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NORWEGIAN MAPPING
AUTHORITY

International Hydrographic Bureau
B.P. 445
Mc 98011 Monaco Cedex
Principaute De Monaco

CHRIS17-INF3

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SUBJECT: S-57 EDITION 4.0

Dear Sirs,

The description given at the beginning of CL83/2004 presents a broad picture of the ongoing innovation around S57. NHS supports the development of S-57, and also agrees in the rationale given for this work. The alternative to this innovation is that the S57-standard meets competition, becomes out of date, and finally will be substituted by competing concepts and standards. This of course, will eventually be the end of S57 as an operational product within the maritime community. Consequently, the work on the standard should continue. On the other hand, there are other even more important aspects to be considered prior to the introduction of a new standard substantially different from the present version.

The ENC/ECDIS is now in a critical phase with respect to penetration of the maritime market. Every effort should be directed towards increased coverage and market penetration, and measures with real or potential opposite effects should be postponed.

It is satisfactory to note that the development of an increased use of ENCs and the ECDIS concept now is taking place.

Our greatest concern regarding the development of a new version of S57 is therefore to find a way to maintain stability and avoid any confusion for the end-users.

1. Consequences for HOs

HOs are i.a. by IHO urged to continue and speed up the production of Ed. 3.1 ENC data in order to achieve world-wide coverage as soon as possible. For countries already involved in ENC production, we for this reason believe that the ENC production will continue as planned

independent of the ongoing development of Edition 4.0. It has, however, been mentioned that member states about to start their ENC production, will await the situation around the development of Edition 4.0 before any production is started. If this is the situation, the IHO should identify these member states and encourage them to start production of Edition 3.1 data as soon as possible.

CL83 states that even after S-57 Edition 4.0 has been released S-57 Edition 3.1 will continue to be valid for many years to come. The time frame we here are talking about is presently approximate. The danger is that when the standard has been released, the next steps will mainly or at least partially be driven by the market and commercial interests in particular, i.e. outside the de facto control of IHO. This means that the HOs can be forced to start the production of Edition 4.0 data earlier than planned and be forced to operate a duplicate production line for a considerable period of time.

The S-57 Edition 4.0 information paper gives few details about the consequences for the HOs, but based on experiences from former upgrading of the standard, extra expenses will be imposed for HOs already producing ENCs. There is no reason for believing that the situation will be substantially different with Edition 4.0, on the contrary, from our present experience we assume that the costs incurred are expected to be significantly greater.

Extra costs will i.a. include:

- Upgrading of production software
- Upgrading of internal databases
- Time used for converting data to the new Edition; the more Edition 3.1 data produced, the higher incurred conversion costs
- HOs will probably for a period be forced to handle data on two different formats; i.e. operate two separate production lines including two different updating mechanisms
- Establishment of competence within the new standard and new routines for production.

Both HOs and RENCs must during the (long?) transition period handle two different products. This increases significantly the necessary book-keeping for the whole ENC operation.

The factors mentioned above can all contribute to slowing down the ENC production, the dissemination of data, and thus have a negative influence on the ECDIS market. This in turn may jeopardize the intended improvement of safety of navigation.

2. Consequences for RENCs

The total change of structure will require a far greater effort in implementing all components than was the case with 3.0 – 3.1, and the cost is expected to be much higher.

Dataproducers, RENCs, producers of production systems, data validation tools, OEMs, working groups responsible for related standards, maritime authorities, distributors and SENC providers etc, will be involved and it is a great challenge to have all these components work together.

Another challenge for RENCs is that there is no control of when the HOs start delivery of edition 4.0 data and when the last edition 3.1 data is delivered. For example one country could take one year to complete all their cells in edition 4.0 but another country will use 2-3 years. This means that the RENCs must support 3.1 as long as they are delivered by the HOs.

Finally the complexity in distribution of ENC's in multiple versions increases the risk of the end-user getting the wrong version of data. It is therefore important that these processes are thoroughly tested before set in operation.

3. Consequences for ECDIS manufacturers and the implementation of ECDIS on board vessels

The slow implementation of ECDIS on board vessels has been a concern for many years. Lack of data has been given as a main reason for this. The situation is, however, about to be improved as there has been a price reduction on ECDIS systems in combination with increased data coverage. Further IMO considered mandatory carriage requirement for ECDIS for certain classes of vessels on NAV 51. For these reasons we believe that the years ahead will be a turning-point for the use of ECDIS on board vessels.

Uncertainty and scepticism within the ECDIS industry and the mariners about the HO's will and power to realize their promises regarding ENC coverage can weaken and slow down this presently promising process.

A close liaison between IHO and interested parties regarding the development of Edition 4.0 will therefore be of vital importance in order to avoid uncertainty about the new standard.

The question of backwards compatibility seems to be unresolved. The significance of this can be critical for the whole value chain for ECDIS/ENC.

Time and effort required by OEMs and shipping companies to upgrade their existing ECS/ECDIS systems to support a new edition should not be underestimated. OEMs have indicated that they might have 24 months service intervals on some installations – sometimes never.

4. Implementation of the new standard – the “right timing and approach”

NHS supports the development of the new standard in order to meet future requirements as well as the need for ISO harmonisation.

Our concern is, however, that the development of the new standard in an undesirable way could change the IHO/HO focus from the real implementation of ECDIS on board vessels, to a discussion for/against the new standard.

The new standard should not be implemented for ENC's before the ENC/ECDIS concept has achieved a solid position and penetration in the market. The IHO should continue to monitor the situation carefully, and to decide the “right timing” for adopting the new standard. One possible solution could be to implement the new standard as a maritime GIS standard, separated from the present ENC/ECDIS-regime.

TSMAD should continue its important innovational work in order to improve, enrich and rectify the standard so that given the consensus between IHO/HOs/industry/maritime community, the new standard may be introduced in a powerful and co-ordinated way without introducing instabilities in the ECDIS regime.

5. NHS recommendation

We recommend that first of all a total consequence analysis according to CHRIS procedures be carried out. HOs, maritime authorities, the industry and the users should be included in this analysis.

Secondly, an implementation strategy should be established, presented and reviewed by CHRIS before a final decision regarding S57e4 is taken. The strategy must address all issues above and issues identified by the consequence analysis.

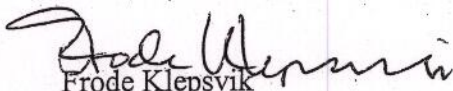
CHRIS should establish terms of reference for a dedicated working-group with members covering all aspects.

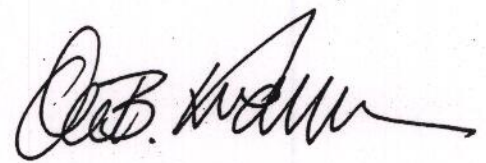
Then a realistic timescale for implementation of S57e 4.0, must be presented and should give room for necessary testing of all components, in order to ensure a smooth transition for all involved.

The information now presented to CHRIS is far from complete and NHS strongly recommends that CHRIS requires further analysis and knowledge along the lines given above.

The S57 e4-issue has significant strategic, economic and safety-critical implications and NHS expects IHB to ask the opinion of the member states through a Circular Letter when the above recommended activities have been performed.

Best regards
Norwegian Hydrographic Service


Frode Klepsvik
Director


Ole B. Kvamme
Deputy Director