



## ORGANIZACION HIDROGRAFICA INTERNACIONAL

Dossier del BHI No. S3/3055

**CIRCULAR No. 33/2008**  
**2 de Abril del 2008.**

### **PROYECTO DE SUMISIONES DE LA OHI SOBRE LAS ENC<sub>s</sub> AL SUBCOMITE DE LA OMI SOBRE LA SEGURIDAD DE LA NAVEGACION**

Referencia: Circular No. 72/2007 del 31 de Julio - 53<sup>a</sup> Sesión del Subcomite de la OMI sobre la Seguridad de la Navegación.

Estimado(a) Director(a),

1. De acuerdo con la Circular de referencia, el BHI ha preparado dos sumisiones para la 54<sup>a</sup> Sesión del Subcomité de la OMI sobre la Seguridad de la Navegación (NAV54). Dichas sumisiones serán enviadas a la OMI el 21 de Abril para cumplir la fecha límite fijada por NAV54 de la OMI.
2. La sumisión relativa a la "Evaluación de la Disponibilidad de Cartas Electrónicas de Navegación (ENCs)" ha sido preparada tras haber consultado con el Grupo de Trabajo de la WEND, tal y como se decidió en la X<sup>a</sup> Reunión de la WEND ("XWEND") de Octubre del 2007 y está basada en información proporcionada por los Estados Miembros. El BHI considera que, basándose en esta sumisión, la disponibilidad de ENCs no puede ser utilizada como una barrera para la introducción de prescripciones adicionales para el transporte obligatorio de ECDIS.
3. El informe de la OHI sobre NAV 54, relativo a la cobertura de ENCs, destaca el trabajo continuo y el compromiso de los EMs de la OHI para lograr una calidad y una coherencia totales de las ENCs. Sin embargo, el Comité Directivo ha sido informado recientemente sobre algunas dificultades relativas al contenido de las ENCs, que han sido destacadas por el RU durante el desarrollo de su nuevo servicio de ENCs integrado, y que se refieren especialmente a la evaluación de la verificación de ENCs que acaban de emprender. El RU cree que, para superar estas dificultades, puede ser necesario definir de forma más clara las prácticas operativas que apoyan los Principios WEND. El Comité Directivo considera que estos son temas importantes que deberían ser resueltos por el WEND en su próxima reunión de Septiembre del 2008.
4. La sumisión relativa al "Desarrollo de un extenso Catálogo 'online' de Cartas oficiales disponibles" ha sido preparada por el BHI y está basada en el trabajo emprendido hasta ahora y en la información recibida de los EMs. Desde la publicación de la Circular del BHI No. 10/2008 y de la Circular de la OMI No. 2850, el BHI no ha recibido información adicional referente a las recomendaciones de los Estados Costeros sobre las cartas de papel que se transportarán como sistema de reserva. Por consiguiente, la sumisión solicita al Subcomité que reconsidere este requerimiento, en vista de su limitada utilidad para el navegante. Para proporcionar alguna información sobre la disponibilidad de las cartas de papel, el BHI proyecta incluir un enlace a los sitios Web de los Estados

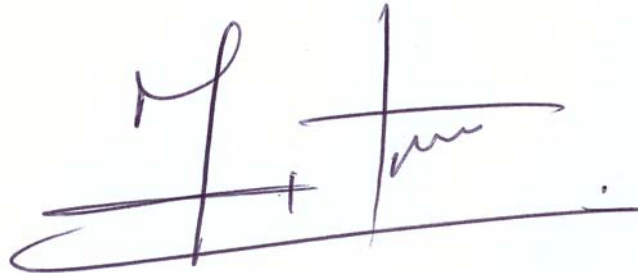
Miembros, que proporcionen un catálogo 'online' de sus cartas de papel. Se ruega pues a los Estados Miembros que indiquen la dirección de su Web (URL), de tener un catálogo 'online' de cartas de papel.

5. Se ruega a los Estados Miembros que:

- Indiquen al BHI por correo electrónico la dirección de su Web (URL), con su catálogo online de cartas de papel, de existir. La URL deberá ser enviada a la siguiente dirección: *sshipman@ihb.mc*, **lo antes posible**;
- Proporcionen al BHI sus comentarios sobre el proyecto de las sumisiones **antes del Miércoles 16 de Abril del 2008**.

En nombre del Comité Directivo

Atentamente,

A handwritten signature in dark ink, appearing to be 'A. Maratos', written over a light blue background. The signature is stylized and somewhat cursive.

Vice-Almirante Alexandros MARATOS  
Presidente

Anexo A: Proyecto de Sumisión NAV 54/14/x sobre la Evaluación de la Disponibilidad de ENC's;

Anexo B: Proyecto de Sumisión NAV 54/14/xx sobre el Desarrollo de un Catálogo 'online' de Cartas oficiales disponibles"; (ambos en Inglés únicamente);

SUB-COMMITTEE ON SAFETY OF  
NAVIGATION  
54<sup>th</sup> 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

<b>Executive summary:</b>	This document provides updated information on the availability of ENCs.
<b>Strategic Direction:</b>	5.2 – Enhancing technical, operational and safety management standards
<b>High Level Action:</b>	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
<b>Planned Output:</b>	5.2.4.1 – Development of carriage requirements for ECDIS
<b>Action to be taken:</b>	Paragraph 12
<b>Related documents:</b>	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 17<sup>th</sup> 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.

	<b>IHO Prediction for 2010 (International Routes and Ports)</b>
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.

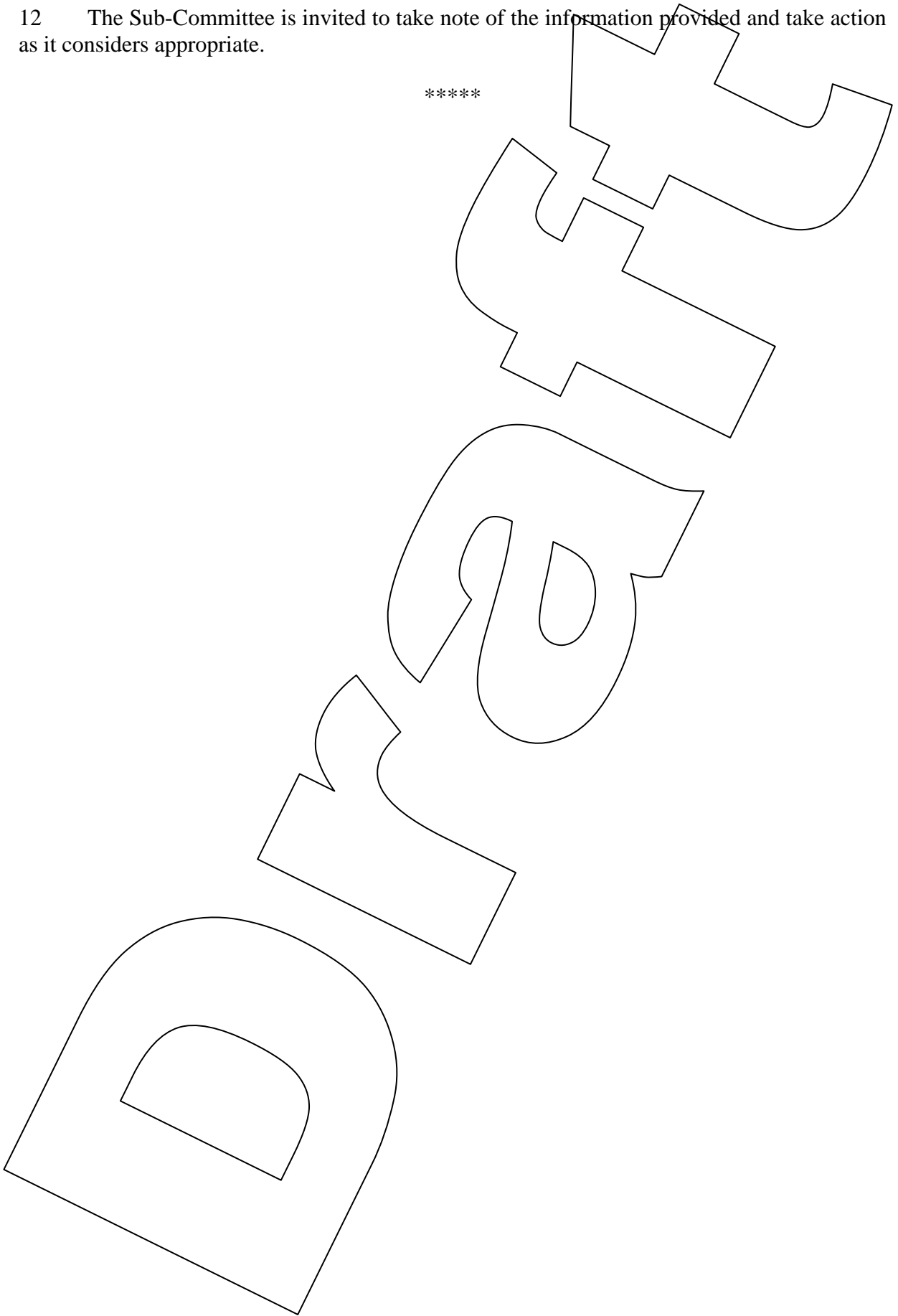
### **Conclusions**

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.

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SUB-COMMITTEE ON SAFETY OF  
NAVIGATION  
54<sup>th</sup> session  
Agenda item 14

NAV 54/14/xx  
21 April 2008  
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## DEVELOPMENT OF CARRIAGE REQUIREMENTS FOR ECDIS

### Development of a comprehensive online catalogue of available official charts

Submitted by the International Hydrographic Organization (IHO)

#### SUMMARY

<b>Executive summary:</b>	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.
<b>Strategic Direction:</b>	5.2 – Enhancing technical, operational and safety management standards
<b>High Level Action:</b>	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
<b>Planned Output:</b>	5.2.4.1 – Development of carriage requirements for ECDIS
<b>Action to be taken:</b>	Paragraph 11
<b>Related documents:</b>	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's 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 ENC's 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](http://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.

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