

**11<sup>TH</sup> WEND COMMITTEE MEETING**  
**Tokyo, Japan, 2-5 September 2008**

**FINAL MINUTES**

*Notes:*

- 1) Paragraph numbering is the same as in the agenda (Annex D)
- 2) A list of acronyms used in this report is provided at Annex A
- 3) A list of actions agreed at WEND-11 is provided at Annex E
- 4) A Record of Discussion for the 4<sup>th</sup> ECDIS Stakeholders Forum is provided at Annex I
- 5) All documents referred to in these minutes are available from the WEND page of the IHO website ([www.iho.int](http://www.iho.int) > Committees & WGs > WEND)
- 6) Names of contributors are written in full the first time they appear in these minutes. Then, only the surname is shown.

## 1. Opening and Administrative Arrangements

**Docs:** WEND11-01A rev.6 *List of documents (also Annex B)*  
WEND11-01B rev.4 *List of Participants (also Annex C)*  
WEND11-01C *Membership of WEND*  
WEND11-01D *Guidelines for the Submission of Reports and Proposals for Consideration by WEND*

The 11<sup>th</sup> meeting of the IHO Worldwide ENC Database Committee (WEND) took place at the Mita Kaigisho Conference Hall in Tokyo, in conjunction with the 4<sup>th</sup> ECDIS Stakeholders Forum. Dr Shigeru KATO, Director of the Japan Hydrographic and Oceanographic Department (JHOD) welcomed participants to Tokyo. He acknowledged the kind support received from the Ocean Policy Research Foundation (OPRF) in the organisation of WEND-11 and ESF-4. The Chair of the WEND Committee (Capt. Abri KAMPFER, South Africa) opened the meeting, and welcomed both members and observers. He noted that there were more in attendance than any previous WEND meeting. Convening WEND-11 together with meetings of the IHO Strategic Plan Working Group (ISPWG) and of the IC-ENC Steering Committee in the same week, plus the ECDIS Stakeholders Forum, were contributing factors. He observed this was the last WEND meeting and that relevant matters would henceforth be addressed by the IHO Inter Regional Coordination Committee (IRCC), to come into force from 1 January 2009.

The WEND Secretary (Mr. Michel HUET, IHB) reviewed the List of Documents (see Annex B). He drew attention to the addition of Docs. WEND11-INF 3 – *Revised Wend Principles Cross Reference Table Existing → Proposed*, and WEND11-INF4 – *U.S. Position on Revised WEND Principles (WEND11-07A)*.

## 2. Approval of Agenda

**Docs:** WEND11-02A rev.6 *Agenda*

The Agenda was approved without change (see Annex D). The Chair suggested that item 7 *Application of the WEND Principles* be addressed on the afternoon of the 1<sup>st</sup> meeting day, in case it would be decided to set up a drafting group to progress these matters. This was agreed (moved by Australia; seconded by India).

**Outcomes:**

- The Committee approved the agenda without change (see Annex D).

## 3. Matters arising from minutes of the 10<sup>th</sup> WEND Meeting, the 2<sup>nd</sup> ECDIS Stakeholders' Forum, and the 1<sup>st</sup> Extraordinary WEND Meeting

**Docs:** WEND11-03A *Minutes of the 10<sup>th</sup> WEND Meeting (which include a Record of the 2<sup>nd</sup> ECDIS*

	<i>Stakeholders' Forum)</i>
<i>WEND11-03B</i>	<i>List of Actions arising from the 10<sup>th</sup> WEND Meeting</i>
<i>WEND11-03C</i>	<i>Follow-on Actions from the 2<sup>nd</sup> ECDIS Stakeholders' Forum and Status</i>
<i>WEND11-03D</i>	<i>Minutes of the 1<sup>st</sup> Extraordinary WEND Meeting</i>
<i>WEND11-03E</i>	<i>List of Actions from the 1<sup>st</sup> Extraordinary WEND Meeting and Status</i>
<i>WEND11-03F</i>	<i>Terms of Reference for the WEND Committee</i>
<i>WEND11-03G</i>	<i>WEND Principles</i>
<i>WEND11-03H</i>	<i>Registering the term "ENC" (IHB)</i>

The Minutes to WEND-10 (Doc. [WEND11-03A](#)) were accepted without change. The status of actions arising from WEND-10, ESF-2 and X-WEND-1 as listed in Docs. [WEND11-03B](#), [WEND11-03C](#) and [WEND11-03E](#), respectively, was reviewed. Most of the actions had been completed. The following additional comments were made regarding pending actions [figures (#) refer to the numbers in the 'Action Number' column of the relevant document]:

WEND-10 #4 (ENC as IHO trademark) – IHB (Capt. Robert WARD), reminding the Committee that the IHB was asked to investigate the possibility of an IHO trademark associated with ENCs, reported that it may be possible to register one or more of the terms that are associated with ENCs. However, the registration procedure would be rather costly (typically, USD14,000 for a period of 10 years). Further, the establishment of a trademark would not necessarily prevent so-called "misleading advertising" nor any misunderstanding or confusion from consumers. (Doc. WEND11-03H refers). Australia (Capt Rod NAIRN), seconded by UK (RAdm Ian MONCRIEFF), proposed that no further action be taken on this matter. This was agreed.

WEND-10 #5 (Involvement of RHCs to improve ENC Coverage) – It was noted that achieving adequate ENC coverage requires RHCs to continue to develop their ENC Schemes and monitor the progress towards improving the ENC coverage of these schemes. IHB (WARD) suggested that IHB continues monitoring global ENC scheming, production and availability.

WEND-10 #6 & #7 (ENC Distribution) – Both RENCs (IC-ENC and PRIMAR) stated that they would report under Agenda Item 6.

Outcomes:

- The Committee took note of the paper in WEND11-03H and decided not to proceed with the registration of the term "ENC".
- IHB to monitor and report regularly on status of global ENC scheming, production and availability, obtaining input from RENCs, RHCs and other relevant sources. (Action 11/1 – IHB)

ESF-2 #3 (Funding for ENC Production) and #4 (Warning Governments on the need for ENCs) – IHB (WARD) reported that there had been no specific development on these subjects. However, they are constantly on the agenda for all discussions between the IHB Directing Committee and other States and organisations.

ESF-2 #10 (S-100 Information Paper) – France (IGA Gilles BESSERO) remarked that the referenced Circular Letter in the 'Status' column should be 69/06, not 69/07. This was corrected.

ESF-2 #13 (Customizing S-63) – IHB (WARD) reported that no records were available at IHB on whether "IEC had been invited to confirm that the customization of S-63 (i.e. S-63x) would not be restricted or cause a problem in ECDIS", and felt there was no need to continue with this item. It was agreed to raise this matter at ESF-4 and seek confirmation.

Outcomes:

- Chair ESF-4 to raise matter of customizing S-63 (S-63x) at ESF-4 to seek stakeholder confirmation that no further action is required. (Action 11/2 – Chair ESF-4)

X-WEND-1 #2 (ENC Coverage) & #4 (Regional Cooperation) – IHB (WARD) stressed that these were high priority matters for the IHB, and were continuously monitored.

X-WEND-1 #5 (Lobbying IMO delegations) – IHB (WARD) reported that in his view there is an alarmingly high level of ignorance by many IMO delegates about their national obligations to ensure the provision of hydrographic services and even an awareness of their own Hydrographic Offices. In answer to India (RAdm B.R. RAO) suggesting that the IHB takes this up with Member States' Governments directly, Capt WARD reported that the IHB has no mandate to approach MS' governments directly. If such a mandate was warranted, it could be achieved through a formal proposal to the 4<sup>th</sup> Extraordinary International Hydrographic Conference in 2009. In the meantime, the Directing Committee is always available to assist individual MS at their request. France (BESSERO) suggested that RHCs should identify specific actions required in their area. Australia (NAIRN) noted that the IMO voluntary audits will become compulsory in 2012 and include checks on the provision of Hydrographic Services. This should eventually force Maritime Authorities to liaise with, and recognise the responsibilities of National Hydrographic Offices. A drafting group was set up, led by India, to prepare a proposal for the WEND to empower IHB to provide information to national governments. Australia and UK volunteered to take part in the group. The resulting proposed text is at Annex F. It was agreed that these drafting notes would be used as a reference by the IHB in the event of MS' requests to make direct approaches to MS' Governments.

X-WEND-1 #7 (Grant Aid) – Australia (NAIRN) reported that some work had been undertaken by the CBC with respect to a guide for seeking aid agency funding and that an information paper on this subject is posted on the CBC page of the IHO web site.

Outcomes:

- IHB to inform Member States by CL that the assistance of the DC is always available to approach the relevant authorities (including at senior governmental levels) using appropriate diplomatic, inter-governmental or other points of contact to raise the levels of awareness and commitment to provide appropriate hydrographic services, especially ENC coverage. IHB to then take appropriate action based on individual responses, taking note of the drafting notes at Annex F to the WEND-11 Minutes. (Action 11/3 – IHB)
- IHB to prepare a submission to IMO MSC inviting IMO to remind its MS of their obligations under SOLAS V/9. (Action 11/4 – IHB)

#### 4. Report by the WEND Task Group

Docs: *WEND11-04A*

*Summary of Task Group Activities (WEND TG)*

The WEND TG Chair (Mr. Horst HECHT, Germany) reported on the activities of its group since WEND-10. A significant task was to identify the main shipping routes for all SOLAS vessels (including HSC) and determine where gaps in ENC coverage exist for all navigational purposes, based on a DNV study. However, the TG realised that the DNV study was not sufficient to identify the effective ENC Coverage for all navigational purposes. The TG used the paper chart coverage and the Lloyds list of the 800 top ports of the world to complete the task. This was reported in Doc. [WEND11-04A](#).

The TG also reviewed the problems concerning data deficiencies in some ENCs and considered how the WEND Principles could be clarified and improved to overcome such shortcomings. This is reported in Doc. WEND11-07A.

WEND will cease to exist with the introduction of the new IHO committee structure from 1 January 2009. The tasks of WEND and roles of the WEND Task Group need to be taken on by the new IRCC, and this is addressed under Agenda Item 9.

Outcomes:

- The Committee took note of the Report.
- Future of WEND TG to be considered under Agenda item 9.

**5. Review of activities of other IHO committees dealing with ECDIS, pertinent to WEND**

Docs: *WEND11-05A*                      *Status of Electronic Charting Issues Being Considered by IMO (IHB)*  
*WEND11-05B rev.1*                *Report on ECDIS-Related Standards (IHB)*  
*WEND11-05C*                      *IHO Publication - Facts on Carriage Requirements (IHB)*

IHB (WARD) reported on recent IMO activities relating to ECDIS/ENC (Doc. [WEND11-05A](#)). NAV 54 (July 2008) has recommended the introduction of compulsory carriage of ECDIS to be phased in from 2012 - 2018. This will be examined for approval at MSC 85 (Nov. 2008) and MSC 86 (May 2009). The IMO support was in large part based on the availability of adequate coverage of ENCs by 2010, i.e. *equivalent to the best available paper chart coverage of either a Hydrographic Office providing Global Coverage or the Hydrographic Office of the Coastal State*. IHO is required to provide ENC Coverage updates annually to IMO.

The Chair stressed that Member States must continue to ensure their maritime delegations to IMO are fully briefed for MSC 85 and 86. It was agreed that the IHB should contribute to the preparations for these MSC meetings.

ENCs will also be a fundamental backdrop to any implementation of an e-NAV strategy in the future. e-NAV is being considered as supporting identified user requirements rather than being technology driven or “nice to have”.

France (BESSERO) expressed the appreciation of the efficiency of the IHB for its action at NAV 54, and suggested that similar action be undertaken on the occasion of the next MSC meetings, which was supported.

Outcomes:

- The Committee took note of the Report.
- IHB to prepare for MSC 85 and MSC 86 in relation to carriage requirements for ECDIS. (Action 11/5 – IHB)

IHB (HUET) reported on the current status of IHO standards relating to ECDIS/ENC (Doc. [WEND11-05B](#)). There were no comments.

Outcomes:

- The Committee took note of the Report.

IHB (WARD) summarized the progress made towards joint IHO and IMO adoption of the publication *Facts about Electronic Charts and Carriage Requirements* (Doc. [WEND11-05C](#)). This document is in the course of being adopted as IHO publication S-66. In due course, the IHB will submit a proposal to IMO inviting that organization to co-sponsor the publication.

Outcomes:

- The Committee took note of the Report.

## 6. Review of Progress on ENC Availability

Docs:	<i>WEND11-06A</i>	<i>Compendium of RHC Chairs' Reports (IHB)</i>
	<i>WEND11-06B</i>	<i>ENC Coverage Status (IHB)</i>
	<i>WEND11-06C</i>	<i>PRIMAR Status Report</i>
	<i>WEND11-06D</i>	<i>IC-ENC Status Report</i>
	<i>WEND11-06E</i>	<i>Data Chain Certification Concept (RTCA)</i>
	<i>WEND11-06F</i>	<i>The EAHC Approach for ENCs (EAHC Chair)</i>
	<i>WEND11-INF2</i>	<i>ENC Consistency in the Baltic Sea (Denmark &amp; Finland)</i>

IHB (HUET) briefly referred to the compendium of reports received from the Chairs of Regional Hydrographic Commissions, which mainly relate to ENC coverage (Doc. [WEND11-06A](#)). The following comments were made:

- EAHC - The EAHC Chair (Mr Parry OEI, Singapore) announced that new editions of the South China Sea ENCs will be made available in October 2008 for free download from Internet (<http://www.scsenc.org.hk/main.htm>). EAHC Chair (OEI) also mentioned that ENCs covering 18 Indonesian ports would be completed by end 2008.
- SWAtHC and MACHC - Brazil (Capt Wesley CAVALHEIRO) stated there would be complete ENC coverage in the SWAtHC area by 2010. He added that an ENC production scheme was in place for the MACHC area.

Outcomes:

- The Committee took note of the Report.

IHB (WARD) presented an overview of the ENC coverage status worldwide, based on the IHB Chart Catalogue (Doc. [WEND11-06B](#)). An assessment of available ENC coverage for June 2008 revealed that, compared to corresponding paper chart coverage for top 800 ports and routes between them, the percentage of ENC coverage was 94 % for small scale ENCs (planning), 68 % for medium scale ENCs (coastal approach) and 65 % for large scale ENCs (ports). As of June 2008, at least 8400 ENC cells were commercially available. He noted that the IMO compulsory carriage requirement of ECDIS refers to all international voyages, not only those to the most popular ports and on main shipping routes.

From the information available at the IHB, all major international ports and international routes to coastal States should be covered by 2010 with ENCs that are at least comparable with existing paper chart coverage for those areas. However,

- there are a significant number of areas where data is overlapping and sometimes conflicting,
- not all ENCs are being updated as regularly as their corresponding paper charts, and
- achieving adequate coverage of all international trade routes and ports by 2010 relies heavily of bilateral and co-production programs.

India (RAO) noted that it has produced 42 ENCs that cover some neighbouring countries. India is willing to provide them to the IHB or other appropriate organization to utilise or find a solution, but doesn't want to cause any political problems. The Chair suggested that this matter be resolved at the RHC level as far as possible. IHB (WARD) further noted that agenda item 7 (WEND Principles) would cover the issue of overlapping data and other concerns.

China (Mr NG Kwok-Chu – KC) reported that China has released 257 large and medium scale ENCs on 1 September 2008.

Outcomes:

- The Committee took note of the Report.
- See also Action 11/1.

PRIMAR (Mr Kjell Magne OLSEN) briefly reported on PRIMAR activities (Doc. [WEND11-06C](#)). There were no comments.

Outcomes:

- The Committee took note of the Report.

IC-ENC (Mr Graham SAUNDERCOCK) provided an update on IC-ENC activities, progress and concerns, and reviewed the actions for the RENCs arising from WEND-10, X-WEND-1 and ESF-2 (Doc. [WEND11-06D](#)). There were no comments.

Outcomes:

- The Committee took note of the Report.

RTCA (Mr Michael BERGMANN) presented a proposal for data supply chain certification (Doc. [WEND11-06E](#)). Background information related to outcomes of the Exxon Valdez disaster. He pointed to conclusions about the accident rate of marine transport in comparison to air transport. RTCA has moved from dealing only with technical aspects to coordinating all matters of air navigation. Implementing a data supply chain certification aims to ensure no degradation of source data, compatible databases and coordinated updating. Certification would require approval of the methods and process used to manipulate data. The aim of applying this concept to the ENC supply chain would be to assure the end user that the data in use on the bridge is the same data authorised by the data producers. In conclusion, it would improve the data integrity as it is not as heavily based on trust, as in the current regime.

Germany (HECHT) expressed support for the concept and noted that most of the principles are already built into the S-63 data protection standard. However, the data service supply chain is an additional risk. USA (ANDREASEN) questioned certification and cost recovery in the air industry. RTCA (BERGMANN) answered that trusted partners are based on certification.

To a question from UK (Mr Chris SMITH) regarding the CRC check in the S-63 delivery versus the data chain certification in SENC delivery, RTCA (BERGMANN) advised that the SENC delivery did have a consistency check but there remained other aspects of the supply chain that needed to be certified.

Outcomes:

- The Committee took note of the Report.
- The RTCA delegate to convene a Correspondence Group on *Data Chain Certification Concept*. (Action 11/6 – RTCA)
- The RTCA delegate to present the *Data Chain Certification Concept* to CHRIS-20. (Action 11/7 – RTCA)
- IHB to recommend that CHRIS members be invited to participate in the correspondence group on *Data Chain Certification Concept*. (Action 11/8 – IHB)
- The RTCA delegate to present a progress report from the Correspondence Group on *Data Chain Certification Concept* to IRCC-1. (Action 11/9 – RTCA)

Chair EAHC (OEI) gave an overview of the approach taken by the EAHC to increase ENC coverage and ENC harmonisation with the objective of providing adequate ENC covering the major shipping routes and ports in the East Asia region. (Doc. [WEND11-06F](#)). Of note, in addition to the announcement of a new edition of the South



China Sea ENC (as stated above), was the creation of an ENC Technical Advisory Group to improve the quality and consistency of regional ENCs, using the feedback from the existing RENCs.

Outcomes:

- The Committee took note of the Report.
- IHB to issue CL informing MS of new edition of the South China Sea ENCs. (Action 11/10 – IHB)

Finland (Mr Juha KORHONEN) reported on the ENC harmonisation activities within the Baltic Sea Hydrographic Commission (Doc. [WEND11-INF2](#)). The Baltic Sea ENC Harmonisation Working Group (BSEHWG) had reviewed inconsistencies between ENCs in the Baltic Sea and made 17 recommendations to resolve them, including on the use of SCAMIN. These recommendations were recently agreed by BSHC. He was confident this would result in significant improvement in ENC harmonisation across the nine BSHC States.

Netherlands (Capt Floor DE HAAN) felt this work may not be necessary if the RENCs were undertaking their roles of validation and consistency. CHRIS Chair (Capt Vaughan NAIL, UK) noted that some States / regions were reluctant to fully implement the consistency recommendations agreed by CHRIS and that BSEHWG has really added a lot of value to the CHRIS recommendations by providing a regionally-based approach. He mentioned that BSEHWG model would be considered at the next CHRIS meeting. Germany (HECHT) stressed both the regional and bilateral cooperation has enabled this successful work.

Outcomes:

- The Committee took note of the Report.
- The Committee agreed that the BSHC regional approach to ENC harmonization has merit.
- The Committee agreed that CHRIS should consider this approach with a view to incorporating the methodology in the Annex to S-65 as a generic model.

## 7. Application of the WEND Principles

Docs:	<i>WEND11-07A rev.1</i>	<i>A Review of the WEND Principles (WEND TG)</i>
	<i>WEND11-07B</i>	<i>UK comments on WEND11-07A (UK)</i>
	<i>WEND11-07C</i>	<i>Guidelines for the preparation and maintenance of small/medium scale ENC schemes (France)</i>
	<i>WEND11-INF3</i>	<i>Revised WEND Principles Cross Reference Table: Existing → Proposed</i>
	<i>WEND11-INF4</i>	<i>U.S. Position on Revised WEND Principles (WEND11-07A)</i>

WEND TG Chair (HECHT) introduced the subject. The WEND TG considered there was a need to revise the WEND Principles in the light of recent developments in ENC production and distribution, in particular to overcome a number of practical problems identified in existing ENCs. The TG has reviewed the Principles and proposed a revised version, set out in Doc. [WEND11-07A](#). A cross reference table between existing and proposed principles was provided in Doc. [WEND11-INF3](#). He stressed that SOLAS V Reg. 9 is binding International Law.

IHB (WARD) gave a presentation, based on data and information provided by the RENCs, the UKHO and Jeppesen Marine. He pointed out that ENCs that are not available to data distributors from a RENC or equivalent mechanism that in effect provides a unified global ENC database might not be considered as compliant with the WEND concept. He also provided a comprehensive description and provided examples of typical problems identified with a selection of current ENCs:

- Availability. Not all ENCs are available through the RENCs, therefore not available to WEND.
- Overlapping data. Many ENC cells are affected. ECDIS will show both, none, or one or the other. This cannot be tolerated and mechanisms are needed to remove or avoid those overlaps.

- Inconsistent display of data, e.g. due to inconsistent use of SCAMIN. This should be coordinated at least on a regional basis, as being done for the Baltic Sea (Doc. WEND11-INF2 refers). Adjacent ENC's must appear similar.
- Incorrect chart conversion and/or data encoding. Efficient mechanisms to cross check ENC's with paper charts are required and anomalies need to be urgently amended. Paper chart and ENC need to be the same. Such ENC anomalies are undermining the credibility of all HO's.

WEND TG Chair (HECHT), referring to Doc. WEND11-07A, stated that the WEND TG had been looking for a way to facilitate the resolution of these ENC data problems as efficiently as possible. He invited comments.

Netherlands (DE HAAN) felt that the proposed revised WEND Principles were not aiming at the long term preferred solution but were looking at stop-gap measures. UK (MONCRIEFF) stressed that validation is not enough and verification is also required against the current paper chart; further, overlapping issues must be resolved as a matter of priority. WEND TG Chair (HECHT) commented that, in theory the verification is the responsibility of the producer nation, but in practice much of this verification is carried out by the distributor. If there are inconsistencies, an issue is whether a data distributor can or should refuse to distribute the data until correction is applied, or whether the data distributor can correct the data unilaterally.

EAHC Chair (OEI) stated that the EAHC has ensured consistency and no overlapping of the SCS ENC's, but they are concerned that those ENC's might not be considered as WEND compliant because they are not distributed through a RENC. He pointed out that the distribution of the SCS ENC's is coordinated through the EAHC and although there was no formal agreement with a RENC, the SCS ENC's were in fact available for distribution through RENC's. Also India (RAO) emphasised that it is meeting the IHO standards and distributing its ENC's through the UKHO and Jeppesen Marine. He wondered why the Indian ENC's might not be considered WEND compliant; adding that if IHO needs Member States to market their ENC's through a RENC then this should be stated clearly. PRIMAR (Capt Gerry LARSSON-FEDDE) mentioned they were distributing the SCS ENC's. However, PRIMAR would not conduct verification, nor take the responsibility to amend ENC's. If they know of errors in data, they will refer it back to the data producer.

Belgium (Dr Ir Nathalie BALCAEN) questioned why a number of HO's are not distributing their ENC's via a RENC? WEND TG Chair (HECHT) clarified that, although the WEND Principles strongly recommend that HO's distribute their data through RENC's, it is a national prerogative to decide on how to distribute its data. He stressed that RENC's are doing more than just validation; they also check performance of the data in ECDIS and consistency with neighbouring cells, etc. In his view, the SCS ENC data, for example, is not WEND compliant because it is difficult to include this data with integrated services. CLIA (Mr George ARTS) insisted on the need for one-stop wholesale-shopping to acquire ENC's.

China (KC) noted that paper charts also have overlaps, which are not always consistent. He suggested to distinguish between WEND Principles which are likely to solve the identified problems and those which are just nice to have.

USA (Ms Meg DANLEY) expressed support for a more direct and immediate action to improve the situation. However USA had some concerns about the wording and has proposed some recommendations on alternate wording (Doc. [WEND11-INF4](#) refers). She added that the amended principles would have a significant effect on MS not attending this meeting, so they would need to be circulated and promoted with an opportunity for comment.

France (BESSERO) saw three possible options:

1. Do nothing on the WEND Principles and resolve practical problems within RHC's and RENC's.
2. Revise the WEND Principles, based on Docs. WEND11-7A, 7B, INF3 and INF4. He felt this exercise might not be completed in time to meet the IMO deadlines, since the approval of the revised text by IHO MS would be required.



3. Keep the WEND Principles as they stand, and complement them with clarifications / guidelines derived from the notes in Docs. WEND11-07A and INF4, and to be considered as "*Implementation Guidelines for the WEND Principles*".

WEND TG Chair (HECHT) expressed preference for Option 2. He suggested reviewing the US comments set out in Doc. WEND11-INF4 first, as it might be the easiest solution. If this was not achievable then Option 3 could be used. This was agreed.

USA (DANLEY) was invited to present the US proposal set out in Doc. WEND11-INF4. This review gave rise to numerous interjections and comments from the floor. After lengthy discussion, it became apparent that an agreement on revised WEND Principles would not be reached during WEND-11. The Chair suggested the way forward was to adopt the French proposal - Option 3, which was agreed. A drafting group was set up to produce guidelines, led by France with China, Italy, Singapore, UK and USA as members.

The resulting text was presented by France (BESSERO) and reviewed by the meeting. After agreeing some minor changes, the Committee endorsed "*Implementation Guidelines for the WEND Principles*", as in Annex G.

Outcomes:

- The Committee took note of the Report in Doc. WEND11-07A and the comments in Docs. WEND11-07B, INF3 and INF4.
- The Committee agreed that ENC services provided to the mariner should be at least to the same high standards as that provided in the paper chart regime.
- The Committee developed and endorsed a set of guidelines associated with the WEND Principles - *Guidelines for the Implementation of the WEND Principles* (Annex G to WEND-11 Minutes).
- When circulating WEND-11 Minutes to Member States, IHB to convey the following message: "In implementing the WEND Principles (Technical Resolution K2.19), *the WEND Committee invites IHO Member States to consider and apply the 'Guidelines for the implementation of the WEND Principles' developed by the Committee and contained in Annex G to the WEND-11 Minutes.*" (Action 11/11 - IHB)

France (BESSERO) introduced Doc. [WEND11-07C](#) proposing to develop guidelines on the preparation and maintenance of small and medium scale ENC schemes, in a similar way to the existing guidelines for INT chart schemes (Part A of M-11). It was further proposed that INT chart coordinators be assigned the responsibility for preparing and maintaining regional ENC schemes in addition to INT schemes, in their respective INT regions.

The Committee supported both proposals. Actions for the IHB and CHRIS were agreed as detailed below.

Outcomes:

- The Committee took note of the paper.
- IHB to invite CHRIS/HSSC to consider developing guidelines for the preparation and maintenance of small/medium scale ENC schemes and determine whether they should be included in S-65 or a new document similar to M-11 (Action 11/12 - IHB)
- IHB to invite relevant RHCs and INT chart coordinators to coordinate the development of small/medium scale ENC schemes. (Action 11/13 - IHB)
- IHB to consider the potential use of the IHO Chart Catalogue on the web in support of the development of small/medium scale ENC schemes. (Action 11/14 - IHB)

## 8. Relationship with Industry

Docs: *WEND11-08A rev.5*      *Programme of the 4<sup>th</sup> ECDIS Stakeholders' Forum*

WEND Chair noted the informative and productive two half-days that occurred with the ESF-4. With some 150 attendees, it was among the largest meetings ever organized by the IHO, apart from IHCs. WEND TG Chair (HECHT) stated that the forum appeared to be useful to many participants, in particular from the Asian region. Information provided by the IHO on ENC coverage was well received and contributed to create confidence in Industry. Presentations given by service providers and data distributors conveyed a clear signal to the IHO community of the need to better harmonize ENC pricing and licensing. He suggested there was a need for an IHO symposium to address those issues, and that this could be done at the occasion of the 4<sup>th</sup> EIHC in June 2009, which was agreed. He felt distributors and service providers could get together to consolidate their input to the IHO; also, that innovation may require public / private cooperation. A brief record of discussions for this event is provided at Annex H.

### Outcomes:

- Chair ESF & IHB to prepare a CL highlighting ESF-4 feedback relating to licensing, pricing and distribution of ENCs (Action 11/15 – Chair ESF-4 & IHB)
- IHB to propose the inclusion of a discussion on ENC licensing, pricing and distribution under the umbrella of the 4<sup>th</sup> EIHC (Action 11/16 – IHB)

## 9. Transition Arrangements for WEND Transfer to IRCC

Docs: *WEND11-09A*      *Transfer of WEND Functions to IRCC (IHB)*

IHB (WARD) introduced Doc. [WEND11-09A](#), relating to the transition to the Inter-Regional Coordination Committee (IRCC), to come into force from 1 January 2009. WEND will cease to exist as such from that date. He proposed that the Meeting consider inviting the IRCC to establish a dedicated group to monitor and address the ongoing coordination and implementation of the WEND Principles and global ENC coverage. This group would fulfil a similar function to the existing WEND TG. Draft Terms of Reference and Rules of Procedure for this group were proposed in Annex B to the above paper.

WEND TG Chair (HECHT) strongly supported the continuation of WEND in some way under IRCC. He noted that the composition of IRCC (mainly RHC Chairs) will be radically different from WEND and may not be appropriate to directly address WEND issues. IHB (WARD) clarified that the proposal was to replace the existing WEND TG, not the WEND Committee itself. WEND will be subsumed into IRCC. USA (DANLEY) remarked that IRCC will have many issues to address and felt that its WEND TG, with the membership proposed in the paper, may not be able to address all the arising WEND issues. There followed a discussion on the proposed RoP and a number of changes to the original text were agreed. The final ToR & RoP for the proposed WEND TG under IRCC are provided in Annex I.

### Outcomes:

- The Committee took note of the paper.
- Chair WEND & IHB to prepare a transition report, circulate the draft to WEND-11 participants and then submit final report to IRCC (Action 11/17 – Chair WEND & IHB)
- Chair WEND to recommend to IRCC to consider establishing a WEND TG with the TORs and ROPs agreed by the WEND-11, as in Annex I to WEND-11 Minutes (Action 11/18 – Chair WEND)

#### 10. Any other Business

Docs: *WEND11-INF1* *DNC Status Report (USA-NGA)*

USA (ANDREASEN) briefly referred to Doc. [WEND11-INF1](#), reporting on the status of Digital Nautical Chart (DNC) production and use, and the related developments. There were no comments.

<u>Outcomes:</u>
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- |  |
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| <ul style="list-style-type: none"><li>- The Committee took note of the Report.</li></ul> |
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#### 11. Summary of Action Items identified during meeting

The meeting reviewed all actions identified at WEND-11 (see list at Annex E).

#### 12. Date and place of next meeting.

The Chair concluded the meeting in thanking all participants for their active contribution to its success. He reminded this was the last WEND meeting and that relevant matters would henceforth be addressed by the IHO Inter Regional Coordination Committee (IRCC), to come into force from 1 January 2009.

IHB (WARD) announced this was the last IHO meeting for Herr Horst HECHT, as he will retire at the end of 2008 after more than 20 years of service to the IHO. Captain WARD paid tribute to Herr HECHT's progressive and forward thinking contributions to the work of the IHO, particularly in relation to electronic charting. He commented that mariners and IHO Member States alike owe much to Herr HECHT's influence over the years. The meeting congratulated Herr HECHT with a prolonged acclamation.

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## LIST OF ACRONYMS

BSEHWG	Baltic Sea ENC Harmonisation Working Group (BSHC)
BSHC	Baltic Sea Hydrographic Commission (IHO)
CHRIS	Committee on Hydrographic Requirements for Information Systems (IHO)
CL	Circular Letter (IHO)
CLIA	Cruise Lines International Association
CRC	Cyclic Redundancy Check
DC	Directing Committee (IHB)
DNC	Digital Nautical Chart (USA-NGA)
DNV	Det Norske Veritas (Norway)
EAHC	East Asia Hydrographic Commission (IHO)
ECDIS	Electronic Chart Display and Information System
ECS	Electronic Chart System
EIHC	Extraordinary International Hydrographic Conference (IHO)
ENC	Electronic Navigational Chart
ESF	ECDIS Stakeholders' Forum (IHO)
HO	Hydrographic Office
HSC	High Speed Craft (IMO)
HSSC	Hydrographic Services and Standards Committee (IHO)
IC-ENC	International Centre for ENCs
IEC	International Electrotechnical Commission
IHB	International Hydrographic Bureau (IHO)
IHC	International Hydrographic Conference (IHO)
IHO	International Hydrographic Organization
IMO	International Maritime Organization
IRCC	Inter Regional Coordination Committee (IHO)
JHOD	Japan Hydrographic and Oceanographic Agency
MACHC	Meso-American and Caribbean Sea Hydrographic Commission (IHO)
MS	Member State
MSC	Maritime Safety Committee (IMO)
NAV	Sub-committee on the Safety of Navigation (IMO)
NGA	National Geospatial-intelligence Agency (USA)
NOAA	National Oceanic and Atmospheric Administration (USA)
RENC	Regional ENC Coordinating Centre (IHO)
RHC	Regional Hydrographic Commission (IHO)
RoP	Rules of Procedure
RTCA	Radio Technical Commission for Aeronautics
S-57	IHO Transfer Standard for Digital Hydrographic Data
S-100	The Hydrographic Geospatial Standard for Marine Data and Information (IHO)
SCS	South China Sea
SENC	System ENC
SOLAS	Safety of Life at Sea Convention (IMO)
SWAtHC	South West Atlantic Hydrographic Commission (IHO)
ISPWG	Strategic Planning Working Group (IHO)
TG	Task Group
ToR	Terms of Reference
UKHO	United Kingdom Hydrographic Office
USD	United States Dollar
WEND	Worldwide Electronic Navigational Chart Data Base (IHO)
WG	Working Group

**11<sup>TH</sup> WEND COMMITTEE MEETING**  
**Tokyo, 2-5 September 2008**

**LIST OF DOCUMENTS**

WEND11-01A rev.6	List of documents
WEND11-01B rev.4	List of participants
WEND11-01C	Membership of WEND
WEND11-01D	Guidelines for the Submission of Reports and Proposals for Consideration by WEND
WEND11-02A rev.6	Agenda
WEND11-03A	Minutes of the 10 <sup>th</sup> WEND Committee Meeting (which include a Record of the 2 <sup>nd</sup> ECDIS Stakeholders' Forum)
WEND11-03B	List of actions arising from the 10 <sup>th</sup> WEND Meeting
WEND11-03C rev.1	Follow-on Actions from the 2 <sup>nd</sup> ECDIS Stakeholders' Forum and Status
WEND11-03D	Minutes of the 1 <sup>st</sup> Extraordinary WEND Meeting
WEND11-03E	List of Actions from the 1 <sup>st</sup> Extraordinary WEND Meeting and Status
WEND11-03F	Terms of reference for the WEND Committee
WEND11-03G	WEND principles
WEND11-03H	Registering the term "ENC" (IHB)
WEND11-04A	Summary of Task Group Activities (WEND TG)
WEND11-05A	Status of Electronic Charting Issues Being Considered by IMO (IHB)
WEND11-05B rev.1	Report on ECDIS-Related Standards (IHB)
WEND11-05C	IHO Publication - Facts on Carriage Requirements (IHB)
WEND11-06A	Compendium of RHC Chairs' Reports (IHB)
WEND11-06B	ENC Coverage Status (IHB)
WEND11-06C	Primar Status Report (Primar)
WEND11-06D	IC-ENC Status Report (IC-ENC)
WEND11-06E	Data Chain Certification Concept (RTCA)
WEND11-06F	The EAHC Approach for ENCs (EAHC Chair)
WEND11-07A rev.1	A Review of the WEND Principles (WEND TG)
WEND11-07B	UK Comments on WEND11-07A (UK)
WEND11-07C	Guidelines for the preparation and maintenance of small/medium scale ENC schemes (France)
WEND11-08A rev.5	Programme of the 4 <sup>th</sup> ECDIS Stakeholders' Forum
WEND11-09A	Transfer of WEND Functions to IRCC (IHB)
WEND11-INF1	DNC Status Report (USA-NGA)
WEND11-INF2	ENC Consistency in the Baltic Sea (Denmark & Finland)
WEND11-INF3	Revised WEND Principles Cross Reference Table: Existing → Proposed
WEND11-INF4	U.S. Position on Revised WEND Principles (WEND11-07A)

11<sup>TH</sup> WEND COMMITTEE MEETING  
Tokyo, 2-5 September 2008

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**11<sup>TH</sup> WEND COMMITTEE MEETING**  
**Tokyo, 2-5 September 2008**

**AGENDA**

1. Opening and administrative arrangements
 

Docs:	<i>WEND11-01A</i>	<i>List of documents</i>
	<i>WEND11-01B</i>	<i>List of Participants</i>
	<i>WEND11-01C</i>	<i>Membership of WEND</i>
	<i>WEND11-01D</i>	<i>Guidelines for the Submission of Reports and Proposals for Consideration by WEND</i>
  
2. Approval of agenda
 

Docs:	<i>WEND11-02A</i>	<i>Agenda</i>
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3. Matters arising from minutes of the 10<sup>th</sup> WEND Meeting, the 2<sup>nd</sup> ECDIS Stakeholders' Forum, and the 1<sup>st</sup> Extraordinary WEND Meeting
 

Docs:	<i>WEND11-03A</i>	<i>Minutes of the 10th WEND Meeting (which include a Record of the 2<sup>nd</sup> ECDIS Stakeholders' Forum)</i>
	<i>WEND11-03B</i>	<i>List of Actions arising from the 10<sup>th</sup> WEND Meeting</i>
	<i>WEND11-03C</i>	<i>Follow-on Actions from the 2<sup>nd</sup> ECDIS Stakeholders' Forum</i>
	<i>WEND11-03D</i>	<i>Minutes of the 1<sup>st</sup> Extraordinary WEND Meeting</i>
	<i>WEND11-03E</i>	<i>List of Actions from the 1<sup>st</sup> Extraordinary WEND Meeting</i>
	<i>WEND11-03F</i>	<i>Terms of Reference for the WEND Committee</i>
	<i>WEND11-03G</i>	<i>WEND Principles</i>
	<i>WEND11-03H</i>	<i>Registering the term "ENC" (IHB)</i>
  
4. Report by the WEND Task Group
 

Docs:	<i>WEND11-04A</i>	<i>Summary of Task Group Activities</i>
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5. Review of activities of other IHO committees dealing with ECDIS, pertinent to WEND
 

Docs:	<i>WEND11-05A</i>	<i>Status of Electronic Charting Issues Being Considered by IMO (IHB)</i>
	<i>WEND11-05B</i>	<i>Report on ECDIS-Related Standards (IHB)</i>
	<i>WEND11-05C</i>	<i>IHO Publication - Facts on Carriage Requirements (IHB)</i>
  
6. Review of Progress on ENC Availability
 

Docs:	<i>WEND11-06A</i>	<i>Compendium of RHC Chairs' Reports (IHB)</i>
	<i>WEND11-06B</i>	<i>ENC Coverage Status (IHB)</i>
	<i>WEND11-06C</i>	<i>Primar Status Report (Primar)</i>
	<i>WEND11-06D</i>	<i>IC-ENC Status Report (IC-ENC)</i>
	<i>WEND11-06E</i>	<i>Data Chain Certification Concept (RTCA)</i>
	<i>WEND11-06F</i>	<i>The EAHC Approach for ENCs (EAHC Chair)</i>
	<i>WEND11-INF2</i>	<i>ENC Consistency in the Baltic Sea (Denmark &amp; Finland)</i>
  
7. Application of the WEND Principles
 

Docs:	<i>WEND11-07A</i>	<i>A Review of the WEND Principles (WEND TG)</i>
	<i>WEND11-07B</i>	<i>UK comments on WEND11-07A (UK)</i>
	<i>WEND11-07C</i>	<i>Guidelines for the preparation and maintenance of small/medium scale ENC schemes (France)</i>
	<i>WEND11-INF3</i>	<i>Revised WEND Principles Cross Reference Table: Existing → Proposed</i>
	<i>WEND11-INF4</i>	<i>U.S. Position on Revised WEND Principles (WEND11-07A)</i>

8. Relationship with Industry  
Docs: *WEND11-08A*      *Programme of the 4<sup>th</sup> ECDIS Stakeholders' Forum*
9. Transition Arrangements for WEND Transfer to IRCC  
Docs: *WEND11-09A*      *Transfer of WEND Functions to IRCC (IHB)*
10. Any other Business  
Docs: *WEND11-INF1*      *DNC Status Report (USA-NGA)*
11. Summary of Action Items identified during meeting
12. Date and place of next meeting.

ACTIONS FROM THE 11<sup>TH</sup> WEND MEETING

Action Number	Agenda Item	Subject	Action(s)
11/1	3	ENC Coverage	IHB to monitor and report regularly on status of global ENC production and availability obtaining input from RENCs, RHCs and other relevant sources.
11/2	3	Customizing S-63	Chair ESF-4 to raise matter of customizing S-63 at ESF-4 to seek stakeholder confirmation that no further action is required <sup>1</sup> .
11/3	3	Raising awareness at Government level	IHB to inform Member States by CL that the assistance of the DC is always available to approach the relevant authorities (including at senior governmental levels) using appropriate diplomatic, inter-governmental or other points of contact to raise the levels of awareness and commitment to provide appropriate hydrographic services, especially ENC coverage. IHB to then take appropriate action based on individual responses, taking note of the drafting notes prepared by WEND-11 Drafting Group in response to X-WEND-1 Action 5.
11/4	3	IMO MS obligations under SOLAS V/9	IHB to prepare a submission to IMO MSC inviting IMO to remind its MS of their obligations under SOLAS V/9.
11/5	5	Preparations for MSC85 and MSC86	IHB to prepare for MSC85 and MSC86 in relation to carriage requirements for ECDIS.
11/6	6	Data Chain Certification Concept	The RTCA delegate to convene a Correspondence Group on <i>Data Chain Certification Concept</i> .
11/7	6	Data Chain Certification Concept	The RTCA delegate to present the <i>Data Chain Certification Concept</i> to CHRIS-20.
11/8	6	Data Chain Certification Concept	IHB to recommend that CHRIS members be invited to participate in the correspondence group on <i>Data Chain Certification Concept</i> .
11/9	6	Data Chain Certification Concept	The RTCA delegate to present a progress report from the Correspondence Group on <i>Data Chain Certification Concept</i> to IRCC-1.
11/10	6	South China Sea ENCs	IHB to issue CL informing MS of new edition of the South China Sea ENCs.
11/11	7	Guidelines for the implementation of the WEND principles	When circulating WEND-11 Minutes to Member States, IHB to convey the following message: "In implementing the WEND Principles (Technical Resolution K2.19), the WEND committee invites IHO Member States to consider and apply the <i>Guidelines for the implementation of the WEND principles</i> developed by the Committee and contained in Annex G to the WEND-11 Minutes."
11/12	7	Small/medium scale ENC schemes	IHB to invite CHRIS/HSSC to consider developing guidelines for the preparation and maintenance of small/medium scale ENC schemes and determine whether they should be included in S-65 or a new document similar to M-11.

<sup>1</sup> Action completed; no further action required.

11/13	7	Small/medium scale ENC schemes	IHB to invite relevant RHCs and INT chart coordinators to coordinate the development of small/medium scale ENC schemes.
11/14	7	Small/medium scale ENC schemes	IHB to consider the potential use of the IHO Chart Catalogue on the web in support of the development of small/medium scale ENC schemes.
11/15	8	ENC licensing, pricing and distribution	Chair ESF & IHB to prepare a CL highlighting ESF-4 feedback relating to licensing, pricing and distribution of ENCs.
11/16	8	ENC licensing, pricing and distribution	IHB to propose the inclusion of a discussion on ENC licensing, pricing and distribution under the umbrella of the 4 <sup>th</sup> EIHC.
11/17	9	Transition to IRCC	Chair WEND & IHB to prepare a transition report, circulate the draft to WEND-11 participants and then submit final report to IRCC.
11/18	9	Transition to IRCC	Chair WEND to recommend to IRCC to consider establishing a WEND TG with the TORs and ROPs agreed by the WEND-11.

11<sup>TH</sup> WEND COMMITTEE MEETING  
Tokyo, 2-5 September 2008

RAISING AWARENESS AT GOVERNMENT LEVEL

*Proposal of the WEND-11 Drafting Group <sup>12</sup>*

In order to support the IHO's commitment to the IMO that adequate coverage of Electronic Navigational Charts (ENC), that is *ENC equivalent to the best available paper chart coverage of either a Hydrographic Office providing Global Coverage or the Hydrographic Office of the Coastal State*, will be available by 2010,

The Wend Committee proposes that:

- a) the IHB include the following text in it's annual letter to Member States when requesting payment of fees:
  - i. "Member State" is requested to ensure that the Electronic Navigation Charts covering their area of responsibility are produced by 2010, as committed by IHO, in order to support the intended IMO introduction of compulsory carriage of ECDIS commencing 2012.
- b) A proposal be submitted to the 4<sup>th</sup> Extraordinary International Hydrographic Conference requesting Member States to authorise the IHB to write to the Government of Member States and to the Governments of non-member Coastal States:
  - i. Referencing the obligations under SOLAS Chapter V Regulation 9, for IMO contracting States to provide Hydrographic Services, and
  - ii. Asking that the Government take all necessary action to ensure that comprehensive, consistent and up-to-date ENC are available in time to support the intended IMO introduction of compulsory carriage of ECDIS commencing 2012.

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<sup>2</sup> Australia, India (Lead), United Kingdom



11<sup>TH</sup> WEND COMMITTEE MEETING  
Tokyo, 2-5 September 2008

GUIDELINES FOR THE IMPLEMENTATION OF THE WEND PRINCIPLES

The International Hydrographic Organization (IHO) is encouraging the transition from paper charts to electronic navigation through its support of a carriage requirement for ECDIS. It follows that the IHO should ensure that mariners are well served by adequate ENC services.

Noting that there are significant improvements required related to coverage, consistency, quality, updating and distribution of ENCs for many parts of the world and that this needs urgent attention, the WEND committee invites IHO Member States to apply the following guidelines for the implementation of the WEND principles (Technical Resolution K2.19).

1. Responsibilities of Coastal States

1.1. A mandatory carriage requirement for ECDIS means a consequential obligation on Coastal States to ensure the provision of ENCs.

1.2. If the coastal State is the issuing authority (in terms of SOLAS V 2.2) then responsibility for the ENCs should lie with it regardless of whether the production and maintenance is undertaken with the assistance of commercial contractors or another Member State.

1.3. Where agreement is given to another Member State to produce and issue ENCs on behalf of a Coastal State the producing / issuing Member State should carry the responsibility for the ENC.

1.4. States providing source data to another State for the compilation of ENCs should advise that producer State of update information in a timely manner.

1.5. Member States should take into consideration the complexity and resource requirements of the ENC production and maintenance task in relation to their own capabilities and options when deciding how to best ensure the provision of ENCs for their waters.

1.6. Subject to appropriate agreement, it is acceptable for a Member State or a group of Member States to produce ENCs as an interim measure to fill gaps in existing coastal States' coverage to promote contiguous coverage. Such ENCs should be withdrawn when adequate coverage is made available by the coastal State.

1.7. The S-57 standard requires that there is no overlap of ENC data within usage bands. ECDIS systems will operate unpredictably in areas where overlapping ENC data is present; for this reason overlapping ENC data is not acceptable in end-user services. Where overlapping coverage exists the producing States should recognize their responsibility and take the necessary steps to resolve the situation. In situations where overlapping data cannot be resolved through negotiation, the ENC producer(s) can anticipate that an end user service provider may need to take action itself to eliminate the overlap or discontinue services until the issue is satisfactorily addressed. Any such action to eliminate overlap should be communicated in advance to the affected ENC producer(s) and be based on guidelines that emphasize navigation safety, such as the following:

1. Scale of the data compiled in the ENC,
2. Currency of data in the ENC - i.e. most recent surveys, shoalest soundings, wrecks, rocks, and obstructions,
3. Avoidance of dividing navigationally significant features between producers. For example, Traffic Separation Schemes should be handled by one producer or the other.

1.8. Exceptionally, a Member State may create additional ENCs to facilitate unified coverage where such production is undertaken specifically to address issues inhibiting provision of ENC coverage for the safety of navigation in accordance with the long term aims of the WEND Principles. A Member State undertaking such production should have very valid reasons for its actions and, beforehand, should have made reasonable efforts

to negotiate with and come to some agreement with the State that has jurisdiction over the area in question. RHCs should place a high priority on filling ENC gaps.

1.9. In order to ensure uniform quality and consistency of the WEND, Member States should cooperate in accordance with clause 1.3 of the WEND Principles.

1.10. To ensure that the WEND database is maintained to the highest quality standard Member States that identify an error or any other deficiency in an issued ENC, or that receive information indicating such a deficiency, must bring this to the attention of the ENC producer so that the problem can be resolved at the earliest opportunity. Member States should act to ensure that appropriate actions are taken so that the safety of navigation is not compromised.

## **2. Reference Standards and Implementation**

2.1. Harmonization means the uniform implementation of S-57 and other applicable standards, according to common IHO implementation rules as described in S-58, S-65 and the S-57 Encoding Bulletins.

2.2. Member States not wishing to join a RENC should make appropriate arrangements to ensure that their ENCs meet WEND requirements for consistency and quality and are widely distributed.

## **3. Capacity Building and Cooperation**

3.1. Assistance to coastal States may cover aspects such as development of an ENC production capability, ENC quality and the role of RENCs in ENC validation and distribution.

3.2. It is essential that coastal States have established cartographic capability and infrastructure prior to undertaking ENC production and maintenance tasks themselves so as to ensure that the ENCs within the WEND database meet the high quality standards necessary to fulfil SOLAS requirements.

3.3. IHO Member States should consider ENC related projects as high priority capacity building initiatives.

## **4. Integrated services**

4.1. Member States and RENCs should cooperate to ensure that ENCs are harmonised to the same quality standards thereby facilitating integrated services.

4.2. Member States only need to consider the use of S-63 if they intend to deliver a service to end users. Data Servers (i.e. service providers) and equipment manufacturers are responsible for implementing S-63 and form part of the 'S-63 trusted circle' (i.e. are entrusted to protect the ENCs and the encryption process).

4th ECDIS STAKEHOLDERS' FORUM (ESF-4)  
Tokyo, Japan, 3-4 September 2008

SUMMARY REPORT

Welcome

Mr. Horst HECHT (BSH, Germany) served as Chair for the 4<sup>th</sup> ECDIS Stakeholders' Forum (ESF-4). He noted that attendance at this Stakeholders' Forum was the largest ever (approximately 150 persons). See List of Participants at Appendix 1. He noted the recent decisions in IMO regarding mandatory carriage requirement of ECDIS, which could take effect from 2012. He explained that the ESF is a forum for Industry and HOs to discuss topics of relevance in the interest of safety of navigation.

Presentations

The following presentations were made according to the programme at Appendix 2:

1. [IHO Structure and Decision Making Processes](#), by Capt. Robert WARD, IHB

The Chair noted that it will be up to the future IHO Inter-Regional Coordinating Committee (IRCC), which will come into force from 1 January 2009, to decide in which form ESFs will be continued.

2. [Resolutions and Obligations related to ENC's and ECDIS](#), by VAdm. Alexandros MARATOS, IHB

VAdm. MARATOS stressed that whilst commercial companies can be involved in the provision of hydrographic services, responsibility for ensuring the provision of these services will always remain with the coastal States.

3. [e-Nav and IHO S-100](#), by Capt. Robert WARD, IHB

Capt. WARD noted that ENC's will constitute a fundamental backdrop to most e-Nav applications. RAdm Andreasen mentioned that IALA is looking at real time tide observations being broadcast via AIS binary messaging. The CHRIS Chair (Capt Vaughan NAIL, UK) indicated that this will be considered by the CHRIS.

4. [ENC Coverage Analysis](#), by Capt. Robert WARD, IHB

Capt. WARD reported that a comparison of ENC coverage with paper charts along the main international maritime routes, plus the top 800 ports worldwide, had revealed that, as of June 2009, ENC coverage was 94 % at small scales, 68 % at medium scales and 65 % at large scales, for a total of 8,400 ENC cells available for purchase and an additional 1,500 ENC cells awaiting validation. He referred participants to the IHO ENC coverage catalogue on the IHO website. To a question from FURUNO Finland (Mr. Hannu PEIPONEN) inquiring whether back-up paper charts will still be required after 2010, when ENC coverage is expected to be adequate, Capt. WARD clarified that this is an IMO matter and one to be resolved by the Flag and Coastal States. Marine Press of Canada (Mr. George ARTS) said that, when additional ECDIS are used onboard a ship, there should not be extra cost for the ENC user. Capt WARD explained that IHO is not involved in ENC pricing.

5. [Japanese Activities on Cooperation in ENC Production](#), by Mr. Toru KAJIMURA, JHOD

Mr. KAJIMURA reported on the 4 ENC's produced by EAHC in the South China Sea, the 6 ENC's produced in the Malacca & Singapore Straits (distributed via JHA), and capacity building support to Philippines by the Japan International Cooperation Agency (JICA).

6. [ENC Distribution, Licensing and Pricing - IC-ENC Reflections](#), by Mr. Graham SAUNDERCOCK, IC-ENC

Mr. SAUNDERCOCK reported that IC-ENC had agreed new terms for ENC licensing in multi-user environments.

7. [Availability and Prices of Japanese ENCs](#), by Mr. Keiji SHIMIZU, JHA

Mr. SHIMIZU reported that approximately 700 ENC cells are available through JHA, which offers licensing terms for 12, 9, 6 or 3 months of ENC use and up to 5 ECDIS under a single license. He indicated that Japanese ENCs are also available from the UKHO and PRIMAR.

8. [The Challenges confronting the Hydrographic Community and the chart distributors](#) to be ready for ECDIS mandatory carriage deadlines, by Mr. George ARTS, Marine Press Canada

Mr. ARTS drew attention to a number of problems relating to ENC distribution and use, e.g. confusion between ENC cells and ENC units, file size, differing licensing terms, difficulty to identify cancelled ENCs, T&P corrections to ENCs. He advocated the “pay-per-use” solution, stressing that ENC is a service, not a product. PRIMAR (Capt Gerry LARSSON-FEDDE) indicated that it is working on a “pay-as-you-go” solution.

9. [Marine Data Flow - A Proposal for Data Supply Chain Certification](#), by Mr. Michael BERGMANN, RTCA

Mr. BERGMANN referred to three levels of certification, i.e. data quality, data security and supplementary data.

10. [Public-Private Cooperation Models - Improving Safety and Efficiency in the Maritime Market](#), by Mr. Michael BERGMANN, RTCA

Mr. BERGMANN advocated the separation of data and product in a digital environment.

11. [Meeting Customer Requirements - Constrains faced by Service Providers](#), by Mr. Chris SMITH, UKHO

Mr. SMITH suggested there was a need for closer cooperation between HOs on licensing terms and conditions, for HOs and RENCs to be responsive to service providers, and to ensure that innovation is not stifled. Marine Press Canada (ARTS) felt that the ENC distribution system was too complex. He also criticized the SENC delivery option, as there was a risk of ECDIS thereby being captive. IHB (WARD) suggested that a MS discussion would be held in connection with the 4<sup>th</sup> EIHC in Monaco, June 2009, where issues relating to ENC licensing, pricing and distribution (See also WEND-11 Minutes, Section 8) would be raised.

12. [Inspector Project](#), by Mr. Peter SCOTT, PRIMAR

Mr. Scott reported that *Inspector* is a tool for Port State control officers.

In accordance with Action 11/2 from WEND-11, the Chair raised the matter of customizing S-63, i.e. S-63x, to seek stakeholder indication on whether any further action was required. It was confirmed that no further action was needed.

## Summary

Each presentation was followed by the opportunity for questions, comment and discussions. For many presentations there were no significant questions or comments made; nevertheless, participants appeared to be grateful for the information that was provided. The greatest amount of discussion and feedback centred on ENC distribution and the difficulties currently being encountered by ENC retailers and by mariners at sea. A number of examples were given. Some end-service providers expressed doubts that the ENC distribution chain will be able to face the “tsunami” of demands when ECDIS carriage requirement is enforced. The principal messages from Stakeholders to the IHO can be summarized as follows:

- The IHO Member States must co-operate more closely to harmonize the supply of ENC services, and to facilitate the use and uptake of ENCs, and in particular:
    - Greater harmony is required in ENC pricing.
    - Greater flexibility is required in how ENCs can be purchased, including “pay per view”, “pay as you go” and other innovative data service models. “Price per ENC” is not necessarily the best or only pricing model for the 21<sup>st</sup> century.
    - ENC licensing must be better harmonized – license management is presently a difficult management task both for ENC retailers and for navigating officers.
    - ENC retailers prefer a “one-stop shop” to obtain ENC coverage. Currently this is not possible because not all ENCs are available through RENCs.
    - All ENC producers must follow a standard method of providing Temporary and Preliminary Notices to Mariners for ENCs electronically. It is confusing, time consuming and unacceptable for some HO's to provide T&P notices via local NtoMs (in some case, not even in English).
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Appendix 1 to ESF-4 Record of Discussion

4th ECDIS STAKEHOLDERS' FORUM (ESF-4)  
Tokyo, Japan, 3-4 September 2008

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## Appendix 2 of ESF-4 Record of Discussion

### 4th ECDIS STAKEHOLDERS' FORUM (ESF-4) Tokyo, Japan, 3-4 September 2008

#### PROGRAMME

Wednesday 3 September 2008

- 1400 Introduction
- IHO Structure and Decision Making Processes (IHB – R. Ward)
  - IHO Resolutions related to ENC and ECDIS (IHB – A. Maratos)
  - E-Nav and S-100 (IHB – R. Ward)
- 1445 ENC Coverage
- Worldwide Chart Coverage - Current Status and Forecast (IHB – R. Ward)
  - open forum / discussion / conclusions
- 1530 *Coffee Break*
- 1550 ENC Coverage (continued)
- open forum / discussion / conclusions
  - Presentation - *Japanese Activities on cooperation in ENC production* (JHOD)
- 1615 ENC Distribution, Licensing and Pricing
- Presentation on ENC Distribution - progress - shortcomings – alternative options (IC-ENC - G. Saundercock)
  - Presentation on ENC distribution, pricing & licensing (JHA)
  - Presentation - *The Challenges confronting the Hydrographic Community and the chart distributors to be ready for ECDIS mandatory carriage deadlines* (Marine Press Canada – G. Arts)
  - open forum / discussion / conclusions
- 1715 Summarise Day 1
- 1800 Informal Evening Function

Thursday 4 September 2008

- 0930 ENC Distribution, Licensing and Pricing (continued)
- Presentations - *Data Chain Certification Concept* and on *Private – Public Partnership* (RTCA – M. Bergmann)
  - Presentation - *Constraints on ENC Licensing meeting User Requirements* (UKHO – C. Smith)
  - Open forum / discussion / conclusions
  - Miscellaneous : Future of S-63x; SENC distribution
- 1045 *Coffee Break*
- 1105 Any other Business / Matters Arising
- Presentation of *Inspector*, a tool for port state control of ENC status (PRIMAR – P. Scott)
- o/c Review of Meeting
- 1215 Close Meeting

### Proposed RoP and ToR for an IRCC WEND Task Group

#### Terms of Reference

1. Monitor the development of adequate ENC coverage to meet any carriage requirements for ECDIS,
2. Develop proposals for speeding up ENC production and ensuring uniform ENC quality and consistency, and for making data available worldwide, including SENC distribution, taking advantage of any offers for production assistance, or other ways of mutual assistance and co-operation.
3. Advise MS, where appropriate, on the need, as well as on methods and tools for validating the data, and on any assistance which could be offered by the RENCs.
4. Monitor the implementation of the WEND, in response to Decision 21 of the XVIIth IHC, and advise IRCC of appropriate measures for speeding-up the implementation process.
5. Assist in harmonizing the policies of regional ENC Coordinating Centres (RENC) with respect to matters related to administration, legality, finances, technical processes, et cetera.

#### Rules of Procedure

1. The Task Group shall be composed of a representative from each RENC, representatives as selected by the IRCC, and a representative from the IHB.
2. Expert Contributors may be invited to join the TG as required, according to the task at hand. Expert Contributors shall be invited by the Chair.
3. The Chair and Vice-Chair shall be representatives from the IRCC and shall be decided by vote of the Committee members present and voting at a meeting. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
4. The requirement for the continued existence of the TG shall be reviewed at each meeting of the IRCC and IRCC representatives reconfirmed or selected as appropriate.
5. The TG shall conduct its business by correspondence to the maximum extent possible.
6. Decisions of the TG shall be made by consensus.