

8<sup>th</sup> CSPWG MEETING  
**Turku, Finland, 29 November-2 December, 2011**  
**Paper for Consideration by CSPWG**  
**Information Paper on the Development of a United States Combined Paper Chart and**  
**ECDIS Chart No.1**

<b>Submitted by:</b>	United States (NOAA)
<b>Executive Summary:</b>	This paper reports the progress being made by the U.S. (NOAA) to create a Paper Chart and ECDIS Chart 1 (P/ECDIS Chart 1), a reference that will show both paper and ECDIS (S-52) symbols side-by-side.
<b>Related Documents:</b>	INT1; US Chart No. 1; S-52, Ed. 6.0
<b>Related Projects:</b>	IHO CSPCWG, INT1 Sub-working Group

### **Introduction / Background**

ECDIS Chart 1 is far less accessible and more difficult to use than the INT1 available for users of paper charts. The U.S. Chart No. 1 for Paper Charts and ECDIS (P/ECDIS Chart 1) discussed in this paper is intended to provide a more accessible S-52 symbol reference based on the well-known format of INT1.

The need for an easy to use S-52 symbol reference for mariners has been acknowledged for quite a while.

- Denmark proposed “Extension of INT1 to also comprise ECDIS Symbols at CSPWG4 in 2007.
- CSMWG (now DIPWG) discussed the need for a better ECDIS symbology reference for mariners at CSMWG18 in 2008.
- Earlier efforts to improve users’ understanding of symbology include development of the S-52 Part 1 Addendum and the ECDIS Chart 1.

In 2008, the U.S. expected to produce a P/ECDIS Chart 1 by December, 2009. It didn’t happen.

Why not?

- Turnover in personnel assigned to the project.
- Difficulties encountered with the computer system and software.
- Dozens of symbology and textual revisions to make U.S. Chart No. 1 more like INT1.
- A decision to create an 11<sup>th</sup> edition of U.S. Chart No. 1 that moves INT symbology to the left and leave ECDIS symbology for the subsequent 12<sup>th</sup> editon.

The 11<sup>th</sup> Edition of U.S, Chart No. 1 was completed in September, 2011 and is expected to be released to the public by the end of autumn.

Editing of the 12<sup>th</sup> Edition of U.S. Chart No. 1 started in 2010.

The 12<sup>th</sup> Edition will contain paper chart and ECDIS symbols.

Completion of the 12<sup>th</sup> Edition of U.S. Chart No. 1 is planned for Calendar Year 2012.

## Analysis/Discussion

- The 12<sup>th</sup> Edition will be oriented in a landscape, not portrait, format.
- Columns will be labelled on each page.
- Updates made for Edition 11 serve as the foundation on which the new Paper/ECDIS, edition 12 is built.
- INT 1 symbols provided by the Bundesamt Fur Seeschifffahrt und Hydrographie (BSH).
- ECDIS symbols from the IHO S-52, Addendum to Annex A, Part 1, User's manual, Edition 3.4 (2008) with a detailed description of each S-52 point, line and area symbol.
- Several new narrative sections written especially for ECDIS users. These sections will summarize various important ECDIS concepts from the S-52 standard, such as:
  - Difference Between Paper Chart and ECDIS Symbology
  - ECDIS Portrayal of Depths
  - Isolated Dangers and Other Special ECDIS Symbols
  - Conditions That Could Affect the Portrayal of Some Features
  - Simplified and Traditional ECDIS Symbology
  - Colour palettes (Day, Night, Dusk)
  - Display Categories and Viewing Groups
  - The **i** and **?** Families of S-52 Symbols
  - Portrayal of Area Features with Centred Symbols
  - Conspicuous and Non-Conspicuous Features

Examples of United States Chart No. 1, 12<sup>th</sup> Edition format (from Section E, "Landmarks" and Section K, "Rocks, Wrecks and Obstructions") are presented on the following two pages:

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
13		Temple					
14		Pagoda					conspicuous religious building, non-Christian
15		Shinto shrine, Joss house					
16		Buddhist temple or shrine					
17		Mosque, Minaret		 			conspicuous mosque or minaret
18		Marabout		 			conspicuous mosque or minaret
19		Cemetery					
20	 Tr	Tower	TOWER Tr	Tr			conspicuous tower
21		Water tower, Water tank on a tower	STANDPIPE S'pipe	WTR TR Wtr Tr			conspicuous water tower
22	 Chy	Chimney	CHIMNEY Chy	CHY (208) (202)			conspicuous chimney
23		Flare stack (on land)	FLARE	Flare			conspicuous flare stack
24	 Mon	Monument (including column, pillar, obelisk, statue)	MONUMENT	Mon	 		conspicuous monument

# K Rocks, Wrecks, Obstructions

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
11		Rock which covers and uncovers, height above chart datum					underwater hazard which covers and uncovers
							rock which covers and uncovers or is awash at low water
							underwater hazard with depth greater than 20 metres
							isolated danger of depth less than the safety contour
							symbol for drying height, used for shallow soundings, less than or equal to safety depth
12		Rock awash at the level of chart datum					rock which covers and uncovers or is awash at low water
							underwater hazard which covers and uncovers
13		Underwater rock of unknown depth, dangerous to surface navigation					dangerous underwater rock of uncertain depth
							isolated danger of depth less than the safety contour
14.1		Underwater rock of known depth; inside the corresponding depth area	12 Rk	27 Rk 21 R			underwater hazard with a defined depth
							underwater hazard with depth greater than 20 metres
							isolated danger of depth less than the safety contour
14.2		Underwater rock of known depth; outside the corresponding depth area, dangerous to surface navigation		 			underwater hazard with a defined depth
							underwater hazard with depth greater than 20 metres
							isolated danger of depth less than the safety contour
15	35 R	Underwater rock of known depth, not dangerous to surface navigation	35Rk		35 R. +(35)		underwater hazard with a defined depth
							underwater hazard with depth greater than 20 metres

## **Conclusions**

Completion of the 11th Edition of U.S. Chart No. 1 has opened the door to further development of the 12th Edition with ECDIS symbols.

The 12th Edition could be a useful tool for ECDIS users.

Completion of United States Chart No. 1 can be accomplished in calendar year 2012.

## **Justification and Impacts**

The need for an easy to use reference for ECDIS symbols has long been recognized.

Adding ECDIS symbols to United States Chart No. 1 has required extensive re-formatting and additional narrative sections for ECDIS users.

The United States would appreciate the participation of CSPWG members in reviewing and making recommendations for improving the paper chart/ECDIS version of U.S. Chart No. 1.

CSPWG may wish to consider reformatting INT1 upon completion of the combined paper chart/ECDIS U.S. Chart No. 1.

## **Action Required of CSPWG**

CSPWG is invited to:

Note the work done by the United States.

Review and comment on the prototype P/ECDIS Chart 1 format.