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AMENDMENTS TO THE ECDIS PERFORMANCE STANDARDS

Report of the Correspondence Group

Submitted by Norway

SUMMARY

Executive summary:	The Correspondence Group on ECDIS initially exchanged views and proposals on revising the ECDIS Performance Standards through correspondence. Based on the Group's experience in 2005 and the detailed level of technical complexity involved, a meeting of the Correspondence Group was arranged to take place in Monaco, hosted by IHB, with the aim of developing and agreeing revised ECDIS Performance Standards. The results are presented in Annex 1, and are supported by a clear majority of those participating.
Action to be taken:	Paragraph 29
Related documents:	NAV 51/19, annex 11; NAV 51/2/2, annex 2; MSC 80/21/2; NAV 51/6; NAV 51/6/2; NAV 51/6/3; NAV 51/WP.4, Annex 3; resolution A.817(19), as amended; and SN/Circ.207.

Introduction

1 MSC 78 decided to include a high priority item on "Evaluation of the use of ECDIS and ENC development" into the work programme of NAV, and to the agenda for NAV 51. MSC 78 also instructed NAV 50 to give preliminary consideration to the matter. NAV 50 considered the outcome of MSC 78 and various submissions in general, and identified a number of issues that needed to be considered and discussed before any decision could be taken on a revision of the performance standards for ECDIS, as well as the carriage and backup requirements.

2 NAV 50 established a Correspondence Group under the co-ordination of Norway, which reported to NAV 51. At NAV 51 the Sub-Committee also agreed that another intersessional Correspondence Group should be established to progress the work for NAV 52. Terms of reference for this work were given in NAV 51 /19, annex 11, and are attached as Annex 3 to this report.

3 Norway accepted to also chair the new Correspondence Group, and interested parties were invited to participate. Positive responses were received from the following countries and organisations with regards to participation in the Correspondence Group: Australia, Brazil,

Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Poland, Portugal, Russia, Singapore, Sweden, The United Kingdom, The United States, IHO, CIRM, MARIS, ICS and NOAA.

4 Initial views and proposals were exchanged by correspondence. On the basis of experience from the last year's Correspondence Group and considering the anticipated workload related to the Terms of Reference, it was decided to invite the members of the Correspondence Group to a meeting arranged in Monaco from 20th to 22nd February 2006, hosted by the International Hydrographic Bureau (IHB). The following countries and organisations participated at the meeting in Monaco: Australia, Brazil, Denmark, Finland, France, Germany, Italy, Norway, Poland, Russia, The United Kingdom, The United States, IHO and CIRM.

5 This report summarizes the outcome of the discussions within the Correspondence Group and the conclusions of the discussions at the Monaco meeting.

Discussions on the scope of the review

6 Within the Correspondence Group and during the meeting in Monaco there were discussions as to whether the ECDIS Performance Standards should undergo a *comprehensive revision*, or if the aim should only be to "clean up" the standards; i.e. to eliminate known problems and inaccuracies and to update all references as necessary.

7 The delegation from Germany was of the opinion that the Performance Standards should be rewritten and given a modular structure, to facilitate the use of ECDIS/ENC information for other applications, and vice versa. Prior to the meeting in Monaco, Germany had also submitted a proposal to completely restructure the ECDIS Performance Standards into a modular format. There was, however, considerable concern within the Group about using this document as a basis for further work. A fundamental change to the Performance Standards would first of all require a full investigation into the consequences of the changes, which would have been very time consuming.

8 Representatives from the industry underlined that the ECDIS manufacturing industry needs clarifications, and not a completely different ECDIS Performance Standards document.

9 After debating this issue, there was general agreement in the Group that the aim should *not* be to introduce fundamental changes, but rather to carry out a comprehensive editorial review of the contents of the Performance Standards. However, the German delegates highlighted that some structural re-arrangements may be necessary in the future in order to adapt the Performance Standards to the INS and future e-navigation concepts. This will, however, not be a task for this Correspondence Group, as many considered this task to be outside the Group's terms of reference (annex 3). A suggestion from the German delegation on how to rearrange the Performance Standards into a modular structure is attached in annex 2 of this report.

Discussions within the Correspondence Group

10 It was decided to use the document MSC 80/21/2 by Greece and the IHO as the foundation document for a systematic review of the ECDIS Performance Standards at the Monaco meeting. The basic document contains the text of Resolution A.817(19), as amended by MSC.64 (67) and MSC.86 (70), with additions/amendments proposed by Greece and IHO. In accordance with the terms of reference, the proposals in the documents NAV 51/6/2, NAV

51/6/3 and NAV 51/6 were also discussed during this process. The document by Germany referred to in paragraph 7 above also contained a number of specific and detailed comments to improve the Performance Standards. The Group also took these proposals into account, and a number of these proposed amendments were accepted.

11 In view of the limited participation during the meeting in Monaco, the following general principle was agreed regarding acceptance or rejection of proposed amendments: No proposed amendment was to be accepted *unless* there was considerable support for the amendment; i.e. simple majority was not considered sufficient for acceptance. On this basis the Group conducted a complete review of the present Performance Standards, and all proposals to amend these standards.

12 In the following, a brief summary will be given of major proposals for amendments of the Performance Standards. Editorial changes to the text were made directly into the draft consolidated text of the revised Performance Standards, and are not discussed in this report.

Proposed amendments to mandatory ECDIS functions

13 The Russian delegation suggested (NAV 51/6/2) several additional mandatory functions to be added to the ECDIS Performance Standards, which are aimed to compensate for possible deficiencies of some raster charts for GNSS navigation, and therefore help prevent potential accidents. One of the functions suggested was a mandatory radar overlay function.

14 The group was divided with regards to this question. Some delegates supported Russia, and argued that training of mariners on the radar overlay function may be neglected if the overlay function is not made mandatory in the ECDIS Performance Standards. Others expressed the view that hydrographic offices should never publish charts in an electronic format if they are not in a datum suitable for GNSS navigation. Wherever possible, hydrographic offices should publish charts that are on a datum, or provide additional information to allow charts to be compatible with GNSS navigation. It was, however, acknowledged that there are areas of the world where paper charts (and thus RNCs) are not compatible with GNSS navigation, and that it would take some time to resolve this problem. There exists, however, techniques to overcome this problem, e.g. by use of ranges and bearings and/or display of ARPA targets. Many considered that the introduction of additional mandatory functionality such as radar overlay would create problems with regard to type approval since there is no standardized radar/ECDIS interface.

15 Russia also suggested adding functions to enable the mariner to calculate and plot the ship's position based on manual visual and/or radar observations. Opinions were divided, but on this proposal Russia received considerable support. After the debate it was decided to include the proposal of Russia in square brackets (Annex 1, paragraphs 10.5.15.1 and 10.5.15.2), and to invite NAV 52 to discuss and decide on this proposal.

16 Russia also proposed to require an ECDIS alarm to indicate when the displayed chart is marked as not sufficient for GNSS navigation. As for this suggestion of Russia, the Group was of the opinion that this subject is sufficiently covered by other parts of the Performance Standards.

ECDIS recording capabilities

17 With regards to paragraph 10.6.2 in the amended ECDIS Performance Standards, there was a request from the Russian delegate to extend the ECDIS recording capabilities to embrace a number of additional data, as for example textual (voice) remarks, position and time of course change, speed and anchor(s) dropping, name and position of officer on watch etc.

18 There was clear opposition in the Correspondence Group to the extension of the requirements for ECDIS recording capabilities in the Performance Standards. It was considered not desirable to extend ECDIS to become an electronic logbook. Furthermore, the ECDIS Correspondence Group does not seem the right forum for this discussion. The Group agreed that the idea would be better introduced to the e-navigation project, or the INS Correspondence Group.

ECDIS interface

19 On the subject of ECDIS interfaces, the group debated whether or not the Performance Standards should include requirements for ECDIS to interface with other external equipments, such as VDR. There were specific suggestions to include a requirement into the Performance Standards which would specify the kind of information that an ECDIS should be able to deliver to a VDR. The group concluded that this should be handled in a different forum, e.g. INS related or future e-navigation work groups.

AIS targets in ECDIS

20 Russia also proposed that the display of AIS targets in ECDIS should be a mandatory function. Russia was of the opinion that AIS information should only be used in ECDIS together with a radar overlay and this was supported by some delegates. The German delegates were of the opinion that AIS information should be used in an ECDIS for general situational awareness and not for collision avoidance, and several delegates agreed. As such AIS targets in an ECDIS need not have any connection with a radar overlay.

21 Except as indicated in paragraph 15 above, the Group concluded to *not* include the amendments proposed by Russia in the draft revised Performance Standards, because of limited support within the Group. Concerns raised included potential problems with regards to type approval, likely problems for ECDIS manufacturers, and the possible creation of obsolescence issues with existing ECDIS installations.

Reliability of positional information on ECDIS

22 In document NAV 51/6/3 Japan suggested that there should be a requirement with regards to redundancy of GPS systems, which provide ECDIS with positional information, and that these requirements should be considered in order to ensure the reliability of ECDIS.

23 In response to the Japanese viewpoints, the Group recognized that within five years it is anticipated that the Galileo satellite navigation system will be able to start providing mariners with a viable and independent source of space based position fixing information. As such, the Group did not think it would be necessary at this stage to include a position fixing redundancy requirement into the ECDIS Performance Standards.

Conclusions regarding the draft revised Performance Standards for ECDIS

24 The draft revised ECDIS Performance Standards agreed by the Group is presented in Annex 1. As indicated in earlier paragraphs, there was not unanimous agreement within the Group on all issues discussed in relation to the draft revised ECDIS Performance Standards. However, a clear majority supported the proposal presented in Annex 1.

25 After discussing how to present the draft revised Performance Standards, the following was agreed: **New text is shaded with grey background**, irrespective if the new text proposes changes of substance, or is only editorial in nature. Initially, it was considered to also include *deleted* text with strike-through letters. However, it was later agreed that such a presentation would look messy and be very difficult to read, and was therefore not included. However, Norway will be submitting a separate document to this session, which will give an overview of all amendments proposed and also explain each amendment (document NAV 52/5/...).

Possible implications of the proposed amendments

26 The Correspondence Group concluded that the proposed revision of the ECDIS Performance Standards should have no implications for other IMO documents. The changes proposed are thought to be of such limited scope that there will be no serious implications for other documents, nor significant consequences for manufacturers, type approval or ship owners that already have ECDIS installed on board.

Preliminary draft specifications of the proposed chart catalogue given in NAV 51/WP.4, annex 3

27 The IHB was invited to provide comments on the proposed chart catalogue. The “Draft specification of a world-wide Internet based chart catalogue”, was passed by IHB to its member States, to request comments from representative user groups. In general the catalogue should provide the mariner with the information needed to determine the availability of chart coverage in the simplest possible manner.

28 The IHB proposes a number of changes based on comments by its member States. The proposals were presented to the Group at the meeting in Monaco and will be presented to NAV 52 in a separate document. The Group therefore refers to this paper by IHB with regards to details about the proposed amendments to the chart catalogue. The IHB also intends to demonstrate a prototype catalogue at NAV 52 and present the final catalogue to NAV 53 in 2007.

Actions requested of the Sub-committee

- 29 The Sub-Committee is invited to consider the following and take action as appropriate;
- (a) This report from the Correspondence Group;
 - (b) The proposed amendments to the ECDIS Performance Standards (Annex 1); and
 - (c) The proposed future restructuring of the ECDIS Performance Standards, as suggested by Germany (Annex 2).
