|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
| SM |  | C-4 | 1st para | Te | We should establish from the outset that this document contains requirements as well as guidance. | Reword to “This Annex contains requirements and guidance for the implementation of harmonised portrayal…” | **SM1 - DONE** |
| SM |  | C-4 | 4th para  2nd bullet | Te | The first bullet incorrectly implies that IMO specifies ECDIS portrayal, and some aspects of IHO’s remit are not included | Reword to “• IHO standards provide the framework for data content, primarily in S-100, as well as standards for portrayal of hydrographic data. S-100 also provides an abstract specification for visual interoperability; for ECDIS, details about interoperability are specified in S-98. IHO standards additionally provide methods of test and required test results for portrayal and interoperability, these are in S-64 (for S-57) and S-164 (for S-100).” | **SM2 - DONE** |
| SM |  | C-7.2 | Bullet c | Te | ECDIS does not perform collision avoidance.  Also remove repeated “integration”. | Reword first sentence to “c) Chart information may be used in conjunction with a radar overlay on ECDIS. ~~Integration of t~~Tracked radar targets ~~provided for collision avoidance radar (ARPA) or,~~ and targets reported by AIS (Automatic Identification System) can be integrated into the ECDIS display, as well as other navigational information which may be added to the ECDIS display.” | **SM3 - DONE** |
| SM |  | C-9.2 | First para | Te | By stating that “Each additional data layer multiplies clutter” S-98 could inadvertently imply that S-100 introduces a human factors problem. | Reword first para to “To prevent the simultaneous presentation of multiple data layers from cluttering the presentation and hiding critical information, the ECDIS shall implement good practice in user interface design, including the applicable IMO requirements (MSC.191(79), MSC.1/Circ1609), and the S-98 interoperability mechanism, described in outlined in C-11.” | **SM4 - DONE** |
| SM |  | C-9.2 | First para, last sentence | Ed | Interoperability is described in C-11, not C-8. | Replace reference to C-8 with C11. | **SM5 - TBC** |
| SM |  | C-9.2 |  | Te | One main way of mitigating data overload is to allow the mariner to select which data layers are to be graphically presented, with the restriction that the ENC layer can’t be switched off. Is this stated anywhere? | Add as a 3rd paragraph:  “With the exception of the ENC layer, which must be permanently on, the mariner must be able to switch the graphical display of individual data products on and off.” | **SM6 - DONE** |
| SM |  | C-10.2 |  | Te | JP asks if the section can be marked as informative | Propose “yes” | **SM7 - DONE** |
| SM |  | C-10.2.10 | Second para | Ed | The referenced Table C-9 does not exist. | Correct reference | **SM8 - DONE** |
| SM |  | C-12.1.1 | Second para, first sentence | Ed | Spelling of “digital” is incorrect | Correct spelling | **SM9 - DONE** |
| SM |  | C-12.1.1 | Second para, 4th bullet | Ed | Some spurious italics have crept in | De-italicise | **SM10 - DONE** |
| SM |  | C-12.1.2 | Bullet list | Ed | S-52 para 2.3.1 e separated individual items into individual bullets and IEC 61174 Ed5 CD2 expanded that separation. It would be preferable to align with that style, resulting in 10 bullets from the original 6, as this supports traceability to the other standards and S-164 tests. | Reword to:  “The following information must be shown on demand:  • Positional data and time;  • Legend (See C-9.1.6);  • Feature description and associated attributes (result of "cursor query") in human readable language;  • textual information from ENC, for example, dataset name, compilation date, date of issue;  • Record of updates for all data products;  • ECDIS Chart 1;  • Black adjust symbol for contrast adjustment;  • Colour differentiation diagram (available from IHO S-164);  • List of categories which are removed from Standard Display;  • Dataset Edition and update numbers (if applicable) of S-101 and other Products in use” | **SM11 - DONE** |
| SM |  | C-12.1.2 | Bullet list | Te | S-52 para 2.3.1 e additionally requires the “Edition number of Presentation Library in use” to be available on demand. | Add  • Edition number of Presentation Library in use; | **SM12 - DONE** |
| SM |  | C-12.1.2 | Bullet list | Te | The feature and product catalogue versions should be available on demand. | Add  • Versions of the feature and product catalogues in use; | **SM13 - DONE** |
| SM |  | C-12.1.3 |  | Te | IMO ECDIS PS Appendix 2 requires “units of depth and height” to be “permanently shown on the ECDIS display”. IEC 61174 delegates testing of this to S-164, so the associated requirement is expected to be found in S-98. However, S-98 C-12.1.3 requires units of depth and height to be “available, at least, on demand and indicated in the display legend”.  Referring to S-64, testing for the IMO requirement appears to be via the legend tests. However, Legend is not permanently displayed.  So, there appears to be a conflict between the IHO & IMO requirements (although the IHO requirement appears pragmatic). | Discuss | **SM14 – DONE, drafted for discussion.** |
| SM |  | C-12.1.4 |  | Te | Method of WLA, required by App C-5, is missing | Add after bullet 8 “Method of Water Level Adjustment applied” | **SM15 – DONE** |
| SM |  | C-12.2.1 |  | Te | Not sure if this is the correct place to specify, but it would be helpful for S-98 to specify what is the intended behaviour of non-ENC data products when “base display” and “standard display are selected.  Should non-ENC data products be removed from display when selecting “base display”?  Should use of S-102 and S-104 continue unchanged if “standard display” is selected? | Discuss. | **SM16 – in PC, no need for change. Base is Base for all. Std is Std for all. Use ENDS.** |
| SM |  | C-12.2.1 | Bullets 8 and 9 | Ed | “Mariners” is possessive, not plural | Reword “Mariners” to “Mariner’s” in both cases | **SM17 - DONE** |
| SM |  | C-12.2.2 | First para | Te | C-12.2.1 uses the terminology “layer” whereas C-12.2.2 uses the terminology “display pane”. Are these terms intended to refer to the same or different concepts? | Explain or align terminology | **SM18 - discuss** |
| SM |  | C-12.3 |  | Te | IMO does not differentiate automatic updates from semi-automatic updates, so this document should not do so.  It would be preferable to cite the IMO PS more directly.  Additionally, for manual updates, the referenced clause C-14.11 doesn’t exist.  Additionally, for review of updates, the referenced clauses C-9.7.1 and C-9.7.2 don’t exist. Probably this is intended to be a reference to Appendix C-3 “Update Status Reports” but maybe other clauses? | Reword to:  “… The citations below are to sections in that Standard:  MSC.530(106) 4.4 ECDIS should be capable of accepting official updates to the ENDS provided in conformity with IHO standards. These updates should be automatically applied to the system database. By whatever means updates are received, the implementation procedure should not interfere with the display in use.  MSC.530(106) 4.5 ECDIS should also be capable of accepting updates to the ENDS data entered manually with simple means for verification prior to the final acceptance of the data. They should be distinguishable on the display from ENDS information and its official updates and not affect display legibility.  The requirements for Manual Updates are given in clauses C-12.3.2 and C-15.10.1.  MSC.530(106) 4.7 ECDIS should allow the mariner to display updates in order to review their contents and to ascertain that they have been included in the system database.  The requirements for displaying updates for review are given in clause C-15.10.2.” | **SM19 – Done. Needs agreeing.** |
| SM |  | C-12.3.2 |  | Te | This clause, which is the first functional requirement for the manual updates that were introduced to the reader in C-12.3, should include functional requirements that align with the presentation requirements in C-15.10.1. Otherwise, for example, there would be a requirement to display an object added by manual update in a particular way, but no requirement to be able to add it in the first place!  Furthermore, since “move feature” is defined as “delete feature” followed by “add feature”, it does not need to be included. | Add at beginning of paragraph  “It must be possible to be able to make the following manual updates to an ENC:   * Add feature * Delete feature * Modify feature” | **SM20 – Drafted for discussion.** |
| SM |  | C-12.3.2 |  | Te | The functional requirements in the “display clause” C-15.10.1 should be moved here. | Add after bullet list above:  “A manually updated feature must be capable of the same performance in feature selection, response to cursor-picking, etc, as an ENC feature. In addition, it must provide updating information (identification and source of update, when and by whom entered, etc) on cursor picking.” | **SM21 – Drafted for discussion.** |
| SM |  | C-12.3.2 |  | Te | The method by which manual updates should be distinguished is undefined. | Reword to “The manual updates must be distinguishable from official information and its official updates as defined in clause C-15.10.1” | **SM22 – DONE.** |
| SM |  | C-15 | 2nd para | Ed | Reference to C-15 is incorrect | Reword to “C-18” | **SM23 – TBD** |
| SM |  | C-15.1.2.1 |  | Te | The overscale factor should only be displayed when actually overscale. | Reword to: “When the overscale factor > 1 it ~~This~~ must be indicated on the same screen as the chart display, and treated as display base. Use colour SCLBR.” | **SM24 - DONE** |
| SM |  | C-15.1.2.1 |  | Te | Should it be specified what scale factor is to be displayed when there are chart cells with different scale factors on the screen? Worst case scale factor? Scale factor at own ship when route monitoring? | Discuss | **SM25 (this is MSVS only)** |
| SM |  | C-15.1.5 |  | Te | The IHO requirement is that “ECDIS must indicate that larger scale data will *shortly become available*, as required by IMO Performance Standards”. But which IMO requirement is being referred to?  MSC.530(106) clause 6.1.2 requires that “ECDIS should provide an indication if… own ship's position is covered by an ENC at a larger scale than that provided by the display;”  Assuming it is clause 6.1.2 being referred to, the IHO requirement does not align with the IMO requirement that the indication is given only when an ENC of larger scale *is available* at own ship’s position.  Additionally, given that cells with different optimumDisplayScales can be displayed simultaneously, which point should be tested when determining whether the indication is provided and do different criteria apply when route planning and monitoring? | Reword to:  “As the mariner’s display window moves and an ENC at a larger *optimumDisplayScale* than that on display becomes available [at own ship’s position when route monitoring, or] anywhere on the screen [when route planning], the ECDIS must provide an indication in accordance with MSC.530(106) clause 6.1.2.”. | **SM26** |
| SM |  | C-15.2.1 | First para | Te | The requirement needs enhancing to adequately support management of both S-57 and S-100 ENC on a dual-fuel ECDIS. | Add “It must be possible to individually select the display of installed S-57 and S-101 ENCs in the graphical index. The display of each data product must be differentiated.” | **SM27 – DONE** |
| SM |  | C-15.2.1 | 3rd para | Te | There seems to be three types of additional information that needs to be distinguished from [the installed datasets]:   * ENC Discovery metadata from Exchange Catalogue files in Exchange Sets * Installed S-128 datasets * Compilations derived from such Exchange Catalogue files   Can the intention of this requirement be clarified?  Can the words “may also be used” also be clarified? | Clarify please! | **SM28 – it should differentiate data installed vs not installed** |
| SM |  | C-15.2.2 | 1st para | Te | Propose the graphical index of S-102 and S-104 (in addition to S-101) is made mandatory since these contribute to the safety contour. | Reword to “The ~~system may~~ ECDIS must additionally implement a capability for displaying graphical indexes of S-102 and S-104 data products, and may implement a graphical display of additional ~~non-ENC~~ data products” | **SM29 – DONE** |
| SM |  | C-15.2.2 | 2nd para | Te | The more data products that are incorporated into the graphical index the less effective the strategy of making the display “distinguishable” will be. | Suggest “If the ECDIS displays graphical indexes for different data products simultaneously it must be possible to individually select the display of each supported data product. The display of each supported data product shall be graphically differentiated.”  Leave the rest to the OEM.  If it is agreed that graphical indexes of S-102 and S-104 data products are mandatory, the correct wording would be:  “It must be possible to individually select the display of each supported data product. The display of each supported data product shall be graphically differentiated.” | **SM30 – DONE, added for review.** |
| SM |  | C-15.3.3 |  | Te | Clarify that it is mandatory to be able to display the “no data” and non-HO” info. (The current draft specifies that it’s both mandatory and optional.)  The restriction to display the info only when the product is on the screen would cause ambiguity – is the marking missing because there is no data, or because there is data but it’s not in the displayed area.  The term “chosen” is unclear.  The references to C-12.2.1 and C-12.2.2 don’t appear relevant. | Reword to:  “The ‘no data’ and ‘non-HO data’ requirements for S-57 and S-101 ENCs are described in C-15.3.1 and C-15.3.2 respectively.  For all other supported data products, it must be possible for the mariner to be able to individually select for display the “no data” areas and “non-HO data” boundaries. The display for each supported data product must be graphically differentiated.  For gridded data, the no-data area limits do not need to demarcate areas within the grid extent which are covered by fill values.  ~~Implementing the depiction of limits for data other than S-101 and S-57 ENCs is optional.~~  NOTE: For some types of coverage products (for example gridded data), no-data areas may be easily distinguished by the lack of portrayal. Nevertheless, consistent treatment of products is required for the convenience of the mariner.” | **SM31 - DONE** |
| SM |  | C-15.4.1 | 1st para | Te | With the advent of gridded data from S-102, it’s no longer the case that the Safety Contour is always derived from contours in the System Database. | Reword to “The own-ship safety contour~~, selected by the mariner from among the contours in the System Database,~~ is double-coded by a thick line and a prominent change in depth shade.“ | **SM32 – DONE** |
| SM |  | C-15.5.1 |  | Te | The IEC 61174 Ed 5 CD defines symbology for both a Mariner’s Caution Note and a Mariner’s Information Note, and notes that IEC 62288 may (in the future) contain a later version of these.  These should be referenced in some way, although neither IEC standard will be published by the time S-98 is published. | Reword to:  “Mariner’s Caution Notes and a Mariner’s Information Notes must be presented according to IEC 61174 or IEC 62288, as applicable [and available].” | **SM33 – DONE** |
| SM |  | C-15.5.2 |  | Te | Is there a reason this is in italics?  Are manual chart corrections the same as manual chart updates? If so, use standardised terminology and reference C-15.10.2 for presentation matters. | Reword to:  C-15.5.2 Manual chart updates ~~correction~~  Manual chart updates,  ~~Small orange identifiers are used to distinguish hand-entered chart corrections,~~ which are subject to human error, must be distinguished from ~~corrections~~ ~~entered~~ updates applied automatically ~~by electronic means~~ as defined in C-15.10.2. The original chart feature ~~should~~ must not be removed or altered.” | **SM34 – DONE.** |
| SM |  | C-15.5.3 |  | Te | Suggest Manual corrections to non-ENC S-100 products are not needed. | Delete section | **SM35** |
| SM |  | C-15.6.2 |  | Te | The best location to define harmonised a date format is IEC 62288 as it will then apply to all navigation equipment. Unfortunately, IEC 62288 does not currently define a date format. If date format is defined in an IHO document, either there will be lack of harmonisation, or the IHO inadvertently becomes the definer of the harmonised format, which could hinder future IEC 62288 maintenance. | Delete “The format of the date must be: dd mmm yyyy = Day, Month, Year; for example, 28 Jan 2014.” | **SM36 – DONE** |
| SM |  | C-15.9.1 |  | Te | The Legend relates only to the ENC. However, there is useful information about other data products at the same location, particularly S-102 and S-104, such as datum, edition and update number. If the Legend doesn’t provide this information, how can the mariner find it? | Discuss | **SM37 -** |
| SM |  | C-15.10.1.3 |  | Te | Since “move feature” is defined as “delete feature” followed by “add feature”, effectively move is not supported, no corresponding tests are required in S-164, and the requirement does not need to be included. | Delete C-15.10.1.3 | **SM38** |
| SM |  | C-15.10.2 |  | Te | Since “move feature” is defined as “delete feature” followed by “add feature”, effectively move is not supported, no corresponding tests are required in S-164, and the requirement does not need to be included. | Delete C-15.10.2.3 | **SM39 – Done. Clarify this is the old process only.** |
| SM |  | C-15.10.6 | Bullet 1 | Ed | The referenced clause 12.3 is incorrect and presumably should be C-15.10.7.  But also, C-15.10.7 contains filtering requirements, but not tagging requirements, so the requirement should be updated to reference filtering only (or tagging requirements need to be added to C-15.10.7).  Finally, bullet 4 already has filtering requirements, so, when corrected, bullet 1 duplicates bullet 4, and can be deleted. | Delete bullet 1. | **SM40** |
| SM |  | C-15.10.6 | Bullet 4 | Te | The referenced clause 12.3 is incorrect and presumably should be C-15.10.7.  But C-15.10.7 does not contain the filtering mechanisms referenced in bullet 4, so we cant “see C-15.10.7”. | Reword to “4. Means must be provided for the operator tofilter NAVWARN messages as described in C-15.10.7. The default setting must be no filtering.” | **SM41** |
| SM |  | C-15.10.6 |  | Te | There is a strong similarity between these S-124 Nav Warnings requirements and the IEC 61174 NAVTEX MSI capability in IEC 61174 Ed5 CD2 para 4.12.6.  Bullet points 3, 4, 5, and 6 are essentially the same as IEC 61174 Ed5 CD2 bullets a, b, c, d and h, excepting a difference kin layout and small differences in terminology.  Bullet point 1 appears diferent to a similar tagging requirement in IEC 61174 Ed5 CD2 bullet g  Bullet point 2 does not have a corresponding IEC 61174 requirement  Bullet points f and i in IEC 61174 Ed5 CD2 on storage and viewing requirements do not have a corresponding requirement in S-98.  These differences could lead to future maintenance issued and unnecessary differences in the user interface that might impact human factors. | Suggest delegating testing of the functional requirements for S-124 Navigational Warnings (NAVWARN) in C-15.10.6 and C-15.10.7 to IEC 61174 to maximise commonality.  . | **SM42** |
| SM |  | C-15.10.7 | 1st para | Te | “Always on” implies a risk of screen clutter. Suggest the mariner should be able to choose whether the graphical display is on or not. | Replace first para with “The mariner must be able to select the graphical display of S-124 navigational warning (NAVWARN) dataset on or off. | **SM43 – DONE** |
| SM |  | C-15.10.7 | 2nd para |  | It’s preferable to replace statements such as “there is a risk of clutter” with descriptions of how an uncluttered screen is ensured. | Replace paras 2, 3 and 4 with:  “To ensure only relevant information is displayed, and to ensure an uncluttered screen, the mariner must be able to filter the NAVWARNs as follows:” | **SM44 – DONE.** |
| SM |  | C-24.2.1 | 2nd para | Te | Use of the IMO term “permanent indication” is sufficient | Reword to “a permanent ~~and persisting~~ indication” | **SM45 – DONE** |
| SM |  | C-24.2.2 | 2nd para | Te | Use of the IMO term “permanent indication” is sufficient | Reword to “a permanent ~~and persisting~~ indication” | **SM46 – DONE** |
| SM |  | App C-4.1 | 3rd para | Te | This Note doesn’t make sense in the context of a definition of how the “User Selectable Safety Contour” feature works. | Reword to:  “On an ECDIS without the User Selectable Safety Contour feature, ~~Also, in the case of S-101 or S-57~~ the user sets the value for the safety contour, but if the exact fit value is not found from the available depth information in S-101 or S-57 then the safety contour defaults to the next deepest which may be over 10 metres deeper situation than the situation based on the value set by the user. The User Selectable Safety Contour feature addresses this issue.” | **SM47** |
| SM |  | App C-4.3 | 1st para | Te | S-98 should make it clear whether there are dependencies or not between the graphical presentation of the 3D surface and the selection of User Selectable Safety Contour.  The 3D surface enhances situation awareness irrespective of whether the User Selectable Safety Contour is in use so presumably there is value in decoupling. | Reword to: “The user ~~may~~ must be able to select S-102 to be used as the source of the depth information; this selection is independent of the graphical display of S-102 data.” | **SM48** |
| SM |  | App C-5 | 1st para | Te | There’s an important constraint in App C-5.4 that it would be beneficial to mention here. | Reword to: “The user ~~It~~ must be able ~~possible~~ to adjust depth information by water level height in areas where both S-102 and S-104 data products are available.” | **SM49** |
| SM |  | App C-5 | Bullet 2b | Te | To clarify alignment with later sections, explain this is a time period | Reword to “b. A mariner specified date and time period” | **SM50** |
| SM |  | App C-5 | Bullet 2c | Te | Since MSC.530(106) Rev.1 now requires ECDIS to support schedules, the wording “Where the ECDIS supports schedules” is no longer appropriate  Additionally, bullets 2a and 2b are selections of time, so bullet 2c should also be a selection of time, and not depth | Reword to: “c. Where the route includes a schedule ~~ECDIS supports schedules~~, ~~the depth at~~ the predicted date and time of transit in each area along a route” | **SM51** |
| SM |  | App C-5 | Bullet 3f | Te | The quotation marks imply that the indication should use the text between the marks, but this is not the case. | Reword to “f. There must be a permanent indication of Water level adjustment as described in Appendix C-5.5, C-5.6 and C-5.7. | **SM52** |
| SM |  | App C-5 | Bullet 4b | Te | To avoid inconsistent application by OEMs, suggest being more precise about the additional information required to be recorded by the ECDIS voyage recording.  Note that the IEC 61174 Ed 5 CD already requires the following to be recorded at 1 minute intervals and to be sent to the VDR and retained for 12 hours: “a record of official data used: ENC (S-57 or S-101), S-102 and S-104 source, edition, date, cell and update history” | Replace 4b with  “The mariner specified date and time period when in use for WLA, or the scheduled date and time, the check area distance and the time resolution when in use for WLA.” | **SM53** |
| SM |  | App C-5.1 |  | Te | Although this is a change initiated by DE51, there is now a lack of clarity since the three WLA options here do not align with those in App C-5.  In particular, “Selected single date and time” is different to “current time”, which is continuously changing and not a single time | Delete the three new bullets and the preceding sentence. | **SM54** |
| SM |  | App C-5.2 |  | Te | For consistency with other requirements for “overlap” indication, “overlap” should be a permanent indication.  Upper case is not required. | Reword to “The ECDIS must provide a permanent indication of “Overlap” ~~indicate an overlap by the text “OVERLAP”~~…” | **SM55** |
| SM |  | App C-5.3 |  | Te | This is the third listing of the mariner options for WLA, All three are different! | The proposal depends on what is intended.  If “methods” of WLA are intended to be the same as “options” for WLA, then align the terminology.  If “methods” and “options” are intended to be different concepts, then it would be preferable to use the term “option” to refer to the operator selection and “method” to refer to how the ECDIS implements the selection. It is not clear whether “single datetime” is intended to refer to “current time” only, or whether it refers additionally to a datetime period where start and end datetimes are identical. Some clarification is required. | **SM56** |
| SM |  | App C-5.3 | Bullet 3a | Te | The reference to MSC.530(108) 11.3.5 is a reference to a route planning requirement. When route monitoring the analogous distance is in 11.4.4. There is nothing in the ECDIS PS to require these values to be the same (a potential defect in itself, but a different subject) but as written, S-98 Annex C Appendix 5 requires a route planning parameter (limit of check) to be used for WLA even when route monitoring could be using a different limit of check. | Reword 3a to:  “a. A distance parameter, the limit of the check area as specified by IMO MSC 530(106) 11.3.5 when route planning and MSC.30(106) 11.4.4 when route monitoring.” | **SM57** |
| SM |  | App C-5.3 | 1st para | Ed | Missing word | Reword to “…substitution of depths by S-102 as defined in clauses …” | **SM58** |
| SM |  | App C-5.4 | 1srt sentence | Te | Is it necessary to constrain the ECDIS so that “WLA can be applied only in areas where there is data from both S-102 and S-104”? Will this unnecessarily reduce the benefits to the mariner? | Discuss | **SM59** |
| SM |  | App C-5.4 | 2nd para | Te | Overlap is insufficient (as it could be partial overlap) - full coverage is needed to perform WLA. | Reword to: “   1. When WLA option 1 or WLA option 2 is selected, where the temporal extent of the S-104 fully covers ~~overlaps~~ the required datetime instant or period selected by the user 2. When WLA option 3 is selected, where the S-104 temporal extent of the S-104 fully covers ~~overlaps~~ the estimated time a part of the route; see figure C-4-16.” | **SM60** |
| SM |  | App C-5.5 |  | Te | When route monitoring, the permanent indication does not advise the mariner sufficiently clearly whether the applied WLA being used for checking the safety contour represents the actual water level currently being experience.  Given that there is a grounding risk if the mariner is unaware that an incorrect WLA adjustment is applied, the option of providing a Warning should be considered. | If WLA is using the current time, then the indication should be “WLA using current time”. This has the second advantage that the indication does not need to change every minute.  If WLA using a time period is in use, the format “WLA using past time”, “WLA using current time” or ““WLA using future time” as applicable can be used. The time period must be available on demand but does not need to be included in the indication since, when route monitoring, the most important aspect to the mariner is whether the WLA is current or not.  If WLA is using a scheduled time then the format “WLA using scheduled time” can be used when route planning. The format “WLA using scheduled time – on schedule” or “WLA using scheduled time – off schedule” can be used when route monitoring.  Consideration can be made as to whether allowing the mariner to select a Warning alert to be given when route monitoring and the following indications are present: “WLA using past time”, “WLA using future time” or or “WLA using scheduled time – off schedule” as these are the cases when the vessel may ground due to the wrong adjustment being in place. | **SM61** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| S-98 | AU | C-15.1.2.1 | 2 | Te | The overscale indication is driven by the zooming past Optimum Display Scale | Amend wording to “denominator of the optimumDisplayScale” | **AU62 – Done** |
| S-98 | AU | C-15.1.2.1 | 4 | Te | The overscale indication is driven by the zooming past Optimum Display Scale | Amend wording to reflect overscale indication is triggered by exceeding the optimumDisplayScale | **AU63 – Done** |
| S-98 | AU | C-15.1.2.1 | 5 | Te | The overscale indication is driven by the zooming past Optimum Display Scale | This paragraph is confusing. What does it mean in context that display is compiled from more than one ENC of the same maximumDisplayScale? When zooming past optimumDisplayScale the overscale indication is shown, when zooming past maximumDisplayScale the indication pattern must be shown unless the display is compiled from the largest scale ENC only. | **AU64 – needs clarification.** |
| S-98 | AU | C-15.1.4 | 2 | Te | The overscale indication is driven by zooming past maximumDisplayScale | Amend the wording to : “Data Coverage areas displayed larger than the MinimumDisplayScale;” | **AU65 – I think this is right. It’s not min.** |
| S-98 | AU | C-15.1.4 | 6 | Te | X2 scale reference is no longer required as the Data Producers have the final decision in the number that is populated for Maximum Display Scale and Optimum Display Scale. This means that X2 (as it currently works in S-57) no longer refers for grossly overscale, this is triggered by going past maximumDisplayScale only. | Reword the paragraph to remove the X2 references for grossly overcalled. This is only triggered by a mariner choosing to zoom larger than maximumDisplayScale. As the ECDIS no longer controls what that number is set to, this paragraph is no longer relevant. | **AU66 – Done.** |
| S-98 | AU | C-15.1.4 | 3 | Te | Zooming past maximumDisplayScale will trigger overscale pattern | Amend wording to : “which will trigger the overscale pattern required by IMO Perfomance Standard MSC 530(106) section 6.1.1.” | **AU67 – DONE.** |
| S-98 | AU | C-15.10 | 1 | Te | There needs to be some information added to S-98 as to how a Mariner will be able to view UpdateInformation features on the ECDIS | Add a paragraph that will describe that updateInformation features can be a Mariner selected viewing group in the ECDIS to allow them to view those features that have been added to S-101 products. | **AU68** |
| S-98 | AU | C-21 | 2 | Te | Dual Fuel period is expected to be a period of time where both S-101 and S-57 products exist. Data Producers will be producing both formats for publication, therefore this statement needs to be reworded to ensure both products are used in an ECDIS. The terminology should be more in line with “co-existing” products rather than “replace” older formats | Reword statement to: “All stakeholders should anticipate a transition period during which new S-100 formats are increasingly published to co-exist with older formats”. | **AU69 – DONE** |
| S-98 | AU | C-21.1 | 1 | te | This section needs to be kept in the document. | Add Section back into the document. Scale and S-57 usage bands need to be considered for the display on an ECDIS. Is Section 21.3 trying to replace 21.1? Add images possibly to show how it will work in practice. | **AU70** |
| S-98 | AU | C-21.3 | 2 | Te | Is the seamless portrayal being achieved by the addition of drawingIndex attribution or the “MONG” Algorithm? | Update S-98 C-21.3 accordingly | **AU71 – MONG is in appendix** |
| S-98 | AU | C-21.3 | 3 | Te | We believe we need to add a statement to ensure S-57 datasets are not adjusted by S-102 or S-104 data. | Add following sentence: S-57 data/values must not be adjusted by S-102 or S-104 information. | **AU72 – DONE in rewording.** |
| S-98 | AU | C-24 | 2 | Te | How will an ECDIS ever know that the dataset is the last one to be cancelled? If a ship navigates from AU to NZ only for instance, it will require the FC’s for the products in that area, but if it then changes and moves to transit between AU and some other location it may need the older FC’s back in the system depending on what the trip plan and producing nations are working on? | Suggest that an ECDIS always carries all previous and current versions of approved feature catalogues. | **AU73 -** |
| S-98 | AU | C-24 | 3 | Te | The text in C-24 paragraph 3 refers to an ECDIS ability to hold and portray multiple product versions and feature catalogues | There is no information in the annex C-2 as referred to by C-24 for explanation of interoperability | **AU74** |
| S-98 | AU | Appendix C-7 Data Loading Strategy | 1 | Te | There is no Data loading strategy attached. Is it going to be via Drawing Index or MONG Algorithm? | Update S-98 Annex C-7 with appropriate Loading Strategy. | **AU75** |
| S-98 | AU | C-9.1.1 | 1 | ed | PS name for S-129 Underkeel Clearance is inconsistent with IHO PS | Amend to show the correct name of S-129 PS, “Under Keel Clearance Management” | **AU76 - DONE** |
| S-98 | AU | C-9.1.2 | 1 | ed | PS names below are inconsistent with IHO PS  S-126 Physical Environment  WMO S-411 Dynamic Ice Information  WMO S-412- Marine Weather Warnings | Amend to show the correct name of S-126 PS, “Marine Physical Environment”  Amend to the correct name of PS, “WMO S-411 Ice Information”  Amend to the correct name of PS, “WMO S-412 Weather and Wave Hazards” | **AU77 - DONE** |
| S-98 | AU | C-16.6 | 1-3 | ed | Include image(s) or an example for this section | Amend to include an image of/or example(s) | **AU78** |
| S-98 | AU | C 23.7.2.2 | 2 | ed | There is no reference to “Isihara colour blindness test” in the document | Include reference to “Isihara colour blindness test” or amend the paragraph to a general wording, e.g “….should have passed | **AU79** |
| S-98 | AU | Appendix C-5 | 1 | ed | Minor editorial edits are required for this section | Add Appendix title on page 87, “Appendix C-5 Water Level Adjustment”. Amend numbering for all figures included in this appendix | **AU80** |
| S-98 | AU | Appendix C-6 | 1 | ed | Minor editorial edits are required for this section | Add Appendix title on page 96, Appendix C-6 Treatment of depth and water level related to S-101 features”. Amend numbering for all figures included in this appendix | **AU81** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| S-98 | DE1 | C-5.1 |  | ed | Update MSC.530(106) to the latest published IMO PS MSC.530(106)/Rev.1, 2024. | Change:  “MSC.530(106) Performance Standards for Electronic Chart Display and Information Systems (ECDIS), Resolution MSC.530(106), 2022.”  to:  “MSC.530(106)/Rev.1 Performance Standards for Electronic Chart Display and Information Systems (ECDIS), Resolution MSC.530(106)/Rev.1, 2024.” | **DE1** |
| S-98 | DE2 | C-8.1 | 1st paragraph | ed | Double space between IMO and MSC.1/Circ.1609 | Remove one space. | **DE2 - DONE** |
| S-98 | DE3 | C-8.1 | 1st paragraph | ed | Double space between in and MSC.1/Circ.1609 | Remove one space. | **DE3 - DONE** |
| S-98 | DE4 | C-9.1.1 | 1st paragraph | ed | Underkeel should be Under keel | Change Underkeel to Under keel . | **DE4 – DONE** |
| S-98 | DE5 | C-9.1.1 | 1st paragraph | ed | Missing semicolon after Catalogue of Nautical Products | Add semicolon. | **DE5 – DONE** |
| S-98 | DE6 | C-9.1.2 | 1st paragraph | ed | Missing semicolon after S-125, S-126, WMO S-411 and WMO S-412. | Add semicolon. | **DE6 - DONE** |
| S-98 | DE7 | C-9.2 | 1st paragraph | ed | Missing a full stop after C-11. | Add a full stop. | **DE7 - DONE** |
| S-98 | DE8 | C-9.2 | 1st paragraph | ed | The standardised mechanism for reducing clutter is the S-98 interoperability mechanism, described in outlined in 11.  Remove “described in” or “outlined in”. | Remove “described in” or “outlined in”. | **DE8 - DONE** |
| S-98 | DE9 | C-10.2 | 1st paragraph | ge | C-10.2 cannot be marked as informative because of C-10.2.14. |  | **DE9 - DONE** |
| S-98 | DE 10 | C-10.2.10 | 2nd paragraph | ge | A reference link is broken. | Fix the broken reference link. | **DE 10 - DONE** |
| S-98 | DE 11 | C-10.2.11 | 1st paragraph | ed | Double space before it. | Remove one space. | **DE 11- DONE** |
| S-98 | DE 12 | C-10.2.14 | 1st paragraph | te | The content of the viewing group “foundation mode” must comply with Display Base rules in IMO MSC.530(106) Appendix 2.  This is mandatory | Change:  “should”  to:  “must”. | **DE 12 - DONE** |
| S-98 | DE 13 | C-10.2.16 | 1st paragraph | ed | A full stop is missing after catalogue. | Add a full stop after catalogue. | **DE 13 - DONE** |
| S-98 | DE 14 | C-12.1.1 | 2nd paragraph | ed | Change “digitial” to “digital” | Change “digitial” to “digital”. | **DE 14 – DONE** |
| S-98 | DE 15 | C-12.1.1 | 2nd paragraph | ed | “For datasets the CN data producer integer and alpha code must match those contained in the “: Wrong format has to be adjusted. | Change format. | **DE 15 - DONE** |
| S-98 | DE 16 | C-12.1.2 | last paragraph | te | Section number with specification for the display of navigational warnings (S-124) is missing (XXX). | Add section number. | **DE 16 - DONE** |
| S-98 | DE 17 | C-12.1.4 | 1st paragraph | te | 7) and 8) Regarding the question: Should these be in Legend? | Yes, for S-57 ECDIS these are required so, these should be maintained. At least for the DF ECDIS. | **DE 17 - DONE** |
| S-98 | DE 18 | C-12.1.4 | 11) | ed | Use the same wording for 11) as for 10)  Only item 10) and 11) refer to the datasets in use, all other sub-items are valid for the whole chart view. | “11) Edition number and date of issue of the datasets;”  to:  “11) Edition number and date of the datasets currently in use:” | **DE 18 - DONE** |
| S-98 | DE 19 | C-12.2.1 | 1st paragraph | ge | “Other Information” should be “All other Information”. | Change:  “Other Information”  to:  “All other Information”. | **DE 19 - DONE** |
| S-98 | DE 20 | C-12.2.1 | 2nd paragraph | ed | “Underkeel” should be “Under keel” | Change:  “Underkeel”  to:  “Under keel”. | **DE 20 - DONE** |
| S-98 | DE 21 | C-12.3 | 1st paragraph | ge | C-14.11 wrong reference | Change the reference. | **DE 21 - DONE** |
| S-98 | DE 22 | C-12.3 | 1st paragraph | ge | One reference link is broken. | Fix the broken reference link. | **DE 22 - DONE** |
| S-98 | DE 23 | C-13.3 |  | te | How to wrap ‘National language’ for S-57 and the selected ‘Preferred language” for S-100 based data product in a common UI (see S-164 Ed 1.3.0 – 8.2 3.)? |  | **DE 23 – not sure?** |
| S-98 | DE 24 | C-15.1.1 | 2nd paragraph | te | Use separate tables for “minimumDisplayScale” and “optimumDisplayScale” (see S-101, Annex A, Table 3-2). | Make separate tables for “minimumDisplayScale” and “optimumDisplayScale”. | **DE 24 – why?** |
| S-98 | DE 25 | C-15.1.2.1 |  | te | The section should be updated for introduction of “optimumDisplayScale”. | Update section. | **DE 25 -** |
| S-98 | DE 26 | C-15.1.4 | Figure C-1 | ge | There should only be a scale boundary ahead of the ship but no scale boundary behind the ship as this area is completely covered by the 1:12.500 chart |  | **DE 26 – we can adjust diagram.** |
| S-98 | DE 27 | C-15.1.4 | last paragraph | te | Shouldn’t the last sentence example mean if the display scale (MSVS) 1:3,500 is selected? | Change:  “optimum display scale”  to:  “display scale (MSVS)” | **DE 27 – changed. It is incorrect though and needs a max value stating.** |
| S-98 | DE 28 | C-15.1.5 | first paragraph | te | IMO PS (MSC.530(106)/Rev.1) 6.1.2 requires that:  “ECDIS should provide an indication if: own ship's position is covered by an ENC at a larger scale than that provided by the display.” | Reword the paragraph that the indication shall come when the ship’s position enters the larger scale ENC. | **DE 28 – Done.** |
| S-98 | DE 29 | C-15.2.2 | first paragraph | te | Graphical indexes for data products (S-102, S-104) required for the mandatory function WLA should also be mandatory. | Reword the paragraph. | **DE 29 – supported by SM29. Added.** |
| S-98 | DE 30 | C-15.3.1 | 3rd paragraph | ge | The reference [ref non official data section (next section)].: where is this section? |  | **DE 30 – DONE.** |
| S-98 | DE 31 | C-15.3.3 | 4th paragraph | ed | Change “t he” to “the”. | Change “t he” to “the”. | **DE 31 - DONE** |
| S-98 | DE 32 | C-15.3.3 |  | ge | For other S-100 product data the term: “non HO data” could be misleading and should be replaced by “non official data” to distinguish between data for official and non-official sources.  Typically e.g. weather data will be from non HO source but could be official. | Replace:  “non HO data”  by:  “non official data”. | **DE 32 – discuss. Needs harmonisation in the rest of the document.** |
| S-98 | DE 33 | C-15.4 |  | ge | This section does not seem to be complete. Four features are mentioned, but only safety contour is mentioned in a sub-section.  Safety contour and safety depth are mentioned in ECDIS PS and IEC 61174, but depth shades and isolated dangers are not mentioned therein. | Complete this section. | **DE 33 – DONE** |
| S-98 | DE 34 | C-15.8.1 | 1st paragraph | ge | 1/90000 should be 1/80000 according to the S-52 PresLib 4.0.3 (10.5.1). | Change 1/90000 to 1/80000. | **DE 34 – DONE** |
| S-98 | DE 35 | C-15.8.6 | 1st paragraph | ge | 11.3.5 should be 11.3.7  To be considered due to the revised resolution MSC.530(106)/Rev.1. | Change 11.3.5 to 11.3.7 | **DE 35 – DONE** |
| S-98 | DE 36 | C-15.8.6 | 3rd paragraph | ed | The citation from MSC.530(106)/Rev.1 should be separated from own text. Use italics (as before) for citation and upright for IHO text. | A graphical indication should be given if the current or the next leg of the selected route goes closer than a user-specified distance from the boundary of a user-selectable category of prohibited area or a geographic area for which special conditions exist.  The ECDIS must implement support for the Alert and Indications Catalogue which may be provided within each product’s Portrayal Catalogue. | **DE 36 - DONE** |
| S-98 | DE 37 | C-15.8.7 | 1st paragraph | ge | 11.3.5 should be 11.3.7  To be considered due to the revised resolution MSC.530(106)/Rev.1. | Change 11.3.5 to 11.3.7. | **DE 37 – DONE.** |
| S-98 | DE 38 | C-15.8.9 | 1st paragraph | ge | 11.3.4 should be 11.3.6  To be considered due to the revised resolution MSC.530(106)/Rev.1. | Change 11.3.4 to 11.3.6. | **DE 38 - DONE** |
| S-98 | DE 39 | C-15.8.10 | whole sub-section | te | It should be stated that WLA is mandatory.  For USSC it has to be decided if it should be optional or mandatory and clearly stated. | Clarify that WLA is mandatory and USSC mandatory or optional. | **DE 39 - DONE** |
| S-98 | DE 40 | C-15.9.1 | Table C-5 | ge | Chart Projection: Change “should” to “must”. | Change “should” to “must” | **DE 40 – DONE** |
| S-98 | DE 41 | C-15.9.1 | last paragraph | te | The minimum list must be available. | Change:  “should”  to:  “must” | **DE 41 - DONE** |
| S-98 | DE 42 | C-15.9.1 | Table C-23 | te | Add selected WLA method to the table as required in Appendix C-4, C-5. | Add entry for WLA method. | **DE 42** |
| S-98 | DE 43 | C-15.10.4 | 2nd paragraph | ge | A reference link is broken. | Fix the broken reference link. | **DE 43** |
| S-98 | DE 44 | C-16.1 | 1st paragraph | ge | Change a grid should produce to a grid must produce. | Change “should” to “must”. | **DE 44** |
| S-98 | DE 45 | C-16.5 | 3rd paragraph | te | A thinning algorithm must be applied. | Add “must”. | **DE 45 – DONE** |
| S-98 | DE 46 | C-18.1 | whole sub-section | te | Change “should” to “must” everywhere. | Change “should” to “must”. | **DE 46 - DONE** |
| S-98 | DE 47 | C-18.1 | 1st paragraph | ge | 11) Reference C-15.3 seems to be wrong. needs to be checked. | Check reference to C-15.3. | **DE 47 - TBD** |
| S-98 | DE 48 | C-21.3 | 1st paragraph | ge | Replace “should” by “must”. | Change “should” to “must”. | **DE 48 – 21.3 has gone.** |
| S-98 | DE 49 | C-24.3.2 | c) | ed | A reference link is broken. | Fix the broken reference link. | **DE 49 – TBD** |
| S-98 | DE 50 | C-25 | last paragraph | ed | two reference links are broken. | Fix the broken reference links. | **DE 50 – TBD** |
| S-98 | DE 51 | Appendix C-4, C-4 | whole section | te | It is not quite clear if USSC is a mandatory or an optional feature.  One “shall” was replaced by a “must” but the rest leaves it open.  A clear statement would be helpful. | Clear statement if the feature is mandatory or optional. | **DE 51 – DONE, explicit statement added.** |
| S-98 | DE 52 | Appendic C-4, C-5 | 1st paragraph | ed | Full stop is missing after first sentence. | Add full stop after “…by water level height”. | **DE 52** |
| S-98 | DE 53 | Appendic C-4, C-5 | 1st paragraph | te | The second sentence “When water level adjustment is provided:” is misleading. The provision of the function is mandatory.  Improve the sentence. | Change:  “When water level adjustment is provided:”  to:  “For water level adjustment:” | **DE 53** |
| S-98 | DE 54 | Appendix C-4, C-5 | 3. | te | Improve sentence. | Change:  “When water level adjustment is applied as defined in this Section:”  to:  “When water level adjustment is activated:” | **DE 54** |
| S-98 | DE 55 | Appendix C-4, C-6.1.1 | first two paragraphs | te | The rules described in this section must be applied when WLA is activated. This should be stated in the two paragraphs by adding “must”. | Add “must” to the two paragraphs. | **DE 55** |
| S-98 | DE 56 | Appendix C-4, C-6.1.2 | paragraph after second list of features | ed | Move closing bracket before “values”. | First sentence should read:  “For all features with substituted (and possibly adjusted) values,…”. | **DE 56** |
| S-98 | DE 57 | Appendix C-4, C-6.1.2 | paragraph after second list of features and following paragraph. | te | The indication of the substituted/adjusted values in the Pick Report should be mandatory. | Change:  “shall”  to:  “must” | **DE57** |
| S-98 | DE 58 | Appendix C-4, C-6.2 | whole section | te | As the adjustment of heights and vertical clearance belongs to WLA, this function is mandatory. | Change:  “shall”  to:  “must” | **DE58** |