

## **GUIDELINES FOR THE IMPLEMENTATION OF THE WEND PRINCIPLES**

*As endorsed by the 11th WEND Committee Meeting (Tokyo, 2-5 September 2008)  
With minor amendments as endorsed by the 1<sup>st</sup> WEND WG Meeting (Wollongong 13-14 October 2011)  
With amendments initiated at the 2<sup>nd</sup> WEND WG meeting and endorsed by the WENDWG day-month-year*

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 World-wide 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 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

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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 navigational significant differences in overlaps. The assessment of what may be navigational 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 navigational 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 encourage 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.

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### **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 database 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).