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Paper for Consideration by CHRIS

Report on IEC and RTCM Work Relating to Electronic Charting

Submitted by:	USA (NOAA)
Executive Summary:	Status of IEC 61174, IEC 62376, and RTCM SC109-242 standards relating to electronic charts
Related Documents:	None
Related Projects:	None

Introduction

Three standards relating to electronic charting are under development or revision elsewhere: IEC[1] 61174 is the test standard for ECDIS; IEC 62376 is a standard for electronic charting systems; and RTCM[2] SC10900.4 is a second standard for electronic charting systems. Progress has occurred on all three since CHRIS 19.

Analysis/Discussion

IEC 61174, "Electronic chart display and information system (ECDIS) – Operational and performance requirements, methods of testing and required test results," underwent a revision to align that standard with changes made to the ECDIS Performance Standard by MSC232(82) - effective 1 January 2009 and MSC191(79) - effective 1 July 2008. The main changes are:

- this edition incorporates revised performance standards for ECDIS adopted by the IMO as resolution MSC.232(82) in December 2006;
- the test methods have been updated accordingly and new tests added for encrypted ENC data;
- the revised IMO performance standards refer to performance standards for displays adopted by the IMO as resolution MSC.191(79) and these have been incorporated by reference to IEC 62288;
- Annex E of the previous edition which defined navigation symbols has been deleted as this information is now in IEC 62288;
- five new annexes have been added.

IMO changed the order of the performance standards in MSC.232(82) compared with the previous standards in resolution A.817(19). Annex N gives a cross-referencing of clause numbering.

IEC circulated the committee draft for voting (CDV) In July 2007 with a closing date of January 2008. The IEC membership approved the Committee Draft and the Final Standard was published September 26, 2008. IEC 61174, (Ed 3) will cancel and replace the second edition published in 2001. The IHO has published an updated version of S-64, the ENC test data set, to compliment the revised IEC 61174 Standard.

IEC 62376, "Electronic chart system (ECS) - Operational and performance requirements, methods of testing and required test results," specifies a minimum operational and performance requirements and methods of testing for an ECS. The ECS specified in this Standard does not meet the chart carriage requirements for SOLAS vessels where ECDIS has been specified for that purpose. A government may choose to accept ECS as a primary means of navigation for vessels that are subject to their regulation. When a compliant ECS serves as a primary

[1] International Electrotechnical Commission; http://www.iec.ch/.
[2] Radio Technical Commission for Maritime Services; http://www.rtcm.org/.

means of navigation, adequate back-up arrangements may be required to ensure safe navigation in the event of an ECS failure.

Three classes of ECS are defined:

- Class "A" ECS are designed or adapted for use as a primary means of navigation on non-SOLAS vessels where ECDIS is not specified for that purpose. They may also be designed to meet the SOLAS requirements for adequate independent back-up arrangements for ECDIS set forth in Appendix 6 to IMO resolution MSC.232(82), and further specified in IEC 61174.
- Class "B" ECS are designed or adapted for use as a primary means of navigation on non-SOLAS vessels where ECDIS or Class "A" ECS are not specified for that purpose.
- Class "C" ECS are designed or adapted for use as a navigational aid intended to plot and monitor a vessel's position.

The Standard was released by the IEC as a Committee draft on September 5, 2008 with a closing date for comments of December 5, 2008. The final Standard is expected to be published in 2010 or 2011.

RTCM 10900.4, "Electronic Chart Systems (ECS)," is a revision to RTCM 10900.3 that is intended to fill a near term need for an electronic chart system standard while IEC adopts IEC 62376 (see above). The content of the RTCM Standard is identical to that of IEC 62376 except for editorial changes and a few technical changes that will be submitted to IEC as comments on the IEC 62376 CD. It is intended that the 2 Standards be identical with the RTCM 10900.4 Standard being withdrawn when the IEC Standard is adopted.

The RTCM Standard was voted on October 15, 2008 and was approved by the RTCM membership. This Standard is will be published in mid-November 2008..

Conclusions

None.

Recommendations

None.

Justification and Impacts

N/A

Action Required of CHRIS

CHRIS members are invited to note the report.