

INTERNATIONAL HYDROGRAPHIC
ORGANIZATION



ORGANISATION HYDROGRAPHIQUE
INTERNATIONALE

CHART STANDARDIZATION & PAPER CHART WORKING GROUP
(CSPCWG)

[A Working Group of the Committee on Hydrographic Requirements for Information Systems– CHRIS]

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To CSPCWG Members

Date 2 February 2004

Dear Colleagues,

Subject: Archipelagic Sea Lanes (ASLs)

Thank you to all members who contributed comments on the proposed symbology for ASLs. These are summarised, together with comments, at Annex A. Consequently, the secretary has prepared a revised M-4 Specification B-435.10 for your consideration, at Annex B.

I included a copy of the relevant extract from Ships' Routing with CL 03/2003 and have now included a copy of UNCLOS Article 53 as stated in IHO S-51, at Annex C. You may find both these documents helpful when considering the draft specification.

As a consequence of all the comments made, this new specification is significantly changed from the symbol originally agreed by CSC, and accepted by IMO (see, in particular, paragraph 7 of Annex A). Therefore, although the normal time scale for follow up proposals is four weeks, as stated in my CL 02/2003, I have decided that in this case it would best to allow six weeks for any necessary consultation, and also to allow time for responses on the ESSA issue by the end of February (see CL 04/2003). **I would therefore be grateful to receive any further comments you have on ASLs by 15 March 2004.** I will assume that no comments received signifies agreement with the draft.

Yours sincerely,

Peter G.B. Jones,
Chairman

Annex A: Notes On Responses To CSPCWG CL 03/2003

Annex B: Draft M-4 Specification B-435.10

Annex C: UNCLOS Article 53

**Annex A
to CSC CL 01/2004**

**NOTES ON RESPONSES TO
CSPCWG CL 03/2003 (ASLs)**

1. Sixteen WG members responded with comments. Additionally the Chairman of C&SMWG submitted a formal response on behalf of that WG, and members of other WGs entered the discussion via the OpenEcdisForum (OEF).
2. Two members (DK and RU) considered that the version of ASL symbology already approved by CSC, and included in Ships' Routeing, should be adopted. Nevertheless, both indicated that the UK practice of using 30% stipple had merit.
3. The following members stated that they are generally in favour of adapting the symbol in a way similar to UK: AU, CA, CU, DE, ES, FI, ZA, FR, NL, UA, UK.
4. ASL as an area: Those members who commented all agree that for ENCs, the ASL should be encoded as an area. A coloured infill was proposed by AU (for paper charts and ENCs) but specifically rejected by ES, NL, UK, and a C&SMWG member; (no comments from others). This coloured infill suggestion would cause problems when other tints are located within the lanes, especially TSS zones, and has not been included in the draft specification.
5. Use of 30% stipple: AU, CA, CU, DE, DK, ES, FR, FI, JP(by implication), NL, RU, UA, UK and ZA all support the use of magenta stipple for the linear symbols to avoid obscuring important detail. DK proposed "Unless otherwise specified, symbols are printed on charts in colour, usually magenta by a tint light enough to reveal any hydrographic details". This is included in the draft specification. The use of a tint is explained by the term "shall preferably", as not all M/S may be able or willing to use screened colours. There seems no reason that magenta should not be specified as the colour.
6. Axis line: Three members (AU, NL, UA) and a C&SMWG member expressed concern about the difficulty of joining the dashes at the turning points. Recognising this difficulty, and considering that the turning points can be easily obtained by extending lines, and that they have no navigational significance, the draft specification uses the term "shall preferably" for this feature. RU suggested using long dashes only, as they considered that the small dashes would be difficult to see if 30% stipple is used. However, if the line is sufficiently bold, there should be no problem. Those M/S not using screened magenta should use a finer line, and this is included in the draft specification.
7. ASL boundary
 - a. Requirement for the symbol: Although Ships' Routeing does not require it, there was general acceptance that, from a practical point of view, the mariner will require the **full outer limit** of the ASL to be depicted on the chart. Furthermore, it will be necessary to define that limit in order to include the ASL as an area on ENCs. This is reflected in the line "The full outer limit of the ASL shall preferably be charted" in the draft specification.
 - b. New or existing symbol: Two members (AU and ES) proposed using the T T T symbol (IN 2). However all other respondents either specifically stated that a special symbol was appropriate, or did not disagree with its inclusion in the original version of the specification.
 - c. Style of symbol: The C&SMWG Chairman expressed concern that using the "warm front"  symbol for "*such a seldom encountered feature of relatively low importance for the mariner, like an ASL, seems to be a waste of such a powerfully intuitive geometry. Keeping in mind the growing number of information sources which are going to appear on the ECDIS screen (ARPA, AIS, VTS, weather routeing), we should carefully conserve the display options which are not used already for important features.*" He suggested instead the "cold front"  symbol LC(CTYARE51) which is already specified in S-52 as a "boundary of area to be navigated with caution". In fact, it is known that other archipelagic states are

considering introducing ASLs, but I believe the argument has validity and the “cold front” seems an apt symbol, particularly if the symbol faces into the sea lane. It is therefore included in the draft specification. However, as this may inconvenience M/S who have already used the “warm front” symbol, further comments on this would be welcomed.

- d. Direction of symbol: Comments were made that the boundary symbol should point **into** the sea lane, as the area **outside** the ASL has no outer boundary limit, and is therefore not itself an area. This is in accordance with the normal paper chart and ENC convention that linear symbols point into the area that they define (see also 4. above). Although this differs from the original version of the symbol, the point is accepted and included in the draft specification.
8. 10% Rule: Some members called for clarification of the “10% rule” (how it is determined, whether measured from High Water or Low Water lines) and also suggested that States proposing ASLs should be explicit about where the outer limits of ASLs are, rather than expecting chartmakers to attempt an interpretation of their intent. Given that the wording of the 10% rule is already enshrined in international law (UNCLOS Article 53, quoted in Ships’ Routeing – see Annex C) it may be difficult to obtain a legally binding clarification. However, the advice from UK’s Law of the Sea Officer is *“The wording quoted from Ships’ Routeing (Part H) mirrors the wording in UNCLOS, Article 53.5. Neither is explicit. The use of the HW line is, in my opinion, more sensible than the LW line. If, for example, a low-tide elevation is present in the sea lane, does this feature warrant a description as “coast”? I would say not. It can also be argued that the HW line is always visible, whereas the LW line is not, thus the use of HW for the 10% rule would seem to be of far more practical use to the mariner and airman than the LW line.”* This seems to me to be sound advice, (and is therefore reflected in the draft specification) but I would welcome your comments.
 9. The Chart Note: Most countries who endorsed UK’s version did not make specific mention of the note. AU endorsed UK’s note, while DE and NL suggested some revisions. It should be recognised that the version to be included in M-4 is an example and M/S are free to adapt it to suit the circumstances. However, the original example referred to not navigating “within the areas indicated”. As there are no exclusion **areas**, this needs amending, as in the draft specification. Two members (CA and US(NOAA)) prefer to use “Nautical mile” rather than “Mile” (as stated in Ships’ Routeing definition at 6.3, but not in the example note). As M-4 B-130 states that for charts “the standard unit for distance on the ground shall be nautical miles (M)...”, it seems unnecessary to specify “nautical” in the note. However, as the note is merely suggested wording, then individual countries would be free to insert “nautical” if they wish.
 10. Symbol Dimensions: AU, NL and UA suggested that it would be helpful to specify dimensions such as the line dash lengths, gaps and line width? In general, M-4 does not (yet) specify such things, leaving individual countries to match the graphic in M-4 as closely as they consider appropriate. However, there is increasing pressure to be prescriptive, which is anyway necessary for ENCs. It would not be practical to include precise specifications for all symbols and line styles in M-4 at this time, although eventually an appendix could be compiled to cover this. Suggested dimensions have been included in the draft specification. The dimensions of the proposed outer limit symbol are derived from S-52.
 11. Three members requested clarification about CSCPWG’s role in symbolization for ENC/ECDIS. The main purpose in replacing CSC with CSCPWG as a CHRIS WG was to ensure that ENC concerns are taken into account when discussing new or revised symbology for paper charts. Having consulted and taken account of such views, thereby determining the general concept and rationale behind the portrayal of features on **all** types of charts, the remit of the CSCPWG is to provide **specific** guidance for **paper charts**, including the use of text and symbology; this accords with our Terms of Reference. It is for TSMAD and C&SMWG to take forward such action for ENC development.

Annex B
to CSC CL 01/2004

B-435.10 Archipelagic Sea Lanes (ASLs)

- a. **Definition.** Article 53 of the United Nations Convention on the Law of the Sea (UNCLOS) states that an archipelagic State ‘may designate sea lanes ..., suitable for the continuous and expeditious passage of foreign ships ... through ... its archipelagic waters and the adjacent territorial sea. ... All ships ... enjoy the right of archipelagic sea lanes passage in such sea lanes ... [which] include all normal passage routes used as routes for international navigation ... through archipelagic waters’. (Note: references to aircraft and air routes in UNCLOS have been omitted in these extracts from Article 53).
- b. Any archipelagic State which wishes to designate ASLs shall propose them to IMO for adoption as ASLs including all normal passage routes and navigational channels as required by UNCLOS. ASLs are adopted by IMO in accordance with the relevant provisions of UNCLOS.
- c. Details of ASLs are given in Part H, General Provisions, of IMO’s Ships’ Routeing. Further information is provided in the IHO publication S-51 (Manual on Technical Aspects of the United Nations Convention on the Law of the Sea).
- d. **Characteristics.** The **unique character** of the Archipelagic Sea Lanes (ASLs) routeing measure is reflected in the very specific considerations required for charting them.

UNCLOS states that:

- ASLs shall be defined by a series of **continuous axis lines** from the entry points of passage routes to the exit points.
 - Ships in archipelagic sea lanes passage **shall not deviate more than 25 nautical miles** to either side of such axis lines during passage, provided that such ships **shall not navigate closer to the coasts than 10 per cent** of the distance between the nearest points on islands bordering the sea lane [referred to subsequently as ‘the 10% rule’]. (Note: The word “coast” is interpreted by IHO to mean the charted High Water line).
 - The archipelagic State shall clearly indicate the axis of the sea lanes...on charts, to which due publicity shall be given.
- e. Traffic within ASLs is not separated, except in any traffic separation schemes which may be designated in an ASL for the safe passage of ships; see B-435.1.
 - f. The **axis line** of an archipelagic sea lane is shown on charts for the purpose of defining the sea lane. The axis line does not indicate any routes or recommended tracks as defined in B-434 and Part A of ‘Ships’ Routeing’.
 - g. The symbols for ASLs shall be inserted in magenta as follows:
 - i Axis line of archipelagic sea lane:

— — — — — **IM 17**

Magenta line long dashes 12mm, short dashes 5mm, gaps 4mm.

Line weight bold (if screened tint) or light (if full strength).

ii Dashes shall preferably be joined at turning points:



iii The axis line shall be shown through other routeing measures without interruption, since it may not necessarily form the centre line of a routeing measure established in Archipelagic Sea Lanes, in accordance with Part A of the IMO Publication on Ships' Routeing.

iv The abbreviated legend

ASL (see Note) **IM 17**

should be inserted at intervals along the axis line, and within the lanes.

The full legend *Archipelagic Sea Lane (see Note)* may be used in cases where it is considered appropriate.

v Outer limit of ASL, including where 10% rule applies:



Length of each dash 6mm, gap 2mm. Base of triangle 3.3mm, height 1.62mm.

The triangles shall point into the ASL.

The full outer limit of the ASL shall preferably be charted.

vi Linear symbols shall preferably be inserted as a bold line in a tint light enough to be printed over hydrographic detail without obscuring it. If a tint is not used, the line should be fine. Associated legends shall be inserted in full strength magenta.

h. An **explanatory note**, providing information on the unique characteristics of ASLs, should be inserted, preferably in the title area of relevant charts. The following note provides an example of the type of information which should be included in the note:

ASL — ARCHIPELAGIC SEA LANE

Archipelagic Sea Lanes, as defined in UNCLOS, have been designated in the area of this chart. Vessels exercising archipelagic sea lanes passage shall not navigate to shoreward of the limits indicated thus: 

[and shall not deviate more than 25 miles from the charted axis line]. The axis line of the ASL does not indicate the deepest water nor any recommended route or track. [For further details see *any relevant publications*]

Details in [] are optional.

**Annex C
to CSC CL 1/2004**

**Article 53
(from UNCLOS, as stated in IHO S-51)**

Right of archipelagic sea lanes passage

1. An archipelagic State may designate sea lanes and air routes thereabove, suitable for the continuous and expeditious passage of foreign ships and aircraft through or over its archipelagic waters and the adjacent territorial sea.
2. All ships and aircraft enjoy the right of archipelagic sea lanes passage in such sea lanes and air routes.
3. Archipelagic sea lanes passage means the exercise in accordance with this Convention of the rights of navigation and overflight in the normal mode solely for the purpose of continuous, expeditious and unobstructed transit between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.
4. Such sea lanes and air routes shall traverse the archipelagic waters and the adjacent territorial sea and shall include all normal passage routes used as routes for international navigation or overflight through or over archipelagic waters and, within such routes, so far as ships are concerned, all normal navigational channels, provided that duplication of routes of similar convenience between the same entry and exit points shall not be necessary.
5. Such sea lanes and air routes shall be defined by a series of continuous axis lines from the entry points of passage routes to the exit points. Ships and aircraft in archipelagic sea lanes passage shall not deviate more than 25 nautical miles to either side of such axis lines during passage, provided that such ships and aircraft shall not navigate closer to the coasts than 10 per cent of the distance between the nearest points on islands bordering the sea lane.
6. An archipelagic State which designates sea lanes under this article may also prescribe traffic separation schemes for the safe passage of ships through narrow channels in such sea lanes.
7. An archipelagic State may, when circumstances require, after giving due publicity thereto, substitute other sea lanes or traffic separation schemes for any sea lanes or traffic separation schemes previously designated or prescribed by it.
8. Such sea lanes and traffic separation schemes shall conform to generally accepted international regulations.
9. In designating or substituting sea lanes or prescribing or substituting traffic separation schemes, an archipelagic State shall refer proposals to the competent international organization with a view to their adoption. The organization may adopt only such sea lanes and traffic separation schemes as may be agreed with the archipelagic State, after which the archipelagic State may designate, prescribe or substitute them.
10. The archipelagic State shall clearly indicate the axis of the sea lanes and the traffic separation schemes designated or prescribed by it on charts to which due publicity shall be given.
11. Ships in archipelagic sea lanes passage shall respect applicable sea lanes and traffic separation schemes established in accordance with this article.
12. If an archipelagic State does not designate sea lanes or air routes, the right of archipelagic sea lanes passage may be exercised through the routes normally used for international navigation.