

ENCWG5 Discussion, Decisions and Actions

Wednesday 15 July 2020:

Meeting opened by the ENCWG Chair, Mr Thomas Mellor, at 1200 (CEST). He thanked all those who have joined the on-line meeting and explained the protocols to be followed. Refer to the [Introduction Logistics](#) document on the [ENCWG5 Meeting](#) page.

IHO Director Abri Kampfer provided an opening address in which he praised the organizers and attendees of the meeting for continuing the work of the Working Group during these challenging times. He stressed the importance of continuing to progress the technical program of the IHO.

The Chair explained that the order for addressing items on the agenda ([Agenda and Logistics Information](#)) has been determined so as to make the best efficiency of the time available. The order of the items included in this report as discussed at the meeting.

In the following report: **D** = Decision **A** = Action **NFA** = No Further Action

ENCWG5-3: ENCWG4 Actions: [Review of actions from ENCWG4](#)

Most actions from ENCWG4 have been completed (or overtaken by events). All actions not completed were progressing.

ENCWG5-4: IHO S-52 PL Edition 4.0.3: [S-52 PL edition 4.0.3 - Consolidated Comments](#)

[Australia - Comments](#)

[Australia - Table Describing Clarifications](#)

[Australia - Chart 1 - Ed 4.0.3](#) and [Note from Alvaro](#)

[Furuno - Comments](#)

[Navico - Comments](#)

[Wartsila - Comments](#)

[IC-ENC - Comments](#)

Beginning with comments from AU (Alvaro):

AU Comments (16.2 Missing M_QUAL): **D/A (ENCWG5-01)**: Agreed. Update Readme file to clarify to ensure that the images reflect the mariner view. **(IHO Sec)**

AU Comments (16.2 Incorrect M_NSYS): **D/A (ENCWG5-02)**: Agreed. Delete M_NSYS covering the whole 'Buoys and beacons (Q)' area from ECDIS Chart 1 ENC AA4C1XMS. **(Hannu?)**

AU Comments (16.2 Plot Numbers): **D/A (ENCWG5-03)**: Agreed. Add plot numbers in Section 16.2 and ensure that they cross-reference correctly with the Readme. **(IHO Sec)**

AU Comments (Readme.txt, Shallow Water Pattern): **D/A (ENCWG5-04)**: Readme.txt, Shallow Water Pattern: More work required. AU to check. Possibly fix the plot. **(Alvaro)**

AU Comments (Readme.txt, Information about Chart Display): **D/A (ENCWG5-05)**: Agreed. Include set-up instruction regarding Information about chart display (AB) in Readme.txt file. Update Foreword p. xiv table of contents by including entry describing the changes to the Readme.txt file. **(IHO Sec)**

AU Comments (Readme.txt, Information/Date Dependent): **D/A (ENCWG5-06)**: Agreed. Include set-up instruction regarding 'Highlight' ECDIS function in Readme.txt file. Update Foreword p. xiv table of contents by including entry describing the changes to the Readme.txt file. **(IHO Sec)**

AU Comments (16.2 Port Features): **D/A (ENCWG5-07)**: Agreed. 16.2 Port Features: Revised plot has been provided by Hannu. Needs to be resent to Tom M. **(Hannu)**

AU Comments (16.2 Seabed, Obstructions, Pipelines etc (J, K, L)): **D/A (ENCWG5-08)**: Agreed. 16.2 Seabed, Obstructions, Pipelines etc (J, K, L) : Revised plot provided by Hannu. Needs to be resent to Tom M. **(Hannu)**

AU Comments (16.2 Buoys and Beacons (Q)): **D/A (ENCWG5-09)**: Agreed. 16.2 Buoys and Beacons (Q): Apply changes as suggested. **(Hannu)**

AU Comments (13.2.5): **D**: Agreed. Changes have already been applied. **NFA**

AU Comments (18.2.4): **D**: Agreed. Changes have already been applied. **NFA**

AU Comments (18.2.7): **D/A (ENCWG5-10)**: Agreed. 18.2.7 Para 1: Review the content of this paragraph to better represent the way ECDIS Chart1 ENC are built up. **(IHO Sec)**

AU Comments (App C): **D/A (ENCWG5-11)**: Agreed. S-52 PresLib Ed 4.0.2 Part I App C Look-up: Amend viewing group from 21 to 26 (TX(OBJNAM,3,1,2,'15110',1,0,CHBLK,21)); Apply change as clarification. **(IHO Sec)**

AU Comments (.dai): **D/A (ENCWG5-12)**: PresLib_e4.0.2.dai (CHRVID01, CHDATD01 and CHRVID02 draw incorrectly. Refer to ENCWG4Action 5.2): More work required. Further investigation required. **(Hannu)**

There was insufficient time to address any further comments. **D/A (ENCWG5-13)**: S-52 Sub-Group to be formed to address other comments via future on-line meeting(s). Names to be supplied to **IHO Sec** (Tony and Jeff).

[List of participants in the S-52 Sub-Group as at 21 September 2020: **Tom M** (lead), **Alvaro**, **Christian**, **Hannu**, **Jochen**, **Inga**, **Verena**, **Yong**, **Jeff**].

ENCWG5-7: IHO S-58: [S-58 - Agree Proposed Revisions Amendments to ENC Validation Checks](#)

The S-58 Sub-WG Leader, Mr Richard Fowle (DK), introduced this agenda item. The meeting commenced progressing through the issues raised:

Check 19: **D/A (ENCWG5-14)**: Check 19: More work required. Defer to S-58 Sub-WG. **(Richard)**

Check 44: New proposed 44b: Possible clash with another Check (1768?). **D/A (ENCWG5-15):** Approved, Check 44: New proposed 44b: Possible clash with another Check (1768?): Apply change, with possible refinement required, and apply associated changes to the UOC. **(IHO Sec)**

[From Tom R: Agree, that this encoding is beneficial but feel the UOC should change next time. Suggest shoal needs to be explicitly defined for consistent reporting.]

There was insufficient time to address any further comments. **D/A (ENCWG5-16):** All other Checks will need to be covered by a smaller group (S-58 Sub-WG). Volunteers for this group to be provided to **Richard**, cc to **IHO Sec** (Tony and Jeff).

A (ENCWG5-17): In addition to the list of proposed changes provided by the S-58 Sub-WG Leader, proposed changes from AU (refer ENCWG5-11A – [Amendments to ENC Validation Checks](#)), that were not discussed at the meeting, will be discussed by the **volunteer group**.

[List of participants in the S-58 Sub-Group as at 21 September 2020: **Richard** (lead), **Julie, Liz, Christian, Mikko, Jonathan, Yeonju, Frank, Inga, Verena, Svein, Hugh, Yong, Jeff**].

ENCWG5-6: IHO S-63 Cyber Security: [63 Cyber Security - Draft Impact Assessment](#)
[63 Cyber Security - Draft Digital Signature Test Data Description](#)
[63 Cyber Security - Example \(.zip\)](#)
[Amendments to S-63 for Cyber Security Issues](#)

Robert Sandvic (NO) gave a presentation ([Amendments to S-63 for Cyber Security Issues](#)). Jonathan Pritchard (IIC) and Hannu Peiponen (Faruno) provided additional input and comments.

Question regarding whether text and picture files were included. **D/A (ENCWG5-18):** Agreed. Robert will ensure that a single text and picture file would be included in the test data. **(Robert)**

A (ENCWG5-19): Tony/Yong is going to investigate a location to host the test data, possibly on the Github site along with the S-58 test data sets. **(IHO Sec, Chair)**

The Chair presented on proposed Impact Assessment study ([63 Cyber Security - Draft Impact Assessment](#)).

A (ENCWG5-20): Antonio Di Lieto (Carnival) will provide contact details in regard to a contact on end-user impact. Suggestions for other possible options included Intertanko, The Nautical Institute and other shipping companies. **(Antonio)**

Suggestion is that the assessment be done with the IHO/OEM community first, as the outcome of this could impact on the assessment in regard to the end user community. There may also be different questions. There needs to be some information included as to the level of threat that not doing this work will impose on the end user. However the IHO does not want to scare the end user into thinking that it is not safe to use what we currently have.

D/A (ENCWG5-21): Create a small sub-WG to formulate the Impact Assessment fully so that it is ready to be circulated (including the impact of the supply of corrupt files). Volunteers for this group to be provided to **ENCWG Chair**, cc to **IHO Sec** (Tony and Jeff).

[List of participants in the S-63 Sub-Group as at 30 July 2020: **Robert** (Lead), **Tom M** , **Antonio**, **Konstantin**, **Hannu**, **Jonathan**, **Robert**, **Olaf**, **Andrew**, **Yong**].

End of Day 1.

Thursday 16 July 2020:

ENCWG5-9: HSSC Letter 03/2020 and Report to HSSC12:

[HSSC Letter 3 /2020](#)

[ENCWG Report to HSSC12](#)

Does chart generalization correctly live with the NCWG? Original request came to ENCWG so ENCWG addressed it. The NCWG Chair (Mikko Hovi) tended to agree as the focus of the paper was for vector charts and the impact of zooming. Alvaro Sanchez provided more background on the original purpose behind the paper. IHO Director Abri Kampfner explained the HSSC perspective further.

D/A (ENCWG5-22): Chair and Vice Chair to coordinate on developing a paper addressing HSSC issues raised to the ENCWG for the HSSC. **(Chair, Vice Chair)**

ENCWG5-8: S-57 - Consider removing the term Master/Slave:

[Consider removing the term master/slave from S-57](#)

Megan Bartlett (US) provided a presentation on this agenda item.

Julie Larivée (CA) suggested that the alternate wording is included in the Standards (bracketed). [An example of this would be the term Structure/Equipment as has been used in S-100/S-101.]

Jeff Wootton (IHO Sec) cautioned the “unfreezing” of S-57 in order to apply this change, as the Standard has been frozen for almost 20 years and “unfreezing” would open the door for requests to apply clarifications that have been identified since the Standard was frozen. It was noted that the unfreezing of S-57 is a decision for the HSSC.

Hugh Astle (Caris) and Hannu Peiponen (Faruno) pointed out that there will be an impact on OEMs, production software manufacturers etc. as there is a requirement for OEMs in particular to comply with the latest version of the IHO Standards.

D/A (ENCWG5-23): Chair to provide an input paper from ENCWG to the HSSC (input from US (Megan) and IIC (Jonathan) – any other ENCWG member is invited to participate). Circulate to the WG to review before publication. **(Chair, Megan, Jonathan)**

ENCWG5-11: Additional Proposals:

ENCWG5-11B: S-52 – Missing CSP missing from the PL:

[CSP Missing from lookup table](#)

Alvaro Sanchez (AU) presented this paper.

D/A (ENCWG5-24): Chair to further investigate (refer paper S-100WG5-11) – possibly remove LUT reference. **(Chair)**

ENCWG5-11D: Maximum Permissible ENC File Size: [Maximum Recommended size for ENC files](#)

Alvaro Sanchez (AU) presented this paper.

Hannu Peiponen (Faruno) raised the interesting point that Updates may take a cell over 5 Mb. Hugh Astle (Caris) raised some concerns.

D/A (ENCWG5-25): Further work required. Defer discussion until closer to S-101 implementation taking into account the dual fuel ECDIS. **(Chair, Alvaro)**

ENCWG5-11C: Grouping of Soundings in ENC Updates: [Grouping of Soundings in ENC Updates](#)

Alvaro Sanchez (AU) presented this paper.

Tom Richardson (UK – IC-ENC and S-101PT Chair): Perhaps need to consider more in regards to S-101. Perhaps remove the ability to group soundings from S-101?

Hugh Astle (Caris): In S-101 the Update Information object was introduced to enhance the ability to give the Mariner guidance about what has changed.

Richard Fowle (DK): Suggested adding guidance in the UOC to not include new soundings added by ENC Update in an already existing sounding group. [NOTE: this does not solve the problem of deleting a sounding) from an already existing group.]

D/A (ENCWG5-26): Further work required. AU, DK and IHO Sec to look at including some “best practice” guidance on soundings included by Update in the UOC. **(Alvaro, Richard, IHO Sec)**

ENCWG5-11E: Use of the Edge Attribute USAG C by ECDIS: [Use of the edge attribute USAG C by ECDIS](#)

Alvaro Sanchez (AU) presented this paper.

Several meeting participants raised concerns that edges of area features may legitimately coincide with the ENC cell data limit.

D/A (ENCWG5-27): Further work required. To be incorporated in discussions for the S-58 Sub-WG (refer agenda ENCWG5-7). **(S-58 Sub-Group)**

ENCWG5-12: Agree to Move Forward with Encoding Proposals: [Encoding proposals](#)

Jonathan Pritchard (IIC) provided a presentation on this agenda item, which is aimed at additional encoding guidance for Data Producers in order to facilitate conversion of S-57 datasets to S-101.

D/A (ENCWG5-28): Create a small sub-WG to further develop proposals for optimizing S-57 datasets for conversion to S-101. Volunteers for this group to be provided to **ENCWG Chair**, cc to **IHO Sec** (Tony and Jeff).

[List of participants in the S-57 to S-101 Conversion Sub-Group as at 21 September 2020: **Christian** (co-lead), **Jonathan** (co-lead), **Richard, Tom D, Tom R, Su, Inga, Svein, Hugh, Julie, Jeff, Yong**].

A (ENCWG5-29): Chair to discuss with S-101PT Chair as to best way to proceed. (**ENCWG Chair, S-101PT Chair**)

ENCWG5-5: S-64 Edition 3.0.3:

This was not discussed at the meeting. **A (ENCWG5-30):** Create a small sub-WG to evaluate the clarifications applied to S-64. Volunteers for this group to be provided to **ENCWG Chair**, cc to **IHO Sec** (Tony and Jeff).

[List of participants in the S-64 Sub-Group as at 21 September 2020: **Tom M** (lead), **Alvaro, Konstantin, Christian, Hannu, Jochen, Jonathan, Olaf, Jeff, Yong**].

ENCWG5-10: IHO S-57 Use of the Object Catalogue (UOC):

This was not discussed at the meeting. The S-57 Maintenance coordinator (Jeff Wootton – IHO Sec) reported that at this time there is nothing significant to report.

Appendices:

- A: ENCWG5 Agenda.
- B: ENCWG5 Actions.
- C: ENCWG5 Participants.

Appendix A – ENCWG5 Agenda

Agenda			
Time	Topics	Document	Issues for discussion and required outcomes
15/07/2020 (12:00 to 15:00 - CEST)			
	Participants	ENCWG5-1	List of registered participants [Chair]
12:00	Agenda	ENCWG5-2	Meeting starts - duration - 3 hours
12:00 -12:05	Welcome /Logistics		Welcome and Logistics [Chair] / [IHO Sec AK]
12:05 - 13:00	ENCWG4 Actions	ENCWG5-3	Review actions and agree work items [Chair]
13:00	IHO S-52 PL edition 4.0.3	ENCWG5-4	ENCWG approval of clarifications for publication [Chair]
	S-64 edition 3.0.3	ENCWG5-5	ENCWG approval of clarifications for publication [Chair]
	IHO S-63 Cyber Security	ENCWG5-6.1	Review content and agree the details of survey to carry out impact assessment (Draft Impact Assessment, Digital Signature Test Data Description and Example) [RS / JP]
		ENCWG5-6.2	
		ENCWG5-6.3	
		ENCWG5-6.4	Amendments to S-63 for Cyber Security Issues [RS]
	IHO S-58	ENCWG5-7	Agree proposed revisions to S-58 [RF]
15:00	IHO S-57	ENCWG5-8	Consider removing the term master/slave from S-57 [MB / JP]
16/07/2020 (12:00 to 15:00 - CEST)			
12:00	Meeting Opens		Duration of meeting 3 hours
	HSSC Letter 03/2020	ENCWG5-9.1	<p>Prepare guidance to HSSC regarding information paper “ENC Generalization, Over-Scaling and safety checking Functions in ECIDS”</p> <p>HSSC secretariat stated that the IHO cannot maintain stand-alone stacked papers, it is expected that the ENCWG makes proposals to be considered at HSSC-12 on the following:</p> <ul style="list-style-type: none"> - With the endorsement of S-67 (in progress), is there a need to amend the information paper, so it is synchronized with S-67, before it is made publicly available at least for consistency purposes?

			- What is the information included in this paper that is missing in existing standards and publications (same for the stand-alone paper on "IHO Advice for PSC Inspectors Concerning IHO Standards")? Could this information be incorporated in any of the already existing standards or publications, e.g. S-66?
14:00	Report to HSSC12	ENCWG5-9.2	ENCWG Report to HSSC12 Meeting [Chair]
14:00	IHO S-57 Use of the Object Catalogue (UOC)	ENCWG5-10	Update on amendments. [JW]
	Additional proposals	ENCWG5-11A	Amendments to ENC Validation Checks [AS]
		ENCWG5-11B	CSP Missing from lookup table [AS]
		ENCWG5-11C	Grouping of Soundings in ENC Updates [AS]
		ENCWG5-11D	Maximum Recommended size for ENC files [AS]
		ENCWG5-11E	Use of the edge attribute USAG C by ECDIS [AS]
	S-57 to S-101 encoding	ENCWG5-12	Agree plan to move forward with encoding proposals. [JP / TdP]
15:00	AOB		Any Other Business

Appendix B – ENCWG5 Actions

No.	Agenda	Action	Lead
ENCWG5-01	IHO S-52 PL Edition 4.0.3	Update Readme file to clarify to ensure that the images reflect the mariner view.	IHO Sec
ENCWG5-02	IHO S-52 PL Edition 4.0.3	Delete M_NSYS covering the whole 'Buoys and beacons (Q)' area from ECDIS Chart 1 ENC AA4C1XMS.	HP
ENCWG5-03	IHO S-52 PL Edition 4.0.3	Add plot numbers in Section 16.2 and ensure that they cross-reference correctly with the Readme.	IHO Sec
ENCWG5-04	IHO S-52 PL Edition 4.0.3	Readme.txt, Shallow Water Pattern: More work required. AU to check. Possibly fix the plot.	AS
ENCWG5-05	IHO S-52 PL Edition 4.0.3	Include set-up instruction regarding Information about chart display (AB) in Readme.txt file. Update Foreword p. xiv table of contents by including entry describing the changes to the Readme.txt file.	IHO Sec
ENCWG5-06	IHO S-52 PL Edition 4.0.3	Include set-up instruction regarding 'Highlight' ECDIS function in Readme.txt file. Update Foreword p. xiv table of contents by including entry describing the changes to the Readme.txt file.	IHO Sec
ENCWG5-07	IHO S-52 PL Edition 4.0.3	16.2 Port Features: Revised plot has been provided by Hannu. Needs to be resent to Tom M.	HP
ENCWG5-08	IHO S-52 PL Edition 4.0.3	16.2 Seabed, Obstructions, Pipelines etc (J, K, L) : Revised plot provided by Hannu. Needs to be resent to Tom M.	HP
ENCWG5-09	IHO S-52 PL Edition 4.0.3	16.2 Buoys and Beacons (Q): Apply changes as suggested.	HP
ENCWG5-10	IHO S-52 PL Edition 4.0.3	18.2.7 Para 1: Review the content of this paragraph to better represent the way ECDIS Chart1 ENC are built up.	IHO Sec
ENCWG5-11	IHO S-52 PL Edition 4.0.3	S-52 PresLib Ed 4.0.2 Part I App C Look-up: Amend viewing group from 21 to 26 (TX(OBJNAM,3,1,2,'15110',1,0,CHBLK,21)); Apply change as clarification.	IHO Sec
ENCWG5-12	IHO S-52 PL Edition 4.0.3	PresLib_e4.0.2.dai (CHRVID01, CHDATD01 and CHRVID02 draw incorrectly. Refer to ENCWG4Action 5.2): More work required. Further investigation required.	HP
ENCWG5-13	IHO S-52 PL Edition 4.0.3	S-52 Sub-Group to be formed to address other comments via future on-line meeting(s). Names to be supplied to IHO Sec (Tony and Jeff).	ENCWG
ENCWG5-14	IHO S-58	Check 19: More work required. Defer to S-58 Sub-WG.	RF
ENCWG5-15	IHO S-58	Check 44: New proposed 44b: Possible clash with another Check (1768?): Apply change, with possible refinement required, and apply associated changes to the UOC.	IHO Sec
ENCWG5-16	IHO S-58	All other Checks will need to be covered by a smaller group (S-58 Sub-WG). Volunteers for this group to be provided to Richard, cc to IHO Sec (Tony and Jeff).	ENCWG

ENCWG5-17	IHO S-58	In addition to the list of proposed changes provided by the S-58 Sub-WG Leader, proposed changes from AU (refer ENCWG5-11A – Amendments to ENC Validation Checks), that were not discussed at the meeting, will be discussed by the volunteer group.	S-58 Sub-Group
ENCWG5-18	IHO S-63	Robert will ensure that a single text and picture file would be included in the test data.	RS
ENCWG5-19	IHO S-63	Tony/Yong is going to investigate a location to host the test data, possibly on the Github site along with the S-58 test data sets.	IHO Sec/Chair
ENCWG5-20	IHO S-63	Antonio Di Lieto (Carnival) will provide contact details in regard to a contact on end-user impact. Suggestions for other possible options included Intertanko, The Nautical Institute and other shipping companies.	ADL
ENCWG5-21	IHO S-63	Create a small sub-WG to formulate the Impact Assessment fully so that it is ready to be circulated (including the impact of the supply of corrupt files). Volunteers for this group to be provided to ENCWG Chair, cc to IHO Sec (Tony and Jeff).	ENCWG
ENCWG5-22	HSSC Letter 03/2020 and Report to HSSC12	Chair and Vice Chair to coordinate on developing a paper addressing HSSC issues raised to the ENCWG for the HSSC.	Chair/Vice-Chair
ENCWG5-23	Consider removing the term Master/Slave	Chair to provide an input paper from ENCWG to the HSSC (input from US (Megan) and IIC (Jonathan) – any other ENCWG member is invited to participate). Circulate to the WG to review before publication.	Chair/MB/JP
ENCWG5-24	S-52 – Missing CSP missing from the PL	Chair to further investigate (refer paper S-100WG5-11) – possibly remove LUT reference.	Chair
ENCWG5-25	Maximum Permissible ENC File Size	Further work required. Defer discussion until closer to S-101 implementation taking into account the dual fuel ECDIS.	Chair/AS
ENCWG5-26	Grouping of Soundings in ENC Updates	Further work required. AU, DK and IHO Sec to look at including some “best practice” guidance on soundings included by Update in the UOC.	AS/RF/IHO Sec
ENCWG5-27	Use of the Edge Attribute USAG C by ECDIS	Further work required. To be incorporated in discussions for the S-58 Sub-WG (refer agenda ENCWG5-7)	S-58 Sub-Group
ENCWG5-28	Agree to Move Forward with Encoding Proposals	Create a small sub-WG to further develop proposals for optimizing S-57 datasets for conversion to S-101. Volunteers for this group to be provided to ENCWG Chair, cc to IHO Sec (Tony and Jeff).	ENCWG
ENCWG5-29	Agree to Move Forward with Encoding Proposals	Chair to discuss with S-101PT Chair as to best way to proceed.	Chair/TR
ENCWG5-30	S-64 Edition 3.0.3	Create a small sub-WG to evaluate the clarifications applied to S-64. Volunteers for this group to be provided to ENCWG Chair, cc to IHO Sec (Tony and Jeff).	ENCWG

Appendix C – ENCWG5 Participants

<p style="text-align: center;">ENCWG5 VTC Meeting 15 -16 July 2020 List of Participants (15 July 2020)</p>		
MS / Organization	Name	Email
Australia	Alvaro Sanchez	alvaro.sanchez@defence.gov.au
Brazil	Ana Mileze	ana.mileze@marinha.mil.br
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Denmark	Bruno Cardoso	bruca@gst.dk
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