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CIRCULAR LETTER 77/2010
15 November 2010

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E-NAVIGATION AND THE IHO

Reference: IHB CL 48/2010 dated 4 August – *56th Session of the IMO Sub-Committee on Safety of Navigation*

Dear Hydrographer,

1   As reported at the reference the IMO has developed an e-Navigation Strategy and is currently in the process of preparing an implementation plan for this strategy. The work is being undertaken by several IMO Sub-Committees under the co-ordination of the Sub-Committee on Safety of Navigation (NAV). NAV has established a Correspondence Group (CG), under the leadership of Norway, to progress the work inter-sessionally. The IHB and many IHO Member States, including several representatives from Member State hydrographic offices, are participating in this CG.

2   ECDIS with ENCs has already been acknowledged by the IMO as a key element in e-Navigation. Part of the discussion to date has been on the "data model" to be used within e-navigation and the IHB has suggested that the use of S-100 and the S-100 Geospatial Information Registry could be suitable. As well as the IHO's ongoing development of product specifications for an S-100 based ENC and for nautical publications, an increasing number of organizations and potential e-Navigation data providers outside the IHO are also expressing interest in using S-100 as the data structure for their data.

3   Norway decided that it would be beneficial to hold a workshop to consider this topic at length. The IHB offered to host this workshop at its headquarters in Monaco and the workshop was duly held on 4 and 5 November 2010. A copy of the Chairman's conclusions from the workshop is enclosed at Annex A. Norway has now forwarded the result of the workshop to the CG and this will form part of the CG report that will be submitted to IMO. You will see in the Chairman's summary that "*… it was concluded that S-100 should be considered as a baseline, as an important element in the e-navigation concept.*"

4   Assuming that this conclusion is subsequently adopted by the IMO it will be an important development for the Organization. At the same time, it shows quite clearly that the extensive work already undertaken with S-100 by various IHO Working Groups has placed the IHO and its Member State hydrographic offices in a good position to anticipate and support the introduction of the IMO's e-Navigation concept.

5   The wider use of S-100 and its on-line S-100 GI Registry by non-IHO organizations is not expected to cause any significant additional administrative or development burdens on the IHO or its subordinate bodies, since it will be required to support the future S-100 based IHO developments in any case.

On behalf of the Directing Committee
Yours sincerely,

Robert WARD
Director

Annex A: Chairman's summary of the e-navigation workshop, IHB, Monaco 4-5 November 2010.

CHAIRMAN'S SUMMARY OF THE E-NAVIGATION WORKSHOP,
IHB, Monaco, 4-5 Nov.2010

The Workshop discussed the relevance and best alignment of the various data frameworks and looked for answers to three questions:

- can there be a common data structure to use as a base line for e-navigation?
- what principles should be used to ensure interoperability?
- what working relationships should be developed to ensure harmonisation with other global initiatives?

Conclusions:

IALA has been addressing the need for a data framework to support the delivery of shore based e-navigation services. Whilst undertaking this work, and taking note of the identified e-navigation user needs, IALA has considered the wider implications for an e-navigation data framework resulting in the term Universal Maritime Data Model (UMDM).

The IHO has developed S-100 to support a variety of hydrographic-related digital data sources, products and customers. S-100 is not an incremental revision of S-57 but it is a new standard that includes both additional content and support of new data exchange formats.

In answer to the workshop question "can there be a common data structure to use as a base line for e-navigation", it was concluded that S-100 should be considered as a baseline, as an important element in the e-navigation concept.

Recommendations:

1. S100 should be considered as a baseline, as an important element in the IMO e-navigation concept.

2. IMO, in consultation with other organisations, should consider establishment of a harmonization group based on the example of the IMO/IHO Harmonisation Group on ECDIS.

3. Any organisation which proposes to develop and/or maintain its own data structure relevant to e-navigation, shall be encouraged to join the Harmonization Group. Such a data structure shall be interoperable with existing data structures and relevant international standards that are already supporting the e-navigation concept. Harmonization should be achieved through interoperability, which should be considered a shared responsibility.

4. Noting that IALA and IHO are the stewards of two important e-navigation domains, technical representatives of IALA and IHO should continue their close liaison.

5. The e-navigation community is aware of other data structures already developed within other domains relevant to e-navigation. It is essential that owners of these data structures cooperate with the Harmonization Group to achieve interoperability, where appropriate.

6. Consideration should be given to different knowledge domain communities both in terms of their requirements and contributions in connection to e-navigation development.

7. As both IHO and IALA have been modeling e-navigation data structures within their own domains, the working groups within both organisations need to explore how IALA and IHO

could share, correlate, cross-reference and harmonise, as appropriate, to create and maintain a data model that draws on the expertise of both organisations.

8. Domain registries shall be on-line in order to be easily searched.

9. Consideration should be given to providing technical advice/support to organisations that do not have technical capability or competency.

10. Implementation of any domain data structures shall be harmonised and interoperable both technically and across different geographical regions.

11. It can be expected that the availability and use of internet on ships at sea will increase and may provide extra opportunities for maritime data exchange and information services. Note needs to be taken of the multitude of Spatial Data Infrastructures (SDI) being developed in related domains (eg. Meteorology, Oceanography, etc) which are largely internet based. IMO should give careful consideration to the implications for e-navigation.

12. The concept of re-use rather than re-invent should be an e-navigation data framework ground rule.

13. Consideration needs to be given to the standards being used for the passing of data between individual components of systems both onboard and ashore.