	M-3, IHO Resolution 1/2021 – <i>WEND-100 Principles</i> , Roadmap for the S-100 Implementation Decade(2020-2030), Proposed amendments to MSC.232 (82) to the Performance Standards for ECDIS.

Introduction / Background

The IHO is developing S-100 series and the infrastructure to support the development of data standards required not only for next-generation ENC's but also in hydrographic, maritime and GIS fields. The IHO Council designed the Roadmap for the S-100 Implementation Decade (2020 – 2030) to facilitate the development of new hydrographic data standards and the S-100 eco-system (production, distribution, regulations, governance, etc.).

At the 2nd Session of the Assembly, the proposal (A-2/PRO2.3) from KHOA to amend five IHO Resolutions was welcomed and a proposed way forward by HSSC was approved (Decision A2/32 refers). At HSSC-12, KHOA revised the original proposal for amendments (Doc. HSSC12-05.1G refers):

Start quote

As for the Resolutions 1/1997 and 1/2018 in PRO2.3, the request for revision is no longer necessary as the WENDWG will be reporting new Principles of the WEND for S-1xx products (WEND-100) to IRCC12 to be held in October 2020.

Having reviewed M-3, ROK would like to propose revising the resolutions as follows:

Resolution	Current Resolution	Red-line version of the proposed Resolution (PRO2.3, included comments from A2_2020_G_02)
1/1987	1. It is resolved that the IHO Transfer Standard described in S-57 shall be adopted by the IHO for the exchange of digital hydrographic and cartographic data. 2. ...Changes to the Standard are coordinated on behalf of the HSSC by an ENC Standards Maintenance Working Group (ENCWG)...	1. It is resolved that the IHO S-57 Transfer Standard for Hydrographic Data including the S-57 based Product Specifications and the IHO S-100 Universal Hydrographic Data Model including the S-100 based Product Specifications shall be adopted by the IHO for the exchange of digital hydrographic and cartographic data.

		2. ...Changes to S-57 are coordinated on behalf of the HSSC by the ENC Standards Maintenance Working Group (ENCWG), and changes to S-100 are coordinated on behalf of the HSSC by the S-100 Working Group (S-100WG), and changes to S-100 series are coordinated on behalf of the HSSC/IRCC by their subordinate Sub-committees/Working groups
4/2002	a) The HO should ensure that the IHO data (ENC) is always available to any user in the S-57 ENC format.	a) According to the Roadmap for the S-100 Implementation Decade (2020-2030), the HO should ensure that the IHO data (ENC) is always available to any user in the S-57 and/or S-101 ENC format.
1/2007	1. It is resolved that the IHO Data Protection Scheme, as described in Publication S-63, is the IHO recommended security scheme for ENCs. 2. It is further resolved that the IHO Secretariat will act as Scheme Administrator for S-63.	1. It is resolved that the IHO Data Protection Scheme, as described in Publication S-63, is the IHO recommended security scheme for S-57 ENCs and the Encryption and Data Protection, as described in Publication S-100, is the IHO recommended security scheme for S-101 ENCs including S-100 series data.2. It is further resolved that the IHO Secretariat will act as Scheme Administrator for S-63 and S-100 series hydrographic data.
1/1997	· See M-3 2 nd Edition Resolution 1/1997 as amended.	WENDWG will report the <i>Principles of the WEND for S-1xx products (WEND-100)</i> to IRCC12 for endorsement.
1/2018	· See M-3 2 nd Edition Resolution 1/2018.	WENDWG will report the <i>Principles of the WEND for S-1xx products (WEND-100)</i> to IRCC12 for endorsement.

End quote

The IHO Resolution 1/2021 on WEND-100 Principles has since been adopted (IHO CL 37/2021 refers).

Analysis/Discussion

Since both S-57 (a data exchange format) and S-100 (a standard framework) will be in use during a significant transition period, the IHO Secretariat is of the opinion that by simply adding phrases on S-100 in IHO Resolutions where S-57 is stated, as proposed by KHOA, is not always fully satisfactory. This option will mix quite different concepts in nature and subsequently the real effect of these Resolutions. The solution adopted for the WEND-100 Principles (IHO Resolution 1/2021) followed a different approach by, rather than amending the existing WEND Principles applicable to S-57 ENCs (IHO Resolution 1/1997 as amended), having two different Resolutions that coexist, an option which seems reasonable as their respective Implementation Guidelines will differ for sure.

Therefore, the IHO Secretariat agrees with KHOA that for the Resolutions 1/1997 and 1/2018 the request for revision is no longer necessary as the WENDWG is still working on the WEND-100 Implementation Guidelines and S-101 ENC's Scheming Guidelines.

Having reviewed M-3 in the spirit of A2/PRO2.3, the IHO Secretariat would like to propose the following way forward:

IHO Resolution	Title	Way forward / Recommendations
7/1919 as amended	Hydrographic Office Arrangements for the Exchange and Reproduction of Nautical Products	New Proposed Amendment. See Annex A.
1/1987 as amended	IHO Transfer Standard for Digital Hydrographic Data	Keep Proposed Amendment by KHOA as above.
4/2002 as amended	ENC/SENC Distribution Option	Keep the current version as applicable to S-57 ENC and datasets only. Noting the new concepts and definitions ¹ introduced in the amendments proposed to MSC.232 (82) ECDIS Performance Standard, suggest to put on hold amendments to this Resolution and consider a new one for S-101 when appropriate.
1/2007 as amended	IHO Data Protection Scheme S-63	Keep Proposed Amendment by KHOA as above.
3/2007	ENC Distribution and Use of the Term ENC	Revision to be considered for S-57 ENCs if appropriate (ENCWG) and supplementary Resolution covering S-101 to be considered (S-100WG, Action HSSC-14/xx, deadline HSSC-15).
1/2012 as amended	The Importance of Resolving Issues related to the Functioning of the "ECDIS-ENC System"	Revision to be considered in the light of the Dual Fuel Concept Governance Document when appropriate (S-100WG, Action HSSC-14/xx, deadline HSSC-16).
2/2012	Reaffirmation of the IHO's Commitment to Full ENC	New Proposed Amendment. See

¹ Such as Electronic Navigational Data Service (ENDS), System Database.

	Coverage (PRO WENDWG-1)	Annex B.
2/2002 as amended	Printed and Digital Nautical Publications	No amendment required.
3/2002 as amended	Nautical Publications and the SOLAS Convention.	Revision to be considered in the light of the S-1xx Implementation Guidelines, once adopted (NIPWG, Action HSSC14/xx, deadline HSSC-16).
xx/2023	S-100 to become an operational reality	It is suggested that a short generic Resolution embracing concepts and pathways already depicted in the Roadmap and in the Dual Fuel Concept Governance Document is submitted to A-3. (Council, Action HSSC14/xx, deadline mi-July 2022).

Conclusions

As suggested by KHOA at A-2, time has come to incorporate S-100 references in M-3.

Recommendations

It is proposed to consider and revise IHO Resolutions to facilitate the development of S-100 series and implement the Roadmap for the S-100 Implementation Decade, as suggested in the table above.

Action Required of [HSSC]

The [HSSC] is invited to:

- a. consider and approved the proposed recommendations as listed above for IHO Resolutions 7/1919 as amended, 1/1987 as amended, 4/2002 as amended, 1/2007 as amended, 3/2007, 1/2012 as amended, 2/2012, 2/2002 as amended, 3/2002 as amended and xx/2023
- b. review and include the outcome in the HSSC report to C-6.

Annex A

HYDROGRAPHIC OFFICE ARRANGEMENTS FOR THE EXCHANGE AND REPRODUCTION OF NAUTICAL	7/1919 as amended	IHO CL xx/2022	A3.7
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Proposed Amendment:

“....

2 Hydrographic Offices should make use of internationally standardized products such as International (INT) Charts and Electronic Navigational Charts (ENC) of other Hydrographic Offices where these products meet their customers' needs and are kept up-to-date. INT charts should be adopted in accordance with the 'Regulations of the IHO International (INT) Charts'. The use of ENCs (S-57 or S-101) should be governed by the principles of the Worldwide Electronic Navigational Chart Data Base (WEND or WEND-100).

...”

Annex B

REAFFIRMATION OF THE IHO'S COMMITMENT TO FULL ENC AND S-1xx NAVIGATION PRODUCTS COVERAGE	2/2012 as amended	IHO A-3	A3.7
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Add an amendment at the end of the current Resolution:

This Resolution applies to ENCs (S-57, S-101) and all S-100 based products (S-1xx products) to be used for navigation (route monitoring in priority, and route planning).