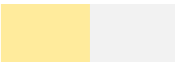# S-101 portrayal subWG - Github Issues status at 23FEB2021

Issue No	Topic	Summary of comments received	Recommended actions for S101PT6 approval
1	Quality of Bathymetric Data - Visualization of Vertical and Positional Uncertainties	In general terms, the comments received supported the development and testing of portrayal and ECDIS's in-built safety functions in support of the encoding of positional and depth uncertainties for critical hydrographic features in line with the paper presented by the AHO and the DQWG (also note HSSC12 endorsement of DQWG recommendations). Due to limitations regarding DF-ECDIS performance, it's recommended that the implementation (if supported by testing and mariners feedback) of this new functionality is deferred to a post S-57 sunset date. Development and testing should start sooner than later though.	**Postpone implementation to post DF-ECDIS date QoBD remodelling dependent (DCEG subWG)** 1) Approve the use of **Horizontal Position Uncertainty** & **Vertical Uncertainty** to affect portrayal and ECDIS performance as described in the papers available in Github. 2) Approve adding a new boolean attribute (**uncertaintyDisplay** Yes/No) to QoBD to control the display of uncertainties indicators in ECDIS to the following feature types: Sounding, Underwater Rock, Wreck and Obstruction. In order to support development and testing, this change should be included in the next version of the FC. 3) Seek KHOA's support for the development of a portrayal proposal capable of managing both, positional and depth uncertainty values on charted Sounding, Underwater Rock, Wreck and Obstruction features. 4) Seek NIWC's suport to assess the requirements needed to implement the use of Horizontal **Position Uncertainty, Vertical Uncertainty** and **uncertaintyDisplay** into future S100 ECDIS in-built route checking safety functions (in line with the content of the 'ECDIS expected performance' section of paper DQWG15_2020_05.1B). This may include but not be limited to changes to the A&I catalogue, on-shore ECDIS, etc. The integration of the new portrayal and safety functions will require thorough testing and mariners'input before final approval.
2	Fairway portrayal	Norway has provided S101 sample data to NIWC and NIWC has generated and shared, ECDIS dsiplay images (Day and Night modes) to compare existing grey colour depiction of Fairways against the preferred new option supported by the subWG which is faint magenta. This Issue is awaiting Norways feedback (as the proposer of the change). Once Norway approves the new colour, they will have to formalise the change request using the newly introduced online 'Portrayal request form'. Once received by Alvaro, it will be managed in accordance with the new 'Portrayal request workflow'.	Note the progress on this Issue.
3	Light Sector Portrayal - Sector Light Length	The group was able to come up with a 'mapping table' that supports all the different ECDIS selector options vs relevant attribute values for both S-52 and S-101. Norway has requested access to an updated test version of the S101 PC (NIWC to provide) to visualise the proposed SLL behaviour in real case scenarios. Norway would then report back to the group on their test results, lessons learnt and recommendations. All these to be discussed at a later stage.	Note the progress on this Issue.
4	Quality of Bathymetric Data and ECDIS Performance (Management of Temporal variation)	In general terms, the comments received supported the retention of the QoBD feature attribure **categoryOf TemporalVariation** and the addition of a new integer attribute **temporalValidity.** Although the proposal to implement a new functionality in ECDIS to auto-downgrade QoBD was not supported it was highlighted that the addition of the complex attribute **fixedDateRange** would be highly beneficial as it could support the encoding and simultaneous release of a number of different QoBD objects that would be turned off/on by ECDIS like any other 'temporal objects' as the time goes by. This encoding guidance should be included in the DCEG as a possible option for HO's to manage areas 'likely to change' that may not be re-surveyed at the pace they should. Other HOs may simply decide to use **temporalValidity** in the first and only published QoBD feature and let the mariner discover and calculate (based on **survey date range - survey end**) its 'due by' date via pick report.	**QoBD remodelling dependent (DCEG subWG)** 1) Retain **categoryOfTemporalVariation** as a valid QoBD feature attribute. 2) Approve adding **fixedDateRange** complex attribute to QoBD to facilitate a 'user controlled' downgrading of QoBD. 2) Approve adding a new integer attribute (**temporalValidity**) to QoBD to express the expected duration of the published quality of the bathymetry in an area. This would provide useful information to mariners when **categoryOfTemporalVariation** is encoded as 'likely to change' (2,3). The encoding of **temporalValidity** is not to be mandatory but, if populated, the encoding of **survey date range - survey end** with a meaningul value (not Unknown) should be mandatory.
5	Grouping of Soundings in ENC Updates	Very limited input and not against the recommendations made in the original proposal. These proposals are therefore considered as accepted by this subWG and directly passed to S101PT6 for endorsement. NIWC will update their Shore-ECDIS to support testing and provide more insights.	1) Add the standardisation of the 'Review Update' functionality in ECDIS to the newly proposed S-101 ECDIS performance log for further develoment and testing. Any proposed solution must include mariners input and therefore it's recommendd that a survey form is prepared and distributed to key stakeholder forums (TBD) to gather their views. The pracfical use of the **UpdateInformation** feature as well as the impact of grouping new/modifed soundings into existing groups and/or deleting features that were part of an existing sndg cluster would have to be thouroughly tested. 2) In the meantime, it's proposed to include guidance in the DCEG recommending encoders not to include new/modified soudings into existing sounding groups when creating an ENC Update. This encoding guidance should be passed to the ENCWG for consideration.

#	Issue	Comments	Actions/Recommendations
6	Portrayal Catalogue 1.1.1_Endorsement and update to registry	No input in Github. Refer to Portrayal subWG VTC meeting Issue # 6 actions. After commment from JW it has been decided on align the FC version to the next PC verion (1.0.1 no 1.1.1).	1) The IHO Secretariat to create a new Github repository to formally manage the review and approval of NIWC's PC versions underpinning testing and development. The S101PT is asked to recognise and endorse that NIWC's PC versions approved in Github will be used as the source to generate any official IHO S-101 PC version. 2) NIWC is to upload their latets PC version to Github and seek feedback in order to obtain formal aproval for version 1.0.1. **The S101PT is requested to determine a due by revision date.** 3) Once Github approval is obtained, the IHO Secretariat, (asssited by KHOA), would generate the corresponding official S101 PC 1.0.1 versions and would update the IHO GI Registry.
7	Quality of Bathymetric Data - Decide portrayal requirements	In general terms, the comments received support the retention of the existing CATZOC symbology in the short term (DF-ECDIS) and the addition of a new feature atribute **categoryOfZoneOfConfidence** (or simlar) to the existing QoBD modelling. This would simplify portrayal rules (Rogier to validate mapping rules) and would retain terminology that is currently in use and is well understood by mariners (now also well documented in S-67). There was also consensus regarding the need for a more holistic approach for the display and integration into ECDIS safety functions of the quality of bathymetric data information (future symbolization of QoBD in S-100 ECDIS).	**QoBD remodelling dependent (DCEG subWG)** 1) Endorse the retention of the existing S-52 CATZOC symbology as S-101 QoBD symbology during the DF-ECDIS period. 2) Endorse the addition of of a new feature attribute **categoryOfZoneOfConfidence** (or simlar) to the current QoBD modelling. 3) Endorse the addition of a new work item to the 'S-101 ECDIS Performance' log regarding the development and testing of new ECDIS functionalities and visualization methods linked to the final modelling of QoBD. This work will require extensive mariner's engagement, testing and the implementation of a comprenhensive communication strategy aimed to introduce and educate users on the new ECDIS performance and/or display standards (to commence at least 1 year before the end of S-57 & S-52).
8	Portrayal of shared edges	A way forward has been suggested by CARIS and accepted in principle by NIWC. NIWC will develop, test and report results back to the PT.	Note the progress on this Issue.
9	Id values in portrayal catalogues	A decision ahs been made to update S-101 PC using **xmlID** but the registry does not currently show a value for **xmlID.**	1) Endorse the decision and task the IHO Secretariat to add **xmlID** values to the registry.
10	Light descriptions with unknown lightCharacteristic	It seems that the preferred option is to build the light's description as per the existing guidance in S-52 10.6.3 and skip (do not display) **rythmOfLight** when this feature attribute has not been encoded or it has been encoded as 'unknown'. It has been noted that S-98 Annex C C-14.10.4 has the same table than S-52 (updated to S-101) but adds that: "Values not listed in this table are not represented in the light description string."	1) Endorse the interpretation of the subWG.
11	Guidance for the implementation of 'temporary' overlays	After discussions NIWC has decided that no further actionis required. This issue will be closed in Github.	Note the decision on this issue.
12	S-101 PC and Mariners viewing groups	Very limited input but it seems that the way forward would be removing mariner's viewing groups/ viewing group layers from S-101 PC and ensuring any associated requirements in this space get well documented in S-98 Annex C. Mariners symbols and viewing groups should be managed and implemented by OEMs.	1) Endorse the removal of mariner's viewing groups/ viewing group layers from S-101 PC. 2) Confirm S-98 Annex C contains enough detail as to support the implementation of this requirement.
13	SY(CHDATD01) symbol has no portrayal parameters	Very limited input but enough as to support the implementation of a viewing group layer for CHDATD01 only. There's no support to also include the viewing groups for INFORM01 (31030 and 31031).	1) Endorse the implementation of a new viewing group layer for CHDATD01 only.
14	Guidance on Date dependent and Safety check	Very limited input as to make a decision. The idea is to identify if the current wording in S-52 is too open and therefore lead to an undeisred interpretation/implementation by some OEMs. The overall intention is to avoid this in S-98 Annex C. NIWC is seeking details about current implementation practices by Furuno and SevenCs.	Note the progress on this Issue.
15	IEC 61174 (4.18) Default selector requirement	Based on the feedback from NIWC, Furuno and SevenCs, the undesratnding is that S-52 text groups are independent of the display mode.	1) Inform the ENCWG Chair of the interpreation made by NIWC, SevenCs and Furuno regarding the practical implementation of the relationship between text groups and display modes and highlight the conflict it creates with the S-52 statement indicating that text is in IMO display category "Other". 2) Recommend the S-100WG remove statements from S-98 indicating text is in "Other". 3) Support the update of the S-101 Portrayal Catalogue so that viewing group layers associated with text are not included in any catalogued display mode (i.e. remove viewing group layers "Important Text" and "Other Text" from display mode "Other".
16	OEM guidance on application of changes to viewing groups	Very limited input and needs broader consultation before making any decisions. This topic seems to impact more than just S-101 and may need to be scalated to the S100WG for inclusion in S-98 Annec C.	1) Discuss the extent of this Issue and recommend NIWC to submit paper to S100WG (update to S-98).

17	S-101 Feature dependency issues	Discussion is still underway. NIWC has started identifying features that can negatively affect display if they are not turned on/ff simultaneously. They will be also looking at implementation strategies to regulate the selective viewing of features. Their findings and proposals would be presented to the subWG for comments and a way forward. NIWC plans to submit an S-100 change proposal for TSM8 / S-100WG6 which supports these changes. The change is to the Parent instruction in S-100 Part 9a - it adds a featureID parameter.	Note the progress on this Issue.
18	Independent Mariner Selections	No input yet. NIWC will prototype implementation and then seek feedback from OEMs and the rest of the subWG.	Note the progress on this Issue.
19	ENCWG 'ENC Display subWG'	The lead of the ENC Display sub WG will liaise with the ENCWG and recommend/organise the migration of their findings to the S-101PT using the online S-101 Portrayal change request form. The ENC Display subWG would be disbanded once this task is completed.	Note the progress on this Issue.
20	ECDIS Chart 1	The general consensus was that an S-101 ECDIS Chart1 is required and to pass the question about othe product specific 'ECDIS Chart 1' to the S100WG. At this point in time it seems they should be considered optional.	1) Approve the creation of and maintenance of an S-101 ECDIS Chart 1 draft version. 2) Seek volunteer to develop the first version. 3) Inform the S100WG Chair of this decision and the S101PT view in regards to other S-100 product specific 'ECDIS Chart 1' datasets.
21	S101 ECDIS Performance requirements log	A better understanding of what items may not fit within the new S-98 Annex C would be beneficial (await feedback from its review process). The AHO will prepare and maintain an S-101 ECDIS performance requirements log to keep records of new functionalities approved by the PT that cannot be implemented in a DF-ECDIS scenario and need further development and testing in preparation for a 'pure' S-100 ECDIS era. Some requirements may be possible to manage within the IHO realm (e.g. catalogues, etc) but others may need to be implemented by OEMs. These requirements will have to be properly documented and included in the corresponding ECDIS type approval document.	Note the progress on this Issue.
22	Portrayal proposals - Workflow and Form	The 'Portrayal update request form' has been aligned with the one used in the IHO's Registry. KHOA has expressed their willingnes to assist with the development of draft SVG files in support of any portrayal proposals, members or other IHO WGs, decide to put forward for consideration.	Note the progress on this Issue.
23	Review the need for new symbology	The spreadsheet created by TSSO has been uploaded to Microsoft365 and Alvaro and Jeff are reviewing the remodelled and new entries that could have impact on portrayal. Their findings and recommended portrayal change requirements would be presented to the subWG for endorsement. Once consesus is reached, new portrayal (symbols, rules, etc) would be developped and tested with NIWC's and KHOA's asssitance.	Note the progress on this Issue.
26	Light Sector portrayal - Sector arc extension	New Issue added after the Portrayal subWG VTC meeting. NIWC has outlined a possible way forward but they need our input. Requires more input from the subWG.	Pending
27	Review new portrayal requirements related to S-101 new/remodelled features and attributes	Work performed by Alvaro and Jeff - 322 of 345 entries reviewed. Initial recommendations require cross check and final approval.	1) Note the progress on this issue 2) Recommend best way forward for final approval of symbology/rules. 3) See KHOA's support to develop new draft SVG symbology when required. Draft symbology would follow new 'Portrayal workflow'. 4) See NIWC's support to implement new or update existing rules.