

INTERNATIONAL HYDROGRAPHIC  
ORGANIZATION



ORGANISATION HYDROGRAPHIQUE  
INTERNATIONALE

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

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

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### CSPCWG Letter: 05/2010

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Date 17 March 2010

### To CSPCWG Members

Dear Colleagues,

### Subject: CSPCWG6 Actions 21-31 (except 24)

This letter addresses CSPCWG6 Actions 21 to 31, most of which were allocated to the Secretary. Annex A is a series of proposals for completing these actions, most of which require members to comment on proposed new or revised specifications.

Action 24, a small editorial amendment to S-4 for 'submerged wellheads', is not listed as this has already been included in S-4 Edition 3.007.

Please use the attached Response Form to let me know, **not later than 12 May 2010**, whether you agree with the proposed changes to S-4 and INT1.

Yours sincerely,

Andrew Heath-Coleman,  
Secretary

Annex A: Proposals for action  
Annex B: Response Form

**CSPCWG6 SECRETARY ACTIONS**

(EXTRACTS FROM CSPCWG6 RECORD IN BLUE)

(PROPOSED NEW OR REVISED S-4 SPECIFICATIONS IN RED)

**1. Chart accuracy note.**

**8.7. Chart Accuracy notes (UK)**

*Docs: CSPCWG6-08.7A Chart Accuracy notes*

The proposed changes to the chart accuracy note were agreed, as easier for the user to understand. However, the meeting did not consider a 2mm tolerance is acceptable for claiming a chart or ENC is referred to WGS84.

**ACTION 21:** Secretary to draft amendment to S-4 to include revised 'chart accuracy' note.

**Proposal**

S-4 states:

**B-202.4 Chart Accuracy.** In many parts of the world, even the most recent data available may have been gathered when survey methods were less sophisticated than they are now and the achievement of accuracy currently available with GPS was not possible. In these areas, GPS positions available to the navigator may be more accurate than the charted detail. Therefore, in such circumstances, the following note may be combined with the appropriate note at B-202.3:

However, due to the age and quality of some of the source information, such positions may be more accurate than the charted detail.

UK received consistent user feedback that this wording caused confusion. UK now uses a stand-alone note which was approved by CSPCWG6 as easier for the user to understand. Consequently it is proposed to replace the last sentence of B-202.4 by:

Therefore, in such circumstances, a cautionary note should be included, eg:

**CHART ACCURACY**

Owing to the age and quality of the source information, some detail on this chart may not be positioned accurately. Particular caution is advised when navigating in the vicinity of dangers, even when using an electronic positioning system such as GPS.

**2. Oscillating lights.**

**8.8. Depiction of sectors at oscillating lights (UK and CA)**

*Docs: CSPCWG6-08.8A Sectors for oscillating lights*

The meeting watched an on-line presentation of oscillating lights. J Wootton (AU) also briefed the meeting on how such lights are encoded in S-57.

The meeting decided that a new abbreviation, eg 'Osc', for oscillating lights is not necessary; it is more important to state that the light is a directional light. In many cases, a bearing line with legend, eg 'DirWRG 090°' against the line and no legend at the light star would suffice and avoid chart clutter.

More details may be given in Lists of Lights, other associated publications, or a chart note if required. A suitable statement for the Alternating sectors might be: 'R (or G) phase increases away from white sector'. For the outer sectors of a 7 sector light, a suitable statement might be: 'R (or G) phase decreases away from F.R (or F.G) sector'.

If it is considered appropriate to chart the sectors they should be labelled as:

Oc.R / F.R / Al.WR / F.W \ Al.WG \ F.G \ Oc.G

for a typical 7 sector oscillating light, with the legend DirWRG at the light star.

The abbreviation 'Al.' should only be used at multicoloured lights. In the example from the Canadian chart of the white only light, the outer sectors should be labelled 'Oc' (although they cover a range between Oc and Fl, as the bearing from the fixed sector increases).

**ACTION 22:** Secretary to draft new specification in S-4 for oscillating Dir lights.

## Proposal

Amend text for B-475.7 as in red below:

- a. **Unlit sectors or unintensified light.** The centre line of the sector must be charted in a manner similar to a leading line (see B-433) but with the **international abbreviation** ‘Dir’, and the course to be followed, against the line, eg:

**P30.1**

**P30.2**

The abbreviation ‘Dir’ should only be used in the light description at the position of the light if the course line ~~cannot be~~ **is not charted. The sector limits may be charted if considered to be useful.**

**If the light oscillates from side to side, there will be sectors either side of the fixed sector where the light phase decreases as the deviation from the central sector increases. If charted, such sectors should be labelled as ‘Oc’, although in practice they vary between occulting and flashing.**

- b. **Sectors of different colour and/or character.** Some direction lights are so precise that a complete colour change at a sector boundary occurs over an angle of less than 1 minute (0.02°). This corresponds to a lateral distance of just 1 metre at a viewing distance of 3.5 km. In addition the intensity may be maintained right to the edge of the beam, and does not reduce the further the observer is away from the axis. **In the case of multicoloured directional lights, the mariner will expect to see coloured sectors either side of a central white sector so, to avoid chart clutter, it is usually sufficient to show just the centre line of the leading sector, with the light description and course to be followed along the line, eg DirWRG 090°. If a fuller light description is required, this should be given at the light star to avoid chart clutter in navigation areas, eg WRG.11m15-10M, with Dir 090° against the line.**

The sector limits and arcs ~~must be charted, if possible,~~ **may, if considered useful, be charted instead of, or in addition to, the centre line,** in the same way as **for a sectored light (see B-475.1). However If the centre line is not charted, ‘Dir’ may be should** be inserted at the beginning of the light description, ~~where appropriate,~~ **to inform the navigator that the fairway sector has a particularly precise ‘cut-off’ or very small angle of uncertainty (unlike the average fairway sector), eg:**

**P30.3**

**P30.4**

In the examples shown, the light oscillates from side to side, so that between the fixed colour sectors, there is a narrow sector of alternating colour. **Such lights may also have outer sectors where the colour phase decreases away from the fixed coloured sectors. If required to be charted, such sectors should be labelled as Oc.G or Oc.R.**

~~In addition to the sectors, the centre line of the leading sector may be charted in a manner similar to a leading line (see B-433), but with the international abbreviation ‘Dir’, and the course to be followed, against the line.~~

## 3. Floating wind turbines.

### 8.9. Floating Wind turbines (NO)

*Docs: CSPCWG6-08.9A Floating wind turbines*

The meeting agreed that the standard wind turbine symbol, L5.1, and all associated legends should be sloping for floating turbines. To keep the symbol clear, the blades would also need to be tilted by the same amount, so that the right-hand blade would tilt down by 15° from the horizontal. A similar symbol would be required within the circle for a wind farm (L5.2) comprised only of floating turbines.

**ACTION 23: Secretary** to draft new specification (including sloping symbol) in S-4 for floating wind turbines.

## Proposal

Amend text for B-445.8 as in red below. An example of a sloping wind turbine symbol can be added to L5.1 in INT1. Is it necessary to also add an example of a sloping wind turbine symbol in a circle at L5.2?

- B-445.8 Wind turbines** are generally tall, multi-bladed structures, usually with two or three blades, often visible over long distances. Their purpose is to generate electricity for large communities, or to feed a national grid. They are often in groups (known as wind farms) and may be sited on-shore (see B-374.6). Individual wind turbines must be shown by the symbol:

**L5.1**

If a navigational light is attached to the wind turbine, a flare should be added to the base, and the light description placed alongside. Where vessels may navigate close to the structure, it is appropriate to show the minimum clearance height (**above HAT**) under the blade on large-scale charts, using symbol D20.

**Floating wind turbines** are held in position by cables and consequently may be subject to significant lateral and some vertical movement. To distinguish them from fixed turbines, the symbol must be sloping by 15° from vertical.

#### L5.1

Associated legends must also be in sloping text. However, vertical clearances must not be charted as they may vary significantly according to sea state.

**B-445.9 Wind farms** may be shown by groups of wind turbines in their actual positions (if scale and available information permits), or by a maritime limit with the centred symbol: The symbol N1.1 (black maritime limit implying permanent physical obstructions) should normally be used for the limit of a wind farm:

#### L5.2

However, if navigation is prohibited, N2.2 must be used:

#### L5.2

If there are other restrictions, N2.1 may be used, noting the principles for portraying coincident limits at B-439.6. Note: Individual wind turbines which have navigational lights attached should be charted, even within a wind farm, if scale permits.

If all the turbines in a wind farm are floating, the symbol in the centre of the circle must be sloping 15°:

## 4. Areas being dredged

### 8.12.Dredged areas (project depth) (UK)

*Docs: CSPCWG6-08.12A Dredged area – project depths*

The meeting agreed that a consistent policy is required for charting port development areas, including areas planned for dredging. Concern was expressed that charting such areas means omitting existing depth data, which may be very much shoaler than the planned dredging depths. Exceptionally, it may be appropriate to chart such areas when it is known that the dredging is already being done, will be done very shortly or is inaccessible to vessels before dredging. In such cases, it may be appropriate to temporarily publish two versions of the chart – ie pre and post dredge depictions (in accordance with the guidance in draft new section S-4 B-621).

If it is necessary to chart areas which are being dredged, then the legend 'being dredged' is preferable to 'project depth', for two reasons:

- It is easy to remove the single word 'being' by NM when it is known the dredging has been completed
- 'Project depth' has a well-established meaning in US, not associated with port developments.

An associated explanatory note, similar to the example in the paper, was considered most useful.

**ACTION 25: Secretary** to draft specifications for depicting 'projected' dredged areas for S-4.

### Proposal

Draft new specification B-414.6 as in red below:

**Areas being dredged.** During port developments, it is possible for the planned situation, eg new or realigned quays, berths and dredged areas, to be charted so that when the development work is complete, updating the chart is relatively straightforward. The general methods used to indicate planned works are given in B-329, but do not apply to dredged areas. In all cases where planned dredged areas are charted, they must be marked as '*Being Dredged (see Note)*', or equivalent. (In English, this allows the word '*Being*' to be removed by Notice to Mariners when confirmation is received that the dredging has been completed.) Care is needed to ensure that it is clear to the chart user that the chart is not necessarily depicting the current depth of water, so a note must

draw attention to the preliminary nature of the depiction, eg:

### PORT DEVELOPMENTS

The Port of xxx is undergoing major developments. This includes changes to the coastline and the dredging of access channels and berths; aids to navigation are moved accordingly. The charted dredged depths and limits of access channels are planned port developments and not confirmed. The Port Authority must be consulted for the latest information.

If the area is already in use by shipping, consideration should be given to producing a preliminary edition of the chart, as detailed in B-621.

## 5. Interval of symbols in area limits

### 8.13.Interval of symbols in area limits (UK)

*Docs: CSPCWG6-08.13A Intervals between symbols in area limits*

The meeting agreed that generic advice on the intervals between symbols in area limits should be given in S-4 Section B-100. This should include 'at intervals of approximately 40mm or closer and not exceeding 50mm'. Where necessary, the specifications should be amended to be consistent with this generic advice, as an editorial correction at the next opportunity (probably S-4 Edition 3.008).

**ACTION 26: Secretary** to include guidance in B-100 and amend actual cases regarding intervals between symbols in area limits and include in S-4 Ed 3.008.

#### Proposal

On reflection, it seems more appropriate to add this guidance to the 'Cartographic principles for portraying maritime limits', B-439.6, by drafting a new principle 'k' and changing existing 'k' to 'l':

**k. Where point symbols are inserted within line symbols, they should be at intervals of approximately 40mm or closer and not exceeding 50mm.**

The following specifications will be amended as a result of this generic advice, as an editorial correction to S-4 at the next opportunity:

B-431.3	Anchorage areas
B-435.2	Precautionary area
B-437.2e	ESSAs
B-439.3	Restricted areas
B-440.4	Base line
B-440.5-9	Boundaries
B-441.3	Firing danger areas
B-441.4	Mine practice areas
B-449.6	Seaplane operations
B-487.2	Radar reference (Ra)
B-488.2	Radio reporting line
B-491.1	Pilotage areas

## 6. Size of symbols

### 8.14.Size of symbols (UK)

*Docs: CSPCWG6-08.14A Size of chart symbols*

The meeting agreed that cartographers should not be at liberty to rescale symbol sizes (although this is easy to do with some software tools in common use). Usually, it was considered better to generalise detail appropriate to the chart scale, such that the standard size symbol can be accommodated. However, it is acceptable for a national HO to make available two or more standard sizes of symbols from which the cartographer may select the one appropriate to circumstances. This should be in exceptional circumstances and never so small to make it difficult to discern (noting the subdued lighting often required

on the bridges of vessels). Sounding point sizes should not be varied.

**ACTION 27: Secretary** to draft new guidance for S-4 on symbol sizes.

### Proposal

Additional paragraph under B-125 Depiction of symbols:

**B-125.1 Symbol sizes.** Ideally, symbol sizes should be standardized. This is achievable for new symbols for which the dimensions will normally be specified (see B-110). Hydrographic offices should choose a suitable size for each symbol and should not reduce it because of complexity of detail; it is better to generalize detail to maintain clarity, if necessary charting at a larger scale. Sounding point sizes should not be varied. Exceptionally, a hydrographic offices may make available two or more sizes of a symbol from which the cartographer may select the one appropriate to circumstances; however, sizes must never be so small to make the meaning of the symbol difficult to discern under the subdued lighting often required on the bridges of vessels. There are a few cases where more than one symbol size is specified (eg B-447.6) or size is permitted to be varied for centred symbols in large areas (eg B-431.3); these are given in the relevant specifications.

Note: The final sentence of B-422.7, second bullet, (iii) is at variance with this new guidance. It is proposed that this option is removed from S-4.

It is suggested that some generic advice on displacement of symbols would be useful here, draft as follows. This arose out of recent correspondence on this issue.

**B-125.2 Displacement of symbols.** In some circumstances, two (or more) features may occupy the same space (position) at the scale of the chart, eg a buoy moored on top of an obstruction. How to deal with this is a matter for cartographic judgement. Based on the relative significance of the features to the chart user, options are:

- Omit the less important feature
- Displace both features slightly from their true position (where the exact position of neither feature is important)
- Displace one of the features slightly from its true position (where the exact position of one feature is important). In the above example, the obstruction should be correctly positioned, the buoy being displaced slightly, see B-461.3c.

Marks which may be used to fix position must not be displaced.

Where a sounding coincides with another feature, it is usually possible to select a different sounding, or displace the sounding slightly from its true position. Where both the depth and position of the sounding is critical, the methods of showing a sounding out of position should be considered; see B-412.2.

## 7. Floating waste bin

### 8.15. Floating Waste Bin (FR)

*Docs: CSPCWG6-08.15A Floating waste bin*

The meeting agreed that a new symbol for a floating waste bin is not required. Cartographers should choose the most appropriate existing symbol, depending on the type of bin, eg a buoy (with colour) or a pontoon (where a waste skip is placed on a pontoon). The legend 'waste' or equivalent may be inserted adjacent. It may also have a light, to be charted in the usual way.

**ACTION 28: Secretary** to draft new specification in S-4 for floating waste bins. Draft to be discussed with FR before sending to full WG.

### Proposal

Various places in S-4 could be considered, eg:

1. Section B-430/431 Harbours. This sub-section is very full and a floating waste bin does not seem to fit logically in any of the existing headings.
2. Section B-460 Visual Aids: Buoyage. This area seems inappropriate as a waste bin is not an aid to navigation, although it may be buoy-shaped and carry a light.
3. B-442 Dumping Grounds: General; Harmful Materials. This could be expanded to include a new category 'Waste'. (NB: S-4 currently has 'Dumping Groups', which is an error not previously noticed!)

The Secretary has corresponded with FR (O Parvillers) and agreed that Option 3 seems the most appropriate. The following new specification is proposed:

**B-442.5 Floating waste bins** of various designs may exist, particularly in harbour areas used by small craft. Some are specifically designed as waste bins, such as the French ‘OBELL’, which looks like an inverted champagne cork. Another example may be a waste skip placed on a pontoon. There is no specific symbol for such features; if required to be charted, the cartographer should select the most appropriate symbol, such as a pillar buoy (Q23: because the shape carries no navigational significance) or a pontoon (F16). The legend ‘Waste’, or equivalent, should be inserted in sloping text adjacent to the selected symbol. Ancillary detail should be added in the usual way, eg colour, light description, flare, if a buoy symbol is selected.

## 8. Fish Aggregating Device (FAD)

### 8.16. Fish Aggregating Devices (FAD) (AU)

*Docs: CSPCWG6-08.16A Depiction of Fish Aggregating Devices (FAD) on Paper Charts*

The meeting agreed that the abbreviation FAD should be accepted as an INT abbreviation.

**ACTION 29:** Secretary to add ‘FAD’ to list of INT abbreviations in S-4.

**ACTION 30:** INT1 producers to include FAD in list of abbreviations, in bold.

#### Proposal

Noted for inclusion in the next edition of S-4. Also to be included in the planned 2011 editions of INT1.

## 9. Sub-surface ODAS instruments

### 8.17. “Suspended” Oceanographic Instrumentation Moorings (AU)

*Docs: CSPCWG6-08.17A “Suspended” Oceanographic Instrumentation Moorings*

The meeting agreed that ‘sub-surface’ should be the term used, rather than ‘suspended’ which is ambiguous, otherwise the AU proposal for showing these instruments was accepted. It was noted that the abbreviation ODAS need not be confined to oceans, nor only used adjacent to a superbuoy symbol, as shown in INT1 at Q58. Although this is explicit for cartographers in S-4 B-462.9, it would be helpful to clarify this by including an example of ODAS with a non-superbuoy in INT1 at Q58. Jeff Wootton (AU) agreed to draft a specification and recommend a location in S-4.

**ACTION 31:** AU (in liaison with Secretary) to draft specification for sub-surface obstructions (ODAS). Also to consider position in S-4 and adding another example of ODAS buoy to INT1.

#### Proposal

AU (J Wootton) and Chairman and Secretary have corresponded on these actions. Various options for locating the new specification were considered, but it was concluded that the best solution would be to bring surface and sub-surface ODAS together in a new section (replacing existing B-448), headed ‘Offshore Instruments’. The preferred location in INT1 would be L25. Cross references to B-448.3 would be added to B-460.4, B-462.9. A cross reference to B-448.4 would be added at B-422.9.

## **B-448** ~~DEGAUSSING RANGES OFFSHORE INSTRUMENTS~~

**B-448.1** A **degaussing (or demagnetising) range** is an area, usually of about 0.2M diameter, within which ships' magnetic fields may be measured. Sensing instruments and cables are installed on the sea floor in the range and there are cables leading from the range to a control position ashore. The range is usually marked by distinctive buoys.

The significance of a degaussing range to mariners is that anchoring and trawling are prohibited and that the range may have to be avoided when vessels are using it.

**B-448.2** The **limits of degaussing ranges** and any associated submarine cable areas should be represented by the symbol used for the limits of cable areas (L30.2, see B-443.2). If the size of the area does not permit use of this symbol, the T-shaped dashes alone should be used. The legend ‘*Degaussing range*’, ‘*DG range*’ or equivalent, should be inserted within the area in magenta.



**N25**

**B-448.2** Buoys marking degaussing ranges should be charted on all appropriate scales. (These will be Special Marks in

the IALA System and may be marked 'DG').

 **Q54**

**B-448.3** **Ocean (or Oceanographic) Data Acquisition System (ODAS).** An ODAS buoy is used to collect a variety of data, eg wave height, meteorology, seismic events for tsunami prediction. Where they are collecting ocean data and are therefore situated well off shore, they are usually very large buoys which should be charted by the superbuoy symbol, with the legend 'ODAS' adjacent; see also B-460.4, B-462.9 and, for navigational light, see B-466.2e and B-466.4.

 **Q58**

ODAS buoys are not always in deep water and not always superbuoy size. The legend 'ODAS' may be inserted against any appropriate buoy symbol.

**B-448.4** **A subsurface Ocean Data Acquisition System (ODAS)** consists of a subsurface float attached to the sea floor, supporting a cable along which sensors may be placed at intervals to collect data, such as temperature, through the water column. Where required it must be charted as a submerged obstruction with the international abbreviation 'ODAS' in place of 'Obstm'. If known, the depth at chart datum over the float should be inserted within the danger circle and the appropriate blue tint added. If the depth is unknown, solid blue tint must be added, even if the water depth is greater than 100m.

 **L25**



**CSPCWG ACTIONS 21-32****Response form**

(please return to CSPCWG Secretary by 12 May 2010)

[andrew.coleman@ukho.gov.uk](mailto:andrew.coleman@ukho.gov.uk)

CSPCWG6 Action		Yes	No
21	Do you agree with the proposed revision of B-202.4?		
22	Do you agree with the proposed revision of B-475.7?		
23	Do you agree with the proposed revisions B-445.8 and B-445.9?		
	Is a sloping version of the wind farm symbol required in INT1?		
25	Do you agree with the proposed new specification B-414.6?		
26	Do you agree with the proposed addition to B-393.6 (new 'k')?		
27	Do you agree with the proposed new specification B-125.1?		
	Do you agree to remove the option for a reduced size K30 symbol from B-422.7 iii?		
	Do you agree with the proposed new specification B-125.2?		
28	Do you agree that the specification for 'Floating Waste bin should be at B-442.5?		
	Do you agree with the proposed new specification B-442.5?		
31	Do you agree to rename B-448 as 'Offshore instruments' and include specifications for ODAS here?		
	Do you agree with the proposed new specifications B-448.3?		
	Do you agree with the proposed new specifications B-448.4?		

Comments:

Name:

Member State: