

16<sup>th</sup> CHRIS MEETING  
Ottawa, Canada, 28-31 May 2004

INTERNATIONAL MARITIME  
ORGANIZATION



IMO

E

MARITIME SAFETY COMMITTEE  
78<sup>th</sup> session  
Agenda item 24

MSC 78/24/x  
15 March 2004  
Original: ENGLISH

WORK PROGRAMME

**Comments on MSC 78/24/3 by Australia regarding ECDIS**

**Submitted by Norway**

**SUMMARY**

<b>Executive summary:</b>	Referring to document MSC 78/24/3 by Australia, Norway supports the aim to promote the greater use of ECDIS, but can not support the proposal to permit the use of ECDIS in RCDS mode without additionally having to carry and use paper charts. We also provide additional concerns and proposal related to the subject of encouraging more widespread use of ECDIS.
<b>Action to be taken:</b>	Paragraph 13
<b>Related documents:</b>	Resolution A.817(19), Resolution MSC.86(70), annex 4, Resolution A.958(23), S/N Circ 207, MSC 78/4/2 and MSC 78/24/3

**Introduction**

1. This document is submitted in accordance with the provisions of paragraph 4.10.5 of the Guidelines on the organization and method of work (MSC/Circ.1099). The document provides comments by Norway on the proposals related to the use of ECDIS presented in document MSC 78/24/3 by Australia.
2. The main purpose of the proposal presented by Australia in document MSC 78/24/3, is clearly to promote wider use of ECDIS. Norway fully supports this purpose, which is regarded as timely and relevant considering the improvements on safety of navigation which may result from increased use of ECDIS. In this regard we also draw attention to document MSC 78/4/2 by Norway, presenting a recent FSA study on Navigational Safety of large Passenger Ships. This study clearly indicates that installation and use of ECDIS is cost efficient.

3. However, there are some other aspects to the proposals by Australia that give reason for serious concerns: Australia proposed to *delete* the present condition included in the revised ECDIS performance standard saying as follows: When operating in the RCDS mode, ECDIS equipment should be used *together with an appropriate portfolio of up-to-date paper charts*. In the following we will provide additional information and comments on this subject.

## Discussion

4. When considering safety aspects related to the use of ECDIS, it is essential to take into account of the type and quality of the chart data utilized and displayed. As defined in the IMO Performance Standard for ECDIS (Res. A.817(19) as amended by Res. MSC.86(70)) there are two fundamentally different types of chart data which may be used and displayed by an ECDIS. Depending on the chart data used, ECDIS equipment may be operated in two different modes:
  - The ECDIS mode when Electronic Navigational Chart (ENC) is used (ENC: means the database, standardized as to content, structure and format, issued for use with ECDIS on the authority of government-authorized hydrographic offices); and
  - The RCDS mode when Raster Navigational Chart (RNC) is used (RNC: means a facsimile of a paper chart originated by, or distributed on the authority of, a government-authorized hydrographic offices)
5. According to SN/Circ.207 (which was issued subsequent to MSC having adopted the amendments introducing the RCDS Mode of operation) there are a number of fundamental differences between the two modes of operation. The circular include a long list of *limitation* of the RCDS mode which is drawn to the attention of mariners. We do not dispute that “there have been considerable advances in technology in relation to ENCs since the original performance standards were adopted” as stated by Australia, but we can not agree that these technological advances constitute a basis for eliminating the requirement that the RCDS mode of operation can only be used together with an appropriate folio of up to date paper charts. Consequently, the differences between RCDS and ECDIS, as identified in SN/Circ.207, still remain valid. Therefore; removing the requirement for ships to carry paper charts when operating in RCDS mode, would compromise safety.
6. Additional arguments may also be found in the following provisions:
  - The aim of SOLAS V/15 paragraph 3, requesting essential information to be clearly and unambiguously presented, using standardized symbols and coding systems, is not supported by ECDIS in RCDS mode of operation, as the presentation may vary considerably dependant on the source of the RNC\*. This aim is, however, supported by ECDIS using ENC.
  - The aim of SOLAS V/15 paragraph 7, requesting minimizing and detection of human errors through monitoring and alarm systems, is not supported by ECDIS in RCDS mode of operation, as automatic alarms (e.g. anti-grounding) are not triggered by the RNC itself\*. This aim is, however, supported by ECDIS using ENC.
  - Resolution A.958(23) on the Provision of Hydrographic Services, invites Governments to “promote, through their national maritime administrations, the use of Electronic Chart Display and Information System (ECDIS) together with the use and further production of Electronic Navigational Charts (ENCs).” The text of this resdution can in no way be interpreted as support for the Australian proposal to accept using the RCDS mode without carrying paper charts.

---

\* Reference is made to SN/ Circ.207 Differences between RCDS and ECDIS.

7. We are also concerned that if the Australian proposal is accepted, this would in effect make RNC equivalent to ENC for the purpose of complying with the requirements of SOLAS Chapter V. We are convinced that such a decision would most probably lead to decreasing efforts in producing and issuing ENC's in the future, which would be a step in the wrong direction in relation to safety at sea.
8. The limited coverage of ENC's, as also mentioned in MSC 78/24/3 by Australia, is recognised. However, the thorough assessment of the present situation requires the consideration of all relevant aspects, including:
  - a) Areas where ENC's are produced and made available to the maritime community
  - b) Areas where ENC's are produced but not made available
  - c) Areas where ENC's are under production
  - d) Areas where ENC's are expected to be produced and made available within the next 3-4 years
  - In the short term, it is assumed that those areas referred to in sub-paragraph b) above, will be made available to the maritime community in addition to those areas already covered by sub-paragraph a). This covers significant areas in Asia (India, Korea and Japan), South and North Americas, Europe (including significant parts of the Mediterranean) and some critical parts of Australian waters.
  - In the medium term, additional coverage in accordance with sub-paragraph c) above, could be assumed for parts of Central and South Americas, Southern Africa as well as the remaining parts of the Mediterranean.
  - Within the next 3-4 years, it must be expected that areas additional to those mentioned above will be covered. In this respect IMO may consider new strong incentives for the production of ENC's in critical waters, such as navigationally complex coastal waters and Particular Sensitive Sea Areas (PSSA). The latter could be considered in conjunction with SOLAS Chapter V Regulation 9; see also paragraph 10 below.

For further details on status and plans for ENC production, see ENC Chart Catalogue at [www.iho.shom.fr](http://www.iho.shom.fr)

9. As an alternative to the Australian proposal, consideration could be given to a reasonable phase-in schedule for mandatory requirements for ships to carry ECDIS equipment, and to use ENC where available. Such a decision would clearly contribute to increased use and production of ENC. Furthermore, such a decision would contribute to increasing safety at sea.
10. Generally speaking ENC is superior to RNC, and ENC is therefore of vital importance to safe navigation especially in critical and complex areas. Nevertheless, in certain *other* areas, RNCs may, for the time being until ENCs are available, be adequate for safe navigation. In our view, each coastal State should therefore carefully evaluate if, and to what extent, certain parts of its waters are adequately covered by RNC in relation to safety of navigation. The results of such evaluations should be made available to the maritime community, and would thus provide a reasonable degree of flexibility in relation to the types of charts to use for navigational purposes.
11. The definition of "appropriate folio of up to date paper charts" may need to be revisited both for the clarification with respect to paper charts to be carried for areas without ENC coverage and for paper charts to be carried for ECDIS back-up purposes (unless an electronic ECDIS back-up is installed).

## **Conclusion**

12. In conclusion, Norway considers that all the above aspects need to be carefully considered by the NAV sub-committee in connection with the proposals of Australia in document MSC 78/24/3.

**Action requested of the Committee**

13. The Committee is invited to consider the above viewpoint in relation to the proposal by Australia for a new work item for the NAV sub-committee. We recommend that NAV be instructed to also take these concerns and viewpoints into account when considering the new work program item.

