



IHB File No. S3/3055

CIRCULAR LETTER 33/2013  
29 May 2013

**PREPARATION FOR THE 59<sup>th</sup> SESSION OF  
THE IMO SUB-COMMITTEE ON SAFETY OF NAVIGATION  
2-6 September 2013, London, United Kingdom**

References: IHB CL 70/2012 dated 12 July (Report on NAV58),

IHB CL 91/2012 dated 6 November (3<sup>rd</sup> update report on IHO actions concerning ECDIS software issues).

Dear Hydrographer,

1. As announced in CL 70/2012, the 59<sup>th</sup> session of the IMO Sub-Committee on Safety of Navigation (NAV59) will take place from 2 to 6 September 2013 at the IMO headquarters in London.

2. The provisional agenda for NAV59 (NAV59/1) includes a number of items of interest to IHO Member States, namely:

*3 Routing of ships, ship reporting and related matters*

*6 Development of an e-navigation strategy implementation plan*

*7 Development of policy and new symbols for AIS aids to navigation*

*11 Consolidation of ECDIS-related IMO circulars*

*12 Consideration of ECDIS matters related to the implementation of the carriage requirements in SOLAS regulations V/19.2.10 and V/19.2.11*

*13 Development of explanatory footnotes to SOLAS regulations V/15, V/18, V/19 and V/27*

3. The Directing Committee has been participating actively in the preparation of submissions related to items 6, 7, 11 and 13. As a participant in the IMO Correspondence Group (CG) on e-navigation, it is also contributing to the CG report to NAV59. The Directing Committee has agreed to co-sponsor, on behalf of the IHO, the submissions prepared under the coordination of Australia (via the Australian Maritime Safety Authority) on the consolidation of ECDIS-related IMO circulars and the development of an explanatory footnote to SOLAS regulations V/27, as reported in CL 91/2012.

4. Additionally, the Directing Committee intends to submit two documents:

- a short document (less than 6 pages) on ECDIS matters, under NAV59 agenda item 12;

- an information document on the development of S-100 and associated product specifications, under NAV59 agenda item 6.

5. A draft of the IHO submission on ECDIS matters has been prepared by the Directing Committee, based on CL 91/2012. This draft is shown in the Annex to this letter for the preliminary information of Member States.

6. The second submission related to the development of S-100 and associated product specifications will take into account the outcome of the forthcoming meetings of TSMAD and DIPWG (10-14 June 2013) which will address a number of important items related to the development of S-100 and associated product specifications. Unfortunately, this will not leave enough time to consult Member States by Circular Letter on the resultant IHO submission before the deadline for the submission of documents and information documents to NAV59 on 28 June 2013.

7. The deadline for submitting comments on all papers submitted to NAV59 is 12 July 2013. As usual, this will not leave enough time to consult Member States by Circular Letter on any papers submitted by IMO States or other organizations that may be relevant to IHO activities. Accordingly, and as has been the practice in the past, the Directing Committee will consider submitting appropriate comment papers, seeking advice as necessary from the Chairs of the relevant IHO bodies.

8. As indicated in the annotations to the provisional agenda of NAV59 (NAV59/1/1), the Sub-Committee will probably establish five working/drafting groups, of which four should be relevant to the activities of the IHO:

*WG 1 Ships' Routeing Working Group*

*WG 2 Technical Working Group*

*WG 3 E-Navigation Working Group*

*DG 1 Development of policy and new symbols for AIS aids to navigation*

9. Accordingly, the Directing Committee intends that the IHB delegation to NAV59 will comprise the Director and Assistant Director responsible for NAV and a second Assistant Director, in order to facilitate participation in parallel meetings. The IHB delegation will also coordinate with the representatives of IHO Member States attending NAV59.

10. Member States are encouraged to liaise with and brief their national delegations at NAV59 on issues relevant to the IHO. Member States wishing to comment on the draft submission in the Annex, or on other issues covered in this letter are invited to send their input to the IHB (info@iho.int) not later than **21 June 2013**.

On behalf of the Directing Committee  
Yours sincerely,



Gilles BESSERO  
Director

Annex: Draft IHO Submission to NAV59 - Report on monitoring of ECDIS issues by the IHO - NAV 59/12/XX (English only).

SUB-COMMITTEE ON SAFETY OF  
NAVIGATION  
59<sup>th</sup> Session  
Agenda item 12

NAV 59/12/XX  
xx June 2013  
Original: ENGLISH

**CONSIDERATION OF ECDIS MATTERS RELATED TO  
THE IMPLEMENTATION OF THE CARRIAGE REQUIREMENTS  
IN SOLAS REGULATIONS V/19.2.10 AND V/19.2.11**

**Report on monitoring of ECDIS issues by the IHO**

**Submitted by the International Hydrographic Organization (IHO)**

**SUMMARY**

*Executive summary:* This document reports on the actions taken by the IHO since NAV 58 to monitor and address ECDIS issues related to the implementation of the carriage requirements in SOLAS Regulations V/19.2.10 and V/19.2.11.

*Strategic direction:* 5.2

*High-level action:* 5.2.4

*Planned output:* 5.2.4.17

*Action to be taken:* Paragraph 20.

*Related documents:* MSC 90/10/1, MSC 91/12/1, NAV 58/24.

**Background**

1. Recognizing the role of the International Hydrographic Organization (IHO) in the development of Electronic Chart Display and Information System (ECDIS) and its active support to IMO in the endorsement of a carriage requirement for ECDIS, the 18<sup>th</sup> International Hydrographic Conference (23-27 April 2012) had agreed 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 to maintain the safety of navigation and to assist the smooth transition from paper to digital navigation.

2. At its 58<sup>th</sup> Session, NAV recognised the need for continuous monitoring of the implementation of ECDIS and any issues that may arise. The work undertaken to date by the IHO was acknowledged and the IHO was also encouraged to continue its engagement and work in this area. The Sub-Committee further invited Member Governments and international organizations to submit comments and proposals for consideration at NAV 59.

3. Accordingly, the IHO Secretariat continues to encourage and monitor feedback through reports from mariners or ship operators, from national administrations and hydrographic offices as well as from manufacturers. Whenever issues relating to ambiguities in the IHO standards or inconsistencies in their implementation arise, the IHO Secretariat ensures that these are being addressed in cooperation with all the relevant stakeholders.

### **ENC/ECDIS Data Presentation and Performance Check for Ships**

4. Up to [1 042] reports from about [820] ships have been received since the check data set was distributed to ship operators and posted on the IHO website in August 2011. The reports account for about 60 different ECDIS models from 20 different manufacturers and 200 different ECDIS software versions. Although the number of reports is relatively small, representing less than 2% of vessels subject to SOLAS requirements, the IHO considers that they constitute a representative sample covering the majority of ECDIS models in use at sea. It is worth noting that the identification by the mariner of a particular ECDIS model and software version does not seem to be straightforward; the relevant indications in the reports have sometimes been ambiguous or inadequate.

5. The more recent reports confirm the analysis reported at MSC 90 (MSC 90/10/1) and no new significant issue has been identified. 22% of the reports indicate no problems. 49% indicate no more than 3 (out of 40) abnormal detection points. Less than 3% of the reports indicate more than 20 (out of 40) instances of anomalous behaviour.

6. The most frequent anomalies relate to:

- the display of the “*new object*” feature introduced in the current edition of the IHO Presentation Library to enable new requirements recognised by IMO to be included in charts (40% of the reports indicate an anomaly);
- the display of the period and range of *all-round lights* (anomalies in 30% of the reports);
- the display of isolated underwater dangers located on a depth contour (19% of the reports for the inspection point in standard display mode indicate an anomaly);
- the detection of objects by route checking in voyage planning mode (a rate of anomalies greater than 20% for all objects and up to 47% for the object “*area to be avoided*”).

7. The values reported above should not be considered as absolute as there was some inconsistency in the reports from ships. For example, 61 of the reports relate to one ECDIS model and one software version yet there was a significant spread of answers for the same check. The highest such spread relates to the display of an isolated underwater danger located on the depth contour, with half the reports indicating no anomaly and the other half indicating an anomaly. It has not been possible to ascertain whether this dispersion is caused by a different setting of the ECDIS, a misinterpretation of the check result or a misidentification of the software version.

### **Outcome of the ECDIS manufacturers meeting at IMO (11 September 2012)**

8. As announced at NAV 58 and reported at MSC 91 (MSC 91/12/1), the IMO Secretary-General convened a meeting of ECDIS Manufacturers to discuss operating anomalies in ECDIS on 11 September 2012 in order to provide appropriate guidance to shipping companies and seafarers. The meeting agreed that the IHO would post contact information provided by manufacturers on the IHO website so as to enable ship operators and mariners to identify and if necessary obtain upgrades for their ECDIS operating software. That measure has been implemented and a list is available on the “ENC & ECDIS” page of the IHO web site ([www.iho.int](http://www.iho.int)). So far, [19 of the 30] ECDIS manufacturers listed have provided information. The list will continue to be updated as new information is made available by the manufacturers.

### **3<sup>rd</sup> IHO Workshop of Technical Experts on Resolving Operating Anomalies in ECDIS (15-16 October 2012)**

9. The workshop announced at NAV 58 was held at the IMO Headquarters on 15 and 16 October 2012. The workshop was attended by 48 technical and operational experts representing the key stakeholders - including representatives from the IMO Secretariat, IMO and IHO Member States, non-governmental international organizations, data service providers, ECDIS manufacturers, type-testing authorities, and seafarers' organisations. The workshop considered the summary of mariners' feedback from the IHO ECDIS data presentation and performance check campaign, discussed progress on implementing the outcomes of previous IMO meetings (MSC 90, NAV 58) and was provided with an update on progress with the maintenance and improvement of the relevant IHO standards.

10. Useful feedback was provided by the participants on issues such as display requirements, alarm management, and testing procedures. This feedback will benefit not only the maintenance and improvement of existing IHO standards related to ECDIS but also the development of related standards that will be based on the new IHO S-100 data standard, such as S-101, the next generation ENC product specification. The participants at the workshop provided input for the consideration of IMO Member States. These inputs related to the consolidation of ECDIS related circulars and the revision of footnotes to SOLAS Regulation V/27 which are being considered under separate agenda items of NAV 58.

11. The meeting reached the conclusion that all ECDIS should be up to date so as to conform to the latest edition of the relevant IHO Standards reported to the IMO, whatever their date of installation. This is necessary to enable ENCs to be "adequate and up to date" as required by SOLAS regulation V/27 and in conformance with the ECDIS Performance Standard that stipulates that: "The chart information to be used in ECDIS should be the latest edition of information originated by a government-authorized hydrographic office, and conform to IHO standards". It was also concluded that it would be useful if there was a check data set that allows a mariner to confirm that an ECDIS is up to date in relation to the applicable IHO standards. Seafarer representatives noted that at the moment this is a particularly contentious issue in relation to Port State Control inspections in some States and they would welcome an easy-to-use IHO "proof" of conformance.

12. An IHO Member State attending the workshop indicated that recent feedback had shown that some mariners have difficulty determining whether their ENCs are up to date because the relevant information is not readily apparent in some ECDIS equipment. The ECDIS manufacturers represented at the meeting encouraged the IHO to provide clearer guidance in terms of what information is required to be presented to the mariner and in what form.

13. The meeting, which had the widest spread of stakeholder representatives of any similar meeting held so far, provided a very useful forum for the exchange of views and information. It was agreed that the meeting had been informative for all participants and that on-going actions will benefit from the discussions that took place at the meeting. The fact that the workshop had not identified any new work item or initiative to be followed was taken as a sign of continuing progress. Although work remains to be done, there was widespread agreement that ECDIS remains a powerful and valuable tool on the bridge of ships.

#### **Activities of IHO Committees and Working Groups**

14. The relevant IHO Working Groups are progressively revising the various IHO Standards related to ECDIS in order to address the issues identified so far, particularly S-52 - Specifications for Chart Content and Display Aspects of ECDIS, S-58 - Recommended ENC

Validation Checks, and S-64 - IHO Test Data Sets for ECDIS. The participation of mariners and ECDIS manufacturers is considered to be both valuable and essential to the progress of the working groups. The feedback and information gained from ECDIS anomalies are being taken into account in their work.

15. The objective of the IHO is to finalize drafts of revisions to the relevant Standards related to ECDIS in 2014 for adoption by IHO Member States in 2015. The IHO is maintaining close liaison with the Technical Committee on Maritime navigation and radiocommunication equipment and systems of the International Electrotechnical Commission (IEC/TC 80) to ensure a proper coordination with the revision of IEC Standard 61174 - Maritime navigation and radiocommunication equipment and systems - Electronic chart display and information system (ECDIS) - Operational and performance requirements, methods of testing and required test results.

16. The IHO Secretariat will continue to maintain close liaison with the IMO and IEC Secretariats and other relevant stakeholder bodies to ensure a smooth transition from the current editions to the new ones.

### **Overview and Perspective**

17. Progress in resolving the outstanding issues with ECDIS operating anomalies is well underway with the active involvement of all key stakeholders. No major new issue has been identified since NAV 58. Investigation concerning the reported difficulty of some mariners to monitor ENC updating in some ECDIS is in progress.

18. With the uptake of ECDIS use associated with the entry into force of carriage requirements since 1<sup>st</sup> July 2012, vigilance and attentiveness are still relevant. The IHO Secretariat will continue to monitor the evolution of ECDIS and the associated standards, actively pursuing ways to resolve any future issues whenever they arise, whilst continuing to report progress to Member States, to the IMO MSC and NAV and to the wider maritime community.

19. The IHO Secretariat welcomes further feedback from all stakeholders concerning ECDIS operation and maintenance.

### **Action requested of the Sub-Committee**

20. The Sub-Committee is invited to consider this report and decide as appropriate.

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