

LIST OF DECISIONS & ACTIONS ARISING FROM ENCWG6

- Final -

AGENDA ITEM	SUBJECT	ACTIONS (in bold, action by)	Remarks
1. Opening and Administrative Arrangements			
	Contact List	[Action 6/01] ENCWG members and Stakeholders to provide the IHO Sec. with their updates to the ENCWG List of Contacts.	Permanent
6-1b	Agenda and Timetable	[Decision6/01] ENCWG approved the draft agenda v2.2 and associated timetable.	
2. Matters arising from Minutes & Actions of ENCWG5 and HSSC13			
2	ENCWG5 Minutes	[Decision6/02] ENCWG approved the draft Minutes and Actions of ENCWG5 with amendment of Title “ENCWG5 Discussion, Decision and Actions”.	
3	HSSC13 General	ENCWG noted decisions and actions from HSSC13 and recognized those actions being included in the meeting agenda.	
	S-63 (HSSC13/31)	ENCWG noted the decision of HSSC13 that no changes are to be made to S-63, however it was approved to develop a new “IHO ECDIS Cyber Security Guideline” document. Chair recommended that a new ENCWG Sub-Group is established to perform this task. [Action 6/02] ENCWG members interested in participating in the S-63 Cyber-Security Sub-Group to notify the Chair at their earliest convenience.	Refer to Agenda WG6_6-7.
	Mariner Information papers (HSSC13/33)	HSSC tasked ENCWG to consider existing publication in force (S-66, S-67, etc), or new publications, to incorporate relevant information from ENCWG Mariner Information Papers. Given its information related to the use of ENC data in ECDIS, S-67 Mariners’ Guide to Accuracy of Depth Information in ENC has been suggested. [Decision6/03] ENCWG agreed to move forward with name change for S-67 and proceed with the migration of the “Information on ENC Generalization, Over-Scaling and Safety Checking Functions in ECDIS” document into S-67 [Decision6/04] ENCWG agreed to set up a small group to draft information paper and propose change of the title to “S-67 Mariners’ Guide to use of ENC data in ECDIS” which allow any future addition guidance to be more easily incorporated including security information.	

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4. S-52 Presentation Library			
4	S-52 ed 4.0.4	<p>[Decision6/05] ENCWG noted that Hannu’s comments on a proposal to make clarification to S-52 4.0.4 and agreed that S-52 Sub-Group to commence drafting a new clarification version of the PL. Chair encouraged WG members wishing to join the S-52 Sub-Group to notify him at their earliest convenience. IC-ENC(Tom), BSH(Jochen) joined the S-52 Sub-Group.</p> <p>Pol paper submitted to the meeting was not discussed. Chair stated that this would be taken into consideration by the S-52 Sub-Group during development of the new version.</p> <p>[Action 6/03] Chair/S-52 Sub-Group reviews the issues on the papers and drafts a new clarification version of S-52 PL 4.0.4 and submits it at the next WG for approval.</p>	Target: ENCWG7
5. S-58 Validation Checks edition 7.0.0			
5	S-58 revision	<p>S-58 Sub-Group reported the changes proposals included in the draft version 7.0.0 of S-58. Some proposal required to have further discussion during the meeting and submitted for final approval.</p> <ul style="list-style-type: none"> - Checks 44a-d: Christian proposed adding additional “AND” to make the checks read better. Approved. Also question as to whether objects containing VALSOU should be included in the Checks for isolated shoals. It was decided that this needs further discussion, possibly for a future version of S-58. [Day 3: Amendments to these Checks as discussed by Richard and IHO Sec presented to the WG for approval – Approved.] - Check 1024c: Refer to Paper 05.2: Needs further discussion offline. Frank submitted a revised Paper for further discussion. Post- meeting Note: Email discussion between Richard and Jeff arrived at recommended draft wording for this new Check, however it is further recommended that feedback from the RENCs and validation software manufacturers is required. It is therefore recommended that this Check is not included in S-58 Ed 7.0.0. - Checks 1515a-b: Agreed to amend iaw Paper 09b (see below), noting that the removal of the full date format for PEREND and PERSTA would result in Critical errors for this encoding against Check 1515a. Minor change to reference S-57 Appendix B.1, Annex A in the Check description (relevant for implementers) and the UOC in the Check message and solution (for compilers). [Day 3: Amendments to these Checks as discussed by Richard and IHO Sec presented to the WG for approval – Approved.] - Check 1768a-b: Richard highlighted the last minute change that has been made against these Checks due to an oversight. It was also questioned as to whether Check 1768b should be designated as Critical. It was decided to leave as an error for now. 	

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		<ul style="list-style-type: none"> - Checks 1803 and new check 1810: It was questioned that if the new Check 1810 is categorised as an Error, why is Check 1803 only a Warning. To be discussed offline. Recommendation is to leave Check 1803 as a Warning as this is generic to all aids to navigation and the encoding of equipment objects having a smaller SCAMIN value than the structure object may be considered to be valid encoding. [Day 3: Amendments to Check 1810 as discussed by Richard, Frank, Christian, Peter and IHO Sec presented to the WG for approval – Approved. The WG agreed to leave Check 1803 as a Warning.] - Isolated shoals and deeps: Alvaro questioned whether there had been discussion for isolated shoals and deeps that are cut by the data limit. Richard responded that this had not been considered, however this would be discussed out of session. [Day 3: The WG agreed to leave the Checks as they are for now.] <p>[Decision6/06] Pending the resolution of issues to be discussed out of session (to be reported at the end of the meeting), the ENCWG approved the changed made in the draft S-58 Edition 7.0.0.</p> <p>[Action 6/04] S-58 Sub-Group considerate of the impact of the revised Checks for isolated shoals and deeps where the shoal or deep is intersected by the ENC cell data limit.</p> <p>[Action 6/05] IHO Secretariats prepares the final draft Edition 7.0.0 of S-58 for final ENCWG endorsement and Chair submits it to the HSSC for endorsement to proceed to publication.</p>	<p>Target: ENCWG7/ HSSC14</p> <p>Target: HSSC14</p>
6. CIRM Report			
	CIRM Report	ENCWG noted a report of CIRM representing activities on S-63 vulnerability and position on transition from S-57 to S-101, workshop on S-100, and future collaboration with IHO.	
7. S-63 Cyber Security Guideline			
7	Guideline	<p>[Decision6/07] ENCWG agreed to set up a Sub-Group to develop a draft IHO ECDIS Cyber Security Guideline and invited WG members to join in addition to S-63 Sub-Group. Tom(lead), Olaf(7Cs), Hannu(Furuno), Bjorn(Navtor), and Jonathan(IIC) joined the Sub-Group.</p> <p>[Action 6/06] The Sub-group drafts a first edition and submit it to the next WG for endorsement.</p>	<p>Target: Feb2022</p>

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7.1	Study on ECDIS use from practitioners	<p>The WG Chair explained the background of circulated draft of the MAIB and DMAIB document "Study on ECDIS use from the perspective of practices", and asked the WG members to submit comments for review. Chair explained that our opinion will be submitted as an information paper to IMO NCSR9 in the future.</p> <p>The S-101PT Chair stated that it would be more valuable to review the document from two perspectives, and suggested that ENCWG review it from the current S-57 ENC perspective and subsequently review it from the next generation ENC perspective in the S-101PT Group.</p> <p>[Action 6/07] The document will be provided by the IHO Sec(Yong) upon request. Any review comment on the document to be submitted to Chair at their earliest convenience (no later than 02 July).</p>	Target: 02 July
8. 7Cs Display Issues			

	<p>Display issue</p>	<p>Holger stepped through the cause of the problem, which relates to the display of underwater hazards (OBSTRN, UWTROC, WRECKS) when a change is made to the underlying Group 1 feature (through deletion/re-insertion or be modification).</p> <p>The dataset may be “repaired” by performing the following actions:</p> <ul style="list-style-type: none"> - Issue a New Edition of the dataset; or - Issue a complete re-issue of the dataset along with the issue of the Update itself; or - Include a change to the underwater hazard in addition to the Group 1 change in the Update. <p>It was also noted that the methodology of the application of Updates many Data Producers makes it difficult for end users to determine the actual changes that have been applied to the data by the Update. Part of this discussion included the “re-use” of RCIDs, which can potentially create other issues with the data.</p> <p>A software patch has already been developed and is currently being deployed, although it is not possible to determine how long it will take to deploy to all impacted ECDIS at sea (or even if this was possible, given that some OEMs using the impacted kernel were no longer in business).</p> <p>SevenCs have also developed a new validation Check that identifies data impacted by this problem within their ENC Analyser software which is currently being tested by the RENCs after which it will be made available to all their customers. It was stated that the code for this Check would be made available to all ENC production software and validation tool manufacturers for implementation should they wish to do so. It was requested by a couple of MS that the new Analyser check is made available immediately, to which SevenCs responded that although this is not normal practice, they will make the check available in a “beta” form on request.</p> <p>Christian informed that issuing new editions is very time consuming for data producers, due to additional quality assurance and administrative work. He suggested that the EB could open the door to those data producers that have access to 7Cs Analyser Beta version (to detect ERs that would cause a display issue). The EB should allow those HOs using 7Cs Analyzer 5.0.0 ‘Beta’ version to only publish NEs when the corresponding validation check does report a problem. Otherwise an ENC update would be issued as planned.</p> <p>[Decision6/08] ENCWG made decisions on recommended actions :</p> <ul style="list-style-type: none"> - Formation of ECDIS Display Correspondence Sub-Group. - Review test data, and develop feedback form for OEM survey. - Send survey to all S-63 members to understand if this is an isolated incident or more widespread. - Correspondence group to report findings to ENCWG7. [Not approved – see below]. - Correspondence group to develop proposed S-64 tests, report to the ENCWG7. - Encoding information issued to ENC producers via IHO CL. 	
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- Encoding information for ENC producers reviewed ENCWG7. **[Not approved – see below]**.
- 7Cs to report on ECDIS upgrades to ENCWG7. **[Not approved – see below]**.

Lots of comments in the chat. General feeling among the MS is that the requirement to produce NEs of ENCs under certain circumstances was an imposition so the timeframe should be kept to a minimum.

The Chair stated that until the situation could be more fully investigated, the “worst case scenario” should be assumed to exist for this situation and the EB and corresponding actions required by Data Producers should reflect this.

Feedback from MS was that investigation should proceed as soon as possible and the EB reviewed as required so as to reduce the burden on the Data Producers, and the EB and any other guidance incrementally amended accordingly.

From this perspective, it was considered by the MS that the proposed timeframe for review of the requirements of the data producers (ENCWG7 – scheduled for October/November 2022) was too long. It was strongly suggested by several MS representatives that an interim ENCWG meeting is convened in late 2021 to discuss the progress on the resolution of this issue and the results of the survey of the OEMs aimed at gauging the full extent of the problem.

Discussion on the option to mitigate the issue through the publication of a Re-issue of the dataset was discussed and it was agreed that this should not be put forward as an option for Data Producers.

[Action 6/08] ENCWG members interested in participating in the ECDIS Display Correspondence Sub-Group to notify the Chair at their earliest convenience.
Tom(Chair), IIC(Jonathan P) Hannu(Furuno), Richard(Denmark), Svein(PRIMAR), Fredhelm, Holger (7Cs), Tom(IC-ENC), Mergan(NOAA), Klas(SMA), Akio(JHOD) joined during the meeting

[Action 6/09] ECDIS Display Correspondence Sub-Group review of test data to support testing by Data Producers and for inclusion with the OEM survey to be conducted; and the feedback form for the OEM survey to be developed.

[Action 6/10] Chair/ECDIS Display Correspondence Sub-Group upon collation of the results of the OEM survey, an interim ENCWG to be convened to discuss findings and refine guidance as required.

[Action 6/11] 7Cs reports to be provided on ECDIS upgrades at the next (interim) meeting of the ENCWG.

[Decision 6/09] ENCWG agreed that the EB is to initially reflect a “worst case scenario” in regard to the mitigating action required by Data Producers.

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		<p>[Decision6/10] ENCWG agreed that the EB was to be issued via an IHO CL to the Member States; and via an ENCWG Letter to non-IHO States and other producers.</p> <p>[Decision6/11] ENCWG further agreed that there will be no new guidance included in the UOC, due to the temporary nature of this issue at this stage.</p>	
9. ENC UOC			
6.9a	UOC	<p>JW (IHO Sec) stepped through the substantive changes made to the UOC for the proposed Revision 4.3.0, with FH presenting his Paper in support of the proposed changes to clause 2.1.5 (see Agenda 9b). It was noted that some of the changes made were in response to the corresponding guidance having already been approved for the S-101 DCEG; while other changes were required to support proposed changes introduced in S-58 draft Edition 7.0.0.</p> <p>Unless noted below, there was no substantive discussion.</p> <ul style="list-style-type: none"> • It was questioned as to whether the draft amendments to clause 5.4.3 would require retrospective action on published ENC datasets. JW replied that the changes introduced provided a new option for encoding DRVAL1 and DRVAL2 for isolated shoals and deeps in addition to the guidance already included, so there was no requirement for data to be changed retrospectively. • Changes approved, noting that for the proposed changes for clause 2.1.5, the option to include the full date range format for the population of attributes PEREND and PERSTA is to be removed. <p>Further amendments to the UOC were submitted to the WG at Day 3 for approval. These included: Removal of full date range format as allowable for attributes PEREND and PERSTA as agreed on Day 1; and new Remarks bullet containing guidance for the grouping of soundings in Updates (ENCWG5 Action 26 as discussed by Alvaro, Richard and IHO Sec (Jeff)).</p> <p>[Decision6/12] ENCWG approved the proposed Revision 4.3.0 and the changes during the meeting.</p> <p>[Action 6/12]: IHO Sec. prepares a final draft Revision 4.3.0 of the UOC to be prepared for submission to the HSSC for endorsement to proceed to publication</p>	Target: HSSC14

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6.9b	Clarification for S-57 UOC for ENC and S-58	<p>Frank reported a proposal to update the wording of the UOC and S-58 to remove any ambiguity that may have existed regarding the ISO 8601 encoding of date attributes.</p> <p>ENCWG discussed the full date format for PEREND and PERSTA and made consideration that there was an inconsistency in the guidance for encoding seasonal objects which needs a fully worked proposal. In addition, it was a consideration that there needs to be some guidance in the UOC (and perhaps a S-58 Check) for Data Producers to remove time expired objects from the datasets.</p> <p>[Decision6/13] ENCWG approved the proposal, with the caveat that the full date format is removed as allowable for PEREND and PERSTA.</p> <p>[Action 6/13] IHO Sec removes the full date range option for attributes PEREND and PERSTA.</p>	Target:HSSC14
10. S-57 to S-101 Project Team			
	Guidance doc.	<p>ENCWG noted progress report on the conversion guidance document.</p> <p>[Action 6/14] The Sub-Group provides WG chair/IHO Sec status of the conversion and summary of the guideline document in order to support C-5 report of HSSC.</p> <p>WG chair suggested that the conversion guideline would be included in S-65 that provides more flexible management scheme which should be considered a version control with S-101 edition which moving target to the operational edition 2.0.0.</p> <p>[Action 6/15] Chair proposes to the HSSC that the “S-57 to S-101 Conversion Guidance” document be included as an Appendix to S-65.</p>	Target: 12July 2021 Target: HSSC14
	S-57 to S-101 (HSSC13/30)	[Action 6/16] PT chair provides WG chair status of the conversion and summary of the guideline document to support C-5 report.	
	S-58 checks to conversion	No discussion made.	
11. IHO-SG lab			
	Project	The meeting noted structure of IHO-SG lab and procedures of the project that has phase approach for Phase one for simplified or initial proposal and Phase two for full submission to be approved by the Lab Governing Board.	
11.1 Proposals			
11.1	Bridge and culvert marks	<p>It was noted that there is an implementation for this in inland ENC. However this cannot be included in S-57 if it is an extension. Needs to be considered for S-101.</p> <p>The proposal was rejected and recommended China MSA to submit to S-101PT and NCWG for their consideration.</p>	

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	Vertical clearance of offshore wind turbine blades	<p>It was noted that the UOC already includes guidance on encoding this information in S-57 ENC using the INFORM attribute. It was further noted that the attribute verticalClearance has been included as an allowable attribute for the WindTurbine feature in S-101. It was questioned as to whether the more appropriate attribute to use would be verticalClearanceSafe, however it was agreed that this should be a discussion for the S-101PT.</p> <p>The proposal was rejected.</p> <p>Post-meeting Note: <i>On further investigation of the UOC guidance included at clause 11.7.4, it was noted that the guidance on the population of INFORM was specific to the OSPARE object class. Noting the recommendations in the paper, the guidance has been clarified to also include the population of INFORM for the individual wind turbines (LNDMRK) comprising the wind farm.</i></p>	
	Area feature	<p>It was noted that the S-57 UOC already includes sufficient guidance for the encoding of SEAARE objects. As S-57 is frozen, the inclusion of new attributes cannot be considered for S-57, but may be considered as an enhancement for S-101.</p> <p>The proposal was rejected and recommended China MSA to submit to S-101PT for their consideration.</p>	
	Generation of depth contours	<p>ENCWG noted the information paper, with several attendees commending China for demonstrating their process. It was recommended that Data Producers that are compiling HD ENCs share their experiences in generating contours for reference of prospective Producers.</p> <p>[Action6/17] ENCWG members interested in providing information on their process for generating contours for HD ENCs and/or participating in a small group to compile this information into a single document for reference to notify the Chair at their earliest convenience.</p> <p>China (lead), NOAA, Canada, 7Cs, Caris (Hugh), i4Insight (Inga) joined during the meeting.</p>	Target: ENCWG7
12. NEW ENCWG officers			
	Office bearers	[Decision6/14] Thomas Mellor from UKHO and Richard Fowle from Denmark re-elected as Chair and Vice-chair with the support of the participants.	
13. Date & Location of the next meetings			
		<p>Date and Venue of the next ENCWG meeting</p> <ul style="list-style-type: none"> • ENCWG 7/S-101 PT : October/November 2022 NZ • ENCWG8 : Indonesia • ENCWG9 • ENCWG catch up VTC : February 2022 	