

**11<sup>th</sup> CHRIS MEETING**  
**IHB, Monaco, 16-18 November 1999**

**FINNISH PROPOSAL FOR THE RE-ARRANGEMENT OF THE  
STANDARDIZATION WORKS WITHIN THE IHO CHRIS COMMITTEE**

**Summary of the Proposal**

Finland proposes that the standardisation work of ENC and other digital nautical publications should be organised together in a more efficient way than today. The basic principle should be that IHO concentrates on only issues which really belong to IHO's scope. Other standardization issues should be given to other appropriate standardization bodies. It is proposed that :

- **In the coming versions of S-57 only hydrographic information parts will be defined;** coding etc can be left to other standardisation bodies.
- **A core Technical Expert Group (TEG) of 3-5 persons** will be established to work full-time on S-57.
- **Current TSMADWG will be divided into several WGs**, i.e. one for **Object Catalogue** and one WG for **each Product Specification**.
- **The CHRIS Committee will set the goals, and control and coordinate** the work.
- **The relations between other WG:s** (DQWG, TAWG,...) should be clarified.
- **Financing** of the standardisation should be arranged by prioritizing the tasks of IHB or in addition by direct funding of Member States.

This issue was discussed during the Nordic Hydrographic Commission 43<sup>rd</sup> Meeting in Helsinki on 13<sup>th</sup> – 15<sup>th</sup> of January 1999 and the meeting supported this proposal.

Below are given some background discussion and the proposal is described in more detail.

## **Background notes to the proposal**

The main interest in the standardization work done under IHO CHRIS committee lies in the transmission of different hydrographic products from the HO to the mariner. Most important of these is the ENC, but now many other needs are emerging. The IHO CL 49/1998 concerning standardization of digital sailing directions is one. The proposal is to combine standardization of all nautical publications – sailing directions, notices to mariners, list of lights, etc. – into one working group.

Standardizing of digital nautical publications comes very close to standardizing the ENC. The use of each publication and a nautical chart is slightly different, but they all carry same kind of information.

S-57 is a generic standard for transferring hydrographic information. ENC is a product specification of S-57, a set of rules on how to use the standard – the coding and the Object Catalogue – to make an ENC. It seems very logical to include other nautical publications into the S-57 as new product specifications, to ensure consistency and compatibility. The work already done in S-57 (e.g. the Object Catalogue) should be utilised as much as possible.

There is also work going on to standardize other marine information objects which are time-varying in nature, such as tide, currents, weather, ice, etc., to be used in ECDIS (the Marine Information Objects - MIOWG).

Many special applications of S-57 are also being developed, for instance the warship ECDIS for the navy and ENCs used for river boats. IALA has asked IHO to include the VTS/AIS objects into S-57. More things are likely to follow.

All this puts a lot of pressure on IHO. If all these things are to be included in the next versions of S-57, the task will be huge. The standard is getting increasingly complex and requires high technical knowledge and full time involvement. It looks obvious that the current TSMAD will not be able to do it. The working groups under CHRIS committee must be redefined.

The aim of S-57 is to standardize the messages sent from the HO to the mariner. These messages may currently be ENC exchange sets or ER files. S52 presentation library standardizes the way they look on the ECDIS screen.

Any message can be divided into three elements: message coding, data contents and information usage. In the case of S-57, message coding contains the file format, and the data representations (eg. how many bits per integer, etc.), the directory structure, and other file- and bit-related definitions. Data contents define what kind of information can be transferred with the standard. It defines the object model, topological structure, data types, which can be used, the generic value sets available, UIDs and updating method. Information usage part relates to the use of the information, consisting of the hydrography-specific parts of the standard: the Object Catalogue and the Product Specifications.

Up to now IHO has standardized all of this by itself. As S-57 gets more and more complex, and more and more ways are developed to use it, it will be necessary to restrict the task in some way.

## Some more details to the proposal

- It is proposed that in **the coming versions of S-57 only the information usage part will be defined**. The coding part is not described any more, but a reference is made to some generic spatial data transfer standards and file formats (e.g. ISO standard). The same should be done to the data contents parts as much as possible, using for instance ISO or OpenGIS specifications. The information usage part is the area of HOs' expertise and has to be defined by IHO also in the future.
- It is further proposed that a **core Technical Expert Group (TEG) of 3-5 persons** will be established who work full-time on S-57, possibly employed by IHB. They will take care of the coding and contents matters in S-57 by following the work in ISO, ICA, OpenGIS and other relevant standards bodies. They will also keep in touch with individual HOs and the industry on the technical matters.
- For the usage part, the work of the current **TSMADWG will be divided into several working groups** consisting of representatives of individual HOs as before. **One WG should concentrate on the Object Catalogue, and each Product Specification should have its own WG**. The Technical Expert Group will take care that work done in these working groups will be consistent with each other. However, the TEG will not interfere with the actual information content of the OC or the Product Specs, which will stay under the command of IHO member states.
- The **CHRIS Committee will set the goals, control and coordinate** the work of the Technical Expert Group and the Working Groups. The Chairman and/or the Secretary of CHRIS should have enough time and resources for their work.
- The relations between other WGs (DQWG, TAWG,...) should be clarified.
- Financing of the work may be arranged by re-organizing and re-prioritizing the tasks of IHB. In addition, the Member States can finance the work directly, e.g. by allocating members to the TEG.

The proposed solution will reduce the burden of HO representatives freeing them to concentrate on the essential hydrography-related matters, and allow the IHO to be more flexible in reacting to often rapid changes in technology.

The table below summarises the discussion above.



**Table showing some relations between different standardisation elements.**

Responsible body	ISO	ISO / Open GIS / IHO	IHO	IHO
Scope	<b>Message coding</b>	<b>Data contents</b>	<b>Information usage</b>	<b>Presentation</b>
Main tasks	<ul style="list-style-type: none"> <li>▪ File formats</li> <li>▪ Data representation (bits/integer, etc.)</li> <li>▪ Transmission protocols</li> </ul>	<ul style="list-style-type: none"> <li>▪ Object model (UIDs, update procedure, ...)</li> <li>▪ Data types (Open GIS specs)</li> <li>▪ Value sets</li> </ul>	<ul style="list-style-type: none"> <li>▪ Object Catalogue</li> <li>▪ Product Specifications (Use of the OC): <ul style="list-style-type: none"> <li>- EN</li> <li>- NtM &amp; ER</li> <li>- SD</li> <li>- LoL</li> <li>- Warnings, weather forecasts, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Display definitions</li> <li>▪ Symbol look-up tables &amp; rules</li> </ul>
IHO WG	Technical Expert Group	Technical Expert Group	One IHO WG for OC and each PS assisted by Technical Expert Group	CSWG assisted by Technical Expert Group

18 November 1999