

12th CHRIS MEETING
Valparaiso, Chile, 23-25 October 2000

NEW WORK PROPOSALS FOR THE IHO-IMO HARMONIZATION GROUP ON ECDIS
(HGE)

(by Daniel H. Mades, USCG, Chairman of IEC/TC80/MT1)

IMO Resolution A.817 (19), Performance Standards for ECDIS, require monitoring and updating.

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| 1) Why? | Documents |
| a) Clarification: | (IEC, IMO) |
| i) Back up Arrangements | |
| b) Addition: | |
| i) Marine Information Objects (MIO) | (IEC, IMO, IHO) |
| c) Items to Study | |
| i) Encryption | (IEC, IMO, IHO) |
| ii) SENC Distribution | (IEC, IMO, IHO) |
- 2) How?
- a) HGE
- i) Last Meeting: Winter of 1998
 - ii) Terms of Reference for HGE were accepted at MSC 69/22 in May of 1998. HGE has not yet met under these terms. They were very clearly written in an attempt to bring that group into focus and put an end to the contentious and political non-working group into which it had evolved. They state that HGE should be "a small group to work mainly by correspondence". This approach has been very successful in my IEC Maintenance Team for 61174. E-mail, an FTP site, and strict naming conventions for the documents were the tools.
 - iii) Terms of reference wide open.
 - iv) Permission from IMO not relevant until necessary to schedule inter-sessional meeting.
 - (1) Initially IMO should be *informed* that HGE is keeping a watch on impacting issues and
 - (2) Request a meeting when necessary to finalize an amendment to the performance standard for submission to NAV
 - v) With such a ready vehicle for submission this process, using a smaller, streamlined HGE, will facilitate more timely revisions to the standard
 - vi) Should be possible to begin by:
 - (1) Gaining consensus that there are impending items which will (at least eventually) impact the performance standard.
 - (2) Defining those issues.
 - vii) There are various bodies/groups already wrestling with the issues impacting the current version of the IMO Performance Standard including:
 - (1) IHO-IEC harmonization group for marine information objects,
 - (2) Newly proposed IEC MIO WG to include AIS, ARPA, ECDIS, and other working groups
 - (3) IHO Colors & Symbols WG,
 - viii) Drafting groups could be ready to accept the work of these bodies/groups and facilitate creation of necessary amendments to the performance standard.

Again, as the HGE terms of reference state, most of this work can be accomplished by a small group to work mainly by correspondence.

There have been some misgivings about reactivating a group which was such a battleground, but I believe that years have passed, issues have changed, as have the terms of reference, and it should be possible to focus the work on very clearly delineated areas.

Additional misgivings have been expressed about the timing, that perhaps this is premature. Not so. The group will simply be positioned and ready to submit new work proposals as necessary. The ensuing process which this group must follow simply to meet is slow enough to ensure plenty of time for maturation of the issue in question.

1. Back-up Arrangements

Appendix 6 to the IMO Performance Standards for ECDIS addresses Back-up Requirements, developed to further clarify the very general requirements for Back-Up Arrangements contained in section 14 of the Performance Standard. While Appendix 6 does provide sufficient information to establish the minimum capabilities required of an ECDIS Back-up System, it does not establish a clear definition of what might actually constitute a Back-up System. This lack of definition has created some problems within IEC TC80 Maintenance Team1 (MT1) in the development of clear and concise "Operational performance requirements, methods of testing and required test results" for back up arrangements to an ECDIS. Included here to illustrate these difficulties is an excerpt from the report of the first meeting of MT1:

"Incorporation of IMO Back-up arrangements.

This item caused much discussion mostly centred on the question of whether the IMO term ECDIS incorporated the hardware for back-up or only suitable interfaces. Some team members believed that as Paper Charts may be used as back up, so no testing was necessary in this area, however others believed that during Type Testing this facility should be checked at least with regard to passing planned routes electronically to another device. It was eventually decided that the Team could do no more than try to draft tests to meet the current IMO requirement. In this regard, tests would be developed for (1) radar with chart display, (2) an electronic chart system, or (3) paper charts."

This course was followed during the drafting phase of the work, but at the second meeting of MT1, the realization was made that:

"the specification of equipment should either be made by the IMO, left to existing IEC Standards (e.g., future publication IEC 60936-3, "Shipborne Radar with Chart Facilities" and future publication IEC 60936-4 "Radar – ECDIS Back-up") or left to regulatory authorities (e.g., ECS). It was eventually decided to keep the requirements more generic..."

These very generic tests were developed by MT1, and are currently in circulation in the CDV of IEC 61174, second edition. Back up arrangements is a very important piece of the ECDIS standards, with a clear and direct impact on safety of navigation. I believe that clarification within A.817 is the best way to eliminate the current confusion. The IMO should be the one to determine what the rules are in the event of an ECDIS failure. The appropriate venue for such a discourse is the Harmonization Group for ECDIS, and the terms of reference for this task should specifically include a mechanism to include all stake holders: Mariners, Regulators, Manufacturers, and Standards Organizations.

2. Marine Information Objects (MIO)

Creation of an IHO - IEC Harmonization Group on Marine Information Objects (HG-MIO) has been proposed to address the display of new forms of navigation-related information. In addition, IEC TC80 has recently proposed a combined effort on symbology from the various working groups, including ARPA, AIS, ECDIS, and INS. Obviously these efforts should be combined, and include temporal objects such as temporary Notices to Mariners, weather information, ice information, etc. The results of this work must be studied as it relates to ALL affected and interdependent standards, IMO, IHO, and IEC. The proper venue for the introduction of changes to IMO A.817 is the HGE.

3. Encryption

HGE should provide some form of policy, direction or guidance to identify what is and is not acceptable in terms of security schemes including encryption for ENC data protection.

4. SENC Distribution

The HGE is the body which should consider whether SENC distribution requires an amendment of the performance standard in the definition section and the chart updating section.
