



IHB File No S3/3055

CIRCULAR LETTER 33/2008
2 April 2008

DRAFT IHO SUBMISSIONS ON ENC_s TO IMO SUB-COMMITTEE ON
SAFETY OF NAVIGATION

Reference: CL 72/2007 dated 31 July - 53rd Session of the IMO Sub-Committee on Safety of Navigation

Dear Hydrographer,

1 In accordance with the Reference the IHB has prepared two submissions to the 54th session of the IMO Sub-Committee on Safety of Navigation (NAV54). The submissions will be forwarded to the IMO on 21 April in order to meet the IMO NAV54 submission deadline.

2 The submission regarding the "Evaluation of Electronic Navigational Chart (ENC) Availability" has been prepared in consultation with the WEND Task Group as decided at the "X WEND" meeting in October 2007 and is based on information provided by Member States. The IHB considers that based on this submission the availability of ENC_s cannot be justifiably used as a barrier to the introduction of further mandatory ECDIS carriage requirements.

3 The IHO NAV 54 report on ENC coverage highlights the ongoing work and the commitment of IHO MS to the overall quality and consistency of ENC_s. However, the Directing Committee has recently been informed of some issues relating to ENC content that have been highlighted by the UK in the development of their new integrated ENC service, specifically in terms of their recently started verification assessment of ENC_s. The UK believes that to address these issues a clearer definition of the operational practices underpinning the WEND principles may be required. The Directing Committee consider these to be important issues that should be resolved by WEND at its next meeting in September 2008.

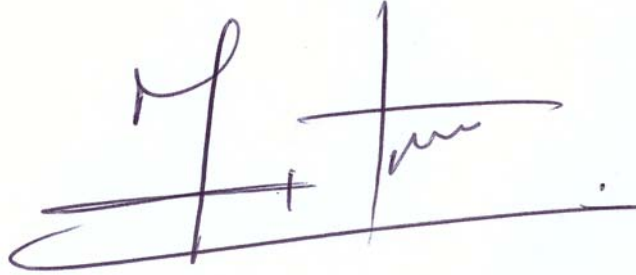
4 The submission regarding the "Development of a comprehensive online catalogue of available official charts" has been prepared by the IHB and is based on the work undertaken so far and on information received from MS. Since the issue of IHB CL 10/08 and IMO CL 2850 the IHB has received no further information regarding coastal States' recommendations on paper charts to be carried as a back up. Consequently the submission requests the Sub-Committee to reconsider this requirement in view of its limited usefulness to the mariner. In order to provide some information on the availability of paper charts the IHB intends to include a hot link to the web sites of Member States who provide an online catalogue of paper charts. Member States are therefore requested to provide the web address (URL) of their online paper chart catalogue where these exist.

5 Member States are requested to:

- inform the IHB by email of the web address (URL) of their online paper chart catalogue where these exist. The URL should be emailed to sshipman@ihb.mc as soon as possible.

- provide the IHB with any comments on the draft submissions **by Wednesday 16 April 2008**.

On behalf of the Directing Committee
Yours sincerely,

A handwritten signature in dark ink, appearing to be 'A. Maratos', written over a light blue rectangular background. The signature is fluid and cursive, with a long horizontal stroke at the bottom.

Vice Admiral Alexandros MARATOS
President

Annex A: Draft Submission NAV 54/14/x on the Evaluation of ENC Availability

Annex B: Draft Submission NAV 54/14/xx on the Development of an online catalogue of available official charts.

SUB-COMMITTEE ON SAFETY OF
NAVIGATION
54th session
Agenda item 14

NAV 54/14/x
21 April 2008
Original: ENGLISH

DEVELOPMENT OF CARRIAGE REQUIREMENTS FOR ECDIS

Evaluation of Electronic Navigational Chart (ENC) Availability

Submitted by the International Hydrographic Organization (IHO)

SUMMARY

Executive summary:	This document provides updated information on the availability of ENCs.
Strategic Direction:	5.2 – Enhancing technical, operational and safety management standards
High Level Action:	5.2.4 – Keep under review measures to improve navigational safety, including e-navigation, ships' routing systems, ship reporting systems, vessel traffic services, requirements and standards for shipborne navigational aids and systems
Planned Output:	5.2.4.1 – Development of carriage requirements for ECDIS
Action to be taken:	Paragraph 12
Related documents:	NAV 52/18, paragraph 6.19; NAV 53/5/2; NAV 53/INF.3; NAV 53/22, paragraphs 5.18 to 5.23 and 14.1 to 14.11; DNV Report No. 2008-0048 (Revision No 1)

Introduction

1 The use of ECDIS with ENC is recognised as a major factor in improving safety at sea. In conjunction with the consideration of mandatory carriage requirements for ECDIS, all the IHO MS have decided to anticipate and take the necessary measures to meet possible IMO requirements. The IHO in its report to NAV 53 (NAV 53/5/2) indicated that ENC coverage was steadily increasing and that there would be an adequate coverage of consistent ENCs by the time any further mandatory ECDIS carriage requirements were likely to be adopted by the IMO.

2 The IHO at its 17th International Hydrographic Conference in May 2007 adopted two resolutions which concluded that:

- IHO Member States should adhere and comply with the IHO's World-wide Electronic Navigational Database (WEND) Principles in order to achieve adequate coverage, availability, consistency and quality of ENCs by 2010; and
- The IHO strongly supports the efforts by IMO to introduce mandatory carriage requirements for ECDIS, emphasizing that a significant coverage of ENCs is already in place and will be further improved by 2010, as indicated in the DNV report (NAV 53/INF.3) and supported by IHO assessments, and that acceptance of mandatory carriage requirements will further accelerate the production of ENCs.

3 The Sub-Committee at its fifty-third session (NAV 53/22) noted with appreciation the information provided by the IHO (NAV 53/5/2) and invited the IHO to update the Sub-Committee on progress at NAV 54.

ENC Availability

4 **Coverage in 2008.** The IHO has conducted a global analysis of the ENC coverage which was commercially available to mariners in January 2008. The IHO analysis compared existing paper charts in the UK global series with corresponding ENCs. The latest IHO data confirms that there is currently a significant availability of ENCs and that this has increased notably and in line with the expectations forecast in the IHO report to NAV 53. The results of the IHO global ENC coverage analysis are shown in the table below.

IHO Global Analysis - 2008	
Small scale ENCs (planning charts)	>90%
Medium scale ENCs (coastal charts)	60%
Large scale ENCs (top 800 ports)	65%

5 The data obtained by the IHO has also been used as part of a separate analysis by DNV and is reported in DNV Report No. 2008-0048 (Revision No.01). The DNV analysis has returned a similarly positive result using criteria from another perspective (safety and environmental protection).

6 The IHO information shows that:

- Many areas of the world, major trading routes and ports, and vulnerable and complex areas are already comprehensively covered with ENCs.
- There are at least 2000 ENC cells (in addition to 7 400 existing ENC cells) that have been produced by Hydrographic Offices (HOs) that are awaiting final validation prior to public release in the near future. These ENCs should be available shortly and represent an increase of more than 25% over the number of ENCs currently available.
- There are a number of key areas where ENCs should be available before 2010 that will be based on new original surveys with data that is significantly better than existing paper charts. These areas include the Malacca and Singapore Straits and the Western Indian Ocean, centred on the Mozambique Channel. This work is being undertaken through the Marine Electronic Highway Projects and with supervision, technical assistance and advice provided by IMO, IHO, IALA, INTERTANKO, ICS and HOs.
- The development of the IHO-online catalogue together with the effective operational ENC data coverage tools provided by RENCs demonstrate the improvement in ENC availability.

7 **Coverage in 2010.** The IHO has consulted widely with its Member States, other coastal States, IHO Regional Hydrographic Commissions (RHCs) and the Regional ENC Centres (RENCs) to gather information regarding the availability of ENCs in 2010 covering international routes and ports to and from each coastal State. The information received by the IHO up to February 2008 indicates that in addition to the significant number of ENCs that have already been published, there are co-operation plans in place to cover all remaining major shipping routes and ports where coastal States have no hydrographic capabilities. Before or during 2010 these States will either be publishing ENCs themselves to cover their

international routes and ports to and from their State or have arrangements in place for other States to produce the necessary ENC's on their behalf.

IHO Prediction for 2010 (International Routes and Ports)	
Small scale ENC's (planning charts)	100%
Medium scale ENC's (coastal charts)	95 - 100%
Large scale ENC's (top 800 ports)	95 - 100%

Capacity Building and Cooperation

8 The IHO through its Capacity Building Committee, RHCs and individual HOs will continue to provide technical assistance and support to those coastal States that require it for the provision of hydrographic services, including the production of ENC's, to meet the requirements of SOLAS regulation V/9. A number of IHO Member States are continuing their long-standing assistance programmes by creating ENC's for those coastal States for which they already act as primary charting authority. Many HOs are liaising directly with their national maritime safety authorities to raise the awareness of electronic navigation which in turn is helping to ensure that the appropriate regulations and training programmes are considered.

Consistency and Quality

9 The IHO and its Member State HOs in addition to their efforts to complete worldwide coverage of ENC's are fully committed to continuously improve the consistency and quality of ENC's. Work on these issues is continuing and IHO Member States are acting to ensure that matters concerning safety of navigation and protection of the marine environment are being fully dealt with.

Pricing

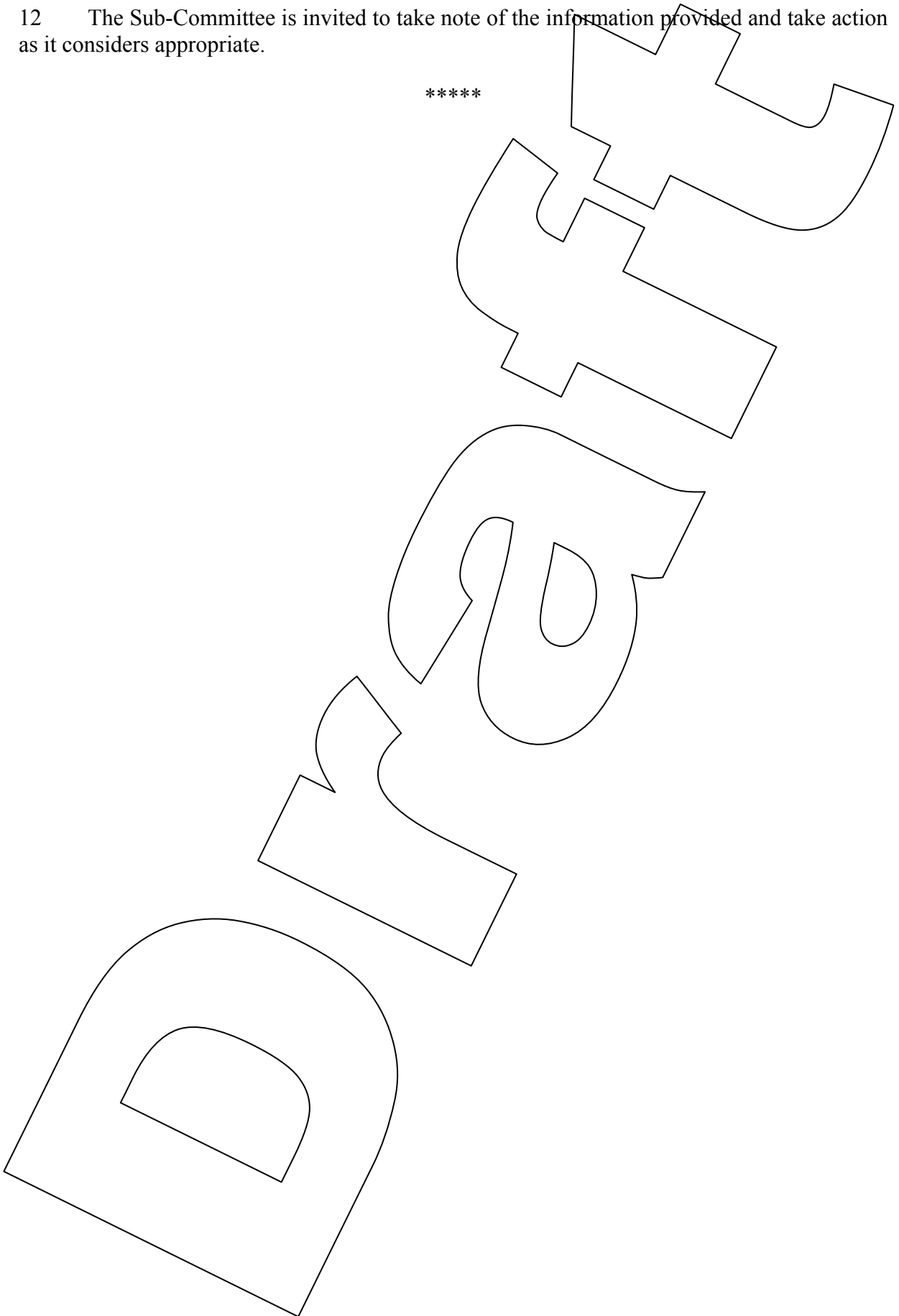
10 The cost of both paper charts and ENC's (neither of which takes into account the actual cost of surveys and production development) has always been, and will remain, the responsibility of individual coastal States and the commercial value-added resellers. The HOs of IHO Member States are coordinating and cooperating through the relevant IHO committees, the RENCs, and the relevant maritime stakeholders' forums to achieve consistent pricing and licensing of ENC's. This is already being reflected in recent changes in ENC pricing structures, subscription durations and licensing arrangements.

Conclusions

11 ENC production, consistency and availability is constantly increasing and will continue to do so. There is no reason to doubt that there will be an adequate worldwide coverage of consistent ENC's by 2010. Factual figures and HO official planning reports show that the world's major trading routes and ports will be covered by 2010.

Action requested of the Sub-Committee

12 The Sub-Committee is invited to take note of the information provided and take action as it considers appropriate.



SUB-COMMITTEE ON SAFETY OF
NAVIGATION
54th session
Agenda item 14

NAV 54/14/xx
21 April 2008
Original: ENGLISH

DEVELOPMENT OF CARRIAGE REQUIREMENTS FOR ECDIS

Development of a comprehensive online catalogue of available official charts

Submitted by the International Hydrographic Organization (IHO)

SUMMARY

Executive summary:	This document provides updated information on the development of the IHO online catalogue of ENC's, RNC's and coastal States recommendations for the appropriate portfolio of paper charts to be carried as backup.
Strategic Direction:	5.2 – Enhancing technical, operational and safety management standards
High Level Action:	5.2.4 – Keep under review measures to improve navigational safety, including e-navigation, ships' routing systems, ship reporting systems, vessel traffic services, requirements and standards for shipborne navigational aids and systems
Planned Output:	5.2.4.1 – Development of carriage requirements for ECDIS
Action to be taken:	Paragraph 11
Related documents:	NAV 52/6/1, NAV 52/18, paragraphs 6.1 to 6.25, NAV 53/5/1, NAV 53/22, paragraphs 5.15 to 5.17 and IMO Circular Letters No. 2773 and 2850

Introduction

1 The IHO reported to NAV 52 (NAV 52/6/1) and NAV 53 (NAV 53/5/1) on the status of the work undertaken to prepare a "Comprehensive online catalogue of available official charts" and sought comments / further guidance from the Sub-Committee on this matter. The fifty-third session of the Sub-Committee discussed this matter under agenda item 5 and reported its conclusions in section 5 of its report to the Maritime Safety Committee (MSC) (NAV 53/22).

Developments

2 The IHO has continued with the technical development of this online catalogue which is nearing completion. The IHO will be arranging to demonstrate the catalogue during the fifty-fourth session of the Sub-Committee.

ENCs

3 The primary function of the catalogue is to show, in a graphical format, the coverage of all ENC's that are available to the mariner. A harvesting application has been developed and made freely available to the Regional ENC Centres (RENCs) and to other hydrographic

offices that do not market their ENC through a RENC. This application allows the information required for portrayal of the coverage within the Catalogue to be extracted with the minimum of human intervention.

4 Metadata for each cell can be displayed by clicking within the cell limits. This information will not be held within the catalogue but will be downloaded from the RENC or participating hydrographic office on each occasion that it is requested. This will ensure that the data displayed is up to date.

RNCs

5 Similar harvesting tools for RNC coverage have been developed and made available to those hydrographic offices producing RNCs. RNC information will be available as a separate data layer within the catalogue. Users will be able to specify RNC coverage according to both producer and scale band criteria. This will allow the user to identify the relevant RNCs which are available in areas where there is no ENC coverage.

Appropriate portfolio of paper charts (APC) required as back-up

6 The catalogue, as requested by the Sub-Committee, will also provide information regarding coastal States' recommendations for the appropriate portfolio of up-to-date paper charts to be used as a backup in areas where ECDIS is operated in RCDS mode and/or when a single ECDIS with ENCs is in use. The Sub-Committee has requested coastal States to forward this information to the IHO for inclusion in the catalogue and this request has been endorsed by the Maritime Safety Committee. IHO and IMO Member States were requested by IHO and IMO Circular Letters respectively in both 2007 and 2008 to provide this information. Despite these requests, at the time of submission, the IHO had only received information from 33 coastal States.

7 Although the IHO requested the information to be supplied in a specific format (IMO CL No. 2773 Annex paragraphs 9 and 10) the data received has been in a variety of formats including: a simple statement as to the type of chart that should be carried; a graphical image from a chart catalogue; and a 44 page document listing some 600 charts. Given this variety of format the IHB has converted each document, as supplied, into pdf format and the user will be able to view a coastal State's recommendation by selecting that State from a drop down list.

8 Given the limited extent of the information and the wide variety of formats in which it has been provided the IHO is not convinced on its usefulness to the mariner. The Sub-Committee is requested to review whether it still wishes this data to be included in the catalogue and if so to urge Member States to provide the IHO with the necessary information.

Paper charts

9 The catalogue will also provide links to those Hydrographic Office web sites which provide an on-line catalogue of paper charts.

Conclusion

10 The IHO catalogue will be accessible from the IHO web site www.iho.org from the 30 June 2008.

Action requested of the Sub-Committee

11 The Sub-Committee is invited to:

- .1 take note of this information; and
- .2 reconsider the requirement for the catalogue to show coastal States' recommendations for the appropriate portfolio of up-to-date paper charts paper charts to be used as a backup in areas where ECDIS is operated in RCDS mode and/or when a single ECDIS with ENC's is in use and if it so decides request coastal States' to provide this information to the IHB as a matter of urgency.
