|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | DE.01 | Front page |  | ge | It is not only about depth accuracy as the position and coverage are also important, see preface. Also paper chart depiction is explained.  | Should this be mentioned in the title or an more general title as “Accuracy ... in navigational charts” used? If the standard is addressed to ENC users the paper chart explanations are only included as historical backgrounds? | Title has been discussed at previous DQWG meetings |
|  | DE.02 | Preface | 4th par. | ge | Is it only for mariners using electronic charts or should it also help to understand paper chart depth content better? See Section 2. |  | Title has been discussed at previous DQWG meetings |
|  | DK.01 | 2,0 | Page 7 | ge | The section on paper chart information does not mention that CATZOC diagrams are now being used on paper charts.  | The inclusion of this information is key, as indicating that paper charts show ‘Source Diagrams’ when many show CATZOCs or hybrid CATZOC/Source Diagrams would be more relevant. Update this section to include this. | To be discussed |
|  | DK.02 | 3 |  | ge | There is no mention of the feature M\_QUAL  | Add description of M\_QUAL explaining that CATZOC is an attribute of said feature | Agree. |
|  | DK.03 | 3 |  | ge | The hierarchical relationship of meta quality features, individual feature quality and spatial attribution needs to be described particularly the order of precedence | Add details of the following Meta objects and attributes M\_ACCY, M\_QUAL, M\_SREL, HORACC, QUAPOS, POSACC, SOUACC. These are what will be reported to the mariner via the PICK report ! | Usage of Pick Report to be discussed. |
|  | DK.04 | 3.1 | 1st diagram | ge | The first diagram which indicates the need to make allowance for positional inaccuracy of both charted features and ships position is relevant in all categories of CATZOC areas, not just areas of CATZOC C, D or U  | Remove specific reference to CATZOC categories  |  |
|  | FR.01 | Front page | Title | ge | The title should be reviewed because, except few §, the explanations on CATZOC in the document are independent of the products (ENC or paper charts) and, more and more HOs use CATZOC on their paper chart. | The title has already been discussed in previous DQWG meeting. However, the evolution of HOs policy about CATZOC on paper charts couldn’t be ignore by the DQWG. | To be discussed. |
|  | FR.02 | Documents |  | ge | The document is a guide to navigators etc who doesn’t know the S-4 and S-57 (which are documents for HOs), so it could be difficult for them to read the S-67 with reference to S-4 and S-57. |  | HSSC decision, contradiction of S-4, S-57 and S-67 is not allowed. |
|  | FR.03 | p.6 | §1 | ge | The introduction is very “general” and explain why and who (i.e. scheme) HOs product chart : it is not the subject. The introduction should explain why the CATZOC is so important ! |  | Connection to S-4. |
|  | FR.04 | p.7 | §2 | ge | Shom (and other HOs) decided to remove source diagram from their charts and replace it by CATZOC diagram some years ago. And it is important to notice that Source diagram exist in ENC !In fact, the text should only compare CATZOC with source diagram (in ENCs or Paper chart !) to explain why CATZOC is most useful to have an idea of the Quality of Datas. The opposition paper charts / ENC is irrelevant! |  | To be discussed. |
|  | FR.09 | p.8 | §3 | ge | This § could concern paper charts for some informations (if CATZOC diagram is shown in the paper chart) |  |  |
|  | FR.19 | p.10 | §3.3 | ge | I don’t understand the message in this § (relation between safety contour and CATZOC ?)  |  |  |
|  | FR.25 | P17 | §5 | ge | Should we explain how the CATZOC is assessed by HOs? (nothing about vertical accuracy in §5 ?). I’m not sure : the S-67 must explain the CATZOC to mariners, i.e. the impact of ZOC upon mariners.  | I think we have to remove this § (or to resume in a ½ page maximum !). | To be discussed. |
|  | FR.33 | p.22 | §6 | ge | The explanation in this § is redundant with §3 (except the table) | I think, these 2 § could be merged. |  |
|  | FR.37 | p.23 | §7 | ge | See previous comments and their impact on this § |  |  |
|  | FR.38 | p.37 | Annex B | ge | The problem of zooming in ENC is real. However, it is not the pb of “accuracy of depth information”. So, this annex should be remove. |  | Overzoom in combination with poor quality data (not visualized) in combination with small scale ENCs have caused grounding accidents. |
|  | ISec.01 |  | All | ge | This document is intended as a single source of reference for mariners, however it contains many direct copies of text from other IHO Standards such as S-4 and S-57, which are intended for system implementers and chart compilers. This has resulted in inconsistency of syntax and wording, particularly in the introductory section, which may confuse the intended audience. | Suggest that where paragraphs have been quoted from other standards, the language and structure be adapted to be consistent throughout this document and more easily read by the intended audience. This should be reflected in the document where referenced in footnotes (for example “Adapted from S-4 clause …”. Many of the editorial comments below are intended to provide this consistency. | To be discussed. |
|  | ISec.23 |  | Table | ge | Standardized IHO Standards and Specifications have numbered Tables and Figures. | Include Table names and numbers (entire document). Suggest this Table be named: “Table 3-1 –ZOC Categories”. |  |
|  | ISec.25 |  | Subheadings | ge | The sub-paragraphs in this section are essentially sub-clause headings. | Amend clauses “Good quality area”, “Medium quality area” and “Poor quality area” to be sub-clauses (3.1.1, 3.1.2 and 3.1.3) of clause 3.1. |  |
|  | ISec.30 | Poor Quality data | Figure | ge | Standardized IHO Standards and Specifications have numbered Tables and Figures. | Include Figure names and numbers (entire document). Suggest this Figure be named: “Figure 3-1 –Horizontal positional accuracy for ZOCs C, D or U”. |  |
|  | ISec.45 |  | Obstructions | ge | This paragraph (Sub-heading and paragraph to end of bulleted list) appears to be out of place here. This section is for “obstructions, rocks, soundings and wrecks”, including the Table and the last two paragraphs of the section. The subheading, bulleted list and first two paragraphs after the Table are all specific to obstructions only. Then, the last 2 paragraphs of section 3.4 are back to being related to obstructions, rocks, soundings and wrecks. | Combine the subheading “Obstructions”, bulleted list and first two paragraphs after the Table into a separate sub-clause (3.2.1 – see first comment for 3.4 above). The last 2 paragraphs of clause 3.4 should be located directly under the Table. |  |
|  | ISec.66 |  | Heading | ge | Suggest the correct syntax for the word is “over-zooming” (this will make the word consistent with “over-scale” within the document, and is also consistent with other IHO Publications). | Amend clause heading to : “Effect of over-zooming”. Amend all similar instances throughout this clause and the document. |  |
|  | ISec.80 |  | Entire | ge | There is a mixing of phraseology in this Annex. This may be confusing for the end user. (NOTE: Re-phrasing is based on the notions that compilation scale is not “intended”, it is fact; however the “intention” of the compilation scale is that it is supposed to be the maximum viewing scale.) | For consistency, use the terms “compilation scale” and “intended maximum viewing scale” throughout the clause as appropriate. |  |
|  | NL.01 | Overall | Overall | ge | Many times direct reference is being made to existing IHO publications, like S4. Danger of maintainability of this document. When S4 changes, this document needs to be changed as well. | Use less direct quotations.  | See previous comments. |
|  | NL.02 | Preface | 3 | ge | Keep simple. According to the title, the aim is to give guidance about the accuracy of depth information in ENC’s. In that case intended readers are simply users of ENC’s and training institutions (who have an important role in spreading the word). No use for a long sentence with “coastal or international voyages, organizations training navigators for coastal and/or international voyages”. | “The intended readers for this document are navigators on coastal or international voyages, organizations training navigators for coastal and/or international voyages.”Suggest to delete complete sentence. Alternative:The intended readers for this document are ECDIS trainers and ECDIS users. | Text was directly copied from S-4. Is S-4 intended for HOs only, or for HOs and Mariners? |
|  | NL.13 | 4.1 |  | ge | What I miss is a statement or warning that CATZOC gives an indication of the quality of the survey on a certain moment, but that the dynamics of the seafloor is not taken into account. |  | Dilemma of M\_SREL, should be resolved by Temporal Variation in S-101. |
|  | NL.34 | 7 | All | ge | Take into account earlier recommendations and changes |  |  |
|  | NO.01 | Preface (page 5) |  | ge | At the end of the Preface: We may write something about the fact that in some countries there will be prepared national guidelines customized for national waters (ref. Seafarers handbook for Australian waters) |  |  |
|  | NO.03 | 3.2 |  | ge | Section three: *Optionally the ENC may contain the following depth contours:**3m, 8m, 15m, 25m, 40m, 75m, 600m, 700m, 800m, 900m.*  | *Optionally the ENC may contain even more depth contours.*  |  |
|  | RU.01 |  |  | ge | The Department of Navigation and Oceanography of the Ministry of Defense of the Russian Federation has no any comments to the draft publication of S-67 "Mariners Guide to the Accuracy of Depth Information in Electronic Navigational Charts. Looking forward for future fruitful work. |  |  |
|  | SE.01 | 7 |  | ge | Since the document is a guide to non-hydrographers, it is important to give the reader possibility to quick and easy capture the most important information and hopefully attract to further reading. There is a risk that the intended reader will be discouraged from reading a 28-page document if he/she not get the main information at an early stage. By moving the summary and recommendations to the top of the document (directly after the introduction) and perhaps add references to the relevant clause for each recommendation, the reader will get the most important information directly and will hopefully dive into the following chapters to get more information. It is important that the reader quickly can see what he/she get out of reading the document. | Move the chapter “summary and recommendations” to the top of the document (directly after the introduction).Consider adding references on each recommendation to the relevant chapter/paragraph. | To be discussed how to minimize the content and yet send the most important messages to the Mariners. |
|  | SE.02 |  |  | ge | At some places in the document there are text copied directly from S-4. Since the text in S-4 is intended as instruction to HO’s the text is not always necessary for the end user of the product. In some cases, the text is relevant to the end user, but the text may need to be changed to suit the context of the document. |  | See FR.02 |
|  | SE.03 |  |  | ge | The references to S-4 is detailed with reference to specific paragraphs while the references to S-57 only refer to the whole standard. If the references to other standards is important, they should be referenced in the same way. For this document, it is also a possibility to remove the references since the references not are important for the reader. | Remove the references. | See FR.02 |
|  | SE.04 | 2 | Paragraph 2 | ge | Year dates only should normally be used. | The sentence should be removed (see comment 2, the text is an instruction to HO) |  |
|  | SE.15 | 3.2 | Paragraph 4 | ge | For surface navigation the 0 to 100m range is of importance. For submarine navigation and deep water fishing the 0 to 800m is relevant | This sentence could be removed, since it not is necessary for the end user of the document (see comment 2). |  |
|  | SE.18 | 6 |  | ge | As a general guideline, the following choices are made by the Hydrographic Office:* data from ports are assigned CATZOC B, some port authorities provide CATZOC A1
* satellite data is assigned CATZOC C
* laser date by plane is assigned CATZOC B, sometimes A2
* private ship-owner data is assigned CATZOC D
* data before 1980 is assigned CATZOC B, C or D. In general, the older the data, the lower the value.

On a case-by-case basis, the Hydrographic Office may deviate from these general guidelines as they seem fit taking into account local knowledge of the area, intended shipping routes etc. | For the users it is the accuracy of the data that are important, not with which method the data has been surveyed. Since the document is a guide for the user of ENC’s, it is better to force the user to actually look at the M\_QUAL areas in the ENC by not describing in general terms how it usually is. | To be discussed. |
|  | SE.22 |  |  | ge | The document describe how the accuracy is presented in ENC’s and give recommendations of how to use the horizontal accuracy when planning a route. One thing that is missing in the document is how to take the vertical accuracy into consideration when calculating UKC. | Describe how to use the M\_QUAL objects when calculating UKC. | To be discussed. |
|  | UK.01 |  |  | ge | The proposal repeats information and content which is already published and accessible in IHO documents | UKHO do not consider it necessary to create a new standard.Include any new key content in S66 Facts about Electronic Charts and Carriage Requirements, instead of creating a new standard (S67) | This contradicts with the DQWG ToR and the HSSC approval of the DQWG work plan. |
|  | UK.02 |  |  | ge | The proposal is very long / wordy and contains a lot of detail. The accuracy of depth information in ENCs is not mentioned until section 3 (page 8). | Incorporate this information in S66 or compress and restructure the proposal and bring this section forward | See SE.01 |
|  | UK.03 |  |  | ge | S67 is proposed to support ENC users, why the references to paper fair sheets and paper charts etc | Incorporate this information in S66 or compress and restructure the proposal and bring this section forward | See UK.01 |
|  | UK.08 |  |  | ge | There are very few graphics and images to make the content more understandable | Incorporate more graphics and images (and incorporate into S66) | See SE.01 |
|  | US.12 |  | Whole | ge | “Areas of continual and rapid change…..”This point seems to be overlooked in the rest of the paper regarding potential degradation of ZOC due to change. I don’t think that HO’s are currently revisiting ZOCs and degrading them over time for areas where significant change is possible. Just because there were no obstructions in 2010 doesn’t mean that there aren’t any today. | Restate continual and rapid change point in other parts of document.  | Take note of the national methodologies “from survey to CATZOC” as discussed at DQWG-13. |
|  |  |  |  |  | **End of 42 general comments** |  |  |
|  | AU.13 | 3.2 | Para 3 | te | “Optionally the ENC may contain…” is factually incorrect. An ENC may contain any depth contour the hydrographic office wants to insert. (Certain ENC produced by the UKHO and AHO have one metre increments between contours, while the AHO has some port ENC with contours at decimetre level.) | Delete or review statement | The existence of High Densitiy ENC should be mentioned. Having 1m interval depth contours implicitely implies that high quality bathymetry data has been used to derive the 1m interval contour lines.  |
|  | AU.15 | 3.3 | New paragraph – end of section | te | While the table is reasonably useful it has potential to be misleading. It should be followed by an additional paragraph | Consider adding:“However, Mariners should remember that in ZOC C, D and U, and even possibly ZOC B, undetected hazards may be larger than the accuracy of the charted depths.” |  |
|  | AU.16 | 3.4 | Last paragraph – First sentence. | te | The statement is wrong. | In S-57, the horizontal position accuracy for individual objects is encoded, in an object’s geometry (P, L), using the attribute POSACC.POSACC = The best estimate of the accuracy of a position.Refer to UOC 2.2.4.1 (paragraphs 3 and 4). | Noted. |
|  | AU.24 | 5 | Para 2 | te | “data from ports are assigned CATZOC B…” is highly misleading and should be deleted.Many port surveys are conducted to IHO Special Order by certified hydrographic surveyors, achieving decimetre accuracy for depth, and metre accuracy for position. To suggest that CATZOC B for a port is normal is quite incorrect for many HO.  | Recommend replacing with:“data from ports may range from CATZOC A1 to B depending upon a variety of factors.” | See national methodolgies from survey to CATZOC. |
|  | AU.27 | 6.1 | Title | te | Terminology | Should use the term “Over scale” to align with the warning in ECDIS. |  |
|  | AU.29 | 6.1 | paragraph 2 | te | “A large scale chart…”. This does not represent either the incidents which triggered various accident investigations, nor the concerns raised by the various national investigation organisations. ZOC, and the generalisation of ZOC information, had no bearing on the incidents investigated by the UK MAIB, or the Australian ATSB. Both revolved around use of point features to represent small area objects, that were then ‘enlarged’ by the mariner way beyond the point where the symbol no longer covered the true extent of the feature, and where the resulting viewing scale left the mariners with no sense of proximity to danger. | Recommend reviewing content. | Key point to be discussed. |
|  | DE.03 | Preface | par.3 | te | organizations training navigators for coastal and/or international voyages | This is not reflected two paragrahs before. |  |
|  | DE.04 | Intro | p6, par5 | te | Any sounding on the smallest scale chart will also be presented on the largest scale | Inconsistencies may occur during transition from the largest to the smaller scale charts according to the publication process, especially for paper charts. | See S-4 text. |
|  | DE.05 | Ch2 | p7 par1 | te | Paper charts provide information to guide navigators, and those planning ‘navigational operations’ (including the planning of new routes and official routeing measures), on the degree of confidence they should have in the adequacy and accuracy of charted depths and their positions. | This sentence stands for ENCs, too. For paper charts there is a choice between conventional Source diagrams and ZOC diagrams, see S-4 B-290. |  |
|  | DE.06 | Ch2 | p7 par2 | te | The date of the edition of a published paper chart can be misleading (as the source data may be much older) but may have some value. **Year dates** only should normally be used | Year dates - should not mixed with the sentence before as it refers to the Source Diagram and not to the edition of paper chart. | See S-4 text. |
|  | DE.07 | Ch2 | p7  | te | Navigators normally allow for that and other uncertainties by allowing safety margins | The sentence quoted from S-4 is for cartographers and could confuse mariners. | Good seamanship? |
|  | DE.08 | Ch2 | p7 | te | The details and interpretations of published Source Diagrams often varied widely between nations. The variations in method, detail and interpretation render this type of quality information unsuitable for use in an electronic system such as ECDIS, as it prevents use of automated checking routines to look along a planned route to confirm suitability | This paragraph refers again to Source Diagram but the two paragraphs before explain other representations. Better to group them otherwise. |  |
|  | DE.09 | Ch3 | p8 | te | Generalized information in Zones of Confidence (ZOC) diagrams  | In ENCs are not such diagrams, only in paper charts. ZOC diagrams are the second choice for Source Diagrams |  |
|  | DE.10 | Ch3 | p8 | te | Quality descriptions of individual objects dangerous to safe navigation | There is nothing explained about quality of individual objects in paper charts as PA, PD etc. Should we not concentrate on depth information? |  |
|  | DE.11 | Ch5 | p18 | te | choices are made by the Hydrographic Office | A good guidance is also if you compare multibeam with single beam surveys nowadays, for single beam you have not full seafloor coverage and you can’t get CATZOC A. The seafloor coverage is more important than position and depth accuracy. |  |
|  | EE.01 | section 1 |  | te | Shorter is better |  |  |
|  | EE.02 | section 2 |  | te | Not needed in this publication |  |  |
|  | EE.03 | 3.1 |  | te | ZOC categories table is very good and informative |  |  |
|  | EE.04 | 3.2 |  | te | Nice and short |  |  |
|  | EE.05 | 3.3 |  | te | Nice and short and good table |  |  |
|  | EE.06 | 3.4/3.5 |  | te | Good overview for the mariner |  |  |
|  | EE.07 | 4 |  | te | Good topic with the table |  |  |
|  | EE.08 | 5.1 |  | te | Good examples |  |  |
|  | EE.09 | 5.2 |  | te | We found it not necessary for the mariner |  |  |
|  | EE.10 | 6.1 |  | te | Nice and short with good table |  |  |
|  | EE.11 | 7 |  | te | Good example about over-scale ECDIS display near “Isolated dangers.” |  |  |
|  | FR.05 | p.7 (line 15) | §2  | te | Why did it written “Year dates … used.” ? This information is not useful for our purpose. |  |  |
|  | FR.12 | p.8 (line 25) | §3.1 | te | The S-44 ed 5 said “it is impossible to achieved 100% ensonification / 100% bathymetric coverage (the use of such terms should be discouraged).” So, the terms “full seafloor ensonification” should be replace by “full sea floor search”. |  | See S-4, shape of the seabed. Alignment of S-4 and S-44? |
|  | FR.13 | p.9 | §3.1 | te | The description of the three categories (Good / Medium / Poor quality) should also indicate the confidence in soundings (i.e. depth accuracy) as it indicates the confidence in the position accuracy (in particular with dangerous features). For example, for “Good quality data”, when the text is “they are so deep that mariner is confident”, it seems important to said that mariners should think (VALSOU + SOUACC) and not only VALSOU (which is the value charted), based on the SOUACC gives by CATZOC. |  | See paper DQWG15-05.1B |
|  | FR.16 | p.10 | §3.1 | te | The diagram explains well the POSACC issue when mariners planned routes. It should have another diagram to explain the issue with SOUACC (it should be simplified without all the possible uncertainty linked to UKC). |  | See paper DQWG15-05.1B |
|  | FR.22 | p.12 (line 14) | §3.4 | te | “the horizontal position accuracy for individual objects is not available in S-57” is false. |  |  |
|  | FR.27 | p.17 (line 13) | §5 | te | Port authorities could provide CATZOC A2 data. |  | See national methodologies from survey to CATZOC. |
|  | FR.28 | p.18 | §5.1 | te | Crosslines are not to verify if any shoals existed between survey lines. It is the objective of “search lines”. The objective of crosslines is to verify the consistency of the survey.  |  |  |
|  | FR.30 | p.20 | §5.2 | te | The position accuracy of a survey is not “just” the position accuracy of the ship. If we want to explain the position accuracy, it seems important to explain the accuracy of soundings that depends of IMU, SVP or other things… |  | This is done in S-44 |
|  | FR.31 | p.20 (line 22) | §5.2 | te | 5 m seems optimistic (and 0.2 m !). |  |  |
| 1 | ISec.09 |  | Para 4 | te | The first sentence of this paragraph references overview and general type charts. These (in particular overview) may fall into the category of small scale charts, which are not acknowledged at the start of the sentence. | Amend sentence to read: “… in great detail, reflected by small and medium scale charts to provide an overview, general picture …” |  |
| 1 | ISec.11 |  | Para 4 | te | 2nd sentence: This sentence does not reflect the reality – there are no “agreed scales” for ENCs. Sentence needs to be recompiled to reflect the intention of Usage Bands. | Amend sentence to read: “Hydrographic Offices supply Electronic Navigational Charts (ENCs) with the requirement of the Chart aligned to so-called Usage Bands (or Navigational Purposes).” |  |
| 1 | ISec.13 |  | Para 5 | te | First sentence: As this document is specific to ENCs, this sentence should be re-worded for this aim. | Amend sentence to read: “The mariner requires ENCs to be consistent through the Usage Bands, at least for …”. |  |
| 2 | ISec.20 |  | Para 7 | te | ZOC areas is a concept, the actual area as published in S-57 is M\_QUAL, with CATZOC as the attribute describing the ZOC. Note also restructure of description of S-57 as included in comment for Section 1. | Amend paragraph to read: “When making the transition from paper chart to the ENC, the International Hydrographic Organization developed and published the concept of Zones of Confidence areas in their Publication S-57 – “IHO Transfer Standard for Digital Hydrographic Data”.”. |  |
| 3 | ISec.21 |  | Entire | te and ed | - Improved syntax.- Introductory sentence states 2 methods, yet 3 are listed.- ZOCs are not indicated in ENC in a diagram. | Amend clause as follows:Depth accuracy in ENCs may be described in three ways:1. Generalized information through a Zone of Confidence (ZOC) indication (mandatory);
2. Quality descriptions of individual objects dangerous to safe navigation (optional); and
3. Reliability of a survey (optional).
 |  |
| 3.1 | ISec.22 |  | Para 1 | te | In order to make this clearer for the end user, the method that the CATZOC is included in the ENC should be described (noting that pick reports are structured according to S-57 Object Class). | Add new 2nd sentence as follows:“The CATZOC is an attribute included in the S-57 object class M\_QUAL (Quality of Data).”. |  |
| 3.2 | ISec.36 |  | 4th paragraph (new) | te | Many HOs are now producing “high density bathymetry ENCs”. | Add new 4th paragraph: “In addition to the above contours, some Hydrographic Offices are now producing “high density bathymetry ENCs”, which may have a contour interval as small as 0.1 metres covering the depth ranges suitable for the draughts of vessels for which the ENC is intended.”. | See AU.13 |
| 3.4 | ISec.48 |  | 2nd Para under Table | te | There needs to be some indication here as to the impact of the encoding of foul ground in ECDIS, similar to what has been done for foul area in the previous paragraph. | Suggest add the following at the end of the paragraph: “Foul ground included in an ENC will only show in ECDIS “other display”, with no associated alarms or indications. NOTE: Booms, ice booms and ground tackle included in ENC as point objects perform the same in ECDIS as foul ground.”. | To be discussed. |
| 3.5 | ISec.50 |  | Para 1, 1st sentence. | te | In order to make this clearer for the end user, the method that survey reliability is included in the ENC should be described (noting that pick reports are structured according to S-57 Object Class). | Amend sentence to read: “The Hydrographic Office may provide additional quality information on individual surveys, using the M\_SREL (Survey Reliability) object class.”. | M\_SREL is an optional field in S-57. M\_QUAL/CATZOC is mandatory. |
| 6.1 | ISec.67 |  | Para 1, 2nd sentence | te | The recommended scales are located in the UOC, which is Annex A to Appendix B.1. | Amend sentence to read: “IHO S-57 Appendix B.1, Annex A recommends that the compilation scales for ENC’s are based upon standard radar ranges:”. |  |
| 3 | IN.02 | 3.4 & 3.5 | Accuracy of depth information in an ENC | te | For Mariners reference identify these S-57 objects in ENC. | M- QUALOBSTRNM - SREL |  |
| 3.2 | IT.01 |  | par 1 | te | safety depth contour | safety contour is another thing. |  |
| 3.4 | IT.02 | page 12 | last par. | te | Note that the horizontal position accuracy for individual objects is not available in S-57 | There isn't any test that deny the possibility to use position accuracy for individual objects. This should be clarified with ENCWG. IT representative in ENCWG will write an email to the WG about thatin order to have a clarification | See paper DQWG15-05.1B |
| 5 | IT.03 | page 17 | deleted par | te | One limitation of the ZOC system ... | This paragraph was eliminated but I think it is important to include it. | See S-4 B.416 (temporal variation of the shape of the seabed). |
| 5.1 | IT.04 | page 17 | par 5.1 | te | the **systematic** nature of the survey | A survey might also be not systematic CSB. |  |
|  | IT.05 | Annex B | page 27 | te | Every ENC is compiled at an intended maximum **compilation** scale. | From S-65: The scale at which the ENC data was compiled. Note that the consistency recommendations indicate that compilation scale should be considered as the optimal scale for display for that ENC. | See comments about over zooming. |
|  | NL.19 | 3.4 | Last paragraph | te | I don’t understand this para: “Note that the horizontal position accuracy for individual objects is not available in S-57. The value of the overlaying CATZOC applies to the horizontal accuracies of individual obstructions, rocks, soundings and wrecks”.Not available for individual objects, but yes for individual obst etc. | The value of the overlaying CATZOC applies to the horizontal accuracies of individual all obstructions, rocks, soundings and wrecks”. |  |
|  | NL.20 | 3.5 | First paragraph | te | Here it is stated:The Hydrographic Office may provide additional quality information on individual surveys.This means there has to be a survey to start with. Then it doesn’t seem logic that in the table below a value for “unsurveyed” can be given. | The Hydrographic Office may provide additional quality information on individual ~~surveys~~ soundings or objects |  |
|  | NO.05 | 7 |  | te | Dot point 7: * *In ZOC D and U the mariner is advised to take caution…*

Should ZOC C be included here? | * *In ZOC C, D and U the mariner is advised to take caution…*
 | Agreed. |
|  | PR.02 | 3.2 | 3rd paragraph | te | Replace set of optional contour depth values with a more generic term – other then those listed may occur, especially when considering HD ENCs.  | Optionally the ENC may contain depth contour depth values different from the standard available values. ~~the following depth contours~~ | See AU.13 |
|  | PR.04 | 3.4 | Last paragraph | te | Horizontal position accuracy for individual objects is available in S-57, in the attribute HORACC.However – this attribute cannot be encoded on individual obstructions, rocks, soundings or wrecks.First sentence in this paragraph states a fact that is not true, and should be removed or rewritten. | Note that encoding the horizontal position accuracy for individual objects is not ~~available~~ possible for obstructions, rocks, soundings and wrecks in S-57. The value of the overlaying CATZOC applies to the horizontal accuracies of those objects. individual obstructions, rocks, soundings and wrecks. | See paper DQWG15-05.1B |
|  | SE.07 | 3 | Paragraph 1, point 1 | te | Generalized information in Zones of Confidence (ZOC) diagrams  | Generalized area features containing information of Zones of Confidence (ZOC) |  |
|  | SE.08 | 3.1 | Paragraph 1 | te | The quality of the hydrographic source data is assessed according to six categories (CATZOC).Comment: Since not all HO’s use all CATZOC categories, it is better to describe that the data can be assessed to six categories. Instead of describing that it always is so. | The quality of the hydrographic source data **can be** assessed according to six categories (CATZOC) | M\_QUAL/CATZOC is mandatory in S-57. |
|  | SE.09 | 3.1 | Paragraph 2 | te | The higher ZOC categories, A1 and A2, demand full seafloor ensonification or sweep and require very high accuracy standards which have only been achievable with the technology available since about 1980. Therefore many sea lanes which have hitherto been regarded as adequately surveyed may carry a ZOC B classification. Modern surveys of critical areas can be expected to carry ZOC A2 classification whilst ZOC A1 will cover only those areas surveyed under exceptionally stringent conditions for very special reasons | Since the document is a guide for the user of ENC’s, it is better to force the user to actually look at the M\_QUAL areas in the ENC by not describing in general terms how it usually is.Remove the paragraph. |  |
|  | SE.13 | 3 |  | te |  | Add a new subclause between 3.1 and 3.2**Use of Cross track distance (XTD) in voyage planning**In an ECDIS, the Cross track distance (XTD) value is used when performing the automatic route check during the voyage planning. The automatic route check function check the area along the route, within the cross track distance, and report for instance if the safety contour or an isolated danger is within the area.When setting the XTD value for individual route legs, the mariner is recommended to take the horizontal accuracy for the actual CATZOC area into consideration. Note: Under route monitoring, the XTD value generate an alarm when the ship deviate more from the route than the XTD value. If the XTD value is increased with the horizontal accuracy of the CATZOC area during the voyage planning for the automatic route check, the XTD may be decreased in the end of the voyage planning to get an adequate value for the deviation alarm. | To be discussed. |
|  | SE.14 | 3.2 | Paragraph 1 | te | If the mariner enters a safety depth into ECDIS, the system will search for the nearest deeper depth contour and assign this as the safety contour to be used.Comment: The safety depth function in an ECDIS does not affect the use of the safety contour. It is only affecting how the soundings is presented visually. | If the mariner enters a safety **contour** into ECDIS, the system will search for the nearest deeper depth contour and assign this as the safety contour to be used |  |
|  | SE.16 | 3.4 | Paragraph 1 | te | Point 3 – Soundings | The point should be removed since the sounding feature **not** should be used for dangers to navigation (see S-57 B.1 UOC 5.3 and 6.3.1). The sounding features are not a part of the anti-grounding functionality of an ECDIS.  | To be discussed. |
|  | SE.19 | 7 | Paragraph 3 | te | * The mariner should make sure to have the full portfolio of ENC’s available at the appropriate chart scales of the areas the vessel is transiting through. ECDIS does allow the mariner to overzoom hence giving a false sense of security of the accuracy of isolated dangers if Zones of Confidence are not checked.
 | * The mariner should make sure to have the full portfolio of ENC’s available at the appropriate chart scales of the areas the vessel is transiting through. ECDIS does allow the mariner to overzoom hence giving a false sense of security of the accuracy of isolated dangers if Zones of Confidence are not checked. **The overscale indicator can be used in the ECDIS to prevent overscaling the chart.**
 | To be discussed. |
|  | SE.20 | 7 | Paragraph 3 | te |  | New point“The mariner should take the horizontal accuracy of the CATZOC area into consideration when setting cross track distance for the automatic route check during the voyage planning.” |  |
|  | SE.21 | Annex B | Paragraph 1 | te |  | Add the sentence “The overscale indicator can be used in the ECDIS to prevent overscaling the chart.” |  |
|  | UK.06 |  | Section 3.4 and 3.5 | te | These sections contain a lot of detail, the inclusion of excessive detail will result in the user to skim-reading and missing important information. | Simplify the content (and incorporate into S66) | See SE.01 |
|  | UK.07 |  | Table 3.3 | te | Section 3.3 includes a table, without any specific instruction on how to use it | Include specific instruction on how to use it (and incorporate into S66) |  |
|  | UK.09 |  |  | te | Some ECDIS manufacturers are taking a different approach to this issue which is not laid out in IHO standards | One ECDIS uses CATZOC when conducting the route check, would integrating data quality into the ECDIS functions offer greater long-term potential than additional lengthy guidance that’s unlikely to be read? | See paper DQWG15-05.1B |
| Copyright | US.01 |  | Line 1 | te | ‘Copyright International Hydrographic Organization 2018’ | Change to 2019 per the previous page |  |
| 2 | US.09 |  | Para 1 bullet 3 | te | ‘Accuracy of depth information in paper charts’ Not sure that this is true at all. Source diagrams just report the date of survey, not how changeable an area is. | Remove bullet |  |
| 5 | US.21 |  | Para 2 bullet 3 | te | laser date by plane is assigned CATZOC B, sometimes A2 | Change date to data |  |
| 5 | US.22 |  | Para 2 bullet 5 | te | Chang is to are if the data is plural  | data before 1980 are assigned CATZOC B, C or D. In general, the older the data, the lower the value. |  |
| 5.2 | US.24 |  | Para 2 sent 4 | te | Reception in Artic areas is less due to the fact that the satellites do not overpass these areas. | Change Artic to Arctic |  |
|  |  |  |  |  | **End of 73 tecnical comments** |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Front page | AU.01 | Front page |  | ed | Old template | Use latest template based on new IHO branding format |  |
|  | AU.02 | p2 | Copyright note | ed | Wrong year | Amend to 2020 |  |
|  | AU.03 | p4 | Table of contents | ed | The title given to Annex A does not exist in the Annex itself (p25). | Add title to Annex A in p25. |  |
|  | AU.04 | Preface | paragraph 1 – first line | ed | Title of the publication does not match the front page | Amend accordingly |  |
|  | AU.05 | Preface | paragraph 1 and 2  | ed | Refers mariners to S-4, which they do not carry. Structuring this publication around S-4 is therefore inappropriate. | Remove references |  |
|  | AU.06 | Preface | paragraph 3  | ed | improve grammar | Consider amending to:The intended readers for this document are navigators on coastal or international voyages and organizations training navigators for these type of voyages. |  |
|  | AU.07 | Introduction | paragraph 4 – fourth line | ed |  | Consider amending to:Hydrographic Offices produce Electronic Charts based on recommended scale ranges to fulfil different navigational purposes. These navigational purposes are also known as Usage Bands. |  |
|  | AU.08 | Introduction | paragraph 6  | ed |  | Consider amending to:A chart presents an image of the real world ~~outside~~ to the mariner. The depth information in a chart is compiled from various sources, each having their own adequacy and accuracy. How can the mariner distinguish, when using an ECDIS, what the adequacy and accuracy of the depth information is ~~for the planned and executed voyage~~? |  |
|  | AU.09 | 2 | Para 3 | ed | should be deleted as it is an instruction to cartographers (not mariners), and does not form part of explaining accuracy as depicted *in an ENC*. | Delete |  |
|  | AU.10 | 2 | Para 4 and 5 | ed | are instructions to cartographers, not mariners. | Delete |  |
|  | AU.11 | 3 |  | ed |  | Consider amending to:Depth accuracy in Electronic Navigational Charts can be encoded using a combination of the following approaches (please notice that M\_QUAL is mandatory and will be always present in an ENC):1. Encoding simplified area quality indicators using Zone of Confidence (ZOC) categories – Refer to M\_QUAL object.
2. Encoding higher (than the ZOC) accuracy values on individual objects dangerous to safe navigation – Refer to the attributes SOUACC and POSACC.
3. Encoding the survey characteristics – Refer to M\_SREL object
 |  |
|  | AU.12 | 3.1 | Para 3 | ed | “The higher ZOC categories…” has been lifted directly from S-4, which is instructions to cartographers.  | It should be written focussed upon mariners, such as “The higher ZOC categories, A1 and A2, are characterised by full seafloor ensonification or sweep and very high accuracy standards only achievable with technology that has been available since about 1980….” |  |
|  | AU.14 | 3.3 | paragraph 2 | ed |  | Consider amending to:The mariner should take note of the vertical accuracy of the charted depths in the areas the vessel is planning to transit and take appropriate caution: |  |
|  | AU.17 | 3.4 & 3.5 | Tables | ed | Consider adding the S-57 acronym next to each attribute name.(e.g.: Exposition of sounding (EXPSOU)) |  |  |
|  | AU.18 | 3.4 |  | ed | While this falls outside the scope of the original request, the content may be useful. However, if it is to be useful, there must be a very clear “so what” answer for mariners.  | * “Exposition of soundings” needs a simple explanation if mariners are to infer anything meaningful from this information, such as ”Some types of obstructions may have a different least depth to the depth range assigned to the surrounding area, such as a 10m high wreck lying in 15 to 20 metre depths.”
* “Quality of sounding” is excessive as almost all have the same implication for mariner. Again, a simple explanation would help mariners, such as “Most of these attributes have the same practical meaning – that the true depth may differ from the charted depth.”
* “Technique of sounding measurement” is absolutely irrelevant to a mariner, as very few understand the limits of the technology listed. This should be similarly explained as “While some hydrographic offices may state the equipment used to determine the position and depth of a feature, mariners should clearly focus on the CATZOC value and other specific quality attributes, rather than the equipment used.”
 | To be discussed. |
|  | AU.19 | 3.5 |  | ed | Overall, this is considered excessive information. In particular, all references should be deleted from the definitions as these are only (possibly) useful to cartographers, and definitely not mariners. Mariners do not need this level of information, and may actually dismiss the more important aspects because of information overload. | If it is to be retained, it should be moved to an annex |  |
|  | AU.20 | 3.5 | paragraph 1 | ed | Consider adding the S-57 acronym next to each attribute name. Many ECDIS do not spell out attribute/object names. They just show the acronym. | Consider amending to:The Hydrographic Office may provide additional quality information on individual surveys using the meta object M\_SREL. |  |
|  | AU.21 | 4 |  | ed | Fair content, but it should be included well ahead of long technical lists of optional attributes. Understanding these symbols is the key reason for this publication. | * Para 1 is not required, as mariners can see the symbols for themselves.
* Para4 “the number of stars…” duplicates information in the image and is therefore not required.
* Last para “Quick reference” contains grammatical errors. Replace “of” with “or”.
 |  |
|  | AU.22 | 4 | paragraph 5 | ed |  | Consider amending to:The ZOC symbols are placed horizontally across the screen with a fixed separation between them. The CATZOC value at the gravity point of each symbol is used to select the symbol to be displayed. This means that occasionally a CATZOC symbol may be pictured over two adjacent CATZOC areas with different values.This type of symbology was developed in the 1990’s when computer monitors had less sophisticated capabilities than today’s technology. |  |
|  | AU.23 | 4 | paragraph 7 – second line | ed |  | However, when planning a new route ~~of~~ or changing an ………..………….mariners are recommended to activate this layer and use the information provided to support their decision making process before accepting the new route. |  |
|  | AU.25 | 5.1 | paragraph 1  | ed | Wouldn’t be better to rename this section to “Allocation of Zones of Confidence by Hydrographic Offices’?The introductory paragraph should explain better the purpose of this section and its examples. | Consider amending the whole paragraph. Review use of terminology such as ‘Typical survey characteristics’ and ‘the systematic nature of the survey’.Also:Question mark seems to be missing at the end of ‘WGS84’. |  |
|  |  |  |  |  |  |  |  |
|  | AU.26 | 6 |  | ed | Greater consideration should be given to what information will be most commonly encountered by a mariner, and what information is considered “fundamental”. The most common information they will encounter when using ENC will be CATZOC – this should therefore be the clear focus of the bulk of the publication.  | This section, “Impact of ZOC categories upon mariners” should therefore be given great prominence as it is the entire purpose of the publication, and not be buried several pages after long lists of optional technical attributes.  | To be discussed. |
|  | AU.28 | 6.1 | paragraph 1 (and table) | ed | Reference to IHO publication is irrelevant to a mariner – what matters is what range scales are available within the system they are using. These vary between manufacturers and systems.  | Recommend replacing with:The display scales available to mariners in an ECDIS are not standardised and they vary between manufacturers. Hydrographic offices on the other hand are recommended by the IHO to compile their ENC’s using one of the predefined scale values shown in the table below. These scale values, although developed to align, as close as possible, with standard radar ranges, do not always match the display scales available to mariners in ECDIS. Consequently, mariners are strongly recommended, especially during route monitoring, to use the 1:1 ECDIS display setting when available. This setting will display the ENC using the largest compilation scale value at the position of the vessel. Mariners would then benefit from the maximum level of detail available in the ENC without risking over scaling it. | To be discussed. |
|  | AU.29 | 6.1 | paragraph 2 | ed | “A large scale chart…”. This does not represent either the incidents which triggered various accident investigations, nor the concerns raised by the various national investigation organisations. ZOC, and the generalisation of ZOC information, had no bearing on the incidents investigated by the UK MAIB, or the Australian ATSB. Both revolved around use of point features to represent small area objects, that were then ‘enlarged’ by the mariner way beyond the point where the symbol no longer covered the true extent of the feature, and where the resulting viewing scale left the mariners with no sense of proximity to danger. | Recommend reviewing content. | See paper DQWG15-05.1B |
|  | AU.30 | 6.1 | paragraph 2 – 2nd sentence | ed |  | Replace ‘lower’ with ‘smaller’ |  |
|  | AU.31 | 6.1 | paragraph 2 – last sentence | ed |  | amend text to:….. by passing too close to …….. |  |
|  | AU.32 | 6.1 | paragraph 3 | ed |  “Further details and examples …..” | The information referred to in the annex should be moved directly into this section, not left hiding at the end of the publication. The practice of over-scaling, and the potentially catastrophic result it can cause, has been seriously underestimated in the structuring of this draft. |  |
|  | CA.01 | GENERAL COMMENT |  | ed | Section 5.2 while written appropriately should appear earlier in the document – it appears out of a logical order. Discussion of ‘position accuracy’ should fit together with the discussion of ‘depth accuracy’ that occurs in Section 3. | Move Section 5.2 *Position accuracy of a survey* to appear in the document in Section 3.  |  |
|  | CA.02 | Page 7 | Paragraph 4 | ed | Typo? ‘leadlinesurvey’ | Change to ‘leadline survey’ |  |
|  | CA.03 | Page 8 | Paragraph 2 | ed | Depth accuracy in Electronic Navigational Charts is described in **two ways**:… There are three bullets that follow this sentence. | Change to ‘Depth accuracy in Electronic Navigational Charts is described in **three ways:** |  |
|  | CA.04 | Page 17 | Paragraph 2Third Bullet | ed | Typo? ‘laser **date**’ | Change to ‘laser **data’**  |  |
|  | CA.05 | Page 17 | Paragraph 3 | ed | Typo? ‘…as they **seem** fit taking into account local knowledge…’ | Change to ‘…as they **deem** fittaking into account local knowledge…’ |  |
|  | CA.06 | Page 20 | Paragraph 1 | ed | ‘The accuracy to position a ship…’ | Change to ‘The ability to accurately positon a ship…’ |  |
|  | CA.07 | Page 20 | Paragraph 2 | ed | Typo? ‘…**Artic**…’ | Change to ‘…**Arctic**…’ |  |
|  | CA.08 | Page 20 | Paragraph 2 | ed | ‘Reception in Arctic areas is less due to the fact that the satellites do not overpass these areas.’ | Change to ‘Accuracy of GPS positions in the **Arctic** can be less due to the fact that the satellites do not pass directly overhead.’ |  |
|  | CA.09 | Page 27 | Paragraph 3 | ed | ‘Zooming in to over-scale **destroys** the relationship between’ technically zooming out also ‘destroy’ the relationship, but in a ‘better’ way. Suggest alternative wording. | Change to ‘Zooming in to over-scale **negatively impact** the relationship between..’ |  |
| 2 | DE.12 | page 7 |  | ed | The details and interpretations of published Source Diagrams often **varied** widely between nations | The details and interpretations of published Source Diagrams often **vary** widely between nations |  |
|  | DK.05 | 3.2 | 2nd paragraph  | ed | The sentence ‘In an ENC, the following contour lines are standard available:’ does not read well also as the contour interval is not mandated and will vary from country to country and across the scales of coverage | Amend ‘In an ENC, the following contour lines are standard available:’ to read ‘In an ENC, the following standard contour lines are generally available:’ |  |
|  | DK.06 | 3.2 | 3rd paragraph | ed | The stated list of additional contours is not comprehensive i.e some DK ENC’s contain a 6m contour so its probably best not to list specific values but just to state that some ENCs will contain additional depth contour values | Amend ‘Optionally the ENC may contain the following depth contours:3m, 8m, 15m, 25m, 40m, 75m, 600m, 700m, 800m, 900m.’ to read ‘Some ENCs may contain additional depth contours where deemed significant by the producing HO’ | To be discussed. |
|  | DK.07 | 4 | 5th paragraph 1st sentence | ed | This sentence does not make sense:- The triangles are placed horizontally across the screen with a fixed separation of between two symbols. | Amend ‘The triangles are placed horizontally across the screen with a fixed separation of between two symbols.’ to read ‘The triangles are placed horizontally across the screen with a fixed separation between two symbols. |  |
|  | FR.06 | p.7 (line 31) | §2  | ed | Carriage return |  |  |
|  | FR.07 | p.7 (line 40) | §2  | ed | Should be “leadline surveys” |  |  |
|  | FR.08 | p.8 (line 4) | §2  | ed | Should be “…and published the concept of Zones of Confidence…” |  |  |
|  | FR.10 | p.8 (line 9) | §3 | ed | Should be “… is described in three ways:” |  |  |
|  | FR.11 | p.8 (line 21-23) | §3.1 | ed | The order should be the same than in the CATZOC table. |  |  |
|  | FR.14 | p.9 (line 17) | §3.1 | ed | “There is a risk that significant…” |  |  |
|  | FR.15 | p.9 (line 19) | §3.1 | ed | “Those feature that are present in the chart …” |  |  |
|  | FR.17 | P.10 | §3.2 §3.3 | ed | These § should be merged (in fact, the §3.2 could be remove: the beginning of §3.3 gives enough explanation).  |  |  |
|  | FR.18 | p.10 | §3.2 | ed | This § should only recall the definition of safety contour. It is not useful to quote all the possible safety contour! |  |  |
|  | FR.20 | p.10 | §3.3 | ed | “Zones of Confidence never overlap and have no gaps inbetween” should be said before (in §3.1 which describes CATZOC): it is an important information… but given in the middle of other information. |  |  |
|  | FR.21 | p.11 | §3.4 | ed | What is the purpose to insert the table at the end of the page without description or comment? |  |  |
|  | FR.23 | p.12 to 14 | §3.5 | ed | What is the purpose to insert the table without description or comment? |  |  |
|  | FR.24 | p.15 | §4 | ed | Change title : “Zones of Confidence symbols in ENCs”. |  |  |
|  | FR.26 | p.17 | §5 | ed | We have to add a sentence to explain that modern survey has CATZOC define by the CATZOC table (it seems logical, but it is not written) |  |  |
|  | FR.29 | p.20 | §5.2 | ed | It is necessary to put elements in chronological order. |  |  |
|  | FR.32 | p.21 | §5.2 | ed | Remove “compared to GNSS” (x2) |  |  |
|  | FR.34 | p.22 (line 3) | §6 | ed | It should be “Confidence in regards to the information depicted on the chart”: a ZOC A1 area might well be impossible to navigate for certain ships. |  |  |
|  | FR.35 | p.22 | §6.1 | ed | Change title for “Effect of zoom out” |  |  |
|  | FR.36 | p.22 | §6.1 | ed | Remove “Shipping accidents have occurred when mariners did not have the largest scale chart in their ECDIS available, they overzoomed using a medium scale chart, and ran aground by passing to close to isolated underwater dangers.”: accidents are not linked to CATZOC or accuracy of depth bathymetry. This is a pb of use of ENCs which is not our subject. |  |  |
|  | IN.01 | 3.1 | Generalised information ZOC categories | ed | Depth accuracy in unit | 2.00 m |  |
| Pref | ISec.02 |  | Para 1 | ed | Title of the document is “Mariners Guide to Accuracy of Depth Information in ENC”. | Remove “an” from quoted document title. |  |
| Pref | ISec.03 |  | Para 2 | ed | IHO publication convention is to quote the Publication number before the name (noting also that the Publication number is not part of the title and therefore should not be included in quotations). Note also syntax; use of semicolons; and movement of final paragraph ending period outside quotations. | Amend paragraph as follows: “This document is laid out, as far as possible, along the lines of the IHO Publications S-4 – “Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO”; S-57 – “IHO Transfer Standard for Digital Hydrographic Data”; and S-52 – “Specifications for Chart Content and Display Aspects of ECDIS”.”. |  |
| Pref | ISec.04 |  | Para 3 | ed | Incorrect syntax and missing word “and”. | Amend paragraph to read: “The intended readers for this document are navigators on coastal or international voyages; and organizations training ….”. |  |
| Pref | ISec.05 |  | Para 4 | ed | Paragraph reads disjointed with the above, as it mentions “existing IHO standards” when standards have already been quoted above. Does this mean additional standards to above? | Amend paragraph to read: “This document is supplementary to the already existing IHO Standards mentioned above, so as to provide a more in-depth knowledge as to how a navigator should interpret the depth information presented to him/her by an Electronic Chart Display and Information System (ECDIS).” |  |
| 1 | ISec.06 |  | Para 2 | ed | End of 1st sentence is disjointed. | Remove last comma in sentence: “… waters, including major ports visited by the largest vessels~~,~~ and minor arms of the sea of purely local interest.” |  |
| 1 | ISec.07 |  | Para 3 | ed | 2nd sentence: Inconsistent syntax in the document (see para 2). Should be “Hydrographic Offices” (capitalized). | Amend to “Hydrographic Offices”. |  |
| 1 | ISec.08 |  | Para 3 | ed | Last sentence is inconsistent with similar sentences in the document. Note also misspelling of “defense” (Oxford English Dictionary spelling). | Amend last sentence to read: “Such information about the shape of the seabed is required by a variety of national users other than navigators, for example construction engineers concerned with offshore developments; dredging contractors; oceanographers; defence departments; and coastal zone managers.”. |  |
| 1 | ISec.10 |  | Para 4 | ed | First sentence is disjointed and difficult to understand. Note also misspelling of “harbor” (Oxford English Dictionary spelling). | Amend sentence to read: “The combined effect of the two requirements has caused national chart series to cover national waters in great detail, reflected by small and medium scale charts to provide an overview, general picture and coastal image; and large scale charts to provide information for harbour approach, harbour and berthing.” |  |
| 1 | ISec.12 | Bulleted list | Para 4 | ed | Misspelling of “harbor” (Oxford English Dictionary spelling). | Amend to “Harbour”. |  |
| 1 | ISec.14 |  | Footnotes | ed | To make the footnote clearer for the end user. Suggest this convention is applied throughout. | Add the word “clause” to the footnote, for example “S-4 clause B-100.4””. |  |
| 1.1 | ISec.15 |  | Entire | ed | Abbreviation section is missing from the document. | Add abbreviations section. |  |
| 2 | ISec.16 |  | Para 5 | ed | Incorrect spelling “insonified”. | Amend to “ensonified”. |  |
| 2 | ISec.17 |  | Para 5 | ed | Missing space between words. | Amend “leadlinesurveys” to “leadline surveys”. |  |
| 2 | ISec.18 |  | Para 6 | ed | ECDIS is an electronic navigation system. | Amend 2nd sentence to read: “… for use in an electronic navigation system such as ECDIS, as …” |  |
| 2 | ISec.19 |  | Para 7 | ed | No reason to show the full term here. | Amend full term “Electronic Navigational Chart” to abbreviation “ENC”. |  |
| 3.1 | ISec.24 |  | Para 3 | ed | There is no hyphen in the title “Annex A”. | Remove hyphen. |  |
| 3.1 | ISec.26 | Good Quality Area | Last sentence | ed | Misspelling of “meter” (Oxford English Dictionary spelling). Note also should be plural. | Amend to “metres”. |  |
| 3.1 | ISec.27 | Medium Quality Area | Last 2 sentences | ed | Misspelling of “meter” (Oxford English Dictionary spelling). Note also should be plural. | Amend to “metres” (x 2). |  |
| 3.1 | ISec.28 | Poor Quality data | Para 1, last 2 sentences | ed | Misspelling of “meter” (Oxford English Dictionary spelling). Note also should be plural. | Amend to “metres” (x 2). |  |
| 3.1 | ISec.29 | Poor Quality data | Para 2 | ed | Refer to comment below. To better relate the paragraph to the diagram. | Amend first sentence to read: “Figure 3-1 below depicts where a charted shoal may be out of position in areas of ZOC C, D or U.”. |  |
| 3.2 | ISec.31 |  | Entire | ed | The introduction to Clause 3 lists 3 ways that data accuracy can be displayed. Each of these has its own sub-clause. However, “Safety depth” is not one of these, and it is located in the middle of the 3 listed methods. | Move the “Safety depth” clause to 3.4, so as to retain a relationship between the listed values in clause 3 and the sub-clauses. |  |
| 3.2 | ISec.32 |  | Para 1, 1st sentence | ed | Misspelling of “meter” (Oxford English Dictionary spelling). | Amend to “metre”. |  |
| 3.2 | ISec.33 |  | Para 1, last sentence | ed | Misspelling of “colors” (Oxford English Dictionary spelling). | Amend to “colours”. |  |
| 3.2 | ISec.34 |  | Para 2, 1st sentence | ed | Sentence is disjointed. | Amend sentence to read: “In an ENC, the following standard contour lines are available:”. |  |
| 3.2 | ISec.35 |  | Para 3, 1st sentence | ed | The contour values listed in this paragraph are optional additional values to those listed in the 1st paragraph. | Amend sentence to read: “Optionally the ENC may contain the following additional depth contours:”. |  |
| 3.3 | ISec.37 |  | Entire | ed | Consider that this clause is actually a sub-clause under the heading “Safety contour”. | Re-number this clause as 3.4.1 so as to be a sub-clause of “Safety depth” (noting the first comment above relating to clause 3.2) |  |
| 3.3 | ISec.38 |  | Para 1, 2nd sentence | ed | The minimum and maximum values are depths. | Amend sentence to read: “A depth area is an area where the charted depths are bounded by a minimum and (possibly) maximum depth value.”. |  |
| 3.3 | ISec.39 |  | Para 1, 3rd sentence | ed | Sentence is disjointed. | Amend sentence to read: “A depth contour by default is displayed as a solid line; a boundary between deeper and shallower water.”. |  |
| 3.3 | ISec.40 |  | Para 1, last sentence | ed | Sentence is disjointed. | Replace comma in middle of sentence with semicolon. |  |
| 3.3 | ISec.41 |  | Para 2, last sentence | ed | Missing blank space. | Amend sentence to read: “Zones of Confidence never overlap and have no gaps in between.”. |  |
| 3.4 | ISec.42 |  | Clause number | ed | Refer to first comment above relating to clause 3.2. | Renumber and relocate this as clause 3.2. |  |
| 3.4 | ISec.43 |  | Para 1, 1st sentence | ed | As for Preface, Paragraph 2 comment. Also, there is a full-stop in this sentence which should be a comma. | Amend sentence to read: “In S-57 – “IHO Transfer Standard for Digital Hydrographic Data”, the following …”. |  |
| 3.4 | ISec.44 |  | Para 2, last sentence | ed | Last use of “Hydrographic Office” should be singular. | Amend sentence to read: “… information, however it is not mandatory for the Hydrographic Office~~s~~ to do so.”. Alternatively, amend to read “… information, however it is not mandatory to do so.”. |  |
| 3.4 | ISec.46 |  | Obstructions, footnote | ed | Standardize format of reference. Note that the Edition number is not required. | Amend footnote to read: “S-57 Appendix B.1, Annex A – Use of the Object Catalogue for ENC”. |  |
| 3.4 | ISec.47 |  | Table | ed | As for clause 3.1, Table comment. | Suggest this Table be named: “Table 3-2 – Additional quality information for obstructions, rocks, soundings and wrecks”. |  |
| 3.5 | ISec.49 |  | Clause number | ed | Refer to first comment above relating to clause 3.2. | Renumber this as clause 3.3. |  |
| 3.5 | ISec.50 |  | Para 1, 1st sentence. |  | In order to make this clearer for the end user, the method that survey reliability is included in the ENC should be described (noting that pick reports are structured according to S-57 Object Class). | Amend sentence to read: “The Hydrographic Office may provide additional quality information on individual surveys, using the M\_SREL (Survey Reliability) object class.”. | To be discussed. |
| 3.5 | ISec.51 |  | Table | ed | As for clause 3.1, Table comment. | Suggest this Table be named: “Table 3-3 – Components of survey reliability”. |  |
| 3.5 | ISec.52 |  | Table | ed | Document consistency. | Apply numerous syntax and formatting changes. Changes included in the attached document. |  |
| 3.5 | ISec.53 |  | Table (last 2 rows) | ed | All other rows in the table use the attribute name – these last 2 rows us the attribute acronym (inconsistent). | Amend Attribute column entry for second last row in Table to “Information”; and last row to “Information in national language”. |  |
| 4 | ISec.54 |  | Figure | ed | As for clause 3.1, Figure comment. | Suggest the caption in this Figure be removed and used as the name, i.e.: “Figure 4-1 – Zones of Confidence symbols, categories and depiction on an ENC”. |  |
| 4 | ISec.55 |  | Para 5, 2nd sentence | ed | Incorrect grammar. | Amend sentence to read: “The CATZOC value at the gravity point of each symbol is used to depict the value.”. |  |
| 4 | ISec.56 |  | Para 5, 3rd sentence | ed | Not sure what this sentence is trying to say. Is it trying to say that symbols are split across the borders of M\_QUAL objects? | Amend sentence to read: “This means that occasionally only a partial symbol indicating the CATZOC may be depicted, with the symbol being “cut” at the border of adjacent CATZOC areas”. |  |
| 5.1 | ISec.57 |  | Para 1, 2nd sentence | ed | Looks more like a question than a statement. | End the sentence with a question mark rather than a period. |  |
| 5.1 | ISec.58 |  | Para 1, last sentence | ed | Consider more appropriate word to use here. | Amend sentence to read: “The Hydrographic Office should take this into consideration and downgrade the CATZOC areas appropriately.”. |  |
| 5.1 | ISec.59 |  | 1st Figure | ed | As for clause 3.1, Figure comment. | Suggest this Figure be named: “Figure 5-1 – Example: Systematic single beam survey from 1963”. |  |
| 5.1 | ISec.60 |  | 2nd Figure | ed | As for clause 3.1, Figure comment. | Suggest this Figure be named: “Figure 5-2 – Example: Leadline survey from 1899”. |  |
| 5.2 | ISec.61 |  | Para 2, last sentence | ed | The accuracy of the position is referenced to the user, not the GNSS receiver. | Amend end of sentence to read: “… can now use all these services at the same time, thus improving the horizontal and vertical accuracy of their position.”. |  |
| 5.2 | ISec.62 |  | Para 3, 2nd sentence | ed | Missing word and improvement in syntax. | Amend sentence to read: “to correct for errors introduced by the US Air Force for military purposes; and for signal loss between satellites and receiver.”. |  |
| 5.2 | ISec.63 |  | Figure | ed | As for clause 3.1, Figure comment. | Suggest this Figure be named: “Figure 5-3 – Position fixing – pre-1940s; late 1940s to 1990s”. |  |
| 6 | ISec.64 |  | Para 2 | ed | Refer to comment below. To better relate the paragraph to the diagram. Note also misspelling “kilometers”. | Amend paragraph to read: “To put this in perspective, Table 6-1 below is an overall analysis of over 14 million square kilometres of coastal ENC[[1]](#footnote-1)4 from 32 nations:”. |  |
| 6 | ISec.65 |  | Table | ed | As for clause 3.1, Table comment. | Suggest this Table be named: “Table 6-1 – Coverage by ZOC category - analysis”. |  |
| 6.1 | ISec.68 |  | Table | ed | As for clause 3.1, Table comment. | Suggest this Table be named: “Table 6-2 – Recommended standard ENC compilation scales”. | 6.1 |
| 6.1 | ISec.69 |  | Para 2, 3rd sentence | ed | “lower scale chart” is not a standard recognized term, and is not consistent with use of “large scale chart” in the 1st sentence of this paragraph. | Amend sentence to read: “When using a smaller scale chart, at some point two adjacent Zones of Confidence will merge into one.”. |  |
| 6.1 | ISec.70 |  | Last para | ed | There is no requirement to include the number of the publication in the Annex B reference, as it is part of the document (also inconsistent with similar reference to Annex A in clause 3.1). | Remove “of S-67” from end of paragraph. |  |
| 7 | ISec.71 |  | Para 1, 1st and 2nd sentences | ed | Given that “ZOC” is included in the list of abbreviations and used consistently throughout the document, consider that it is appropriate that it is indicated and used here as well.Note also incorrect capitalization of “Depth” in first sentence. | Amend to read: “Accuracy of depth Information in an ENC can be visualized by showing the Zones of Confidence (ZOC) areas. A ZOC area is …”. |  |
| 7 | ISec.72 |  | Para 3, 1st sentence | ed | Sentence is disjointed. See also above comment related to “ZOC”. | Amend 1st sentence to read: “ZOC can be visualized in an ECDIS by activating the information on the corresponding chart display layer (or some other setting, depending on the type of ECDIS).”. |  |
| 7 | ISec.73 |  | Para 3, bullets 1 and 2 and last 2 bullets | ed | See above comment related to “ZOC”. | Replace “Zone(s) of Confidence” with “ZOC(s)”. |  |
| 7 | ISec.74 |  | Para 3, bullet 3 | ed | Misspelling of “meters” (Oxford English Dictionary spelling). | Amend to “metres”. |  |
| 7 | ISec.75 |  | Para 5, 1st sentence | ed | Misspelling of “Harbor” and “Maneuvering” (Oxford English Dictionary spelling). | Amend to “Harbour” and “manoeuvring”. |  |
| 7 | ISec.76 |  | Para 7, 1st sentence | ed | Incorrect use of “port” (singular) and “ports” (plural) in same sentence. | Amend sentence to read: “… place, the key point to note is that the standards of surveying in ports are only very rarely encountered outside those ports.”. |  |
| 7 | ISec.77 |  | Para 7, 3rd sentence | ed | Inconsistent syntax “underkeel”. | Amend to “under-keel”. |  |
| Annex A | ISec.78 |  | Table heading | ed | Standard IHO Publication formatting. | Amend to add Table number and reformat: “Table A-1 – Zones of Confidence categories”. |  |
| Annex A | ISec.79 |  | Table – ZOC B | ed | Incorrect footnote reference. This is incorrect in the S-57 documentation, however cannot be fixed as the Standard is frozen. Do not think this error should be duplicated through to S-67. | Amend footnote reference in Typical Survey Characteristics column for ZOC B table entry to “(note 7)”. |  |
| Annex B | ISec.81 |  | Para 1, 1st sentence | ed | Missing word. | Amend sentence to read: “Use of over-scale display of an ENC may be dangerous in certain circumstances.”. |  |
| Annex B | ISec.82 |  | Para 2, 1st sentence | ed | See general comment above. | Amend sentence to read: “Every ENC is compiled at an intended maximum viewing scale, known as the compilation scale.”. |  |
| Annex B | ISec.83 |  | Para 3, 1st sentence | ed | Consider that there needs to be a clear distinction to the reader of charting small area features as points. See also general comment above. | Amend sentence to read: “At the ENC compilation scale, area details which are too small to chart, but which still present a hazard to navigation, are typically replaced by a point symbol larger than the charted size of the feature (such as a very small reef).”. | To be discussed. |
| Annex B | ISec.84 |  | Para 3, last sentence | ed | Improve understanding for the intended audience. | Amend sentence to read: “Zooming in to over-scale destroys the relationship between the scaled size of the (now larger) real-world area hazard and the size of the symbol.”. | To be discussed. |
| Annex B | ISec.85 |  | Figure | ed | As for clause 3.1, Figure comment. | Suggest this Figure be named: “Figure B-1 – Effect of over-zooming on relationship between point symbol and real-world feature”. |  |
| Annex B | ISec.86 |  | Figure, left caption | ed | Need to qualify what “displayed correctly” is. | Amend caption to read: “When the ENC is displayed correctly (that is, at compilation scale), the danger to a ship close to an isolated danger is clear.”. |  |
|  | NL.03 | Introduction | 4 | ed |  | Change 5. harbor to 5. harbour |  |
|  | NL.04 | 2 | 1 | ed |  | Change “of sources – date and scale”to of sources, data and scale |  |
|  | NL.05 | 2 | 1 | ed |  | Change“It gives an indication of”ToFrom this the user can deduce |  |
|  | NL.06 | 2 | 2 | ed | The sentence “The date of the edition of a published paper chart can be misleading (as the source data may be much older) but may have some value. Year dates only should normally be used.” hasn’t much added value. | Consider to remove |  |
|  | NL.07 | 2 | 4 | ed | The sentence “Areas of continual and rapid change occur in many tidal rivers and estuaries, for example Hugli River (India) and Bahia Buenaventura (Colombia); over bars in the approaches to some ports, for example Esbjerg (Denmark) and Karachi (Pakistan); and over some off-lying banks, for example The Goodwin Sands (UK) and The Eastern Approaches to Nantucket Sound (USA).” Is very long to read. | Areas of continual and rapid change occur in many tidal rivers and estuaries, over bars in the approaches to some ports, and over some off-lying banks. |  |
|  | NL.08 | 3 | 2 | ed |  | Change Depth accuracy in Electronic Navigational Charts is described in two waysTo Depth accuracy in Electronic Navigational Charts can be described in three ways |  |
|  | NL.09 | 3 | 3 | ed |  | Change Generalized information in Zones of Confidence (ZOC) diagramstoGeneralized information in Zones of Confidence (ZOC) values  |  |
|  | NL.10 | 3.1 | 3.1 | ed | Use other wordings for “ as a quick reference guide”.  | Use e.g. “for ease of reading” |  |
|  | NL.11 | 3.1 | 3.1 | ed | Be aware: Good data quality does not mean that the quality of the data has to be good. It means that the end user is well informed how good the Quality of the Data is (according to chair DQWG ☺ ).From that perspective it’s questionable to use the present wording like Good Quality Area, Medium Quality Area, Poor Quality Area.CATZOC doesn’t inform about the data quality, but about the confidence the user can have in the data. | Use wordings as well surveyed, poorly surveyed etc…Or reliable area, area to be sailed with caution, unreliable area…. |  |
|  | NL.12 | 3.1 |  | ed | I consider it questionable to use terms like “The mariner is advised not to navigate closer than XX meters to these features . In navigation planning other considerations under good seamanship play a role. Advise to use this as an indication of position reliability, but not to relate this to a direct navigational advice.  | The position or horizontal accuracy of these features is XX meters. |  |
|  | NL.14 | 3.2 | 1 | ed |  | ChangeIf the mariner is using ECDISToWhen using ECDIS |  |
|  | NL.15 | 3.2 | 1 | ed |  | Change When the mariner enters a safety depth into ECDISToWhen using a safety depth in ECDIS |  |
|  | NL.16 | 3.2 | 3 | ed |  | ChangeFor surface navigation the 0 to 100m range is of importanceToFor surface navigation the 0 to 100m range is relevant |  |
|  | NL.17 | 3.3 | 1 | ed |  | Change inbetween to in between |  |
|  | NL.18 | 3.4 | 1 | ed | The text says that “In IHO Transfer Standard for Digital Hydrographic Data – S-57” the following (subsurface) items are considered to be hazardous to safe navigation”, amongst them a sounding. A sounding as such however can never be hazardous.  | Replace “hazardous” by “of influence’. Or is this taken direct from S57? |  |
|  | NL.21 | 3.5 | table | ed | survey data is does not exist | Delete word “is” |  |
|  | NL.22 | 3.5 | table | ed | Reference is made to a third-order accuracy, however there’s no explanation what a third-order accuracy is |  |  |
|  | NL.23 | 4 | 4 | ed | The triangles are placed horizontally across the screen with a fixed separation of between two symbols. | Delete word “of” |  |
|  | NL.24 | 4 | 4 | ed | The CATZOC value at the gravity point of each symbol is used the depict the value. | Change “the” into “to” |  |
|  | NL.25 | 4 | 6 | ed | However, when planning a new route of changing an existing route whilst enroute, | Change of into orChange enroute into underway |  |
|  | NL.26 | 4 | Quick reference | ed | 5 stars of more | Change of into or |  |
|  | NL.27 | 5 | 1 | ed |  | Change Hydrographic Offices receive different kinds of data collected by different technologiesInto ENC’s contain different kinds of data collected with different technologies |  |
|  | NL.28 | 5.1 | 1 | ed | The paragraph is not logic, the message is blurry. We’re still explaining to the mariner about bathymetry in ENC’s. The last sentence more feels like an instruction to the HO:“The Hydrographic Office should take this into consideration and downgrade the CATZOC areas accordingly”. |  |  |
|  | NL.29 | 5.1 | Example 1 | ed |  | Add text: *Dynamics of the area could influence the quality of the data.* |  |
|  | NL.30 | 5.2 | 4 | ed |  | Change:this means that anything the ship found could be up to 100 meters into this means that any survey result could be up to 100 meters  |  |
|  | NL.31 | 5.2 | 4 | ed |  | ChangeSo again, when something was found, particularly offshore, the true position could quite easily be up to 500 meters from where it was surveyed to be.intoSo again, particularly offshore, the true position of an object could quite easily be up to 500 meters from where it was surveyed to be. |  |
|  | NL.32 | 5.2 | Last para | ed |  | Add the word “charted”:and therefore possibly charted well out of its true position. |  |
|  | NL.33 | 6.1 | 2 | ed |  | Change When using a lower scaleIntoWhen using a smaller scale |  |
|  | NL.35 | 7 | Last bullit | ed | The recommendation that “The mariner should make sure to have the full portfolio of ENC’s available at the appropriate chart scales of the areas the vessel is transiting through. “ is a generic demand under SOLAS and therefore obsolete here. | Delete this part | To be discussed. |
|  | NO.02 | 3.1 |  | ed | Section two: *Modern surveys of critical areas can be expected to carry ZOC A2 classification whilst ZOC A1 will cover only those areas surveyed under exceptionally stringent conditions for very special reasons*Is this real today? In Norway all new surveys fulfills requirements for ZOC A1. |  | To be discussed. |
|  | NO.04 | 6 |  | ed | Section 1: This section is very informative. We suggest It to be highlighted.  |  |  |
|  | PR.01 | 3 | 1st sentence | ed | Change two ways to three ways – use colon | Depth accuracy in Electronic Chars is described in ~~two~~ three ways~~.~~: |  |
|  | PR.03 | 3.3 | Last sentence | ed | Add explanatory sentence describing the table.  | The table below shows the uncertainty of specific depths in each individual CATZOC value. |  |
|  | PR.05 | 4 | Last sentence | ed | Typo and rewrite | However, when planning a new route ~~of~~ or changing an existing route whilst enroute, mariners are recommended to activate ~~this~~ the CATZOC display and use…. |  |
|  | PR.06 | Annex B | Last figure | ed | The right part of the last figure has bad text explanation. Should be described better. |  |  |
|  | Pr.07 | Whole document |  | ed | Consider adding table/figure numbers throughout the document | Add table and figure numbers and/or name/description |  |
|  | ZA.01 |  | Page 7, para 5, line 4 | ed | leadlinesurveys (two separate words) | leadline surveys |  |
|  | ZA.02 |  | Page 15, para 5, line 1 & 2 | ed | ………with a fixed separation of between two symbols. | ………with a fixed separation between two symbols. |  |
|  | ZA.03 |  | Page 15, para 5, line 3 | ed | ……..is used the depict the value. | ……..is used to depict the value. |  |
|  | ZA.04 |  | Page 16 | ed | 5 stars of more | 5 stars or more |  |
|  | ZA.05 |  | Page 17, para 2, line 4 | ed | laser date by plane | laser data by plane |  |
|  | ZA.06 |  | Page 27, para 1, line 1 | ed | ………..may dangerous in certain circumstances.  | ………..may be dangerous in certain circumstances.  |  |
|  | SE.05 | 2 | Paragraph 5 | ed | In most areas which have not been wire-swept or fully insonified, there is a possibility that depths somewhat shoaler than those charted may exist. | In most areas which have not been wire-swept or fully insonified, there is a possibility that depths **are** somewhat shoaler than those charted may exist. |  |
|  | SE.06 | 3 | Paragraph 1 | ed | Depth accuracy in Electronic Navigational Charts is described in two ways | Depth accuracy in Electronic Navigational Charts is described in **three** ways |  |
|  | SE.10 | 3.1 | Paragraph 5, Medium Quality area | ed | Those features that are present have a horizontal accuracy of ± 50 meter | The charted features have a horizontal accuracy of ± 50 meter |  |
|  | SE.11 | 3.1 | Paragraph 6, Poor Quality area | ed | Those features that are present have a horizontal accuracy of ± 500 meter | The charted features have a horizontal accuracy of ± 500 meter |  |
|  | SE.12 | 3.1 | Paragraph 7 | ed | The figure below shows this where a charted shoal may be out of position in areas of CATZOC C, D or U | The figure below shows where a charted shoal may be out of position in areas of CATZOC C, D or U |  |
|  | SE.17 | 4 | Paragraph 5 | ed | The CATZOC value at the gravity point of each symbol is used the depict the value | The CATZOC value at the gravity point of each symbol is used **to** depict the value |  |
|  | UK.04 |  | Section 5 | ed | This section is disjointed, hard to digest for the reader | Incorporate this information in S66 or compress and restructure the proposal and bring this section forward into section 2 |  |
|  | UK.05 |  | Section 6 | ed | Section 6 is concise, in the current proposal there are 22 pages before this section | Incorporate this information in S66 or compress and restructure the proposal and bring this section forward |  |
|  | UK.10 |  | Page 7 | ed | insert space between “leadlinesurveys” |  |  |
|  | UK.11 |  | Page 9 | ed | add an “s” to read “20 meters”, “50 meters”, “500 meters” |  |  |
|  | UK.12 |  | Page 16 | ed | Should read “3 stars **or** less” |  |  |
| Contents | US.02 |  | Sect 5 | ed | HO could be changed to Hydrographic Office | Change: Assessment of the quality of a survey into a Zone of Confidence by the Hydrographic Office |  |
| Contents | US.02 |  | Sect 5 | ed | HO could be changed to Hydrographic Office | Change: Assessment of the quality of a survey into a Zone of Confidence by the Hydrographic Office |  |
| Contents | US.03 |  | Sect 5 | ed | Should ZOC be spelled out if the examples previous are | Change ZOC to Zone of Confidence |  |
| Preface | US.04 |  | Para 3 | ed | The intended readers for this document are navigators on coastal or international voyages, organizations training navigators for coastal and/or international voyages. | Add an and after voyages |  |
| Preface | US.05 |  | Para 4 | ed | This document is supplementary to already existing IHO Standards…. | Are there too many to name here? If not, consider listing them. |  |
| 1 | US.06 |  | Para 5 Sent 4 | ed | “ which is selected” and “Clearly present” | Change “which is selected” to “being selected” and change to “clearly presented” or “presented clearly” and  |  |
| 1 | US.07 |  | Para 6 | ed | Add sentence to paragraph.  | A chart presents an image of the real world outside to the mariner. The depth information in a chart is compiled from various sources, each having their own adequacy and accuracy. Given this, an obvious question arises. How can the mariner distinguish, when using an ECDIS, what the adequacy and accuracy of the depth information is for the planned and executed voyage? |  |
| 2 | US.08 |  | Para 1  | ed | Change last 3 sentences  | This is portrayed as a graphic with accompanying text in what is known as a Source Diagram. This diagram provides information about source surveys from which the mariner can deduce the degree of confidence in charted depth data. The date gives an indication of: |  |
| 2 | US.10 |  | Between Para 2 and 3 | ed | Add paragraph | The scale of a controlled survey may provide some indication of the thoroughness and the line-spacing, and should be stated in the form 1:5 000, 1:15 000, etc, on conventional Source diagrams. |  |
| 2 | US.11 |  | Para 5 sent 1 | ed | ‘In most areas which have not been wire-swept or fully insonified,…’ | Change to ensonified. Ensonified is used in section 3.1 |  |
| 3.1 | US.13 |  | Para 2 | ed | Chang ZOC to CATZOC | CATZOC is listed above |  |
| 3.3 | US.14 |  | Para 2 | ed | Several different depth areas may have the same CATZOC value. On the other hand, within one depth area more than one CATZOC value may be present. Zones of Confidence never overlap and have no gaps inbetween. | Change to : Several different depth areas may have the same CATZOC value. On the other hand, more than one CATZOC value may be present within one depth area. Zones of Confidence never overlap and do not have gaps between them. |  |
| 3.4 | US.15 |  | Para 2 sent 1 | ed | Change sentence  | The individual encoding on these items may contain additional quality information that is only applicable to the particular items. |  |
| 3.4 | US.16 |  | Para 3 sent 1 | ed | The following items are considered to be an obstruction | Change: The following items are considered an obstruction |  |
| 4 | US.17 |  | Para 5 sent 2  | ed | The CATZOC value at the gravity point of each symbol is used to depict the value. | Chage the to to and consider changing gravity to center |  |
| 4 | US.18 |  | Para 5 sent 4 | ed | Consider removing this sentence  | Not needed.  |  |
| 4 | US.19 |  | Para 7 sent 2 | ed | However, when planning a new route of changing an existing route whilst enroute, mariners are recommended to active this and use the information before accepting the new route in the ECDIS system. | Change of to or and active to activate |  |
| 4 | US.20 |  | Para 7 | ed | Alt for whole Para. Vs comment above  | This kind of symbology tends to clutter the screen. During execution of a voyage mariners will most likely de-activate this setting. However, mariners are recommended to activate this setting when planning a new route or changing an existing route whilst enroute, and use the information before accepting the new route in the ECDIS system. | To be discussed. |
| 5.1 | US.23 |  | Para 1 sent 1 | ed | Typical survey characteristics are the first considerations to make an assessment of seafloor coverage, depth accuracy and position accuracy | Maybe it should be reworded. (when making a assessment) |  |
| 6.1 | US.25 |  | Above Para 1 | ed | Shipping accidents have occurred when mariners did not have the largest scale chart in their ECDIS available, they overzoomed using a medium scale chart, and ran aground by passing to close to isolated underwater dangers.  | Add new paragraph  |  |
| 6.1 | US.26 |  | Para 1 sent 1 | ed | ENC’s are compiled at a certain scale. | ENC’s are compiled for use at a certain scale.Add for use |  |
| 6.1 | US.27 |  | Para 2 sent 3 | ed | When using a lower scale chart, at some point two adjacent Zones of Confidence will merge into one. At that point only the lesser value of the two Zones will be available for safety reasons | When using a smaller scale chart, at some point two adjacent Zones of Confidence will merge into one. At that point only the lesser value of the two Zones will be available for safety reasonsChange lower to smaller |  |
| 7 | US.28 |  | Para 3  | ed | Zones of Confidence can be visualized in an ECDIS by activating the information on chart display layer. (or some other setting, depending on the type of ECDIS). The following recommendations are made to the mariner: | Zones of Confidence can be visualized in an ECDIS by activating the information on a chart display layer. (or an equivalent setting, depending on the type of ECDIS). The following recommendations are made to the mariner:Consider making the changes in red |  |
| 7 | US.29 |  | Para 3 bullets | ed | Consider removing the wording ‘unless the mariner is confident to sail over them’ | Remove wording from bullets 2,3, and 4  |  |
| 7 | US.30 |  | Para 4 sent 2 | ed | Reword suggestion | The highest survey standards are generally observed in ports while areas outside of ports are generally subject to greater risks, even though depths may be deeper |  |
| 7 | US.31 |  | Para 4 sent 3 | ed | Reword suggestion | The risk will decrease with increasing under keel clearance (depths greater than 100 m), and depth areas greater than 200m are generally considered safe for surface navigation. |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  | **End of 208 editorial comments** |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  | **End of total of 323 comments by 17 organisations** |  |

1. From Navigation Purpose 3 and 4 ENC in 2015, covering 14,218,244 SQ KM. The analysis did not include ports. [↑](#footnote-ref-1)