

SUB-COMMITTEE ON
RADIOCOMMUNICATIONS AND SEARCH
AND RESCUE
16th session
Agenda item 16

COMSAR 16/16
6 January 2012
Original: ENGLISH

ANY OTHER BUSINESS

Operating anomalies identified within ECDIS

Submitted by Australia, the United Kingdom, the International Hydrographic Organization (IHO), the International Chamber of Shipping (ICS) and the International Federation of Shipmasters' Associations (IFSMA)

SUMMARY

<i>Executive summary:</i>	This document reports progress to date on identifying and rectifying operating and presentation anomalies with ECDIS as discussed during MSC 89
<i>Strategic direction:</i>	5.2
<i>High-level action:</i>	5.2.4
<i>Planned output:</i>	5.2.4.8
<i>Action to be taken:</i>	Paragraph 10
<i>Related documents:</i>	SOLAS chapter V; SN.1/Circ.266/Rev.1, SN.1/Circ.276; MSC.1/Circ.1221, MSC.1/Circ.1389, MSC.1/Circ.1391; MSC 88/25/6, MSC 88/26, paragraphs 25.19 to 25.22; MSC 89/24/2, MSC 89/24/3, MSC 89/25, paragraphs 24.6 to 24.9; NAV 57/15, paragraphs 14.38 to 14.48 and MSC.1/Circ.1288 (WWNWS)

Introduction

1 After discussion at MSC 88 and 89 of operating and display anomalies discovered in some ECDIS, the Maritime Safety Committee decided to refer the relevant documents to NAV 57 for further detailed consideration under Agenda Item 14 "Any Other Business" and instructed NAV 57 to advise MSC 90 on the way forward. The Committee also noted that the subject was of "relevance and concern" for the COMSAR and STW Sub-Committees and needed to be considered carefully on an urgent basis.

2 During NAV 57, it was determined that the establishment of an expert body or ad hoc working group, (perhaps along the lines of the former Harmonization Group on ECDIS), was not within the remit of the Sub-Committee. Accordingly, at present, the report of NAV 57, at paragraphs 14.38 to 14.48 based on the MSC 88 and 89 documents referenced here, is the information that is available to inform MSC 90.

3 The COMSAR and STW Sub-Committees have, therefore, been asked to look at the issue and provide their comments, consolidated with those of NAV 57, which will form additional input to MSC 90.

Background

4 IMO has identified ECDIS, through Formal Safety Assessment, as providing cost-effective safety benefits for navigation and, accordingly, SOLAS has been amended to provide a carriage requirement for ECDIS for certain types of ship over the next six years. Some unanticipated display and operating anomalies have been discovered with some ECDIS units and, after initial examination, work started with the International Hydrographic Organization, some IMO maritime Administrations and some non-governmental organizations to address these issues.

General progress

5 IHO held a workshop in Monaco in the Spring 2011, and this underpinned the documents to MSC 88 and NAV 57. After NAV 57, and needing to make substantive progress towards MSC 90 but without the assistance of an IMO-sponsored body, the United Kingdom hosted a further workshop in London in September 2011. Working in support of SN.1/Circ.266/Rev.1, SN.1/Circ.276, MSC.1/Circ.1221, MSC.1/Circ.1389, MSC.1/Circ.1391, MSC 88/25/6, MSC 88/26, paragraphs 25.19 to 25.22, MSC 89/24/2, MSC 89/24/3, MSC 89/25, paragraphs 24.6 to 24.9, and NAV 57/15, paragraphs 14.38 to 14.48, this was attended by IHO, several IMO Member State hydrographic offices, original equipment manufacturers, IEC, ICS, end-users, and two IMO Member State Administrations. The results of this workshop have been reported to the Secretary-General and to attendees.

6 There were two chief outputs from the workshop. Nineteen reported anomalies were reviewed and mitigating actions identified to counter them. Recommendations will be provided to MSC 90 in due course in a separate submission. The second output was a decision that the IHO would design and distribute, with the full support of the workshop delegates, a Presentation Check Data Set as two fictitious test ENC cells distributed through RENCs together with accompanying instructions and reporting procedures. This distribution took place in November 2011, and over 300 responses have been received by IHO as of 6 January 2012. The final results will be analysed, taken forward in a further IHO workshop in January 2012, and synthesized into advice for MSC 90.

7 As supporting activity, presentations have been made to relevant professional gatherings, including the ECDIS Revolution Conference in November 2011. Moreover, there is much helpful advice and guidance from Member States, professional bodies, P and I Clubs and others in the public domain, and some key references have been listed at annex.

Specific issues for COMSAR

8 The COMSAR Sub-Committee is requested to provide any further specific advice and guidance which may be needed for the "consolidated" recommendations to MSC 90 on the way forward. In particular, the Sub-Committee may provide advice on how to communicate to mariners important safety related information concerning ECDIS. At the last workshop discussion reflected that the WWNWS NAVAREA system is not currently specifically mandated to warn of onboard navigation equipment limitations, and that, even where Notices to Mariners do not yet contain enough information about ECDIS anomalies, not all NAVAREA coordinators have felt it necessary to broadcast such information as is contained in NAVAREA ONE 317/10, the text of which follows:

**"NAVAREA I
317/10
290525 UTC Oct 10**

As previously notified by NAVAREA warning, mariners using ECDIS are reminded not to rely solely on automated voyage planning and monitoring checks and alarms. Some ECDIS appear only to undertake route check functions on larger scale ENC's and therefore alarms might not activate. This may not be clearly indicated on the ECDIS display. Mariners should always undertake careful visual inspection of the entire planned route using the "other/all" display mode to confirm that it, and any deviations from it, is clear of dangers. Recent preliminary investigation indicates that some ECDIS may not display certain combinations of chart features and attributes correctly and on rare occasions may fail to display a navigational significant feature. This appears to be caused by anomalous behaviour in some ECDIS software, especially early versions. The existence of such anomalies highlights the importance of maintaining ECDIS software to ensure that operational capability and reliability are maintained. It is recommended that appropriate checks are made with the equipment manufacturer. This is of particular importance where ECDIS is the only source of chart information available to the mariner. The International Hydrographic Organization (IHO) is investigating these matters in consultation with ECDIS equipment manufacturers. Further information will be made available through Notices to Mariners and within the UK element of the README.TXT file included on ENC service media. Cancel 230/10."

9 Accordingly, the Sub-Committee may wish to consider the best means for informing mariners about issues that may affect their ECDIS; this could include how best a warning could be issued through all Areas simultaneously and who should initiate and authorize such a warning.

Action requested of the Sub-Committee

10 The Sub-Committee is requested to consider the information provided and take action, as appropriate.

ANNEX

**LIST OF USEFUL PUBLIC DOMAIN ADVICE AND GUIDANCE
ON THE USE OF ECDIS**

- 1 ICS Bridge Procedures Guide 2007 4th Ed, page 59;
- 2 AMSA Marine Notice 15/2010 and Information Sheet (to be re-issued shortly after the submission of this paper);
- 3 Standard P and I ECDIS the future of navigation;
- 4 UK P and I 3 ECDIS articles Parts 1, 2 and 3;
- 5 North of England P and I Risks of over reliance on ECDIS;
- 6 Gard News Nov 10/Jan 11 – ECDIS charting the future of navigation;
- 7 BIMCO Watchkeeper, ECDIS – the next step;
- 8 West of England P and I – Carriage requirements;
- 9 Fairplay.co.uk – 8 Sep 2011 – Regulators have lost the plot on ECDIS roll-out – article of the week – flag States should hang their heads in shame;
- 10 Bermuda and Isle of Man Shipping Notices, Cayman Shipping Notice 08/2011;
- 11 Motorship Sept 2011 – Getting out of a jam;
- 12 Jeppesen On Board Book;
- 13 Thomas Gunn – A complete guide to ECDIS;
- 14 NI Harry Gale's articles in Seaways x 3;
- 15 Prof A Norris' Book – ECDIS and positioning;
- 16 Several Articles in Nautilus telegraph;
- 17 The IMO papers themselves by the United Kingdom and IHO, and the reports of NAV and MSC with UK's and IHO's interventions;
- 18 United Kingdom presentation to IMO at MSC 88;
- 19 The IHO Presentation Check Data Set background, letter and instructions on the United Kingdom Hydrographic Office website and with every chart distributor, see http://www.iho.int/srv1/index.php?option=com_content&view=article&id=585:news&catid=166:1news-links&Itemid=828;
- 20 United Kingdom Hydrographic Office – 10 steps to the ECDIS Mandate; and
- 21 The Electronic Chart (3rd edition).