

6th IHO HSSC Meeting
Viña del Mar, Chile, 11-14 November 2014

IEC Activities affecting HSSC

Submitted by: Convenor of IEC TC80/MT7 ECDIS

Executive Summary: The document includes information about the IEC process to create a new edition 4.0 of the IEC 61174 ECDIS standard. This new IEC edition is intended to be based on new editions of the IHO S-52, S-63 and S-64.

This document also includes preliminary information about IEC intention to extend the IEC 61162 series interface standards to describe how onboard navigation and communication equipment could transfer to S-100 based information.

Related Documents: 1. HSSC6-05.1A
 2. HSSC6-05.2A
 3. HSSC6-05.3A

Related Projects: None

1. New edition of IEC 61174 ECDIS

Introduction / Background

1. IEC 61174 is the testing standard for type approval of ECDIS. It covers testing of compliance with IHO S-52, S-57, S-63 and S-64. Current edition is 3.0 from Sep 2008.

2. Based on IHO and IMO ECDIS anomalies discussions, IEC TC80 agreed to establish during 2012 a maintenance team for IEC 61174 to address the issue. The maintenance proposal was submitted for voting in Sep 2012 and the MT7 was established in Dec 2012: Hannu Peiponen was selected as the convenor of MT7. The MT7 was given following dates as milestones: CDV Mar 2014, FDIS Mar 2015 and IS Sep 2015.

3. Short description of IEC process: First step is to establish a maintenance team (MT). The MT can publish committee drafts (CD) in order to get feedback about the content of the new draft from the IEC National Committees. The MT has time until the date of committee draft for voting (CDV) to draft the content of the new edition. After issuing of the CDV only the convenor remains available for the secretary of the TC80. The CDV comments are processed by the secretary of TC80 who creates the next voting draft, the final draft international standard (FDIS). The FDIS comments are processed by IEC headquarter and they create the International Standard (IS). The process is compatible with World Trade Organization (WTO) rules to remove bias of individual experts and to remove bias of the secretary. The process delay from CDV to IS is long – about 1.5 years.

4. It is important to note that the technical experts are part of the process until the CDV, for which May 2014 was set for new edition of IEC 61174 ECDIS. Second point to note is that the CDV may contain references to external items which are not yet published on the date of publishing of the CDV, but are published before the deadline of the CDV voting. The CDV was published on 26th Sep 2014 and the for voting and review comments period ends on 9th Jan 2015. The final steps of FDIS and IS are expected to go as planned for the publication of the IS in Sep 2015.

Analysis / Discussion

5. In IHO the DIPWG is currently responsible for maintenance of S-52, DPSWG is responsible for S-63 and TSMAD is responsible for S-64. These three standards are linked together as S-

64 is the testing standard for the rules and specifications set by S-52 for presentation and use of S-57 ENC charts, and for S-63 data service and encryption.

6. The final publishing of S-52, S-63 and S-64 should be synchronized. The working order is such that first the content of the S-52 and S-63 are agreed and then the related S-64 can be developed including tests for all aspects available in the new edition of S-52 and S-63.

7. IMO has published many circulars related to ECDIS software upgrading up to the latest IHO standard. The IMO circulars refer the "Latest IHO standard for ECDIS" web-page of the IHO. IEC has been pleased to note that new draft edition of the IHO S-52 standard includes a concept of grace periods in order to allow practical implementation time for the new edition.

8. The smooth transition from current editions of IHO S-52, IHO S-63, IHO S-64 and IEC 61174 requires careful orchestration.

9. IEC has been pleased to note that the co-operation between technical work groups of both IEC and IHO have been synchronized, productive and well attended by both IEC and IHO experts.

Conclusions

10. IEC has noted that final versions of the IHO S-52, S-63 and S-64 standards are already in final voting stage or approaching it at IHO. Based on this IEC assumes that the synchronized publishing plan is going well and that the target of publishing of a whole new set of ECDIS related standard will be possible to meet.

Justification and Impacts

11. The process of new clarifying editions of all ECDIS related standards is a response to address known "ECDIS anomalies" and implementation irregularities, and to improve the overall clarity of the specification. The result addresses also feedback of end users as noted by the IMO ECDIS stakeholder meeting in Oct 2012 to discuss about ECDIS and ECDIS anomalies.

Action requested from HSSC

12. The HSSC is invited to
- a) To note the information provided

2. IEC 61162 series interface standards and S-100

Introduction / Background

13. IEC 61162 series is recognized by IMO Performance Standards for onboard navigation and communication equipment. Therefore the IEC 61162 series standards set the baseline for interoperability between equipment from various manufacturers installed onboard SOLAS ships.

14. IEC TC80 Plenary is the highest decision making body within IEC TC80. The plenary meeting is held every second year. In Sep 2013 the IEC TC80 Plenary agreed that TC80 needs to address the IMO decision about S-100 being the baseline of e-Navigation. The IEC TC80 plenary agreed that the IEC TC80/WG6 should address the issue and named Mr. Ung G Kim / Republic of Korea as tentative project leader to create the new standard.

15. IEC TC80/WG6 had a meeting in Jun 2014 in which it was found that Mr. Ung G Kim / Republic of Korea is too busy to work on this issue. However the delegation of Republic of Korea put forward a person, Dr. Kwangil Lee. The WG6 meeting set a task for him to draft a preliminary plan for discussion in the next Dec 2014 meeting.

Analysis / Discussion

16. When established, the IEC process is assumed to check availability of suitable objects and attributes for all traditional elements/fields in the IEC 61162-1 sentences. This may lead to introduction of additional objects and attributes for the S-100 GI registry.

17. It is assumed that the new IEC 61162 series standard will describe how to encode and decode S-100 objects and attributes in order that they can be transferred over existing IEC 61162 interfaces. Such interfaces are currently available for various technical methods including serial line (4800 bit/s and 38400 bit/s), CAN-bus and Ethernet. Further it is assumed that this encoding and decoding process might be similar to what is currently defined for onboard AIS transponders (i.e. the radio communication interface of AIS follows ITU M.1374 standard while the AIS interface from transponder to other onboard equipment follows IEC 61162-1 standard).

18. It is assumed that IEC interfaces do not need an S-10X product specification. An open issue is if there is a need to have a domain owner to maintain the interface related items in a S-100 GI registry. IEC welcome any guidance from IHO for these subjects.

Conclusions

19. There is a need for IEC and IHO to co-operate for this issue.

Justification and Impacts

20. The process is justified by the IMO decision of setting IHO S-100 as the baseline for e-Navigation. The process will have positive impact for the implementation of the e-Navigation.

Action requested from HSSC

21. The HSSC is invited to
- b) To note the information provided