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IEC TC80/WG13 CONTRIBUTION TO CHRIS-14

(Information Paper that IEC submitted to IMO NAV 48
on the work of WG13)

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SUB-COMMITTEE ON SAFETY OF
NAVIGATION
48th session
Agenda item 4

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INTEGRATED BRIDGE SYSTEMS (IBS) OPERATIONAL ASPECTS

Presentation of navigational information

Submitted by the International Electrotechnical Commission (IEC)

SUMMARY	
Executive summary:	Report on progress within the IEC on standards for the presentation of navigational information
Action to be taken:	Paragraph 9
Related documents:	Report of the forty-seventh session of the Sub-Committee on Safety of Navigation (NAV 47/13) paragraphs 4.6 through 4.9

1   The Sub-Committee on Safety of Navigation at its forty-seventh session invited IEC to set up a Working Group to develop a standard for the presentation of navigational information, being of the opinion that this standard should harmonize the following:

    .1   display and interaction objects;

    .2   multifunction displays;

    .3   co-location, merging, processing, fusion of graphical information; and

    .4   indication of quantity, status, integrity and accuracy of information.

The Sub-Committee specified that the work should take account of appropriate IMO resolutions, IMO decisions on the Human Element given in resolution A.850(20), MSC/Circ.878, MSC/Circ.982 and MEPC/Circ.346 and appropriate decisions of the IHO.

2   IEC is pleased to report that it has set up a new Working Group 13 (Displays for the presentation of navigation related information) in Technical Committee 80 (Maritime navigation and radiocommunication equipment and systems). The Working Group is well supported with representatives from 10 national standards committees; Canada, Finland, France, Germany, Japan, Norway, Russian Federation, Sweden, United Kingdom and United States. Experts from other IEC Working Groups responsible for ECDIS, radar and plotting aids, AIS and INS together with experts from and the IHO Colors and Symbols Maintenance Working Group (C&SMWG) and the IHO/IEC Harmonization Group for Marine Information Objects are participating. The Working Group has also invited representation from IALA.

3   The Working Group has studied the report of the Sub-Committee on Safety of Navigation and commenced work on a new standard IEC 62288 which will provide general requirements and methods of test for the presentation of navigation related information on the stand-alone navigational displays of ECDIS, shipborne radar and plotting aids and the multifunction navigational displays used in IBS and INS. The Working Group has met on four occasions.

4   The approach taken by the Working Group is to base its work on the existing IMO Performance Standards for ECDIS, shipborne radar, plotting aids (i.e., ARPA, ATA, EPA), AIS, IBS and INS, and also noting SOLAS V/15 and V/19.5. The work to date has brought to light conflicts and inconsistencies between the requirements in some of the relevant IMO Performance Standards. For example:

.1   IMO SN/Circ.217 specifies that the COG/SOG vector for an active AIS target should be a dashed line whereas IMO Resolution MSC.64(67) Annex 4 for radar specifies a solid line to represent a target's predicted true motion by requiring the use of the Electronic Plotting Video Symbols contained in IEC 60872.

.2   IMO Resolution A.686(17) on alarms and indicators reserves the color red for specific alarm indications whereas IMO Resolution A.817(19) specifies that the planned route shall be symbolized with a red line by requiring the use of the Navigational Elements and Parameters contained in IEC 61174.

5   The Working Group is in the process of analyzing all of the display requirements in the existing Performance Standards and identifying those situations where there are inconsistencies. As shown in the diagram, a display of navigation includes chart, operational, and Marine Information Objects (MIO) i.e. PSSAs etc. Keeping in mind the constraints of the IMO symbology for AIS and IHO symbology for the display of chart content, the Working Group will prepare a harmonization of the symbology specified in the relevant IEC standards.

PRESENTATION OF NAVIGATIONAL INFORMATION
To be harmonized
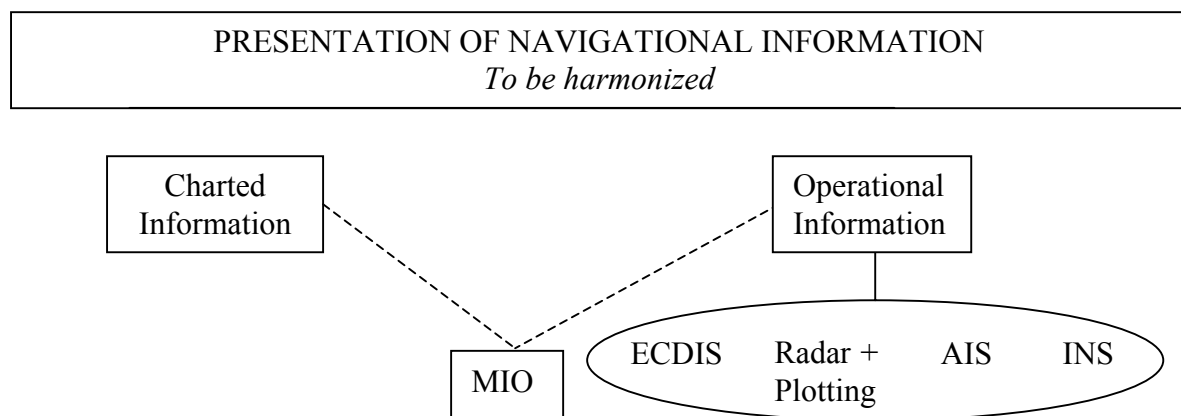
6   The Working Group will propose a set of display and interaction objects which overcome the current difficulties and which the IEC would like to present to the Sub-Committee for consideration at its next session.

7   The Sub-Committee's tasking to address the co-location, merging and fusion of graphical information is leading to a concept of a composite navigational display that integrates information derived from two or more systems such as ECDIS, shipborne radar, plotting aids and AIS. Such a display enhances the existing requirements for multifunction display as used in IBS and INS.

8   The Working Group will develop this concept, which the IEC would also like to present to the Sub-Committee for consideration at its next session.

9   The Working Group welcomes any guidance that the Sub-Committee may be able to supply on operational requirements to assist maritime safety and ship operation through improved presentation of navigational information.

10   The IEC recognizes the urgency of this work, particularly in view of the possibility of accelerated timescales for the implementation of AIS due to security implications. Therefore the IEC intends to maintain the priority of this work with a target date of achieving a result by the end of 2003.

Action requested of the Sub-Committee

11   The Sub-Committee is invited to note this report and take action as appropriate.

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