

**3rd IHO-HSSC Meeting
IHB, Monaco, 8-10 November 2011**

Paper for Consideration by HSSC

**Progress Report on Action Taken Concerning Unexpected Behaviour of Some
ECDIS**

Submitted by:	IHB
Executive Summary:	This paper summarises the action taken so far regarding the unexpected behaviour of some ECDIS at sea.
Related Documents:	<ol style="list-style-type: none"> 1. HSSC-2 INF8 - <i>Operating anomalies identified in some ECDIS</i> 2. CL 19/2011 - <i>Workshop on ECDIS Software Issues</i> 3. CL 46/2011 - <i>ECDIS Data Presentation Test for Ships</i>

Introduction / Background

1. At HSSC-2, in paper HSSC-2 INF8 the UK drew the attention of the Committee to certain unexpected behaviour that had come to light in the operation of some ECDIS systems when using ENCs. The Committee was told that some of the problems can be addressed by making improvements to IHO standards, but that there were other issues that required coordination and action by various parties, such as the IMO, the ECDIS manufacturers and the ECDIS type-testing laboratories.

Summary of Action Taken so Far

HSSC Action

2. The Committee instructed TSMAD to review and enhance the relevant IHO ENC test data sets wherever possible to ensure that suitable tests would be in place for new ECDIS equipment (HSSC-2 Action 18). At the same time, all ECDIS-related working groups were invited to review their standards to remove any ambiguous instructions that could lead to either HOs or ECDIS manufacturers implementing the IHO standards in a way that was not intended. Progress on these activities is not covered in this report but should be reported separately by the relevant Working Groups.

Technical Workshops

3. The Committee supported the concept of holding an urgent meeting of relevant stakeholders to determine ways of better coordinating and monitoring any required actions when ECDIS implementation issues arise now and in the future (HSSC-2 Action 19). This resulted in a technical workshop that was hosted by the IHB in February 2011. The outcomes of the workshop were reported in CL 19/2011.

4. The participants at the workshop agreed that there were at least four key areas that require further work:

- 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.

5. A second technical workshop, co-hosted by the UKHO and UK Maritime and Coastguard Agency was held in September. Invited participants comprised 23 leading experts from IHO Member States, ECDIS

manufacturers, type-approval laboratories, training establishments, mariners' professional and industry bodies, and maritime Administrations.

6. The meeting discussed in detail the range of technical issues identified so far and proposed a number of ways to overcome them. Detailed suggestions for urgent amendments to the relevant IHO standards were identified and these will be proposed to HSSC-3 in other papers. In particular, revisions or clarifications are likely to be required to S-52, S-57- *Use of the Object Catalogue*, S-58, S-63 and S-64. In other cases, a combination of actions was identified, either for the various stakeholder groups represented at the meeting or for others to undertake. These actions will be pursued by the relevant organisations represented at the meeting. The meeting considered the IHO's ENC/ECDIS Data Presentation and Performance Check to be released in October and provided valuable observations and input.

7. The meeting drew up an agreed list of current ECDIS anomalies that require further action, as well as identifying several workaround solutions for seafarers until such time as the relevant ECDIS operating software can be upgraded where necessary. The workaround solutions have been included in the documentation for the IHO Data Presentation and Performance Check to help avoid undue alarm by identifying ways that mariners can mitigate any problems.

8. It was agreed that a further technical meeting of stakeholders be held in Monaco at the IHB in January 2012. At that meeting the results and feedback from the ENC/ECDIS Data Presentation and Performance Check will be reviewed, preparations made for an input to the next meeting of the IMO Maritime Safety Committee and consideration will be made on how to establish the group on a more formal basis so that it will be recognised as an appropriate source of information and advice on ECDIS operational issues by significant stakeholders such as the IMO, IHO and seafarers.

IHO Data Presentation and Performance Check for Mariners

9. One proposal raised at the ECDIS workshop was for the IHO to develop a relatively simple test dataset that all mariners could load in ECDIS to identify whether their ECDIS equipment was configured according to the latest IHO standards and whether it was prone to some of the more common ECDIS software implementation issues discovered so far. This initiative was reported to Member States in CL 46/2011 - *ECDIS Data Presentation Test for Ships*. Feedback obtained from Member States, ECDIS manufacturers, a practical trial by seafarers at a training establishment and the technical workshop described earlier was all incorporated in the final check data and its accompanying documentation. Initial results from the check that will be distributed in October may be available for discussion at HSSC-3. The consolidated results will be discussed in detail at the technical workshop in January and then form part of further reports to Member States and the IMO.

IMO Action

10. The concerns relating to ECDIS have been brought to the attention of the IMO, firstly at the 89th meeting of the Maritime Safety Committee (MSC 89), where various delegations spoke on the issue and fully supported the concerns outlined in documents MSC 89/24/2 and MSC 89/24/3 and were of the view that it was an important matter of relevance and concern for the Subcommittees on Safety of Navigation (NAV), Radiocommunications and Search and Rescue (COMSAR), and Standards of Training and Watchkeeping (STW) that needed to be considered carefully on an urgent basis. Accordingly, MSC 89 decided to refer the matter to NAV for further consideration and to COMSAR and STW to provide their comments. The comments from these Sub Committees together with any other inputs would enable MSC 90 to provide suitable guidance on the best way forward. The IHB proposes to provide such a submission on behalf of the IHO, describing what action has been taken by the IHO so far and the results of the distribution of the ENC/ECDIS Data Presentation and Performance Check.

UK Proposal to the XVIIIth IHC

11. The UK has put forward PRO 3 – “*A Resolution on the importance of resolving ECDIS display issues*” for adoption at the XVIIIth IHC. This Proposal seeks to confirm, through a Resolution, that the IHO should continue to take a leading role within the ECDIS stakeholder community to ensure that issues identified in regard to the unexpected operation of ECDIS are collated, analysed, communicated and resolved as speedily as possible to maintain the safety of navigation and to assist the smooth transition from paper to digital navigation.

Action required of HSSC

12. HSSC is requested to:

note this report,

note that a number of IHO standards related to the performance of ENC data in ECDIS will need amending;

note XVIIIth IHC PRO3 from the UK that confirms that the IHO should continue to take a leading role within the ECDIS stakeholder community to ensure that issues identified in regard to the anomalous operation of ECDIS are collated, analysed, communicated and resolved as speedily as possible;

consider what other practical measures might be taken by the IHO to ensure better coordination among the ECDIS stakeholder community and information to the mariner; and

take any other **action** as appropriate.