



## CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

[A Working Group of the Hydrographic Services and Standards Committee (HSSC)]

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### CSPCWG Letter: 08/2013

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To CSPCWG Members

Date 09 May 2013

Dear Colleagues,

**Subject: Actions from 9<sup>th</sup> CSPCWG meeting: Group 1 'Clarifications'  
Follow-up to Letter 04/2013.**

Thank you to the 19 Working Group members who responded to Letter 04/2013. As usual, we have consolidated the responses, analysed them and added 'Chairman's responses'; see Annex A.

As you will see, we have very good agreement on the proposals, with only a few small changes to make (shown in red at Annex B). All except the new B-100.5 can be included as clarifications in the next edition of S-4.

Although most agreed that B-100.5 could be regarded as a clarification, Australia correctly drew attention to the wording of IHO Resolution 02/2007 (Paragraph 5.1), which implies that 'adding a new specification within an existing section' is a revision and so subject to Member States' approval. Canada also suggested that this new paragraph may be expanded upon; however, as the proposed wording was accepted unanimously, we will progress this wording, as proposed, and invite Canada to introduce further discussion at our next meeting.

France and South Africa have pointed out a minor ambiguity in B-201.3, which we have noted to correct.

There seemed to be a little confusion about the intentions of new paragraph B-120.6. Just to clarify: this is only to guide the editor of S-4 on when it is appropriate to retain obsolescent or obsolete symbols in S-4, not on charts. On charts, of course, they should be removed or replaced as appropriate at any opportunity (usually new edition).

There is no need to respond to this letter, unless you disagree with any of our conclusions; if so, please let us know as soon as possible, so we can consider your points before including in S-4.

Yours sincerely,



Andrew Heath-Coleman  
Secretary

Annex A: Consolidated responses to CSPCWG Letter 04/2013.

Annex B: Final Versions of Clarifications (or submission to Members States for B-100.5).

**CSPCWG9 Actions drafts: Group 1 'Clarifications'**

## Consolidated Responses

WG9 Action	Question	Yes	No
41	Do you agree with the wording of draft B-410a? <b>Chairman: the majority are happy with the wording.</b>	AU, BR, CA, DE, ES, FI, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK, US(NOAA),	FR, ZA
44	Do you agree with the wording of draft B-120.6? <b>Chairman: the majority are happy with the wording.</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK, US(NOAA),	ZA
45	Do you agree that B-133 is a suitable place for the convention on upright and sloping text? <b>Chairman: unanimous</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK, US(NOAA), ZA	
	What should the title line for the convention be (please choose one from the following, noting that it will also be applied to revised section B-500):		
	Fonts	BR, CA, JP,	
	Text styles <b>Chairman: this majority preference conforms to what we decided for B-500, ie 'Text styles' covers the issue of upright v sloping whatever 'font' is used.</b>	AU, DE, FI, FR, NO, NZ, SE, UA, UK, US(NOAA),	
	Something else – please put your suggestion below	ES, GR, IR, LV, ZA	
46	Do you agree with the wording of draft B-133? <b>Chairman: the majority are happy with the wording.</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, SE, UA, ZA	NZ
46	Do you agree that S-4 B-100.5 is a suitable place for the guidance of updating largest scales first? <b>Chairman: unanimous</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK, US(NOAA), ZA	
	Do you agree that there is no requirement to include such guidance in S-11 Part A? <b>Chairman: unanimous</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK, US(NOAA), ZA	
	Do you agree with the wording of draft B-100.5? <b>Chairman: unanimous</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK,	

		US(NOAA), ZA	
	Do you agree that this guidance is a ‘clarification’? <b>Chairman: although the majority are happy that this is a clarification, AU correctly quotes M-3 Res 02/2007 Paragraph 5.1; ie this is ‘adding a new specification within an existing section’. We are expressing an <b>existing</b> principle of good practice but it is new to S-4 and so should be referred to MS.</b>	BR, CA, DE, ES, FR, GR, IN, IR, JP, NO, NZ, SE, UA, UK, ZA	AU, FI, US(NOAA)
47	Do you agree that B-201.3 is a suitable place for stating the principle of referring all charts to WGS84? <b>Chairman: unanimous</b>	AU, BR, CA, DE, ES, FI, FR, GR, IN, IR, JP, LV, NO, NZ, SE, UA, UK, US(NOAA), ZA	
	Do you agree with the wording of draft B-201.3? <b>Chairman: the majority are happy with the wording.</b>	AU, BR, CA, DE, ES, FI, GR, IN, IR, JP, LV, NO, NZ, SE, UA, US(NOAA),	FR,ZA
52	This paragraph was included at B-360, immediately following the existing paragraph, as explained in Annex to CSPCWG Letter 01/2013 (revised) and is therefore now awaiting approval by IHO Member States (CL03/2013 refers).		

#### Further comments

##### AUSTRALIA

**Action 44:** Suggest last sentence of new clause B-120.6 be amended to read: “This is to guide the cartographer in replacing or deleting the symbol”.

**Chairman: If the symbol is to be replaced with a new one, then the new one is shown in S-4 and the obsolete removed; otherwise S-4 would become cluttered with lots of obsolete symbols. It is only when there is **no** replacement symbol (because it is no longer appropriate to chart the **feature**, eg AeroRC) that it is sometimes useful to retain the obsolete in S-4 so that the compiler knows what symbol has to be removed. No change is required. See also comment at NZ.**

**Action 46:** As this action is introducing new specification within an existing section, consider that this change should be classified as a Revision (in accordance with IHO TR 2/2007 para 5.1).

**Chairman: Agree. We will need to refer this to MS.**

##### CANADA

Action 46) iv) I think this is a good start as a clarification, but should it go further? As with all generalization, every circumstance has its own unique challenges. There are general principles one follows when compiling overlapping charts at different scales, but can more be said to express the flexibility that is required in certain circumstances?

**Chairman: We have unanimous agreement on the wording to put to the Member States. This may generate further comment, of course. Once we have this inserted in S-4, could Canada elaborate on how we might develop this basic principle further (perhaps by preparing a discussion paper for CSPCWG10)?**

##### FINLAND

45 – In B-500 the fonts and text styles are discussed in broader sense. Therefore we think that in there ‘fonts’ is suitable term. Of course ‘text style’ could also be used in some cases there. But B-133 relates only to upright vs. sloping question. These are styles, and so ‘text styles’ is a good choice for title.

**Chairman: Agree.**

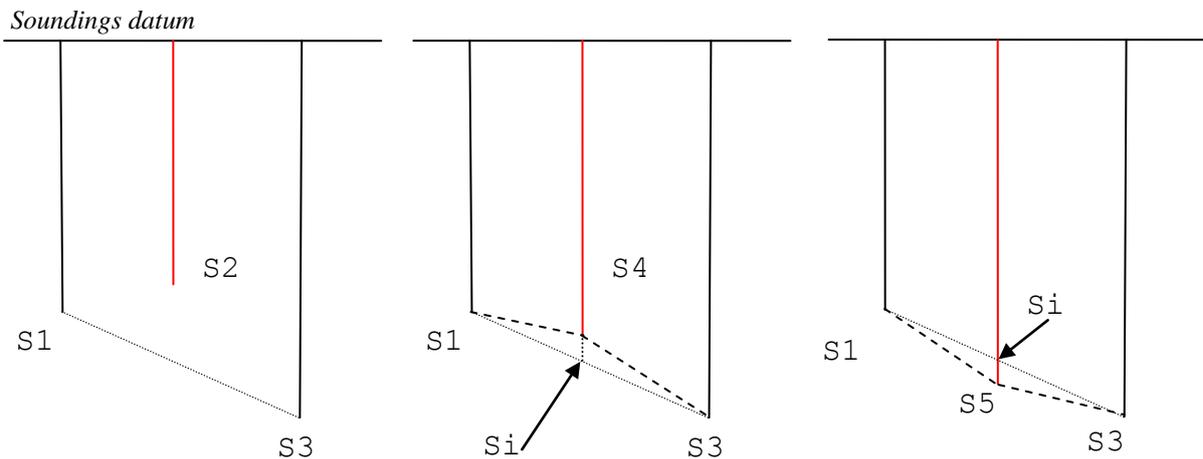
FRANCE

Action 41 / B-410a:

The proposed rules are not sufficient and cannot be applied as they are written. With the proposed rules, we can have depths which are not safe. The three schemes below show:

- On the left side, if S1 and S3 are the two charted soundings, following the application of the proposed rule, the sounding S2 can not exist between the two charted soundings S1 and S3, because S2 is less than S1 which is the lesser of the two charted depths; *I agree with that.*
- On the middle, if S1 and S3 are the two charted soundings, following the application of the proposed rule, the sounding S4 can exist between the two charted soundings S1 and S3, because S4 is not less than S1 which is the lesser of the two charted depths; but S4 is not a safe depth, S4 must be less than the interpolated\* depth  $S_i$  calculated with S1 and S3.
- On the right side, if S1 and S3 are the two charted soundings, the sounding S5 can exist between the two charted soundings S1 and S3, first, because S5 is not less than S1 which is the lesser of the two charted depths (proposed rule), second, because S5 is less than the interpolated\* depth  $S_i$  calculated with S1 and S3.

\* Linear interpolation; for the use of this rule for the validation of soundings within the triangle of charted soundings, no actual sounding will exist above the plan defined by the triangle.



The first rule could be modified as follow: no actual sounding will exist within a triangle of charted soundings which is less than the interpolated depth calculated at its position with the soundings defining the edges of the triangle; and

the second rule could be modified as follow: no actual sounding will exist between two adjacent charted soundings forming an edge of the triangle which is less than the interpolated depth calculated at its position with the two charted soundings.

**Chairman:** because the seabed does not shoal evenly, exact interpolation can never be achieved. The expectation of the mariner is that a sounding will be somewhere between S1 and S3 but not exactly proportional to the distance from each. I believe the last sentence of proposed B-410a adequately covers the issue.

Action 47:

In coherence with the words use at the beginning of B-202.2, I suggest to use “transformation note” rather than “transformation adjustment” because for some very old charts, it is impossible to determine a transformation adjustment to WGS84 (see B-202.3 c). I suggest amending the second sentence of the proposed B-201.3 as follow: A transformation note to WGS84 must be included on any such chart (see B-202).

**Chairman:** Agree, although we did not alter that part of the paragraph. See comment at South Africa.

## GREECE

Action 44: Since the feature might still exist, its deletion would not be appropriate. It should be better to replace the last sentence with: “*This is to guide the cartographer in replacing or deleting the symbol*”.

Chairman: see comments at AU and NZ.

Action 45: *Fonts (Text styles)*

Chairman: we have accepted the majority view, which accords with discussion re B-500.

## INDIA

Action 45: Response form ‘Annex B to CSPCWG Letter 03/2013’ has already been forwarded to IHB on the said subject.

Chairman: Yes, thank you.

## JAPAN

Action 41: We consider that it is necessary to make a triangle carefully. For example a triangle may cross a shallower depth area.

Chairman: I agree; the guidance as drafted is based on this principle and the circumstance you describe. The triangle should work between any three selected soundings. If it crosses a shallower depth area than all three of the soundings, then the selection needs to be changed.

## LATVIA

Action 45: Suggesting like in draft: "Text styles (Fonts), if it will be decided to leave at B-133, but also suggesting it to move to B-170 and title it "Use of Text Styles (Fonts)", because in my opinion it is not a UNIT, but as a convention is distinct, like B-140 "Use of Colour".

Chairman: it is a convention, like B-132, so B-133 seems suitable. Because B-130 deals with units does not mean that B-131 to B-139 all have to deal with units.

Action 46: In 9th CSPCWG Meeting Report point 4.1. is listed that "...• He stated that S-4 remains outside the requirements of Resolution 2/2007 until completion of the current revision, now expected during 2013.", and in regards to AU response and comment to this point, and my lack of knowledge in this question, I am not sure.

Chairman: We also found it a difficult judgment to make, but see comment at AU.

## NEW ZEALAND

Action 44 B-120.6: We agree with this wording for full New Editions (NE) but we do not necessarily update all symbology for Limited New Editions (LNE). This paragraph starts with ‘Normally’ so there is room for this exception. However, if this difference between full and Limited New Editions is common practice with other nations, we suggest this is made explicit in this clause.

Chairman: B-120 is entirely concerned with ‘Terms and Conventions used in the Specifications’, ie in S-4. It does not apply to charts, whether full NEs or LNEs. While we think symbology should be updated whenever opportunity presents, we accept that in some cases the urgency of a NE may rule it out.

Action 45 B-133: The second paragraph directs cartographers to the ‘specifications for the appropriate feature’ to determine whether something is a land or a sea feature. There are three ways we could think of that this could help:

1. The description of the feature in the specification may define it as land or sea.
2. There is an example of text that is either upright or sloping.
3. The feature falls in either the topography or the hydrography sections.

We suggest adding some additional sentences describing how the ‘specifications for the appropriate feature’ will help determine whether a something is a land or a sea feature.

Chairman: I do not think the third 'way' is valid as so many 'mixed' features are found in the topography section. I am uncertain of the value of adding something like '...appropriate feature, where it may be defined as land or sea or an example may be provided'. How the particular specifications clarifies which style the text should be in will be evident when it is referred to.

Change 'eg: Pontoons B-324' to 'eg: Pontoons B-326'

Chairman: Pontoons will be in B-324 when this clarification is added, as the revised topography section will be the main reason for the new edition of S-4 at the time.

## SOUTH AFRICA

ACTION 41: 410a. The last sentence as proposed reads: "The final test of depth selection is that no source material should contain depths the mariner would consider 'unexpected' after examining the chart."

The mariner does not have access to the source information so will not be in any position to make such a comparison. Suggest this sentence be amended to read:

"The final test of depth selection is that after examining the chart against the source material the compiler should confirm that the source contains no depths that would transgress the above principles for sounding selection."

Chairman: but this wording is for compilers, not mariners. Compilers will have access to the source material and therefore makes this judgment on behalf of the mariner who will use the chart. I think the wording as proposed is correct and more succinct than your suggestion.

ACTION 44: The subject of this paragraph does not really fit in with the topic of Section 120 Terms and Conventions used in the Specifications.

Recommend this text be placed as paragraph 125.3

Chairman: This convention only applies to the specifications (ie S-4), not charts, so this is exactly the right place for it. See also comment at NZ.

Recommend the wording in the last sentence of para B-120.6 should be improved. We support the proposals of Australia and Greece who suggests the last sentence of new clause B-120.6 be amended to read: "This is to guide the cartographer in replacing or deleting the symbol."

Chairman: see comment at AU.

ACTION 45: In this context TEXT STYLES seems appropriate as a heading as it embraces the issue of use of upright or italics. Alternatively, a heading titled USE OF UPRIGHT AND ITALICS FONTS would also be acceptable in our opinion. We have proposed the use of TYPOGRAPHY for the main heading of SECTION 500.

The reference at the end of this paragraph should be amended as follows:

"Names and legends referring to land features should be in an upright style and those relating to water features in a sloping style. For features which are difficult to define as either 'land' or 'water', see specifications for the appropriate feature (eg: Pontoons B-324; Locks B-326). For more guidance on text styles, see B-562.1.

Chairman: I agree that B-560 is too vague, but I think it should refer to B-561 and B-562 (which together provide useful additional guidance about text styles).

ACTION 47: Support France's recommendation for amending the second sentence of the proposed B-201.3 as follows and suggest the wording for the start of the 2nd sentence as follows.: A transformation adjustment note, detailing the transformation shift (or adjustment?) to WGS84 to be applied, must be included on any such chart..."

Chairman: Agree, although I prefer: 'A note providing the transformation adjustment to WGS84 should be...'

## SPAIN

(1) LAND AND WATER FEATURES FONTS.

Chairman: see comment at GR.

**Final Versions of Clarifications**  
**(or submission to Members States for B-100.5)**

**B-410 REPRESENTATION OF DEPTH: GENERAL**

Some of the principles of depth depiction are summarized below (see also B-403.1):

- a. The main principle is the selection of soundings based on a ‘shoal biased’ pattern. For well surveyed areas, this is achieved through the ‘triangular method of selection’, whereby:
  - no actual sounding will exist within a triangle of charted soundings which is less than the least of any of the soundings defining the edges of the triangle; and
  - no actual sounding will exist between two adjacent charted soundings forming an edge of the triangle which is less than the lesser of the two charted soundings.

The latter principle should also be applied between adjacent charted soundings in areas covered only by passage soundings. In order to provide an indication to the mariner of the location of the tracks, charted soundings along tracks may be much closer together than soundings in surveyed areas (see also B-417.4 and B-418.2).

The final test of depth selection is that no source material should contain depths the mariner would consider ‘unexpected’ after examining the chart.

- b. The least depth over shoals and banks, ...

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**B-120.6**     **Obsolete or obsolescent symbols.** Normally, obsolete and obsolescent symbols will be replaced by new symbols; any associated out of date guidance and symbols will be removed. The obsolescent symbols will still be available for reference in INT1 (until they are considered to be obsolete, ie no longer present on any published charts, which in practice may mean they are retained in INT1 in perpetuity). Exceptionally, where considered useful, a brief note may be included stating that they ‘were formerly charted as:’ and a copy of the obsolescent symbol retained. This is to guide the cartographer in deleting the feature.

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**B-133**     **TEXT STYLES (~~FONT~~).**

Names and legends referring to land features should be in an upright style and those relating to water features in a sloping style. For features which are difficult to define as either ‘land’ or ‘water’, see specifications for the appropriate feature (eg: Pontoons B-324; Locks B-326). For more guidance on text styles, see [B-561](#) and [B-562](#).

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**For submission to Member States:**

**B-100.5**     **Compilation procedure: largest scale first.** The mariner requires charts to be consistent throughout the scales, at least for essential data content; this is called ‘vertical consistency’. For this reason, as far as possible, the original compilation and subsequent updating of charts, whether by Notice to Mariners or new edition, should proceed from the largest scale, through the series, to the smallest scale. In practice, this is best achieved by compiling from original source data into the largest scale chart and then compiling the next smaller scale using the largest scale chart as source, and so on to the smallest scale appropriate for the data type.

Within a series of different scale charts covering the same location, chart content in terms of its cartographic detail and resolution is greatest at the largest scale. At smaller scales, detail must be generalized, with only a selection of the available source data (including soundings) portrayed,

so that the information which is selected is clearly presented. This selection is based upon the significance of the information to the mariner and the design purpose of the chart (see B-300.3 and B-403). This will ensure that the charts are vertically consistent; consequently, any sounding on the smallest scale chart will also be present on the largest scale.

**Updating.** Vertical consistency also benefits hydrographic offices in simplifying the task of updating all charts covering the same location when new data is received. Note also that B-620.2 states that ‘where differences exist between charts, the largest scale national and, where appropriate, INT chart is accepted as the authoritative document and must therefore be given priority for updating’.

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**B-201.2** The **World Geodetic System (1984) (WGS84)** should be used as a basic worldwide reference system for nautical charts until an adequate alternative geodetic datum is adopted by the relevant international organizations to be used as the international geodetic reference system for cartographic work on land and sea areas.

**B-201.3** Internationally recognized **regional datums or local datums** may continue to be used for the graduation of paper charts in areas where they apply. **A note providing the** transformation adjustment to WGS84 must be included on any such chart (see B-202). However, the adoption of WGS84 Datum, or its equivalent, for all charting is a long term objective. This supports international standardization of position referencing across nautical products and services, mitigates the risk of error arising from misunderstanding and/or mis-converting positional information and meets chart users’ needs and expectations in today’s navigation environment. For hydrographic offices, standardizing the position reference of data will bring benefits for processes and, indeed, may be an essential requirement (e.g. in populating a coherent digital database from which to derive both paper and electronic products, noting that ENC’s must be referenced to WGS84).

In positioning chart source data during chart compilation, it is recognized that the vast majority of this data was acquired before the advent of accurate satellite-derived positioning and thus needs to be ‘re-positioned’ to make it compatible with a WGS84-referenced chart frame; see also B-202.4. Hydrographic offices should manage the transfer of charts to WGS84 in a coherent programme, to avoid a mix of charts on different datums in the same region for any significant period.