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CIRCULAR LETTER 40/2014
26 May 2014

**DEFINITION OF CARTOGRAPHIC BOUNDARY
INCLUDED IN THE ANNEX TO THE WEND PRINCIPLES and
REVISION OF THE GUIDELINES FOR THE IMPLEMENTATION OF
THE WEND PRINCIPLES**

- References:
- A. IHO CL 64/2013 dated 11 November - *Outcome of the fifth meeting of the Inter-Regional Coordination Committee (IRCC5).*
 - B. IHO CL 04/2014 dated 8 January - *Proposed definition of cartographic boundary for inclusion in the WEND Principles.*
 - C. IHO CL 82/2008 dated 16 October - *11th Meeting of the WEND Committee - 4th ECDIS Stakeholders Forum - 2-5 September 2008, Tokyo, Japan.*
 - D. IHO CL 06/2014 dated 13 January - *Revision of the Guidelines for the implementation of the WEND Principles.*

Dear Hydrographer,

1. This letter reports the outcome of voting on revisions to the Annex to the WEND Principles and revisions to the *Guidelines for the implementation of the WEND Principles*.
2. The WEND Principles (IHO Resolution 1/1997 as amended) include an Annex providing *Guidance for the Establishment of ENC Production Boundaries*. In accordance with Action IRCC5/25 (see Reference A), a definition for “Cartographic Boundary”, proposed to be included in the existing Annex, was circulated under CL 04/2014 (Reference B) for the approval of Member States.
3. In 2008, the WEND Committee endorsed the *Guidelines for the implementation of the WEND Principles* (see Reference C) in order to improve the harmonization and quality of data in Electronic Navigational Charts (ENC). In accordance with Action IRCC5/38 (see Reference A), the Directing Committee submitted a revised version of the Guidelines for the approval of Member States (see Reference D). The revision is intended mainly to address gap and overlap issues in ENC coverage. The Guidelines are made available on the IHO website as part of the WEND reference documents.
4. The Directing Committee would like to thank the following 55 Member States that replied to Reference B concerning revisions to the Annex to the WEND Principles: Algeria, Argentina, Australia, Bahrain, Bangladesh, Belgium, Brazil, Canada, Chile, Colombia, Croatia, Cuba, Cyprus, Denmark, Ecuador, Egypt, Estonia, Finland, France, Germany, Greece, Iceland, India, Iran (Islamic Republic of), Ireland, Italy, Japan, Latvia, Malaysia, Mauritius, Mexico, Netherlands, Nigeria, Norway, Oman, Pakistan, Papua New Guinea, Peru, Poland, Portugal, Qatar, Romania, Russian Federation, Saudi Arabia, Slovenia, South Africa, Spain, Sri Lanka, Suriname, Sweden, Turkey, Ukraine, UK, USA and Venezuela.
5. The Directing Committee would like to thank the following 56 Member States that replied to Reference D concerning revisions to the *Guidelines for the implementation of the WEND Principles*: Algeria, Argentina, Australia, Bahrain, Belgium, Brazil, Canada, Chile, Colombia, Croatia, Cuba,

Cyprus, Ecuador, Egypt, Estonia, Fiji, Finland, France, Germany, Greece, Iceland, India, Iran (Islamic Republic of), Ireland, Italy, Japan, Korea (Democratic People's Republic of), Korea (Republic of), Latvia, Malaysia, Mauritius, Mexico, Morocco, Netherlands, Nigeria, Norway, Pakistan, Papua New Guinea, Peru, Poland, Portugal, Qatar, Romania, Russian Federation, Saudi Arabia, Slovenia, South Africa, Spain, Sri Lanka, Suriname, Sweden, Tunisia, Turkey, Ukraine, UK and USA.

6. Specific comments from Member States and the outcome of their review by the Directing Committee are provided in Annexes A and B to this letter. In summary:

a. For the inclusion of the definition of Cartographic Boundary into the Annex of the WEND Principles: 55 Member States responded; 50 Member States supported the proposal among which 14 provided comments, five Member States objected.

b. For the *Guidelines*: 56 Member States responded; 52 Member States supported the proposal among which eight provided comments, four Member States objected.

7. At the date of Reference B, there were 82 IHO Member States with three States suspended. Therefore in accordance with paragraph 6 of Article VI of the Convention on the IHO, the majority required for adoption of technical proposals is 40. Consequently, the amendments to the Annex of the WEND Principles are adopted. IHO Resolution 1/1997 will be amended accordingly.

8. At the date of Reference D, there were 82 IHO Member States with three States suspended. A majority of Member States have indicated support for the proposed amendments to the *Guidelines for the implementation of the WEND Principles*. The Guidelines will therefore be amended accordingly.

9. The final versions of the documents, with the changes highlighted, taking into account the comments of Member States set out in Annexes A and B, are provided in Annexes C and D. The amended version of IHO Resolution 1/1997 containing the WEND Principles and their Annex will be made available in IHO Publication M-3 - *Resolutions of the International Hydrographic Organization* on the IHO website as soon as possible. The revised version of the *Guidelines for the implementation of the WEND Principles* will be made available on the WEND-WG page of the IHO website as soon as possible (www.iho.int > Home > Committees & WG > IRCC > WEND-WG - See paragraph referring to the WEND Principles).

On behalf of the Directing Committee
Yours sincerely,



Mustafa IPTES
Director

- Annex A: Member States' responses to CL 04/2014 and remarks by the Directing Committee.
Annex B: Member States' responses to CL 06/2014 and remarks by the Directing Committee.
Annex C: Final version of the amendments to the Annex to IHO Resolution 1/1997, as amended.
Annex D: Final version of the Guidelines for the Implementation of the WEND Principles.

**MEMBER STATES' RESPONSES TO CL 04/2014
AND REMARKS BY THE DIRECTING COMMITTEE**
**Approval of adoption of the definition of
Cartographic Boundary and inclusion in annex to IHO Resolution 1/1997 as amended**

AUSTRALIA [Vote: No]

While the majority of the proposed amendment is agreed, the example of “*chart limit*” (inferring a “paper chart limit”) in paragraph 5 is not agreed. The examples should be limited to “*such things as meridians and parallels*”. It may be appropriate to further refine the text to “*such things as meridians and parallels, rounded to an agreed whole or half minute of arc*”.

While use of paper chart limits may have been expedient in creating initial coverage their use in defining cartographic boundaries is a primary cause of many initial overlaps, because paper charts are intended to overlap. Their limits are a compromise between scale, extent and layout, and can even be affected by the size of available paper on which to print them. Being a ‘product’ their limits are also subject to change, while the limit of a chart can frequently differ from the limit of data within that chart. In as little as five years paper charts will be a minority output from hydrographic offices, and in subsequent years many are likely to be subject to significant change, both in scheming and content.

Remarks by the Directing Committee: Agreed and incorporated in the final version, but without constraining the limits to an agreed whole or half minute of arc since it could be useful, in some specific and sensitive cases, to retain a greater level of flexibility.

Additionally, the proposed amendment does not address the role of Regional Hydrographic Commissions, or the effect they have when requesting a nation to reproduce a certain paper chart as an ENC, only to find this subsequently creates an overlap into an adjoining regional charting area. The proposed amendment should include text to the effect of:

“Regional ENC coordinators (such as Region M) should be aware of the geographic limits of their charting area and take care to ensure plans, and requests to producer nations, do not overlap into an adjoining charting area, at any navigation purpose, without the specific agreement of the coordinator for the adjoining area.”

Remarks by the Directing Committee: Agreed. Wording “... or between two adjacent charting Regions” added in the first sentence of paragraph 5 in the new version of the Annex, but with no specific reference to Region M.

BELGIUM [Vote: Yes]

For your information: some aspects are also currently proposed by the NSEHWG (North Sea ENC Harmonization WG) to describe in another IHO document (S-11).

Remarks by the Directing Committee: It is assumed that these aspects will be reported at NSHC-31, Amsterdam, 25-27 June 2014.

CANADA [Vote: Yes]

Suggests the following edit:

Para. 7, 1st sentence: insert the word “upon” between the words “agree” and “a”, for clarity.

Remarks by the Directing Committee: Agreed. “on” has been inserted in the final version. In line with comments made by USA.

CHILE [Vote: Yes]

The word “Boundary” or “Limit” has other connotations which are delicate and which can be associated to matters of national sovereignty.

We suggest the term: “Cartographic Margin” as we consider it more technical and referred to the limits of a cartographic representation.

Remarks by the Directing Committee: Comment is in line with one of the comments made by France. However, noting that the text is intended only as guidance and that the current title of the Annex mentions “ENC Production Boundaries”, the Directing Committee considers that changing the word “boundary” to “margin” would move away from the original intention of the proposal.

COLOMBIA [Vote: Yes]

The Republic of Colombia supports the following definition: « *Cartographic Boundary can be defined as an agreed limit to clip overlapping nautical charts or related data between two neighbouring countries. The boundary is established for cartographic purposes only and shall not be signified or regarded as having a meaning or a status of political or jurisdictional boundary. It should be as simple as possible (a succession of straight segments and turn points corresponding for example to meridians, parallels or limits of charts) to provide, both to the data compiler and the data user, with most coherent service possible.* »

Remarks by the Directing Committee: Colombia supports the definition proposed in the Spanish version of CL 4/2014.

CROATIA [Vote: No]

1. In spite of the proposed wording which clearly emphasizes the specificity of boundary and possible zigzag method of construction, we consider that in the maritime delimitation proceedings there would still be a risk of associating so constructed boundary with political or other jurisdictional boundary. There is evidence of such risk in the observed arbitration case law when settling maritime border disputes.

2. The proposal does not provide for any option that would enable interested parties to clip overlapping ENCs for an area with defined boundaries according to these defined boundaries.

3. In case of clipping (cutting ENC cells off according to an agreed boundary which is far from being similar to any disputable undefined political boundary) according to zigzag method only, a new issue may be raised, relating to the need for defining jurisdiction boundaries for data collection. Thereby, the problem of undefined boundaries and the whole issue which starts with the need for clipping overlapping ENC cells will come full circle. If an agreement is reached to conduct the hydrographic survey according to zigzag method, in practice this would mean that both parties (countries) may find themselves in a position to carry out hydrographic survey in the area not falling within their maritime jurisdiction. In such case, the question arises which party has formal responsibility for the incidents caused by incorrect hydrographic survey data. This would infringe one of the fundamental principles "no data limits" based on the SOLAS Convention, Regulation 9, implemented in the Croatian Hydrographic Activity Act, and supported by Croatia in all of its previous comments and proposals on the subject of overlap.

4. In case of the requirement for defining boundaries of the area of responsibility for the hydrographic survey, this consequently calls for concluding a technical agreement on the collection and exchange of data. Conclusion of such agreement could be just as complex as concluding an agreement on the political and/or "cartographic boundary".

5. For a number of years Croatia, as full member of the IHO, has made efforts to be proactive in contributing through constructive proposals to achieving objectives of the IHO, and so does on this occasion. Though in this particular case being against the IHO proposal, Croatia proposes that the overlap issue should be addressed by ECDIS producers,

distributors and end users, whereas the IHO, i.e. national hydrographic offices should be obliged to inform end users about the existence of ENC overlap in the usual manner as for all other warnings of navigational significance. Specifically, this would mean the following responsibilities:

a) ECDIS producers:

- ensure automatic generation of warnings about the existence of overlap, and automatic changeover to larger scale ENC;
- ensure the possibility for users to manually select the desired ENC cell from other ENC cells in the overlap.

b) Distributors, including RENCs:

- ensure that the ENC Catalogue, if it is a web application, has an overlap warning function to warn end users about the problem;
- enable selection of the desired ENCs avoiding selection/purchase of those cells that could overlap with the desired cell which is regarded as most suitable for navigation in the particular area.

c) Education of users:

- incorporate in training programmes for ECDIS operators a section on overlap issue and possible means of eliminating the problem.

d) Education of shipping companies:

- through amended procedures for ordering and purchase of ENCs for the scheduled voyage, indicate the possibility of overlap issue and possible means of eliminating the problem.

6. Everything mentioned and explained above indicates justification of the decision of the Republic of Croatia or its Hydrographic Institute not to support introduction of the proposed definition, regarding that its adoption and application could produce more serious and far-reaching consequences (at least in the case of unresolved maritime boundaries between Croatia and its neighbouring countries) than if the definition is not adopted.

Remarks by the Directing Committee: All the comments from Croatia are duly noted.

Comment#2: the Directing Committee considers that the new wording in the Annex does not prevent ENC Producers adopting a political or jurisdictional boundary as long as it is mutually agreed.

Comment#4: data collection and the negotiation of co-operative surveys should not impact upon the establishment of ENC production boundaries, which, as stated in the text, are intended for cartographic convenience only. As suggested by Croatia, although it might be a complex and long process, the issue of data collection and exchange of related products should be solved through bilateral agreements as stated in M-3 IHO Resolution 7/1919 as amended, or in line with UNCLOS Maritime Scientific Research mechanisms when applicable.

Comment#5: suggestions to implement “software” solutions and “organizational” procedures for addressing overlapping issues are more than welcome. This concept was discussed at the last meeting of the WENDWG. The launch of a pilot project is currently under consideration by the WENDWG. Suggestions made by Croatia will be forwarded for the consideration of the pilot project leader when appropriate.

CYPRUS [Vote: No]

Action 5 of WENDWG3 was not followed.

Remarks by the Directing Committee: The IHB forwarded the definition of Cartographic Boundary for the consideration of the Hydrographic Dictionary Working Group in accordance with WEND-

WG-03 Action 5. However, it was subsequently determined that it was more appropriate that the matter be considered under the umbrella of the IRCC and resulted in Action IRCC05/25.

EGYPT [Vote: Yes]

As long as it is not regarded as a political or jurisdictional boundary.

Remarks by the Directing Committee: Agreed – as it is stated in paragraph 5.

FRANCE [Vote: Yes]

Is in favour of the adoption of the definition. Proposes replacing in new paragraphs 4, 5, 7 and 10 “cartographic boundary” by “cartographic limit” which appears politically more neutral, taking into account the definition of “boundary” in S-32.

Remarks by the Directing Committee: Refer to the remarks addressing the comments from Chile. In the French version, the term “frontière” is replaced with “limite” in accordance with the title of the Annex to Resolution 1/1997 as amended.

Moreover, it is proposed to replace in the new paragraph 5 “the data compiler and the data user” by “the producer and the ENC user”.

Remarks by the Directing Committee: “Producer” and “ENC user” are more specific. In some cases, based on bilateral arrangements, the data compiler might be different from the ENC Producer, therefore the text of the initial proposal has been retained in the final version.

Finally, it is suggested to encourage the adoption of the limits based as far as possible on meridians and parallels, technically more practical to ensure a good continuity between ENCs, by replacing in the new paragraph 5 “a succession of straight segments and turning points corresponding to such things as meridians, parallels, or chart limits” by “a succession of straight segments and turning points corresponding to meridians, to parallels or to chart limits is recommended”.

Remarks by the Directing Committee: Agreed. A slight change has been made in the wording taking into account this suggestion.

GREECE [Vote: No]

Without taking into account Action 5 of Annex E of WENDWG3Minutes, Greece could vote in favour of the proposed amendment to IHO Resolution 1/1997 as amended, insofar as the second sentence of paragraph 5 on cartographic boundary is rephrased as follows: “A cartographic boundary shall be construed for technical purposes only without any legal effect on the borders of a member state”.

Remarks by the Directing Committee: Agreed. Wording has been amended slightly.

INDIA [Vote: Yes]

A cartographic boundary is defined as an agreed limit to clip overlapping nautical charts or related data between two or more neighbouring countries. The boundary is for cartographic convenience only and shall not be construed as having any significance or status regarding political or other jurisdictional boundary. It should be as simple as possible (for example: a succession of straight segments and turning points corresponding to such things as meridians, parallels, International charting region limits) so as to provide both the data compiler and the data user with the most coherent service possible.

Remarks by the Directing Committee: See the Directing Committee’s remarks on the comment made by Australia. The phrase “chart limits” has been removed and replaced by “...or between two adjacent charting Regions” inserted at the beginning of paragraph 5.

IRAN, Islamic Republic of [Vote: Yes, taking into account comment below]

In Annex A, under 5, the Cartographic Boundary definition should read:

“A cartographic boundary is defined as an agreed limit to clip overlapping nautical charts or related data between two or more neighbouring countries. ~~The boundary is for cartographic convenience only and shall not be construed as having any significance or status regarding political or other jurisdictional boundary.~~ **The boundary is for sole purpose of cartographies and shall not prejudice the delimitation of any political boundary between States.** It should be as simple as possible (for example: a succession of straight segments and turning points corresponding to such things as meridians, parallels, or chart limits) so as to provide both the data compiler and the data user with the most coherent service possible.”

Remarks by the Directing Committee: Agreed. The final wording shown in Annex C has taken this and comments from other MS into consideration.

MEXICO [Vote: Yes]

The definition is accepted by this Member State. Even if it must be taken into account that the EEZ, which is usually irregular in shape, is located within the international limits, for this reason it is required that the neighbouring countries give own areas to the neighbouring country so that it can issue its ENC's and meet the items in which it is established that “limits should be as simple as possible”, taking as a reference parallels and meridians or chart limits.

Remarks by the Directing Committee: Agreed.

THE NETHERLANDS [Vote: Yes]

One suggestion: although it is clear that the entire Annex is on ENC production, for clarity purposes it might be helpful to add the words “for ENC production” in paragraph 7 as follows:

“In areas where the paper INT charts overlap, neighbouring producer nations should agree a **cartographic boundary for ENC production.**”

Remarks by the Directing Committee: Agreed. Wording has been amended accordingly.

OMAN [Vote: Yes]

It is suggested to add definitions of political boundary, jurisdiction boundary, and cartographic boundary after the process of approval.

Remarks by the Directing Committee: There are many other priority tasks in the IHO programme of work. Noting the potentially contentious nature of the IHO attempting to define “political boundary” and “jurisdiction boundary”, it is suggested not to carry this task forward unless Oman or another Member State wishes to formally submit proposed definitions for the consideration of the HDWG through the HSSC.

RUSSIAN FEDERATION [Vote: Yes]

The proposed amendments do not raise objections in principle. However, there are situations where the hydrographic services of the states have not reached agreement on delimitation of hydrographic data (Russia - the Ukraine, Kerch Strait). In such situations, we propose to issue ENC's by two hydrographic services, and the right to choose the ENC Collection of the concrete state is left for a consumer.

Remarks by the Directing Committee: This comment is in line with comment#5 made by Croatia and the associated remarks of the Directing Committee.

SPAIN [Vote: Yes]

However, we think that a more appropriate translation in Spanish would be:

5. *Se define una frontera cartográfica como el límite convenido a emplear en zonas donde existen cartas náuticas que se superponen, o datos asociados a ellas, entre dos o varios países vecinos. La frontera se establece, únicamente, a efectos cartográficos y no debe ser interpretada o considerada como si se tratara de una frontera política o de otro límite jurisdiccional. Deberá ser lo más sencilla posible (una sucesión de segmentos rectos que se correspondan, por ejemplo, con meridianos, paralelos, o límites de cartas) para facilitar la labor del compilador y usuario de los datos.*

6. *En aguas internacionales, se supondrá que la nación productora de cartas INT es la nación productora de la ENC correspondiente. Cuando los límites mar afuera de las aguas que estén bajo jurisdicción nacional no hayan sido establecidos aún, deberá aplicarse la cláusula '4'.*

Remarks by the Directing Committee: Wording in Spanish has been amended as shown in the final version shown in Annex C.

UK [Vote: No]

UK agrees with the adoption of a definition of Cartographic Boundaries and its inclusion in the existing annex to IHO Resolution 1/1997 on WEND Guidelines but have concerns regarding the definition of Cartographic Boundary text at Annex A. We have added some proposed changes to the text (shown as track changes – red text) to add clarity to the definition.

PROPOSED AMENDMENT TO IHO RESOLUTION 1/1997 AS AMENDED

In the Annex “Guidance for the Establishment of ENC Production Boundaries”:

(i) Replace paragraphs 4 to 6 with the following text (changes **highlighted**):

4 When the limits of waters of national jurisdiction between two neighbouring countries are not established, or it is more convenient to establish boundaries other than established national boundaries, producing countries are **encouraged to define establish, perhaps by means of a technical arrangement,** the **cartographic** boundaries for **their respective** ENC production. ~~within a technical arrangement. These limits~~ **Such boundaries would be for cartographic convenience only, and shall not be construed as having any significance or status regarding political or other jurisdictional boundaries.**

5 A cartographic boundary ~~is defined as an agreed limit to clip overlapping nautical charts or related data between two or more neighbouring countries. The boundary is for cartographic convenience only and shall not be construed as having any significance or status regarding political or other jurisdictional boundary.~~ **It** should be as simple as possible (for example: a succession of straight segments and turning points corresponding to such things as meridians, parallels, or **paper nautical** chart limits) so as to provide **both the data compilers with clarity as to the limits of their charting responsibilities and the data users** with the most coherent service possible.

~~6~~5 In international waters, the **paper** INT chart producer nation ~~shall be~~ **is** assumed to be the producer of the corresponding ENC. Where the offshore limits of waters under national jurisdiction have not yet been established, ~~or where paper INT charts overlap paragraph clause '4' may be applied. should apply.~~

~~7~~6 ~~In areas where the paper INT charts overlap, neighbouring producer nations should agree a~~ **cartographic boundary** ~~common limit of ENC production in the overlapping areas. Cartographic boundaries should be as simple as possible; for example: a succession of straight segments and turning points corresponding to such things as meridians, parallels, or chart limits.~~ Where different producer nations are responsible for INT coverage of the same area at

different scales, those nations should agree on a suitable set of **cartographic** boundaries—~~so as to provide the user with the most coherent service possible.~~

(ii) Renumber paragraphs 7 to 9 as 8 to 10.

Remarks by the Directing Committee: Wording has been amended slightly to take into account the suggestions provided by UK's comment.

USA [Vote: Yes]

We suggest a small typographical insertion in bullet #7 of the revised definition: “In areas where the paper INT charts overlap, neighbouring producer nations should agree [insert the word “to” or “on”] a **cartographic boundary**.”

Remarks by the Directing Committee: Agreed. This comment is in line with the comment made by Canada. Wording has been amended accordingly in the English version.

**MEMBER STATES' RESPONSES TO CL 06/2014
AND REMARKS BY THE DIRECTING COMMITTEE
Approval of the Revised Guidelines for the
Implementation of the WEND Principles**

ARGENTINA [Vote: Yes]

Comment No. 1

1.7.2. The word “*deseadas*” (Spanish version) must be included in the following paragraph:

.... *El BHI deberá emprender una acción adecuada para informar a la Organización Marítima Internacional acerca de la situación y de los detalles de las acciones **deseadas** que el(los) Gobierno(s) del (de los) Estado(s) Costero(s) implicado(s) desean tomar así como de los riesgos asociados a la inacción;*

Comment No. 2:

In the paragraph 1.8 (Spanish version) appears the term: “*coherencia*”.

In the paragraph 1.8 (English version) appears the term: “**consistency**”.

To this respect we suggest to unify the terminology.

1.8. ~~1.9~~ *Para asegurar una uniformidad de la calidad y **una coherencia** del WEND, los Estados Miembros deberán cooperar, conforme a la cláusula 1.3 de los Principios WEND (**según enmendados**).*

~~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 (**as amended**).

Comment No. 3

With reference to the paragraph 4.2 (Spanish version) we suggest to replace the word “**asegurar**” by “**proporcionar**”.

4.2. *Los Estados Miembros sólo necesitan considerar el uso de la S-63 si tienen la intención de **asegurar** un servicio a los usuarios finales.*

Remarks by the Directing Committee: *Agreed. Version in Spanish has been amended accordingly.*

AUSTRALIA [Vote: Yes]

This draft represents a significant improvement over the previously separate guidelines, appendix and addendum, by bringing all the relevant information into one place, updating that information to reflect current circumstances, and, as far as practicable, shaping guidance for addressing instances of gaps and overlaps in ENC coverage.

CROATIA [Vote: No]

Croatia fully understands the importance of the WEND principles and the need for detailed and clear guidelines for their implementation. For these reasons, Croatia believes that the approval procedure should be done by voting at the conference (next 5th EIHC 2014), rather than a circular letter.

Remarks by the Directing Committee: *Such a procedure requires a Member State to make a formal Proposal, for instance, to have the Guidelines included in the WEND Principles (as was proposed at IHC-18, but not approved by Member States). The Directing Committee is not aware of any submission from Croatia seeking the approval of the IHO Member States at EIHC-5 for this purpose. For the time being, the Guidelines will continue to be made available as IRCC guidelines.*

FRANCE [Vote: Yes]

Proposes changes to the French version only:

- In para. 1.1 it would be clearer to say : « La prescription relative à l’emport obligatoire des ECDIS **a pour l’obligation indirecte conséquence implicite que** les Etats côtiers **devront assurer** la fourniture d’ENC. »
- In para. 1.6 replace « trous » by « manques » (in 5 places)
- In para. 1.6.4, change to read: « ...**Ces conditions et le calendrier devraient être prévus dans l’accord.** »
- In para. 1.6.5, it would be better to say: “**Si aucun accord n’est conclu et que les trous manques dans la couverture des ENC persisteront sont susceptibles de persister, alors la CHR ...**”
- In para. 1.7.1, read : « ... **L’évaluation de ce qui peut être significatif du point de vue de la navigation devra se fonder sur les meilleures pratiques en la matière, reconnues et approuvées par l’IRCC. La CHR pourra rechercher l’assistance d’un centre de coordination régional des ENC (RENC) pour aider au développement ...** »

Remarks by the Directing Committee: Agreed. Proposed adjustments have been included in the French version.

GREECE [Vote: No]

Greece cannot go along with the phrase “Appropriate action by the IHB should be initiated to inform the International Maritime Organization of the situation with details of the desired actions to be taken by the Government(s) of the involved coastal State(s) and the risks associated with inaction” contained in paragraphs 1.6.5 and 1.7.2. Instead, would prefer the following phrase: “Appropriate action by the IHB should be initiated to inform the International Maritime Organization accordingly”.

Moreover, Greece does not agree with the deletion of the word “data” in paragraph 1.7, 2nd sentence.

Note: Greece believes that the IMO should have the discretion of discussing and deciding on these matters.

Remarks by the Directing Committee: The Directing Committee considers that it is appropriate to refer such matters at the IMO as an action of last resort, in accordance with the request of the IMO Sub-Committee on Safety of Navigation at its 54th session that the IHO reports annually on “the progress made in worldwide ENC coverage”. In any case, the IMO always has the option to discuss and to decide on such matters if safety of navigation is involved whether it is alerted by the IHO or not.

IRAN, Islamic Republic of [Vote: Yes, taking into account comment below]

In Annex A, under 1.6, we suggest:

1.6. To ensure that existing gaps in ENC coverage are filled to the satisfaction of **concerned Coastal State/s, if not** the Regional Hydrographic Commission (RHC),
.....

Remarks by the Directing Committee: Agreed as it does not change the underlying principles. Amendments included accordingly.

Under 1.6.5 we suggest:

Any reports from RHC to IRCC Chair and the IHB, concerning ENC gaps, should be settled down and resolved within IHO and its Member States, and it is not necessary to submit a report to IMO for their necessary action in this regard.

Remarks by the Directing Committee: Comments duly noted. Including this proposed text cannot be accepted since it is a substantive change to the purpose of paragraph 1.6.5.

Under new 1.9 we suggest:

....., must bring this to the attention of the ENC Producer **Member State and the coastal State of the waters covered by the ENC**, as well as RHC, so that

Remarks by the Directing Committee: Comments duly noted but not incorporated. The Directing Committee considers that the intention of the paragraph is to provide a mechanism that enables a quick resolution of issues that arise. It is expected that RHCs will be kept informed of incidents and alerts separately, as part of the regular International Charting Coordination meetings conducted under the auspices of RHCs.

ITALY [Vote: No]

Paragraph 1.7 and its sub-paragraphs are not sufficiently clear because, while they describe the procedures that should be undertaken in sequence when navigationally significant differences in overlap exist among ENC Data within same usage band, nothing is said if there are not navigationally significant differences in the overlap within same usage band. In particular, overlapping data within same usage band could be consistent among them because deriving from the same source, but also in this case it is necessary to resolve the overlapping problems. We think it could be useful to specify the procedures for this situation in the points 1.7.1, 1.7.2 and 1.7.3.

Moreover, we think the point 1.7.1 is too general, while it would be important to list the parameters of assessment used to identify the navigationally significant differences.

Remarks by the Directing Committee: Work is in progress in the WENDWG to address the concerns raised in Italy's comments (see, for example, documents WENDWG03-5, § 6 and IRCC06-08C). See also the remarks provided by the Directing Committee in Annex A to this CL, in response to the comments provided by Croatia and the Russian Federation.

MEXICO [Vote: Yes]

We approve these revised guidelines, as they are comprehensive and clear, aimed at having quality ENCs, updated and distributed, consistent and with a wide coverage as mentioned in the WEND.

NETHERLANDS [Vote: Yes]

NL agrees, but with the following editorial remarks:

- I can understand the occasional adding of the word “database” after “WEND” e.g. in 1.9. In order to be consistent in this, suggest to also add the word “database” in 1.8: “In order to ensure uniform quality and consistency of the WEND database”.
- With reference to 1.7.1: suggest to amend the wording slightly to make it more clear that in the unfavourable case of overlaps, “navigationally significant differences between the overlapping ENC's” should be identified. The present wording identify “differences in overlaps” can be confusing (at least it was for me..).

Remarks by the Directing Committee: Agreed. Wording amended accordingly by deleting “database” after the word “WEND” which stands already for “Worldwide ENC Database”. Wording “Coastal States” also changed to “coastal States” to ensure consistency in the English version.

RUSSIAN FEDERATION [Vote: No]

In our view, development of production capacities to issue ENCs, planning for optimal coverage and content of ENCs must primarily take place through cooperation between hydrographic services within frames of IHO Regional Hydrographic Commissions. Decisions on the production and quality specifications should be adopted by Regional Hydrographic Commissions taking into account local peculiarities. Today, it is necessary to raise the status and authority of the Regional Hydrographic Commissions.

Existing Regional ENC Coordinating Centres (RENCs) are considered by us as a system of ENC distribution, and with it, national hydrographic services are responsible for ENC quality.

Remarks by the Directing Committee: The Directing Committee considers that the Guidelines have been established precisely to reinforce the role of HOs within RHCs in liaison with RENCs.

SPAIN [Vote: Yes]

a) In the translated texts, we suggest to make some corrections (**in bold and underlined**) to the following expressions (*in italics*) in the following items (Spanish text):

1.6 Para promover una cobertura contigua, se anima a los Estados Costeros a tomar disposiciones con un Estado Miembro Productor de modo que todos los huecos que existen actualmente sean **cubiertos** (instead of *colmados*) por el Estado Miembro Productor, como medida **provisional** (instead of *provisoria*). Estas ENC's producidas con el fin de **cubrir** (instead of *colmar*) los huecos deberán ser retiradas cuando una cobertura adecuada sea puesta a disposición por el Estado Costero. Para asegurarse de que los huecos existentes en la cobertura de ENC's sean **cubiertos** (instead of *colmados*) de modo satisfactorio para la Comisión Hidrográfica Regional (CHR), deberán aplicarse sucesivamente los siguientes procedimientos y hasta que se encuentre una solución satisfactoria:

1.6.2 La CHR cooperará con el Estado Costero pertinente para determinar si dicho Estado tiene la capacidad de respetar el calendario deseado y si puede satisfacer los requisitos de calidad y de mantenimiento. Si puede satisfacer estos requisitos, se animará al Estado Costero a **cubrir** (instead of *colmar*) los huecos identificados en la cobertura ENC;

1.6.4 Si posteriormente se concluye un acuerdo entre el Estado Costero y un Estado Miembro Productor de ENC's, el Estado Miembro Productor producirá y mantendrá una cobertura de ENC's **provisional** (instead of *provisoria*), bajo su propio código de productor, hasta que se reúnan las condiciones para restituir la ENC y su actualización al Estado Costero. Estas condiciones y el calendario deben estar previstos en el acuerdo;

1.7.1. La CHR identificará y evaluará la cobertura ENC en el seno de su zona de responsabilidad y destacará aquellas zonas en las que existan diferencias significativas para la navegación en los solapamientos. La evaluación de lo que puede ser significativo desde el punto de vista de la navegación deberá **basarse** (instead of *fundarse*) en las mejores prácticas a este respecto, reconocidas y aprobadas por el IRCC. La CHR podrá intentar obtener la asistencia de un Centro de Coordinación Regional de las ENC's (RENC) para ayudar a desarrollar esta evaluación y deberá adoptar un enfoque proactivo con los Estados Miembros Productores de ENC's para resolver los temas relativos al solapamiento en la región;

b) We think that the following text (*in italics*) should be added:

1.7. La Norma S-57 (*S-57 Apéndice B.1. cláusula 2.2. ENC Product Specifications y S-57 Appendix B.1, Annex A - Use of the Object Catalogue for ENC - UOC (Ed. 3.1.0 Nov 2012) punto 2.1.8.*) autoriza un solapamiento mínimo de datos ENC en las bandas de uso.

Remarks by the Directing Committee: Wording in Spanish will be amended in accordance with the principal suggestions provided by Spain. However, the Directing Committee considers that it is better to avoid specific references to standards as much as possible in order to minimise the workload required to manage and update cross-references.

TURKEY [Vote: Yes]

Turkey approves the Revised Guidelines for the Implementation of the WEND Principles provided that it is annexed to the WEND Principles.

Remarks by the Directing Committee: See the remarks by the Directing Committee on the comments from Croatia.

FINAL VERSION OF THE AMENDMENT TO IHO RESOLUTION 1/1997 AS AMENDED

In the Annex “Guidance for the Establishment of ENC Production Boundaries”:

(i) Replace paragraphs 4 to 6 with the following text (final changes **highlighted**):

4 When the limits of waters of national jurisdiction between two neighbouring countries are not established, or it is more convenient to establish boundaries other than established national boundaries, producing countries are to define the **cartographic** boundaries for ENC production within a technical arrangement. ~~These limits would be for cartographic convenience only and shall not be construed as having any significance or status regarding political or other jurisdictional boundaries.~~

5 A cartographic boundary is defined as an agreed limit to clip overlapping nautical charts or related data between two or more neighbouring countries, **or between two adjacent charting Regions**. The boundary is **established** for cartographic convenience **and technical purposes only** and shall not be construed as having any significance, **legal effect** or status regarding political or other jurisdictional boundary. It should be as simple as possible (for example: a succession of straight segments and turning points corresponding **preferably to meridians and parallels, or chart limits**) so as to provide **both the data compilers with clarity as to the limits of their charting responsibilities and data users** with the most coherent service possible.

~~6~~5 In international waters, the **paper** INT chart producer nation **shall be is** assumed to be the producer of the corresponding ENC. Where the offshore limits of waters under national jurisdiction have not yet been established, **or where paper INT charts overlap, paragraph clause** ‘4’ should apply.

~~7~~6 In areas where the paper INT charts overlap, neighbouring producer nations should agree **on a cartographic boundary common limit of for ENC production in the overlapping areas**. ~~Cartographic boundaries should be as simple as possible; for example: a succession of straight segments and turning points corresponding to such things as meridians, parallels, or chart limits.~~ Where different producer nations are responsible for INT coverage of the same area at different scales, those nations should agree on a suitable set of **cartographic** boundaries for **ENC Production** ~~so as to provide the user with the most coherent service possible.~~

(ii) Renumber paragraphs 7 to 9 as 8 to 10.

**INTERNATIONAL HYDROGRAPHIC ORGANIZATION
INTER-REGIONAL COORDINATING COMMITTEE**

**FINAL VERSION OF THE GUIDELINES FOR THE IMPLEMENTATION OF
THE WEND PRINCIPLES**

As endorsed by the 11th WEND Committee Meeting (Tokyo, 2-5 September 2008)

With amendments agreed by the 3rd WENDWG Meeting (Monaco, 14 May 2013), endorsed by the 5th IRCC Meeting (Wollongong, 4 June 2013) and approved by Member States as reported in CL 39/2014.

The International Hydrographic Organization (IHO) is encouraging the transition from paper charts to electronic navigation through its support of a carriage requirement for Electronic Chart Display and Information Systems (ECDIS). It follows that the IHO should ensure that mariners are well served by adequate Electronic Navigational Chart (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 Inter-Regional Coordination Committee (IRCC) invites IHO Member States to apply the following guidelines for the implementation of the Worldwide ENC Database (WEND) Principles (IHO Resolution 1/1997 as amended).

1. Responsibilities of Coastal States

1.1. A mandatory carriage requirement for ECDIS means a consequential expectation that coastal States will ensure the provision of ENCs.

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

1.3. Where the coastal State and another Member State conclude an arrangement for producing and issuing ENCs of the coastal State's waters, the producing / issuing Member State should carry the responsibility for content and maintenance of those ENCs.

1.4. Coastal States providing source data to a Producer Member State for the compilation of ENCs should advise that Producer Member State of all 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 the options available when deciding how to best ensure the provision of ENCs for their waters.

1.6. To promote contiguous coverage, coastal States are encouraged to make arrangements with a Producer Member State so that any gaps that currently exist are filled-in by the Producer Member State, as an interim measure. Any such ENCs produced to fill gaps should be withdrawn when adequate coverage is made available by the coastal State. To ensure that existing gaps in ENC coverage are filled to the satisfaction of **the concerned coastal States and** the Regional Hydrographic Commission (RHC), the following procedures should be undertaken in sequence and until there is satisfactory resolution:

- 1.6.1 Each RHC will identify gaps in ENC coverage within their area of responsibility and the desired timeframe for resolution, taking into account initial targets for coverage of shipping routes and priority ports, as well as subsequent coverage requirements.
- 1.6.2 The RHC will liaise with the relevant coastal State to determine whether the State has the capacity to meet the desired timeframe as well as being able to meet the quality and maintenance requirements. If these requirements can be met, the coastal State will be encouraged to fill the identified gap in ENC coverage.
- 1.6.3 In the event that the coastal State is unable to meet these requirements or the desired timeframe, the RHC will encourage the coastal State to ensure ENC coverage is provided under an arrangement with an ENC Producer Member State.
- 1.6.4 If an arrangement is subsequently concluded between the coastal State and an ENC Producer Member State, the Producer Member State will produce and maintain interim ENC coverage under its own producer code until such time and conditions that the ENC and its maintenance could be handed back to the coastal State. Such time and conditions should be provided for in the arrangement.
- 1.6.5 If an arrangement is not concluded and therefore the ENC gaps are likely to persist, then the RHC will report this matter to the IRCC Chair and the International Hydrographic Bureau (IHB). Appropriate action by the IHB should be initiated to inform the International Maritime Organization of the situation with details of the desired actions to be taken by the Government(s) of the involved coastal State(s) and the risks associated with inaction.
- 1.6.6 The RHC will keep the IRCC Chair and the IHB informed, through the annual reporting process, about gaps in ENC coverage, their associated risks and related action(s) taken by the coastal States.

1.7. The S-57 Standard allows minimal overlap of ENC data within usage bands. ECDIS systems will operate unpredictably in areas where significant overlapping ENC coverage is present, raising a potential navigational risk to end-users. Where overlapping coverage exists the Producer Member States should recognize their responsibility and take the necessary steps to resolve the situation. To ensure that overlapping ENC data coverage is resolved to the satisfaction of the Regional Hydrographic Commission (RHC), the following procedures should be undertaken in sequence until there is satisfactory resolution:

- 1.7.1 The RHC will identify and assess ENC coverage within their area of responsibility and highlight those areas where there are navigationally significant differences **between the overlapping ENCs**. The assessment of what may be navigationally significant should be guided by the best practices in this regard, acknowledged and approved by the IRCC. The RHC may seek the assistance of a Regional ENC Coordination Centre (RENC) to assist in development of this assessment and should take a proactive approach with the ENC Producer Member States, to resolve overlap issues within the region.
- 1.7.2 The RHC will keep the IRCC Chair and the IHB informed, through the annual reporting process, about overlaps in ENC coverage, their associated risks and related action(s) taken by the coastal States and/or the Producer Member State. Appropriate action by the IHB should be initiated to inform the International Maritime Organization of the situation with details of the desired actions to be taken by the Government(s) of the involved coastal State(s) and the risks associated with inaction.
- 1.7.3 Where urgent action is required to alert mariners to navigationally significant overlap issues then the RHC, through the concerned Producer Member States, should initiate promulgation of appropriate warnings directly with the regional NAVAREA coordinator and other local navigational warning protocols, while keeping the IRCC Chair and IHB informed.

1.8 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 (as amended).

1.9 To ensure that the WEND is maintained to the highest possible 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 Member State and the coastal State of the waters covered by the ENC, 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. Producer Member States are encouraged to distribute their ENCs through a RENC, though those not opting 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 an established cartographic capability and infrastructure prior to undertaking ENC production and maintenance tasks themselves so as to ensure that the ENCs within the WEND meet the high quality standards, including continuous updating, necessary to fulfill 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 harmonized 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).