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CIRCULAR LETTER 56/2010
30 August 2010

CHART SPECIFICATIONS OF THE IHO (S-4)
New and Revised Specifications for
Chart Accuracy note, Oscillating lights, Floating wind turbines,
Intervals between symbols in area limits, Size and displacement of symbols,
Floating waste bins, Fish aggregating devices, Sub-surface ODAS instruments

Reference: IHO Publication S-4 Part B: Chart Specifications of the IHO

Dear Hydrographer,

The IHO Chart Standardization and Paper Chart Working Group (CSPCWG) has a responsibility to 'advise the IHO on suggestions put forward by Member States to update S-4, in accordance with IHO Specification B-160, with the goal of achieving the maximum possible adherence by Member States to the Regulations and Specifications' (CSPCWG Terms of Reference 3a.ii).

Based on various questions or proposals raised by Member States, the CSPCWG has recently considered several subjects that are listed in the title above.

As a result, the CSPCWG proposes certain new and revised specifications for inclusion in S-4. Drafts of the new or revised specifications are attached at Annex A to this CL for Member States to review. According to Specification B-160, Member States should inform the IHB (info@ihb.mc) within three months if they have any major objections to the adoption of these revised or additional specifications, or any other comments. Therefore, Member States' comments should reach the IHB **no later than 30 November 2010**, using the Response Form at Annex B. If no objections are received, the IHB will announce in a follow-up Circular Letter that the revised specifications have come into force. The CSPCWG will then include them in S-4 at the next opportunity.

On behalf of the Directing Committee
Yours sincerely,



Robert WARD
Director

Annex A: Draft new specifications (with brief explanations)
Annex B: Response form

PROPOSED NEW AND REVISED SPECIFICATIONS

(Changes to existing specifications shown in red)

1. Chart Accuracy note.

A change to the Chart Accuracy note is proposed, to make it easier for the chart user to understand. 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.

The CSPCWG decided that a new abbreviation, eg 'Osc', proposed 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 in the publication 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:

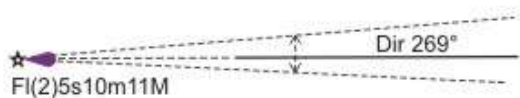
Oc.R / F.R / Al.WR / F.W \ Al.WG \ F.G \ Oc.G

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

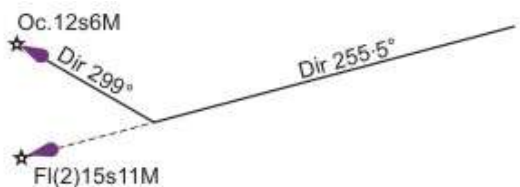
The abbreviation 'Al.' should only be used at multicoloured lights. In the case of a white only light, the outer sectors should be labelled 'Oc' (although they cover a range between Oc and Fl as the bearing from the fixed sector increases).

It is proposed to 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

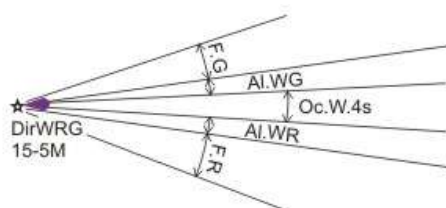
The abbreviation 'Dir' should only be used in the light description at the position of the light if the course line ~~cannot be~~ is not charted. The sector limits may be charted if considered to be useful.

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.

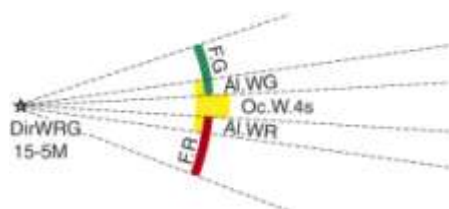
- b. **Sectors of different colour and/or character.** Some direction lights are so precise that a complete colour change at a sector boundary occurs over an angle of less than 1 minute (0.02°). This

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 and scale allows, 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.

The attention of CSPCWG has been drawn to examples of floating wind turbines. The CSPCWG has agreed that the standard wind turbine symbol, L5.1, and all associated legends should be sloping for floating turbines. To maintain the clarity of the symbol, 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.

It is proposed to amend the text for B-445.8 as in red below. An example of a sloping wind turbine symbol will be added to L5.1 in INT1 and a wind farm comprising floating wind turbines will be added to 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 (in accordance with the datum for vertical clearances – see B-380.1) under the blade on large-scale charts, using symbol D20.

Floating wind turbines are held in position by ground tackle 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. For charting ground tackle associated with floating wind turbines, see B-431.6.

For charting safety zones around fixed or floating wind turbines, see B-445.6.

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:



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



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. Interval between symbols in area limits

To deal with inconsistencies in the specifications for maritime limits, it is proposed to add 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

5. Size and displacement of symbols

It is proposed to add an 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 office 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 further proposed that some generic advice on displacement of symbols is useful:

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 sufficiently from their true position to enable both symbols to be charted (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.
- Exceptionally, if the exact position of both features is important, they may be displaced but with a short 'pointer' leading to the actual position, using the method for showing a sounding out of position (I11).

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.

6. Floating waste bins

The attention of CSPCWG has been drawn to examples of floating waste bins. 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.

7. Fish Aggregating Devices (FAD)

It is proposed to include FAD as an international abbreviation, to be added in the next editions of S-4 and INT1.

8. Sub-surface ODAS instruments

It is proposed to bring surface and sub-surface ODAS instruments together in a new section (replacing existing B-448), headed 'Offshore Instruments'. Cross references to B-448.3 will be added to B-460.4, B-462.9. A cross reference to B-448.4 will be added at B-422.9. The location in INT1 will be L25. The entry in INT1 at Q59 will be deleted.

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.



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').



B-448.3 **Ocean (or Oceanographic) Data Acquisition System (ODAS)**. An ODAS buoy is used to collect a variety of data, eg wave height, current data, 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.



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 'Obstn'. 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.



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Intervals between symbols in area limits, Size and displacement of symbols,
Floating waste bins, Fish aggregating devices, Sub-surface ODAS instruments**

Response Form

(to be returned to the IHB by 30 November 2010)

E-mail: info@ihb.mc - Fax: +377 93 10 81 40)

Note: The boxes will expand as you type your answers.

Member State :

Contact :

E-mail :

Do you agree with the new or revised specifications and symbols? If you answer 'No', please explain in the comment section below the tables.

No	S-4 reference	Title	Yes	No
1	B-202.4	Chart Accuracy note.		
2	B-475.7	Oscillating lights		
3	B-445.8-9	Floating wind turbines.		
4	B-439.6k	Interval between symbols in area limits		
5	B-125.1-2	Size and displacement of symbols		
6	B-442.5	Floating waste bins		
7	B-122.1	Fish Aggregating Devices (FAD)		
8	B-448.1-4	Sub-surface ODAS instruments		

Comments :

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Signature :

Date :
