



CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

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

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To CSPCWG Members

Date 7 May 2013

Dear Colleagues,

Subject: Actions from 9th CSPCWG meeting: Group 3 'Hydrography'.

Here is the third (and last) group of drafts in fulfilment of the Secretary's actions from CSPCWG9. This progresses actions 24, 30, 36, 42 and 51. We have simply called this group 'Hydrography' because of the wide range of this grouping.

Additionally, Dave Prince (CA) has raised a question about the charting of pipelines. S-4 B-444 is explicit about how to chart pipelines when you **know** what they are carrying, but if not known it is a challenge to determine if the pipeline should be magenta or black. He therefore proposes a clarification to B-444 as follows:

If the purpose of a pipeline is not known, then when the pipeline goes from shore to shore, it should be considered a supply pipeline and charted in magenta. When the pipeline terminates in the water, it should be considered either an intake or an outfall and charted in black

Note: we assume that if a pipeline begins (or ends) at a feature such as a well, platform or diffuser, then the purpose of the pipeline can be considered 'known'.

Please let me have your comments by 2 July, using the response form attached at Annex B.

Yours sincerely,

Andrew Heath-Coleman
Secretary

Annex A: CSPCWG9 Actions drafts: Group 3 'Hydrography'.
Annex B: Response form.

CSPCWG9 Actions drafts: Group 3 'Hydrography'

Actions in blue

Comments and explanations in green

Extracts from S-4 in black with:

- Proposed additional words in red
- Proposed deletions ~~crossed through~~.

ACTION 24: Secretary to draft proposals to improve guidance in S-4 on discontinuities between surveys.

B-416.1 **Discontinuities between surveys.** Many changeable areas are re-surveyed in sections at different times; consequently the contours at the edges of the different surveys may not match. **If the discontinuity is small, the surveyed contours can be joined by complete (I30) or approximate contours (I31), provided this will not mislead the chart user by implying the area is deeper than it probably is (as demonstrated by the later survey).** ~~In these cases where use of approximate contours would be inappropriate,~~ a 1-3 mm wide 'white' gap should be left in the contours and any shallow water tints, in order to draw the mariners' attention to these discontinuities. Care ~~should~~ **must** also be taken to ensure that the mariner can ascertain the dates of the various surveys. ~~This may be by reference to from the Source or ZOC Diagram (see B-294.1 & B297.8).~~ ~~and a reference to the Source or ZOC Diagram in the gap may be useful.~~ **or the dates of the surveys may be inserted in situ, eg:**



ACTION 30: Secretary to draft revised wording on 'Rep', to remove danger line for depths >30m

The meeting agreed that the danger circle without abbreviation to imply a reported depth, as originally used on the small-scale INT chart series, is potentially confusing and should be made obsolescent. Approximate contours (if appropriate) and the legend 'Rep' are clearer. The danger line should only be retained if the reported depth is 30m or less. (We have changed this to 31m in the draft, to conform with B-620.3).

B-424.5 **A reported dangers shoal depth.** The presence of a reported ~~dangers~~ **shoal depth**, usually in an unsurveyed or inadequately surveyed area, should alert the mariner to the ~~probable~~ **potential** existence of other shoaler depths. A **significant** depth reported by ships on passage ~~which may~~

constitute a danger to navigation should therefore be charted with the abbreviation 'Rep', unless it is supported by other data (eg quality of supporting data, other depths within the line of soundings, satellite imagery). ~~it is clear from other charted soundings and the information contained in the source diagram that it is part of an isolated line of soundings.~~

Rep **I3.1**

~~A danger line~~ **The reported depth must normally be surrounded by an approximate contour (see B-411.2) and blue tint as appropriate to the depth.** ~~may be used to emphasise the reported danger where appropriate~~ **However, if the sounding is potentially a danger to surface navigation (ie 31m or less), it should be encircled by a danger line in addition to the 'Rep' legend.** It should not normally be necessary to include an explanatory note on the chart.

C-404.2 A **danger line**, consisting of a line of dots, shall be used to draw the navigator's attention to a danger which would not stand out clearly enough if it were represented solely by the symbol for the feature. The danger line shall also be used to delimit areas containing numerous dangers, through which it is unsafe to navigate at the scale of the chart. ~~For use of danger line around doubtful dangers, see C-404.3.~~

C-404.3 **Doubtful dangers and reported shoal depths:** **These should be charted in accordance with B-424. The former practice of encircling all reported depths** ~~doubtful data should be encircled~~ by a danger line **(I4) has been discontinued.** When depths of under 200 metres are involved, or implied, the appropriate blue tint shall be added (see C-402.4). ~~Such features should not be supported by depth contours, nor by the word 'Reported' or its abbreviation.~~ The abbreviations PA, PD, **ED, SD and Rep** and ~~ED~~ shall be used **as appropriate** (see B-424.1 to B-424.4). It is essential that doubtful dangers can be identified without ambiguity and that they can be distinguished from ~~actual dangers~~ **confirmed features**, particularly where the small-scale chart is the largest scale for an ocean area. The year (in parentheses) in which the doubtful data were reported may be inserted, provided that this additional information does not ~~tend to~~ render the chart less legible.

ACTION 36: Secretary to draft new specification on maximum draught and minimum depth (and consider placement in S-4). New Work Plan item.

A short section on maximum draught and minimum depth already exists at B-432.4, which can be amplified. A cross references from B-410 is useful.

A question arises about the colour of the legend:

- At present, we use magenta for maximum draught in fairways (and by extension in other routing measures). However, we use black in recommended tracks (which is where the < > symbol derives from) and in fish havens. As a regulatory concept, perhaps we should be consistent and always show in magenta (and that would be consistent for recommended tracks with the treatment at M5 of other regulatory information combined with a black track). It would mean further changes at B-434.3 (and INT1 M6) and B-447.5 (M46.2). The latter (fish haven) is unlikely to affect many existing charts, but the former (tracks) would take a long time to change.
- At present, we use magenta for minimum depth in a DW route and Fairway (and by extension in other routing measures), but black in a dredged area. As minimum depth is a more physical concept than the maximum draught above, black is more logical (and would assist the differentiation between the two). However, it would mean changing B-434.5 (and INT1 M18) and B-435.3f (and M27.2). It may take a long time to change on charts and in the intervening period the black on recommended tracks could mean either maximum draught or minimum depth. (As maximum draught should be less than minimum depth, this may not matter).

The proposals below assume we will not make changes to the existing use of colour.

B-410 REPRESENTATION OF DEPTH: GENERAL

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

- h. For an indication of minimum depth or maximum authorized draught within a channel or area, see B-432.4.

Note: This will actually become sub-paragraph 'i' when the new clarification about sounding selection has been included; see WG9 Actions Group 1 (WG Letter 04/2013 refers).

B-432.4 Maximum draught and minimum depth

- a. In areas where the tidal range is not appreciable, it may be useful to state the **maximum draught** of vessels authorized by a regulatory authority to ~~navigate pass along~~ a recommended track (see B-434.3), ~~or within a fairway~~ (see B-434.5b) **or within any other area. The maximum authorized draught must be charted between arrowheads, eg: <18.5m> (I26) and should normally be in magenta. Exceptions are on recommended tracks (see B-434.3) and in fish havens (see B-447.5), where the symbol should be black. The size of the legend is at the discretion of the cartographer, but it should stand out clearly from other detail in the area.**

Note: The difference in value between the actual minimum depth and the authorized (or recommended) maximum draught will vary according to the situation (eg whether the sections of track are sheltered or not). This will be determined by the regulatory authority.

- b. All other depths quoted on tracks, in deep water routes and dredged channels must indicate the **minimum depth** of water at chart datum (and a survey year date if not maintained), **eg: 18.5m (I27), as decided by a port or hydrographic authority (see also B-435.3f). It should be in magenta, except that in dredged areas and channels (where actual depths are not shown) it should be black (see B-414).** No statements of minimum depths must be made in changeable areas unless the critical depths are regularly examined and updated. ~~For depths within a Deep Water route, see B-435.3f.~~

Note: I26 and I27 do not yet exist. They can either be included in the next editions of INT1, or could possibly justify an NM to update INT1. This question will be put to the INT1 subWG at their meeting in July.

ACTION 42: Secretary to draft addition to B-415.2 (cross-referenced to B-434.5) for showing survey limits in exceptional circumstances.

B-415.2 **Areas investigated by sonar** should not be distinguished on charts unless it is necessary to show the limits of a channel specially investigated for deep draught vessels, see B-435.3. However, in exceptional cases, it may be important to indicate the limits of sonar swept areas on the Source diagram, **or even in situ on the chart if navigators need to know precisely the limits of a survey through dangerous waters. In such cases, the maritime limit in general symbol (N1.1) should be used, with a legend such as 'Surveyed 2013 (see Note)' or 'Surveyed 2013 (see Source Diagram)' placed along the surveyed side of the limit. Any additional information should be given in a charted note.**

ACTION 51: Secretary to draft a new specification for underwater volcanic activity (and consider placement in S-4). New Work Plan item.

Underwater volcanic activity is mentioned in B-355 (Topography). As this is actually a sea feature, the meeting agreed that there should be a specification in B-400 (Hydrography). It should be located somewhere in the B-420 (Dangers) section. Possibilities are:

- B-423 Water turbulence – but volcanic action may result in something more solid than water turbulence;
- B-425 Nature of seabed - which already recognizes 'v' for volcanic, but the main purpose of this sub-section is for anchoring or taking the ground;
- B-428 Special seabed types – these are generally more substantial than nature of the seabed; it includes underwater springs and in a sense an underwater volcano is a sort of

spring;

- B-429 Oceanic features – this is mainly about seamounts, many of which may actually be underwater volcanoes, although presumably not active; the main concern is depth, rather than activity which may endanger vessels in the area.

Of the above, B-428 seems the most logical place.

B-428.3 Underwater volcanic activity. If volcanic activity may be a hazard to vessels, consideration should be given to inserting a legend, eg ‘Volcanic activity (see Note)’, or equivalent, and a cautionary note and/or associated area on the chart. The note must normally be in black, unless there is an associated regulatory area which is charted in magenta. Some examples are:

VOLCANIC ACTIVITY

Volcanic activity has been reported in the vicinity of
[*Geographic position*].

MUD VOLCANOES

[*Geographic Position*]

Mud volcanoes occur in this vicinity; they frequently raise islets which may remain above water for some time or quickly sink, leaving uncharted shoal depths.

VOLCANIC ACTIVITY

Due to the continued threat of volcanic activity, mariners should not enter the exclusion zone indicated on the chart.

It may be useful to add a line at B-424.3, considering the recent news items about ‘Sandy Island’ (eg in ‘Hydro International’ 26/11/2012 and 11/01/2013) which was probably actually a sighting of floating volcanic residue.

B-424.3 ED, meaning **Existence doubtful**, must be used to indicate the possible, but unconfirmed, existence of a rock, shoal, etc (sometimes called a ‘vigia’). **Note that reports of uncharted islands in unexpected places may be from sightings of floating debris or volcanic residue. Genuine uncharted islands in deep water are increasingly unlikely now that satellite imagery is readily available. Equally, satellite imagery and other modern data sources may enable previously reported doubtful features to be removed from charts with confidence.**

CSPCWG9 Actions drafts: Group 3 'Hydrography'

Response Form

(please return to CSPCWG Secretary by 2 July 2013)

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WG9 Action	Question	Yes	No
See letter 07/2013	Do you agree to add the proposed clarification to B-444?		
24	Do you agree with the proposed changes to B-416.1		
30	Do you agree with the proposed changes to B-424.5		
	Do you agree with the proposed changes to C-404.2		
	Do you agree with the proposed changes to C-404.3		
36	Do you agree <u>not</u> to rationalise the use of black (for minimum depth) and magenta (for maximum authorized draught) because of the extent of change required to existing symbology, likely confusion as the mix would be present on charts for many years?		
	Do you agree with the proposed wording of new sub-paragraph B-410h?		
	Do you agree with the proposed changes to B-432.4?		
42	Do you agree with the proposed addition to B-415.2?		
51	Do you agree to add the proposed location of the new guidance on underwater volcanic activity at B-428.3?		
	Do you agree with the proposed wording of new B-428.3		
	Do you agree with the proposed addition to B-424.3?		

Further comments:

Name:

Member State: