

Hydrographic Services and Standards Committee

Report of the / Proposal by:
Canada, UK

Comments by:
Germany, Australia, France, USA

Paper chart 2.0, automated paper chart from ENC databases



Problems or outstanding issues (Can, UK)

- Ultimate goal is to fully automate the creation of paper products from fully populated ENC vector databases.
- Latest edition of S-4 for paper publication will be the last one that Canada and UK will implement unless it supports portrayal that is easily generated automatically from ENC data.
- The future being digital, data-centric HO's have to limit their investments on the paper chart products in order to fill the gaps to support the digital world, autonomous navigation being a prime example.
- By significantly reallocating the resources currently dedicated to traditional paper chart production and maintenance, HOs can transform to respond to the increasing demands for timely access to up-to-date and accurate digital hydrographic data, which will benefit shipping safety and efficiency, as well as contribute to better maritime resource management



Comments Germany

- Current S-4 should be frozen.
- Current INT1 should be frozen.
- Paper chart production should be either based on ENC or on digital S-57 or S-100 based sources.
- Taking into account the ENCWG experiences in developing portrayal solutions for ENC, this working group could be considered as appropriate to develop S-4 and INT1 versions which make use of ENC data or data base entries and which support the fully automated generation of paper charts.



Comments Australia

- New charting standard capable of supporting the production of a new looking paper chart that meets current and future requirements, not legacy expectations.
- Role of the traditional paper products should also be discussed and a more realistic and pragmatic definition negotiated with the IMO, particularly in the context of use as a backup arrangement.
- Must address certain keys symbols currently used in both ENC and paper charts, but which have dangerously different circumstantial meaning in each, and others where different symbology methods are used to represent the same information.
- ENC and paper charts can therefore already differ significantly in levels of detail.
- A paper chart could be considered adequate if it enables a ship to get to a place where either system or pilotage assistance is available
- Allow the role of the paper chart to evolve, in content and look, and allow it to be re-engineered so it can be easily produced from officially (and richer) published ENC data.



Comments France

- Paper chart is made with the aim of making a synthetic and easily readable view of the information
- Not ready to consider the paper chart as a product dedicated for planning and ultimate backup only in the short term.
- Technological solutions on how to achieve the target defined in S-4 should not be set by NCWG.
- Considering technologies and HO practices, an analysis of the standard, even if it does not seem to us to be the main constraint of automation, may require adapting it.
- Objective for the NCWG could be to develop a work programme dedicated to the future of paper chart, with a great implication of voluntary HOs including state of art, knowledge sharing and adaptation of the S-4, if relevant, taking into account the various technical solutions.



Comments USA

- NOAA has announced that it will not produce INT charts and intends for paper charts to be primarily used for backup to ECDIS, situational awareness, and recreational mariners.
- Work with the IMO to accept a simplified backup paper nautical chart for ECDIS.
- Task the ENC WG or the NCWG to develop and test automated paper chart creation and maintenance from ENC databases and to support automation.
- Hydrographic offices will be able to focus on ENC products, improving them to be products that mariners want to use, rather than products they must use.



Matrix of proposals versus NCWG draft document

PROPOSALS	CAN+UK	GER	AU	FR	US	NCWG
Full automating process from ENC to paper charts	X	X	X	X	X	X
Radical revision/Freezing of S4	X	X (ENCWG)		X (No NCWG)		Only Revision
Limit investment on paper charts	X				X	X
Freezing of INT1		X				
IMO involvement			X		X	X
Task an HSSC WG to develop a WP to the “Future of paper charts”				X (NCWG)	X (ENCWG or NCWG)	X



Action requested of HSSC

- Review this proposal and comments received.
- Task relevant working groups to focus on ENC to paper automation.
- Propose that the IHO work on “ENC First” regulations with IMO.
- Further focus on ENC as the preferred charting product of the IHO and Hydrographic offices.

