



IHB File S3/8157

**CIRCULAR LETTER 19/2011
24 February 2011**

ECDIS SOFTWARE ISSUES WORKSHOP - OUTCOMES

Ref: A. CL89/2010 dated 13 December 2010 – *ECDIS Software Issues Workshop*

Dear Hydrographer,

1. This letter provides a summary of the outcomes of the ECDIS Software Issues Workshop announced at Reference A. The workshop was hosted by the IHB as a result of a submission to the 88th meeting of the IMO Maritime Safety Committee (MSC88) made by Japan, Norway, the United Kingdom, the International Chamber of Shipping (ICS) and the International Federation of Shipmasters' Association (IFSMA) who brought to the attention of the Committee certain operating anomalies that had been identified within ECDIS. In a verbal response, the IHB indicated to MSC88 that it would be prepared to host a workshop of relevant stakeholders to investigate possible procedural and organizational arrangements that might help overcome any such problems as and when they arose in the future.
2. The problems identified so far relate primarily to reports that some ECDIS equipment at sea does not perform optimally or as expected because of shortcomings in the nature of the ENC data, or the ECDIS software implementation, or implementation of current IHO ECDIS-related standards, or various combinations of these and / or other factors. The underlying nature of these types of matters have previously been brought to the attention of IHO Member States, including at the WEND Committee in Tokyo in September 2008, the 4th EIHC in Monaco in June 2009 and most recently at the 2nd meeting of the Hydrographic Services and Standards Committee (HSSC) in Rostock in October 2010.
3. The IHB hosted the workshop in Monaco on 15 -16 February 2011. The workshop was attended by 37 leading representatives drawn from stakeholder groups including the IMO Secretariat, IHO and IMO Member States, Intergovernmental Organizations, Non-Governmental International Organizations, data service providers, ECDIS manufacturers and type-approval authorities. The Chair and Vice-Chairs of HSSC and TSMAD also attended the workshop.
4. The attendees noted that whilst the workshop was focussed on overcoming certain issues it should not be forgotten that ECDIS was already installed and operating in a considerable number of ships and was largely performing as expected, thereby assisting the improvement of safety of life and the protection of the marine environment.
5. The various known issues were discussed and examined from the perspective of mariners, equipment manufacturers, data service providers, maritime administrations, type approval authorities, and hydrographic offices.

6. The discussions at the workshop reflected four principal themes:
 - the requirement for software in ECDIS equipment already fitted in ships to be periodically upgraded when appropriate;
 - improving mariner awareness of the need to upgrade ECDIS software;
 - improving the consistency of data encoding in ENCs; and
 - the need for a coordinated reporting, assessment and feedback mechanism for ECDIS-related equipment performance issues.
7. **ECDIS Software Upgrading.** There was a clear view at the workshop that there is a need for the relevant committees of the IMO to clarify how software dependent equipment such as ECDIS should be treated. In particular, clarification is required with regard to the maintenance and updating of the operating system software and the data rendering software so as to comply with any changes in associated standards introduced after the date of type approval and fitting of the equipment in ships. In the case of IHO standards, this means upgrades to standards such as S-52, S-57 and S-63.
8. The workshop was informed that in order to help minimize the occurrence of irregular equipment behaviour in new ECDIS systems, such as reported in the paper presented to MSC88 by Japan, Norway, UK and others (paper MSC 88/25/6), the technical working groups of the IHO are now preparing additional test data and guidance to assist equipment manufacturers and type-approval authorities to identify such behaviour.
9. **Mariner Awareness of the Impact of Using Out-of-Date IHO Standards.** As a direct way of drawing mariners' attention to the need to keep software dependent systems up to date, the workshop supported the concept of the IHO developing a simple user validation test that, when loaded into an ECDIS by the mariner, would display an image of a fictitious chart incorporating the features enabled by the latest revision of the applicable IHO standards. The resultant ECDIS display could then be compared directly with a printed example, thereby enabling the mariner to verify that the ECDIS software in use was referencing the latest version of the relevant IHO standards and other applicable standards. Such a test would draw attention to chart objects and capabilities that are either not being displayed at all or not being displayed optimally because the latest standards were not implemented in the operating software. A proposal for a new Work Programme item is expected to be submitted to the HSSC later this year for the development of such a test data set.
10. **ENC Data Encoding Consistency.** The workshop agreed that there was a need to improve the production consistency of ENCs from some Hydrographic Offices by removing any ambiguities or room for discretion in IHO Standards wherever possible and by encouraging Hydrographic Offices to adhere to the WEND principles and the ENC Product Specification. In the case of the IHO, this covers issues such as overlapping and duplicated ENCs, inconsistent use of SCAMIN, and variation in encoding practices for some object classes and attribute values.
11. **Reporting/Collating/Feedback Mechanism.** Finally the workshop attendees noted that the IHO has effective mechanisms in place to address any technical charting issues that are under its direct control but agreed that there was a need to consider establishing a centralised reporting / collating / feedback mechanism or clearing-house. This would enable any apparent inconsistencies in ECDIS performance or standards, especially those that rely on inter-dependent relationships, such as between IHO standards, IMO instruments and IEC 61174 – the ECDIS test specifications, to be reported, assessed and subsequently addressed to the relevant authorities. There was no clear view on exactly how such a mechanism could be established or the business rules under which it might operate. At the workshop, an IHO Member State volunteered to liaise with relevant maritime and other ECDIS stakeholders to consider this issue further and subsequently develop a proposal for further consideration by the IMO.
12. A recurring topic throughout the workshop discussions was the fundamentally important role of appropriate training to ensure that mariners are made aware of both the benefits and the limitations of ECDIS and, in particular, how to recognize and accommodate those limitations in the proper use of ECDIS.

13. The IHB has submitted a short report on behalf of the IHO on the outcomes of the workshop in order to meet the submission deadline for the next MSC due to meet in May 2011. The report closely follows the text of this CL.

14. In view of the increased level of interest in the operational aspects of ECDIS being shown in the IMO, the Directing Committee considers that ensuring the robustness of the relevant IHO standards and providing a wide availability of consistent, reliable, non-conflicting ENCs should remain important priorities of the Organization. The Directing Committee will continue to use every opportunity to highlight to the IMO the positive initiatives that the IHO is taking over these matters.

On behalf of the Directing Committee

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Robert Ward', with a period at the end.

Robert WARD
Director