

2nd NCWG MEETING
Monaco 26-29 April 2016

Paper for Consideration by the Nautical Cartography Working Group (NCWG)
An Output From the Nautical Information Provision Working Group (NIPWG) Report to HSSC7

Submitted by:	NCWG Chair
Executive Summary:	A brief report on activities of the NIPWG affecting the NCWG.
Related Documents:	CSPCWG11-08.12A <i>Portrayal of MPA</i> HSSC7-05.5A <i>Report and Recommendations of NIPW</i> HSSC7-05.5B <i>Proposal for the creation of a Project Team on the Portrayal of Marine Protected Areas</i> HSSC7 Minutes. S-100WG1-10.2A <i>Interoperability of S-100 Product Specifications</i>
Related Projects:	NCWG Work Plan

Introduction / Background

The NIPWG first proposed that NCWG become the HSSC Working Group responsible for evaluating, participating in the development of and testing portrayal specifications for S-100 based product Specifications at CSPCWG11/NCWG1. This was amplified in the NIPWG report to HSSC7 (November 2015) and resulted in an action on the NCWG to compile portrayal requirements relating to product specifications in general as part of its Work Program.

Analysis / Discussion

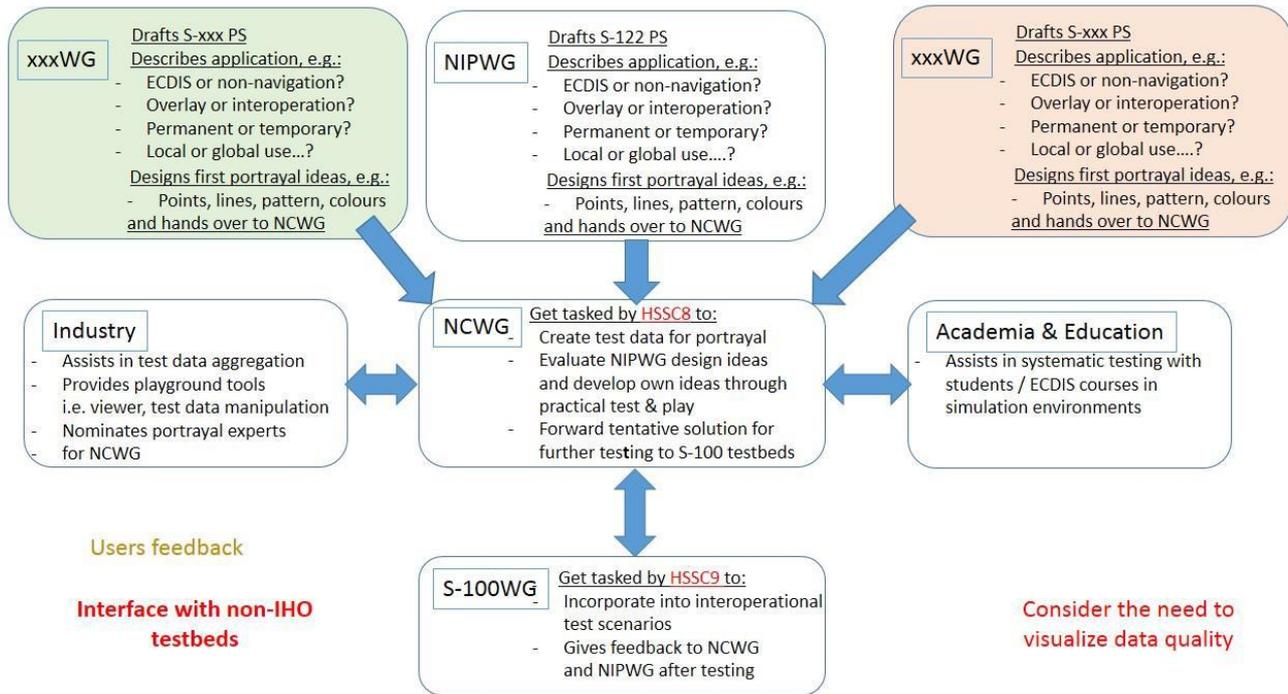
The NCWG Chair considers that the views of the NIPWG as expressed through its presentation to CSPCWG11/NCWG1 and report to HSSC7 are consistent with a future role of the NCWG within the HSSC Working Group structure and its input into the IMO eNavigation concept. This has been reinforced recently by activities that have been initiated within the S-100WG related to the interoperability of S-100 based Product Specifications in ECDIS/INS (Integrated Navigation System). Evaluation of the portrayal issues of interoperable or over/underlying products in ECDIS/INS is the role of the nautical cartographer and therefore should reside with the NCWG. However it must be acknowledged that the NCWG is in a transition phase having by necessity spent the majority of its time focussing more on the nautical cartography of paper charts so as to have a solid foundation for the comprehensive review of S-4 part B.

The summary of the discussions at HSSC7 related to portrayal requirements is as follows:

As reported to HSSC-6, the NIPWG Chair noted again that the replacement of printed paper publications with future NPUB products would require developing a strategy and considering the impact on IMO performance standards and IEC related standards, in relation with carriage requirements.

The HSSC Chair agreed that NIPWG was dependent on other HSSC working groups such as the NCWG, the DQWG and the S100WG for addressing portrayal issues. However, noting the current limited expertise in the IHO concerning the portrayal of features in an S-100 based environment, these groups were invited to make the best possible use of existing test bed opportunities/projects. This would also value the various test data sets already produced by NIPWG along with the product specifications, such as S-122 for Marine Protected Areas. CIRM confirmed the support of industry to provide samples and test datasets for cartographers to look at, to provide equipment for data visualization, but also stressed the fact that it would be inappropriate for industry to develop the portrayal standards.

Based on several suggestions and discussions, a process for addressing portrayal issues was outlined as depicted in the figure below:



The HSSC Chair invited NIPWG and NCWG to consider the proposed diagram / capability and report back to the next meeting, agreeing with CIRM's comment that the diagram should provide guidance, but not impose limitations on the portrayal development.

The resultant action on the NCWG is as follows:

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT
5.5, 5.6	S-1xx Portrayal Issues	HSSC7/18	NCWG to compile portrayal requirements relating to product specifications in general as part of its programme of work.	NCWG-2

The diagram above is offered as a starting point for NCWG discussions on this action. An initial comment from the NCWG Chair for NCWG consideration is that the first NCWG task listed "Create test data for portrayal" should not be a responsibility of the NCWG. This task should be the responsibility of the WG/PT/Organisation developing a specific Product Specification; or appropriate representatives from Industry that are invested in the Product Specification (as CIRM commented at HSSC7).

Some additional thoughts of the NCWG Chair to take into account in discussions include:

- The ENC is the fundamental navigation product in ECDIS, and contains all the information required for safe navigation as determined by the national charting authority (HO). As such the information in the ENC must always be at least easily accessible/viewable to the mariner, but preferably always visible. Note the definition of ENC (as taken from IMO Resolution MSC.232(82) (2006) – REVISED PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)):

Electronic Navigational Chart (ENC) means the database, standardized as to content, structure and format, issued for use with ECDIS by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution, and conform to IHO standards. The ENC contains all the chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation.

- Based on the above, it must never be assumed that certain information required for safe navigation is not required in ENC because it can be included in another product.

- There is a lot of talk about "not overloading the mariner with too much information", however there is ever-increasing discussion and work being done to develop "overlays". While I have no problem with the requirement for these "overlays", I would consider that those overlays such as MPA would only be required for users of ECDIS where they have a requirement that extends beyond navigation. In other

words, if a ship is only using ECDIS to navigate from one place to another, they should not require any other information in the ECDIS beyond that included in the navigational ENC.

- Having said the above, there are certainly some Product Specifications in development that will assist the mariner during route planning, monitoring and when navigating into port and aid in situational decision making. These include (but are not restricted to) Weather, Surface Currents, Tides, Sea Ice, Under Keel Clearance Management
- Does the information need to be displayed in the ECDIS, or could it be best utilised on another screen such as a “back of bridge” ECDIS or as an overlay on a separate radar display?
- Assessment of requirement for interoperability (interacting with the ENC) or overlay/underlay (passive (no interaction with ENC) display of the product).
- Regarding the MPA (S-122) Product Specification: What information is required by the mariner regarding MPA in the ECDIS that is not already encoded in the navigational ENC?
- Consideration of different light conditions (day/night).

Activities that the NCWG will need to have input to include:

- Impending formation and activation of the IMO-IHO Harmonization Group on Data Modelling.
- Scoping of requirements for the development of a draft S-100 Interoperability Specification (S-100WG1-10.2A refers).

Conclusions

The HJSSC has tasked the NCWG to compile portrayal requirements relating to product specifications in general as part of its Work Program. A diagram was developed at HSSC7 to serve as a starting point for NCWG discussions, and a number of further factors to inform discussions have been listed. There are also some related activities that NCWG should participate in.

Recommendations

1. The NCWG to consider the diagram shown above and the initial thoughts of the NCWG to inform discussions to address action HSSC7/18.
2. NCWG to establish a small Sub-Group to finalise portrayal requirements relating to product specifications in general to inform the NCWG programme of work.

Action required of NCWG

The NCWG is invited to:

- a. **Discuss** this paper, and evaluate the diagram and thoughts of the NCWG Chair.
- b. **Approve** the establishment of a small NCWG Sub-Group to complete action HSSC7/18.
- c. **Determine** additional action as appropriate.

Associated documentation:

S-100WG1-10.2A *Interoperability of S-100 Product Specifications* (for reference only)