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



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IHB views on the issues raised in the HSSC4 poll of IHO Stakeholders

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On the occasion of the 4th meeting of the IHO Hydrographic Services and Standards Committee (HSSC), an IHO Stakeholders' Forum was held on "Realizing the full potential of ECDIS, ENC's and digital hydrographic data". It was followed by a poll on "What the IHO should be doing but is not" and the IHB was invited to report its views on the issues raised in the responses (action HSSC4/36).

The following table lists the responses to the poll as presented in Annex G of the HSSC4 minutes and provides the IHB views with this colour code:

	No action required
	On-going action
	Attention required
	Issue not supported

Issues	IHB Views
ECDIS and ENC related issues	
1. Legacy systems – take a lead in updating.	<p>On-going action.</p> <p>This is an IMO issue. The IHO has taken the lead in addressing ECDIS anomalies issues and reporting to IMO. Although IMO Circular SN.1/Circ.266/Rev.1 of 7 December 2010 on the maintenance of ECDIS software stresses the importance of proper ECDIS software maintenance, the requirement to update systems installed before 1 January 2009 is not widely recognized. The IHO is seeking clarification on the occasion of the consolidation of ECDIS related IMO circulars.</p>
2. Provide mariners the means to test ECDIS.	<p>On-going action.</p> <p>A simple user validation test (“IHO Check Data Set”) was made available on the IHO website in 2011 and distributed to all ENC customers. User feedback will be reviewed to upgrade the dataset in conjunction with the on-going revision of S-58 (IHO ENC Validation Checks for ENC producers) and S-64 (IHO Test Data Sets for ECDIS manufacturers and type approval authorities) in order to improve consistency.</p>
3. Issue a revised version of S-64 to enable better type approval of ECDIS testing.	<p>On-going action.</p> <p>See comment on issue No 2.</p>
4. Consistency between test procedures and the type approval process – i.e. if fails one then should fail the other.	<p>On-going action.</p> <p>See comment on issue No 2.</p>

<p>5. Rigorous testing of ENC's before they get status "official".</p>	<p>By definition, ENC's are "official". The IHO is a consultative organization and as such cannot regulate the activities of HO's or the production of national charts. IHO can only recommend ENC validation checks. IHO resolution 1/1997 as amended (Principles of the Worldwide Electronic Navigational Database - WEND) recommends the following: <i>"3-h) The Member State responsible for originating the data is also responsible for its validation in terms of content, conformance to standards and consistency across cell boundaries.</i> <i>4-a) A Quality Management System should be considered to assure high quality of ENC services. When implemented, this should be certified by a relevant body as conforming to a suitable recognised standard; typically this will be ISO 9001:2008 (as amended).</i> <i>4-b) There must be conformance with all relevant IHO and IMO standards."</i> The implementation of IHO resolutions and recommendations is encouraged by the SOLAS Convention which states (Reg. V/9.3): <i>"Contracting Governments undertake to ensure the greatest possible uniformity in charts and nautical publications and to take into account, whenever possible, relevant international resolutions and recommendations.*</i> <i>* Refer to the appropriate resolutions and recommendations adopted by the International Hydrographic Organization."</i> The IHO expects that the future mandatory IMO Audit Scheme may assist in better implementing the provisions and obligations of SOLAS V/9.</p>
<p>6. Coordinate consistency, quality and availability of ENC's from all nations not just MS.</p>	<p>On-going action. The IHO strives to provide adequate worldwide ENC coverage, including in areas under the jurisdiction of non-IHO Member States. Most if not all non-IHO coastal States are signatories to SOLAS and required to implement its provisions related to hydrographic services. Coordination is achieved through Regional Hydrographic Commissions which encourage the participation of non IHO Member States.</p>

7. Ensure data access is improved and encourage/mandate through IMO lobbying the full dissemination of existing ENCs.	This is in line with IHO Resolution 1/1997 as amended: <i>“2-a) Member States will strive to ensure that mariners, anywhere in the world, can obtain fully updated ENCs for all shipping routes and ports across the world.</i> <i>2-b) Member States will strive to ensure that their ENC data are available to users through integrated service, each accessible to any ECDIS user (i.e., providing data in S-57 form), in addition to any national distribution or system-specific SENC delivery.”</i> The implementation of IHO resolutions and recommendations is encouraged by the SOLAS Convention as indicated in the comments on issue No 6. Going further would require action from other parties.
8. Visual display of navigational warnings in ECDIS.	According to the current IMO ECDIS Performance Standards, information from navigational warnings can be displayed if they have been entered manually. Automatic display is one of the potential applications of e-navigation developments.
9. Encourage MS to implement 1m contours in 5-30 depth areas.	To be considered in the development of IHO S-101 Product Specification for the next generation ENCs. Note that the high resolution bathymetry which is required to derive these contours is not yet widely available. Expensive surveys would be a necessary prerequisite in most cases.
10. Fund a gap analysis of required top level system safety requirements for ECDIS against existing implementation of ECDIS; to address both technical and organizational issues.	Not supported. All known outstanding issues relevant to the IHO are being addressed.
11. Implications of ECDIS gap analysis for e-navigation.	Not supported. See comment on issue No 10.
12. Work with stakeholders to establish a portal or website for all partner ECDIS information.	On-going action. The IHO maintains an “ENCs & ECDIS” section on its website and is attentive to comments and suggestions for improvements.
13. Provide an open source ECDIS with generic user interface to provide backup on non ECDIS approved devices.	The IHO is not competent for such a development.
14. Ensure smooth transition to S-101 world.	On-going action. This requirement will be taken into account in the S-101 development roadmap.

15. Expedite S-101 finalization/testing (including portrayal issues) before May 2013 so that standards are considered at the next HSSC meeting in 2013.	On-going action. This is the objective set out in the current HSSC Work Plan relative to the first draft edition of S-101 to be used for comprehensive testing.
16. Provided detailed information on how and when S-100 and S-101 will be ready for service.	On-going action. Refer to the current HSSC Work Plan.
17. Investigate how non hydrographic data will be integrated into e-navigation and ECDIS.	This issue is being considered by the IMO with the assistance of its Correspondence Group on e-navigation. The IHO is attentive to ensure interoperability with non hydrographic products and services through the development of S-100.
18. Own and manage RENC functions.	On-going action. Issue being addressed by the IHO WEND Working Group.
General Issues	
19. Pay more attention to end users and what they need, what they want and less on economic interests.	Not supported. The IHO is primarily driven by the requirements associated with the safety of navigation and the protection of the marine environment. The only relevant economic interests relate to the proper and efficient use of public funds.
20. Let mariners drive the requirements / listen to and update the end user.	On-going action. The purpose of stakeholders' forums is to listen to and update not only end-users but all the stakeholders. Proper requirements for IHO products and services cannot be driven by the end-users alone; they require dialogue between all parties concerned.
21. Establish expert review process to test standards prior to publication.	On-going action. This requirement is acknowledged in IHO Resolution 2/2007 as amended (Principles and procedures for making changes to IHO technical standards and specifications).
22. More proactive approach to implement standards and specifications.	On-going action within the limits of the consultative status of the IHO.
23. Technical ability not so reliant on MS – take the lead rather than be lead.	On-going action. This concern is reflected in Decision No. 6 of the 18 th International Hydrographic Organization about ensuring the appropriate technical capacity within the IHB. The current IHB Directing Committee is well aware of its responsibility to be proactive.

24. Try and further influence IMO and industry stakeholders.	On-going action. IHO has observer status at IMO and the long-standing cooperative relationship between both organizations is being restated in a new agreement which is currently in the approval process. Industry is well represented in the IHO stakeholders' list and participates in IHO subsidiary bodies as expert contributors.
25. Speed up – technology and private sector are moving fast and IHO needs to keep up to ensure they are a 21st century organization.	On-going action. This relates to the IHO strategic direction “Strengthen the role and effectiveness of the IHO”.
26. Take the lead in encouraging MS to make their data (hydrographic and other) more widely available for the benefit of the scientific community.	On-going action. The IHO encourages MS to make their data more widely available for the benefit of all stakeholders, however each State determines its national policy on data access. The development of Marine Spatial Data Infrastructure (MSDI) is one of the cornerstones of this objective.
27. Advise MS on how regional directives will affect their work e.g. INSPIRE.	On-going action. This is an issue considered by Regional Hydrographic Commissions. The impact of INSPIRE is one of the item discussed between the IHO and the European Commission.
28. Ensure or even enforce that all MS step into the 21st digital century (i.e. distribution of SENC worldwide).	See comment on issues 5 and 25. The IHO cannot enforce any of its decisions on individual States. As far as SENC distribution is concerned, IHO Resolution 4/2002 as amended resolves “ <i>that SENC distribution can be accepted as an option.</i> ” Opinions vary on the merits of SENC distribution.
29. Decent risk assessment that includes accepting that variation will occur and that if mariners can misinterpret something, a significant minority will (don't just fall back upon “ <i>well the mariner needs to be trained better</i> ”); keep it simple for operators!!	The IHO strives to avoid ambiguity in its standards and specifications. User feedback is an important contributor to continuous improvement.
30. Redesign ourselves at an organisational and procedural level to address the complexity in the era of e-navigation and Spatial Data Infrastructure (enterprise re-engineering).	This is an issue for the IHO collectively as well as for individual Member States. There is no indication at this stage that the on-going S-100 developments will not meet the challenge.
31. Initiate the prototyping of a future Maritime Information and Intelligence Exchange, based on the lessons, processes and methods of the aviation domain, and implementing open standards.	The e-navigation development strategy should address this issue. The IHO supports the use of open standards promoted by ISO and by the OGC.

32. Concentrate on ensuring that the seas are adequately surveyed as a priority.	On-going action. This priority has been reaffirmed through Decision No. 17 of the 18 th International Hydrographic Conference.
33. Concentrate on your main reason for establishment – hydrography.	See comment on issue 32. There is also a requirement to make the data available through appropriate standardized products and services.
34. Work closer with the GIS community.	On-going action. The IHO participates actively in UN-GGIM activities and promotes the development of the maritime component of Spatial Data Infrastructure. The IHO participates also in the work of ISO/TC211 and cooperates with FIG and ICA.
Miscellaneous	
35. Permit raster charts.	The IHO has developed a standard for raster charts (S-61). The use of ECDIS in RCDS mode is regulated by the IMO ECDIS Performance Standards.
36. Check INT charts to ensure they conform to specifications.	This task is entrusted to the IHB by IHO Resolution 1/1992 concerning the monitoring of INT Charts. Its scope is constrained by the resources allocated to the IHB.
37. Host and maintain a state of the art telephone and video conferencing system that any MS can access and use free of charge.	This need is identified and solutions are being investigated.

The breakdown is as follows:

No action required:	9
On-going action:	21
Attention required:	4
Issue not supported:	3
Total	37