



**6<sup>TH</sup> MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE  
(HSSC-6)**  
**Hotel Marina Del Rey, Viña del Mar, Chile, 11-14 November 2014**

**FINAL MINUTES**

**Notes:**

- 1) *The numbering of sections is the same as in the agenda, although the order of the items was not exactly followed in the discussions.*
- 2) *The actions are listed in Annex C only. When reading the text in the main part of the report, click on the hyperlink to view the associated action if any. Then, when in Annex C, press ALT+ left arrow to get back to the original section in the main part of the minutes.*
- 3) *All documents and related presentations referred to in these minutes are available from the HSSC page of the IHO website ([www.ihodata.org](http://www.ihodata.org)) > Committees & WGs > HSSC > HSSC-6).*

**Annexes:**

- [Annex A](#) *Terms of Reference of the new HSSC WGs and generic TOR of Project Teams*
- [Annex B](#) *Arrangements for the transition to the new structure of HSSC WGs*
- [Annex C](#) *List of Actions arising from HSSC-6*

**1. OPENING AND ADMINISTRATIVE ARRANGEMENTS**

|       |                |   |
|-------|----------------|---|
| Docs: | HSSC6-01A      | <a href="#"><u>List of Documents</u></a> (IHB)                                      |
|       | HSSC6-01B rev9 | <a href="#"><u>List of Participants</u></a> (IHB)                                   |
|       | HSSC6-01C      | <a href="#"><u>HSSC - List of Contacts</u></a> (IHB)                                |
|       | HSSC6-01D      | <a href="#"><u>Terms of Reference for HSSC and related Working Groups</u></a> (IHB) |

The Chair, Dr Mathias Jonas (Germany), opened the meeting and welcomed the participants to the meeting, many of whom had travelled a long way to reach Viña del Mar. On behalf of all the delegates, he expressed his sincere gratitude to the Chilean Navy Hydrographic and Oceanographic Service (SHOA) for hosting the meeting, for all the hard work that its staff had put into the preparation and logistics support, and for the excellent venue.

Captain (Ret.) Hugo Gorziglia welcomed the participants on behalf of Rear Admiral Patricio Carrasco, Director of SHOA, who was not able to be present at the beginning of the HSSC meeting due to other commitments in a high level Navy Council.

The Chair noted that there was a very busy agenda, and thanked the chairs of the various working groups for the great amount of work in preparing the papers to be presented at the meeting. He indicated that he would assume that the papers had been read by the participants before the meeting and invited the rapporteurs to summarise these papers in their presentations and concentrate on the actions requested from HSSC. He also invited the participants to have a pragmatic approach during the discussions.

Apologies from Argentina and Spain were acknowledged.

Later during the first day, Rear Admiral Patricio Carrasco, Hydrographer of Chile and Director of SHOA, warmly welcomed the participants and noted that he and his staff were very pleased to host the 6<sup>th</sup> meeting of HSSC, as a demonstration that Chile, known as an active IHO Member State, is also an important maritime nation. He emphasized the important role of standards as the foundation for supporting safe navigation, as well known with paper charts and ENCs. He confirmed that many marine activities rely on the development of IHO standards as well and believed that the tour of the SHOA facilities in Valparaiso, including a presentation of the National Tsunami Warning System, scheduled the following day, would be of particular interest to HSSC Members.

## 2. APPROVAL OF AGENDA AND TIMETABLE

Doc: HSSC6-02A rev2      [Agenda and Timetable \(IHB\)](#)

The Committee noted that CIRM (Michael Bergmann) was not able to attend the meeting due to other work commitments and it was agreed that his report would be given by the IEC delegate (Hannu Peiponen).

### **Outcome:**

- The Committee approved the agenda, with the addition of item 7.10 - *RTCM report* and agreed minor changes in the sequence of items.

## 3. MATTERS ARISING FROM DRAFT REPORT OF 5<sup>th</sup> HSSC MEETING

Docs: HSSC6-03A      [Final minutes of HSSC-5 \(IHB\)](#)  
HSSC6-03B rev1      [Status of Actions List from HSSC-5 \(IHB\)](#)  
HSSC6-03C      [Presentation of the Report of the HSSC Project Team on S-66 \(UK\)](#) -

### 3.A [Final minutes of the 5<sup>th</sup> HSSC Meeting](#)

The IHB reported that the minutes of HSSC-5 had already been agreed and signalled via IHO circular letter and that were included in the list of documents for ease of reference only.

### 3.B [List of Actions from the 5<sup>th</sup> HSSC Meeting and Status](#)

The IHB listed only the actions that had to be considered under the relevant agenda items.

### **Outcome:**

The Committee noted the report and agreed that the following pending actions will be dealt with, as follows:

- Action HSSC5/11: IHB will pursue the assessment of the service set-up for remote meeting facilities. Action closed.
- Action HSSC5/20 to be discussed under item 5.1.
- Action HSSC5/27 to be discussed under item 7.1.
- Action HSSC5/61 to be discussed under item 7.4.
- Action HSSC5/27 to be discussed under item 7.9.

### 3.C [Report of the HSSC Project Team on S-66](#)

On behalf of the Chair of the project team, UK provided a presentation on the progress made by the HSSC S-66 project team on the revision of the IHO Publication S-66 – *Facts about Electronic Charts and Carriage Requirements*.

UK noted that the project team suggested the adoption of a two stage approach. The first stage would be to update the existing content e.g. update all the references to IHO documents and IMO Circulars.

The second stage might be more ambitious if deemed necessary, provided sufficient resources could be allocated.

The IHB noted that the project team needed to refer to the draft IMO ECDIS Guidance endorsed by NCSR1. The HSSC Chair noted that S-66 needs to be promoted to the public and suggested that the second stage should include consideration of how S-66 fits with the variety of ECDIS-related publications. He noted that the predecessor to S-66 had been translated into French by SHOM. He also invited Spanish-speaking Member States to consider translating the new edition of S-66 into Spanish when it will be available (target date for stage 1: mid-2015).

**Outcome:**

- The Committee noted the report and approved the project timescale and stages.

→Actions [HSSC6/01](#), [HSSC6/02](#)

## 4. HSSC ADMINISTRATION

### 4.1 Implementation of Programme Performance Indicators

Doc: [HSSC6-04.1A](#)      [\*Programme Performance Indicators for HSSC \(IHB\) - Presentation\*](#)

The IHB provided some background on the collation of relevant data for Performance Indicators (PIs). It was recalled that HSSC-5 had agreed to retain its current working level (operational) performance indicators (WPI) until sufficient data will be available to make a better assessment of their usefulness. The request made to IRCC to consider the usefulness of the ENCs usage indicators based solely on the inputs from the RENCs was also reported.

Chile noted that this country had some concerns with these indicators as only 19% of the annual program seemed to be achieved and therefore questioned if either the programme of work was too ambitious or if the figures were not truly representative. Chile indicated that the indicator on the achievement of the IHO programme of work sent actually a pretty bad message to the outside world.

Canada echoed the comments of Chile and suggested that the ENC usage indicator should be reconsidered when the ECDIS carriage requirement is fully implemented.

Brazil considered that the indicators should relate more explicitly to the goals of the work plan.

The IHB noted that there are issues that can skew the statistics, such as, an example in relation with the ENC usage indicator, that IMO stipulates that ships must carry ECDIS but do not have to use them.

USA suggested the possibility of investigating, in the future, the usefulness of an indicator based on the use of standard product specifications.

UK questioned whether the statistics showed that the organization was trying to do more than it could, and if there should be an effort to realign the work programme in order to make it more realistic. Chile proposed that, in light of the statistics, the committee should direct the available resources to priority items. The Chair agreed that the committee needed to have a realistic view in relation to achieving the priority items.

The Chair stressed the point that there was value in the statistics only if trends were examined over an extended period of time (5 years) anyway and suggested as a conclusion, to keep the current WPIs for the time being until the next Conference/Assembly and to note the comments for further consideration then.

**Outcome:**

- The Committee noted the report and agreed to retain the current HSSC Working Level Performance Indicators (WPIs) until the next Conference/Assembly in 2017 when they will be reconsidered as part of the revision of the IHO Strategic Plan.

→ Action [HSSC6/03](#)

## 4.2 Restructuring of HSSC Working Groups

Docs: HSSC6-04.2A [Report of the Correspondence Group on HSSC Working Groups'](#)  
[Restructuring \(CGHR\) - Presentation](#)  
 HSSC6-04.2B [Improvement of HSSC WG work performance \(SNPWG\)](#)  
 HSSC6-04.2C [Response to HSSC6-04.2A \(UK\)](#)  
 HSSC6-04.2D [Response to HSSC6-04.2A \(FR\)](#)  
 HSSC6-04.2E [Comments and proposal to HSSC6-04.2A \(AU on behalf of CSPCWG Chair\)](#)

The Chair noted that the restructuring of the HSSC WGs was an important item on the HSSC-6 agenda as it will have an impact on the future of the standards development activities of the IHO. He reminded the participants that the principles for restructuring had been agreed at HSSC-5, and noted that one of the purposes was to reduce the number of WGs with a view to supporting the development of digital products better, and to improve the efficiency of the HSSC and the IHO as a whole.

As a result of the Chair Group's review of the report of the Correspondence Group on HSSC Restructuring (CGHR) and of the comments submitted to HSSC-6, it was noted that there were several options to be considered by the committee, such as:

- the continuation or disbandment of the CGHR;
- the need to nominate transition coordinators from former WGs to move towards the new structure;
- the need to redistribute, in the HSSC Work Plan 2015-16, the tasks handled by former WGs into new and continuing WGs.

Following the presentation made by the HSSC Chair on behalf of the Chair Group, representatives of HSSC WGs and HSSC members provided various comments and views on the restructuring that are summarized as follows:

- concerns were raised on the workload of the WGs in the new structure and on the balance between these different WGs as the level of contribution from Member States and industry was not really confirmed yet;
- all agreed on the fact that a dedicated project team for S-101, as the future IHO flagship product, was needed at least until the adoption of the first edition;
- as part of the transition process from the former structure to the new one, it was agreed to designate transition coordinators and that in 2015, when WGs hold their first meeting, they would have to elect their officers (Chair, Vice-Chair, Secretary);
- Chile regretted that its response to IHO CL 39/2014 apparently did not reach the IHB and raised the point that not a single working group in the new structure deals with hydrographic surveying. It noted that all the WGs are products-driven, only although there might be a need to provide advice to HOs and coordinate the use and standardization of new emerging hydrographic surveying technologies;
- USA, while supporting the views from Chile, added that the restructuration, which should have been also information-oriented rather than products-oriented only, needed to be completed as speedily as possible;
- Sweden supported the implementation on the new structure in one step, noting that otherwise resources could be allocated in the wrong place;
- Australia informed that it was not in a position to resource the changes proposed by the restructuring, and therefore suggested there was not a need for rapid and radical change;

- however, its support was granted anyway. A suggestion was also made, on behalf of the CSPCWG Chair, to rename the CSPCWG into the Nautical Cartography WG;
- Finally, it was agreed to consider further the impact of the restructuring and the interactions between the WGs, with the S-100WG in particular, and to review the proposals made by the HDWG Chair under item 5.9.

#### **Outcome:**

The Committee endorsed the Chair Group report on the restructuring of HSSC WGs and agreed on the following arrangements:

- a/ establishment of the S-100WG, ENCWG, NIPWG and TWCWG and endorsement of the TORs proposed in Annex H of the report of the CGHR and attached in Annex A;
  - b/ CSPCWG renamed NCWG and review of the continuance of NCWG on an annual basis;
  - c/ annual review of the continuance of DPSWG, DQWG and HDWG;
  - d/ transfer of MSDIWG under IRCC to be discussed under agenda item 5.7;
  - e/ endorsement of the generic TOR for Project Team provided in Annex H of the report of the CGHR and attached in Annex A;
  - f/ further investigations of the possible establishment of a Hydrographic Surveys WG and of its scope;
- Action [\*\*HSSC6/11\*\*](#)
- g/ endorsement of the new structure and transition arrangements as depicted in Annex B;
  - h/ review of the work plans with the report of each WG under agenda item 5;
  - i/ disbandment of the Correspondence Group on HSSC WGs Restructuring (CGHR).

→ Actions [\*\*HSSC6/04\*\*](#), [\*\*HSSC6/05\*\*](#), [\*\*HSSC06/06\*\*](#), [\*\*HSSC06/07\*\*](#), [\*\*HSSC06/08\*\*](#), [\*\*HSSC06/09\*\*](#), [\*\*HSSC06/10\*\*](#)

#### **4.3      Outcome of EIHC-5 affecting HSSC**

Docs: [\*\*HSSC6-04.3A rev1\*\*](#)    [Outcome of EIHC-5 affecting HSSC \(IHB\) - Presentation](#)  
[\*\*HSSC6-04.3B\\_INF4A\*\*](#)    [Need for S-100 Registry Support: Response to HSSC6-04.3A \(US\)](#)

The IHB gave an overview of the outcomes of EIHC-5, especially for the benefit of those who had not been able to participate, and focused on matters affecting HSSC directly. The increasing and very important contribution of industry in their role as Expert Contributors, especially in the development of S-100, was duly acknowledged.

Finally, it was agreed to consider the Decisions made at the Conference on issues affecting HSSC, such as the translation of standards and publications and the need to recruit an S-100 Registry Manager, under the relevant agenda items.

#### **Outcome:**

- The Committee noted the report and agreed to address the impact of the outcome of EIHC-5 under the relevant HSSC6 agenda items.
- The Committee further noted that the IHB Directing Committee will invite the Chair of HSSC and the Chairs of HSSC WGs and subordinate bodies to report, twice annually at year-end and mid-year, on the overall status of their respective work programmes by completing a simple, two-part template that requests brief lists of a) current goals and priorities, and b) current or expected gaps and needs.

## **5. REPORTS BY HSSC WORKING GROUPS**

### **5.1 Transfer Standard Maintenance and Application Development (TSMAD)**

Docs: [HSSC6-05.1A rev1 Report and Recommendations of TSMAD \(TSMAD Chair\) - Presentation](#)  
[HSSC6-05.1B rev1 Proposed registry based procedure for the allocation of S-100 product specification identifiers \(TSMAD Chair\) - Presentation](#)

#### **5.1A TSMAD Report**

The TSMAD Chair reported that as a result of S-100 being implemented in several product specifications, it had become evident that some extensions to the standard were required in order to support new requirements. Draft Edition 2.0.0 of S-100 has been developed which made provision for these new requirements. He also reported that the TSMAD-28 had agreed that a paper outlining how IHO S-100 Product Specification Identifiers should be managed had to be presented to HSSC-6 as it could require a change to IHO S-99.

He informed the meeting of the progress in developing IHO S-101 (ENC Product Specification), and noted that most of the main components have reached a baseline status – meaning that they are stable enough to be used for testing.

He reported that S-102 needed to be updated to implement changes in the Open Navigational Surface Working Group's Bathymetric Attributed Grid (BAG) Specification (mostly metadata items) and requested that HSSC approves the preparation of a new edition.

Fruitful debates occurred on the availability and on the date of entry into force of the new editions of S-52, S-64 and S-58 to make sure that it would be aligned with the date of publication of the new edition of IEC 61174.

CARIS informed that their validation tools will implement the new version of S-58 in 2015.

Finally, the TSMAD Chair noted that work was going on for the development of a “guidebook” on the use of IHO S-100. The guidebook aim is to outline how to build various types of product specifications using IHO S-100.

#### **5.1B Proposed registry based procedure for the allocation of S-100 product specification identifiers.**

Following a presentation by USA, the IEHG noted that there was a potential for duplication of enumerated values when they are included in the registry. It was acknowledged that there was a need to clean up and complete the registry application and therefore to clearly define role and responsibilities of the future Registry Manager. In the perspective of the forthcoming retirement of the current Registry Manager, discussions followed on the best ways and means to fulfil this task, for the routine maintenance on one hand, and for the expansion of the registry on the other hand, the workload of which being estimated at two to three days per week.

While it was agreed that there was no reason for the IHO/IHB not to continue to sell the new Edition of the Presentation Library, USA noted that the Presentation Library Fund might be made available to cover the tasks to be carried out by the future registry manager, but keeping in mind that the Fund might also be requested to support further extensions to the Portrayal Catalogue Builder.

The discussion was followed by some instructive presentations on the Feature Catalogue Builder, the Portrayal Catalogue Builder and an IHO S-100-based Product Viewer by the Republic of Korea.

#### **Outcome:**

- The Committee noted the report of the TSMAD and endorsed the continuation of its activities in accordance with the new structure of HSSC WGs.

- The Committee invited the S-100WG to consider the need for creating an S-101 Project Team with contribution of ENCWG if deemed necessary (see agenda item 4.2).

→ Action [HSSC6/06](#)

- The Committee noted with satisfaction the progress in developing the draft edition 1.0.0 of S-101 - *ENC Product Specifications*, the S-100 Feature Catalogue Builder, the S-100 Portrayal Catalogue Builder, and an S-100/S-101 Viewer. The Committee commended the efforts of all contributors from IHO Member States and Industry and expressed its appreciation to the Republic of Korea for its specific support.

- The Committee endorsed the draft Edition 2.0.0 of S-100 for submission to the IHO Member States seeking their approval and requested the Chair of TSMAD to provide the relevant documentation in accordance with IHO Resolution 2/2007 as amended.

→ Action [HSSC6/12](#)

- The Committee approved the consideration of the preparation of a new edition of IHO S-102 - *Bathymetric Surface Product Specification* in accordance with IHO Resolution 2/2007 as amended.

→ Action [HSSC6/13](#)

- The Committee noted that further information from ENC Producers and RENCs was required prior to deciding the implementation scheme of Edition 5.0.0 of S-58 - *ENC Validation Checks*.

→ Action [HSSC6/14](#), [HSSC6/15](#)

- The Committee endorsed the proposal of TSMAD related to the registration of Product Specifications.

→ Action [HSSC6/16](#)

- The Committee agreed on the way forward to ensure the continuity of the administration of the S-100 GI Registry and Registers under IHO responsibility, in the perspective of the retirement of the current Registry Manager planned at the end of Feb. 2015.

→ Actions [HSSC6/17](#), [HSSC6/18](#), [HSSC6/19](#), [HSSC6/20](#)

## 5.2 Data Protection Scheme Working Group (DPSWG)

Docs: HSSC6-05.2A [Report and Recommendations of DPSWG \(UK\)](#) - [Presentation](#)  
 HSSC6-05.2B [Extending S-63 Digital Signatures beyond ENC \(US\)](#)

UK presented the report and recommendations on behalf of the Chair of the DPSWG. There are currently 256 OEM members which represented an increase of 19 members in 2014. The migration to S-63 Edition 1.1 is on-going; however there are still a small number of users still on S-63 1.0. These are mainly those with very old ECDIS systems and it is unlikely that they will be replaced. However, an intensive push from the data servers is gradually resulting in these being migrated to S-63 1.1, and it is anticipated that there will be very few systems unable to use Edition 1.1 by 2018.

All agreed that the main goal is now to move the future version of S-63 into the S-100 environment and focus on S-101. For this reason, it was suggested to integrate S-63-like protective mechanisms in the S-100 environment rather than develop S-63 Edition 2.0.0 which might create confusion. The IHB proposed that data security and authentication should be part of S-100 and be used for individual product specifications. IEC confirmed that the industry view is that the authentication part should be part of S-100 with the encryption part included in the S-10x product specifications. It was also noted that the mechanism for determining “out-of-datedness” should be included in product specifications.

Acknowledging that the preparation of Edition 1.2 of S-63 prior to HSSC-6 had been a challenge due to lack of resources, a way ahead was finally defined to meet the deadline for the approval of the new

Edition of IEC 61174. It was agreed that a test data set to identify the implemented S-63 software edition in an ECDIS would be posted on the IHO website for use by data servers.

IEC supported the proposal made by USA that the use of S-63 be considered beyond ENCs for other navigational products.

**Outcome:**

- The Committee noted the report of the DPSWG, endorsed the continued activity of the working group and approved the work plan (see also agenda item 4.2 and action [HSSC6/05](#)).
- The Committee endorsed the draft Annex C to Edition 1.2.0 of S-63 - *IHO Data Protection Scheme* and agreed on the way forward for finalizing and approving the new Edition.  
→ Actions [HSSC6/21](#), [HSSC6/22](#)
- The Committee agreed in principles on the extension of S-63 certificates to other navigational products, subject to an impact assessment.  
→ Action [HSSC6/23](#)

### **5.3 Digital Information Portrayal Working Group (DIPWG)**

Docs: [HSSC6-05.3A rev1](#)      [Report and Recommendations of DIPWG](#) (DIPWG Chair) -  
[Presentation](#)

The DIPWG Chair presented the report and recommendations of the working group and confirmed that an extensive revision of the Presentation Library had taken place during the year.

He also confirmed the need to use the Presentation Library Fund to support the development of an additional extension to the Feature Catalogue Builder, and in general for portrayal activities within the IHO.

Discussions also took place on the interactions between the future HSSC WGs for portrayal activities from a content and user point of view and for the technological implementation of symbols into systems.

**Outcome:**

- The Committee noted the report of the DIPWG and endorsed the continuation of its activities in accordance with the new structure of HSSC WGs (see item 4.2).
- The Committee approved the publication of Edition 6.1.0 of S-52 - *Specifications for Chart Content and Display Aspects of ECDIS*, Edition 4.0.0 of S-52 Annex A - *IHO ECDIS Presentation Library* and Edition 3.0.0 of S-64 - *IHO Test Data Sets for ECDIS*, subject to final checks in liaison with IEC.
- The Committee endorsed the continuation of the IHO Presentation Library Fund and proposed that the IHB plan to use the fund to support further development of S-100 Portrayal Catalogue Builder.
- The Committee reviewed and approved the work plans of the S-100WG and ENCWG (see item 10).
- The Committee paid tribute to the memory of Michael Eaton, hailed as the “father of the electronic chart” and acknowledged his major contribution to the development and standardization of ECDIS.

### **5.4 Standardization of Nautical Publications WG (SNPWG)**

Docs: [HSSC6-05.4A rev1](#)      [Report and Recommendations of SNPWG](#) (SNPWG Chair) -  
[Presentation](#)

#### **5.4A SNPWG Report**

The SNPWG Chair reported that the SNPWG activities are focussed on progressing the development of NP3-type NPUB Product Specifications, all of which are based on S-100 Edition 2.0. He noted that the SNPWG schedule is dependent on the completion of S-100 Edition 2.0 and the progress of other HSSC WGs (e.g. DIPWG and DQWG).

The SNPWG Chair also informed the Committee about the e-Navigation test bed project that was initiated by the Republic of Korea.

UK agreed that harmonization, especially on the bridge, was necessary under the scope of e-Navigation, although it was probably necessary to restrict the richness and number of data types, this view being supported by RTCM as more information is not necessarily better and safer for the mariner.

Australia also supported the view that there will be a need for harmonization at some stage and noted that if nautical information needed to be standardized, it was not an absolute requirement for a nautical publication itself. He also mentioned that the scope of SNPWG products such as marine protected areas (MPA) needed some clarification when RTCM noted that these products will have significant use for communities others than mariners.

IEC noted that there will be a need to consider how different products will interact (work) in an ECDIS, as well as a need for test beds to resolve “over / under” issues. As for harmonization issues, it supported the idea to incorporate a mechanism into the registry to facilitate it. However, UK cautioned not to resolve harmonization issues too early when all the issues are not clearly understood yet.

Singapore noted that they are currently preparing a paper on marine information overlays that will enable the mariner to switch on/off layers such as MPAs. It provides a mechanism to understand how additional products can be viewed in ECDIS confirming the need for the development of IHO standards such as S-122 and S-123.

Although knowing that the SNPWG has no mandate on this particular issue, the Chair’s report drew the HSSC’s attention to some details which possibly require a mid-term solution when the first NPUB Product Specifications will be available. These were:

- which NPUB products or set of products are intended to replace which printed nautical publications;
- the parallel (digital/printed) production of the NPUB products or the production solely based on the WEND principles;
- the establishment of a set of further standards which support the NPUB product data check, the data portrayal, the data protection and the data delivery;
- the establishment of a close liaison with IEC on the management of digital NPUB products in future ECDIS.

#### **5.4B List of Lights New Numbering System**

The SNPWG Chair proposed that the use of a common light numbering system for lights could assist in the management of this type of information. It would facilitate the streaming of light information between agencies and would support e-Navigation requirements.

UK requested clarity on what was meant by “data streaming” to which the SNPWG Chair replied that it was the IALA notion of data streaming. Reluctant to add a substantive workload to the IHO, UK proposed that it should then be left to IALA to develop the data streaming standard as part of the development of S-201 (AtoN). Australia noted that they did not support the notion of international numbering system for lights, and considered it should be an issue for IALA to develop.

**Outcome:**

- The Committee noted the report of the SNPWG and endorsed the transfer of its activities to the Nautical Information Provision WG (NIPWG) in accordance with the new structure of HSSC WGs (see agenda item 4.2).  
→ Action [HSSC6/25](#)
- The Committee considered that the proposal to develop a unique light identifier was premature and invited NIPWG to monitor IALA activities on Aids-to-Navigation (AtoN) data transfer (S-201).  
→ Action [HSSC6/24](#)

**5.5 Chart Standardization and Paper Chart Working Group (CSPCWG)**

|       |   |   |
|-------|---|---|
| Docs: | <a href="#"><u>HSSC6-05.5A</u></a>      | <a href="#"><u>Report and Recommendations of CSPCWG</u></a> (AU) - <a href="#"><u>Presentation</u></a>        |
|       | <a href="#"><u>HSSC6-05.5B</u></a>      | <a href="#"><u>Inventory of Chart Production Systems</u></a> (NHC Rep.) - <a href="#"><u>Presentation</u></a> |
|       | <a href="#"><u>HSSC6-05.5E</u></a>      | <a href="#"><u>Response to HSSC6- 05.5B (UK)</u></a>  |
|       | <a href="#"><u>HSSC6-05.5C</u></a>      | <a href="#"><u>Use of seals of non-IHO members on INT Charts</u></a> (AU)                                     |
|       | <a href="#"><u>HSSC6-05.5F</u></a>      | <a href="#"><u>Response to HSSC6-05.5C (FR)</u></a>   |
|       | <a href="#"><u>HSSC6-05.5D rev1</u></a> | <a href="#"><u>Relevance of information overlay services with respect to IHO standards</u></a> (IHB)          |

**5.5A CSPCWG Report**

Australia presented the report and recommendations of the working group on behalf of the CSPCWG Chair and commented the new Edition 4.5.0 of S-4, issued in October, as a great achievement of the WG.

He highlighted the goals of the CSPCWG to improve paper chart standardization, improve the level of guidance available to nautical chart compilers and thereby facilitate capacity building. It also improves the interface and, where feasible, commonality of presentation between paper and digital chart products.

Australia noted that due to the workload within the AHO, it will not be able to chair this WG beyond its next meeting where a changeover will have therefore to be considered. UK confirmed that in accordance with the actual CPSCWG TOR, the current Vice-Chair stands ready to take over.

**5.5B Inventory of Chart Production Systems**

Finland presented the report and its recommendations on behalf of the Nordic Hydrographic Commission (NHC).

Chile noted that this was a very interesting subject, and asked how many requests have been made to the IHB for such information taking into account the current workload of many HOs. It noted also that unless such information was kept current it would likely be of limited value. Taking into account the effort needed to maintain such a list, Chile suggested considering the issue at the regional level.

Canada noted that this type of information could have some value if included in S-65, while Turkey suggested that it could also be included in the P-5 yearbook on a voluntary basis.

UK noted that the proposal was a fine idea, and would be happy to share its own experience on a one-to-one basis but considered that the significant effort required to document the complexities of many production systems would not be worthwhile.

Considering the workload needed and the various points of view, also the fact that many systems in use have been customised to meet the requirements of individual organizations, it was agreed not to proceed further.

**5.5C Use of seals of non-IHO Member States on INT Charts**

The recommendations provided by the CSPCWG and the current practice by France were supported unanimously.

## **5.5D Relevance of information overlay services with respect to IHO standards**

The IHB proposed that the HSSC should consider including a new work item in the CSPCWG work plan on the relevance of information overlay services with respect to IHO Publication S-4.

### **Outcome:**

- The Committee noted the report of the CSPCWG and endorsed the continuation of its activities as the Nautical Cartography WG (NCWG) in accordance with the new structure of HSSC WGs (see agenda item 4.2).

- The Committee invited the NCWG to report on its continuance after 2015 and if required propose amendments to the current CSPCWG TORs.

→ Action [\*\*HSSC06/09\*\*](#)

- The Committee endorsed the proposal of the CSPCWG related to the use of seals of non-IHO Member States on INT charts and agreed to include the relevant work item into the work plan.

- The Committee endorsed the proposal of IHB related to the consideration of standardization issues associated with information overlay services and agreed to include the relevant work item into the work plan.

- The Committee did not support the request of the Nordic Hydrographic Commission to include a work item on the inventory of chart production systems into the work plan but invited IHO Member States to facilitate exchange of information on this matter.

- The Committee acknowledged the completion of the revision of S-4 - *IHO Regulations for INT Charts and IHO Chart Specifications*, commended the efforts of all contributors and expressed its appreciation to CSPCWG former and current Officers.

- The Committee noted that the current CSPCWG/NCWG Chair might require being relieved after the next meeting due to national constraints and confirmed the applicability of the current procedures for its succession (CSPCWG TORs, clause 4.c “*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.*”)

## **5.6 Data Quality Working Group (DQWG)**

Docs: [HSSC6-05.6A rev1](#)    [\*Report and Recommendations of DQWG \(DQWG Chair\)\*](#) - [\*Presentation\*](#)  
[HSSC6-05.6B](#)                  [\*Study on overlapping ENCs \(SG\)\*](#) - [\*Presentation\*](#)

The DQWG Chair presented the DQWG report and the recent outcomes of its 9<sup>th</sup> meeting held the week before HSSC-6.

On the subject of data quality for under keel clearance and real-time applications in ECDIS including tidal measurements, many discussions occurred on the interactions between the HSSC WGs in relation with the development of product specifications. All agreed that the work of the DQWG overlaps with many other WGs.

Singapore informed the HSSC on a project addressing the issue of overlapping ENCs, carrying out a series of ECDIS performance tests on the identified test datasets and compiling a list of ECDIS behaviours when handling overlapping datasets. IEC confirmed that they have been engaged at the early stage of this project.

### **Outcome:**

- The Committee noted the report of the DQWG, endorsed its continued activity and approved its work plan, subject to review in 2015.

- The Committee noted the need to develop the portrayal of data quality categories and invited NIPWG to stand up a Project Team in collaboration with S-100WG and NCWG.

→ Action [HSSC6/25](#)

- The Committee noted the on-going study on overlapping ENC led by Singapore at the initiative of the EAHC and under the aegis of IRCC/WENDWG.
- The Committee reminded the Chair of HSSC WGs, that WGs' meetings should not normally occur later than nine weeks before a meeting of the HSSC.

## **5.7 Marine Spatial Data Infrastructure Working Group (MSDIWG)**

Docs: HSSC6-05.7A [Report and Recommendations of MSDIWG](#) (MSDIWG Vice Chair) - [Presentation](#)  
[IHO CL 56/2014 dated 12 August Report of UN-GGIM-4](#) (IHB) - [Presentation](#)

The MSDIWG Vice-Chair presented the report and the recommendations of the working group. She informed that a new work plan had been established in order to cope with new challenges.

Chile, referring to the term “spatial” reported that SHOA had been obliged to inform their national and regional authorities that hydrography had to be included as part of spatial planning, in accordance with the principles developed by the United Nations initiative on Global Geospatial Information Management (UN-GGIM).

USA agreed that it was very important for national hydrographic offices to work with their land mapping authorities to ensure that hydrography is included as part of national and regional inputs to important projects such as those carried out under the umbrella of UN-GGIM.

The IHB presented the report on IHO participation in the UN-GGIM. Mexico referred to the role of Mexico in the UN-GGIM at the global and regional levels and welcomed a more “active” role for the IHO. The IHB emphasized the importance of the regional dimension via RHCs.

### **Outcome:**

- The Committee noted the report of the MSDIWG, approved the transfer of this group under IRCC from 1 Jan. 2015, and agreed on the draft work plan for 2015-16 for further consideration by IRCC.  
 → Action [HSSC6/27](#)
- The Committee agreed to include a specific agenda item on MSDIWG activities affecting HSSC.  
 → Action [HSSC6/26](#)
- The Committee noted the IHB report on UN-GGIM activities and invited the IHB to continue monitoring the activities on UN-GGIM and initiate IHO contributions as appropriate.

## **5.8 Tidal and Water Level Working Group (TWLWG)**

Doc: HSSC6-05.8A [Report and Recommendations of TWLWG](#) (TWLWG Chair) - [Presentation](#)  
 HSSC6-08INF8 [Dynamic Water Level Data Transfer Product Specification](#) (TSMAD Chair) - [Presentation](#)

France presented the report and the recommendations of the WG, on behalf of the TWLWG Chair.

Following a presentation on dynamic tides, IEC noted that this should not be implemented on an ECDIS itself and that it should be implemented on an ECS for liability and information overload

reasons. Singapore noted that it was proposed to operate a separate system to be used alongside the ECDIS.

The intention of the Chairs of the TWLWG and the SCWG is to start merging the two groups in 2015.

A number of additional issues were discussed.

**Outcome:**

- The Committee noted the report of the TWLWG and endorsed the transfer of its activities to the Tides, Water Level and Currents WG (TWCWG) in accordance with the new structure of HSSC WGs (see agenda item 4.2).

- The Committee invited TWCWG to:

a/ consider the need for creating an S-111 Project Team on Surface Currents (see also agenda item 4.2);

→ Action [HSSC6/07](#)

b/ submit a new draft Resolution 3/1919 and relevant definitions (MSL, LAT) to HSSC, in liaison with HDWG, taking into account observations received from IHO Member States (IHO CL 44/2014);

→ Action [HSSC6/28](#)

c/ liaise with S-100WG to identify the appropriate expertise to progress in the development of real-time tidal data transfer product specification (IHO S-112);

→ Action [HSSC6/29](#)

d/ liaise with S-100WG to identify the appropriate expertise to progress in the development of tidal product specification for surface navigation (IHO S-10x);

→ Action [HSSC6/30](#)

e/ consider the IOC Special Tide Course material for progressing work item M.1;

→ Action [HSSC6/31](#)

f/ consider the need to add of a new task in its future programme of work on the applications of water level and current products for non-navigation purposes.

→ Action [HSSC6/32](#)

## 5.9 Hydrographic Dictionary Working Group (HDWG)

Doc: [HSSC6-05.9A rev2](#)    [Report and Recommendations of the HDWG](#) (HDWG Chair) - [Presentation](#)

The IHB presented the report and recommendations of the WG on behalf of the Chair of the HDWG, including some considerations on the structure of the ISO/TC211 Multi-Lingual Glossary of Terms. As a consequence of the HSSC WG restructuring, it was suggested to designate an HDWG's focal point in every HSSC WG.

Australia supported the proposal of a numbering index as unique term identifier and the database approach linked to the S-100 Registry as presented by the IHB. A couple of other suggestions were made.

**Outcome:**

- The Committee noted the report of the HDWG and the lack of resources to progress the work plan.

- The Committee invited the HDWG to consider the structure of the ISO/TC211 Multi-Lingual Glossary of Terms to evolve the IHO On-line Hydrographic Dictionary.
  - The Committee welcomed the offer of Australia to liaise with the Chair and members of the HDWG by correspondence in order to draft new business rules for the HDWG, focused on database approach, and addressing relation with the S-100 Registry on the one hand, with HSSC WGs and other IHO and inter-organizational bodies (such as SCUFN) on the other hand.
- Actions [HSSC6/05](#), [HSSC6/33](#)
- The Committee invited the HDWG to consider the need for a face-to-face meeting in 2015 and report to HSSC-7 on the transition and implementation plan of the new business rules taking into account available resources.
- Action [HSSC6/34](#)
- The Committee referred to agenda item 5.8 for the consideration of definitions (MSL, LAT) proposed for endorsement (see also Action [HSSC6/28](#)).

## 5.10 Surface Current Working Group (SCWG)

Doc: [HSSC6-05.10A](#)      [Report and Recommendations of the SCWG \(SCWG Chair\) - Presentation](#)

The SCWG Chair presented the report via a remote Skype connection. He noted that the Republic of Korea had joined the WG.

He gave a comprehensive report on the good progress made in the development of the IHO S-111 Product Specification. Even though, some outstanding issues need to be solved: access to HOs data in various formats, exchange of large 3D data sets, portrayal of vector time series, etc. An S-111 test portrayal model is going to be experimented.

Relations with the TWLWG on the establishment of common vertical datums, as well as for the transmission of real-time data were reported to progress well which is promising for the two WGs merging into the TWCWG.

The HSSC Chair noted that an S-100 data viewer, to be available in Spring 2015, could be used to help the SCWG for viewing the surface current test datasets.

### Outcome:

- The Committee noted the report of the SCWG and endorsed the transfer of its activities to the TWCWG and/or to a dedicated project team under TWCWG, in accordance with the new structure of HSSC WGs.

→ Action [HSSC6/32](#)

## 6. INTER-ORGANIZATIONAL BODIES

### 6.1 Advisory Board on the Law of the Sea (ABLOS)

Doc: [HSSC6-06.1A rev1](#)      [Status Report on ABLOS activities \(ABLOS Vice-Chair\) - Presentation](#)

The Vice-Chair of ABLOS presented the report and the recommendations of the advisory board. He invited the HSSC to endorse some minor changes to the terms of reference of HSSC related to ABLOS that were deemed necessary by the Board.

He reported on the main achievement of ABLOS in 2014 with the approval of Edition 5.0.0 of the TALOS Manual (C-51) in June and the preparation of the ABLOS Conference planned in Monaco next year.

**Outcome:**

- The Committee noted the report of ABLOS and endorsed the continuation of the ABLOS work.
- The Committee endorsed that the ABLOS Chair could designate a representative to report at HSSC meetings, and invited the IHB to liaise with IAG to amend the TORs of ABLOS and then issue an IHO CL seeking the approval of the IHO Member States on the related amendments of the TORs of the HSSC.

→ Action [HSSC6/35](#)

- The Committee invited Australia to report at the next HSSC meeting on the development of the Product Specification on Maritime Limits and Boundaries (S-121).

→ Action [HSSC6/36](#)

## 7. DECISIONS OF OTHER BODIES AFFECTING HSSC

### 7.1 IMO

Docs: HSSC6-07.1A [Report on IMO activities affecting HSSC \(including e-navigation\) \(IHB\) - Presentation](#)

The IHB presented a report on IMO activities affecting HSSC (draft strategy implementation plan of e-navigation, ECDIS guidance for good practice, MSC Circular on the policy on the use of AIS Aids to Navigation, etc.).

UK (representing IALA) requested clarity on the likely formation of the IMO/IHO Harmonization Group on Data Modelling in order to prepare IALA's involvement in future work.

**Outcome:**

- The Committee noted the report and agreed on reflecting the relevant activities (e-navigation, AIS AtoN, ECDIS matters, Polar Code) in the work plans of the relevant HSSC WGs.
- The Committee welcomed the intention of IALA to participate in the IMO/IHO Harmonization Group on Data Modelling (when activated) in accordance with its TORs.

### 7.2 IEC

Docs: HSSC6-07.2A [IEC activities affecting HSSC \(IEC\) - Presentation](#)

HSSC6-07.2B [Proposal to include a documented peer review process for publishing procedures \(IEC\) - Presentation](#)

#### 7.2A IEC Report

IEC reported on its activities affecting HSSC.

It was noted that new IEC 61162 series standard will probably describe how to encode/decode S-100 objects and attributes in order that they can be transferred over existing IEC 61162 interfaces. It is supposed that IEC interfaces will not require the development of an S-10X product specification however it will be necessary to decide if there is a requirement for a domain owner to maintain the interface related items into an S-100 register.

As the IEC process is justified by the IMO decision of setting IHO S-100 as the baseline for e-navigation, it was agreed that it will have a positive impact for the development of e-navigation.

## **7.2B Proposal to include a documented peer review process for publishing procedures**

IEC proposed a mandatory peer review process to improve the quality of standards to be published, and increase publicity of the process noting that transparency is important for wide acceptance of any international standard.

The HSSC Chair noted that there is already a process governing the release of IHO publications and standards, as defined in IHO Resolution 2/2007 as amended, and invited the Committee to consider whether the IEC proposal could be adopted as additional clarification.

An interesting debate occurred with different views: Chile noted that the current terms of 2/2007 already covered the peer review process, proposed by IEC, and Canada considered that it would complicate the current review process. USA supported the need for a review process while Australia noted that if it did not work well as initially planned in the IHO Resolution, it was due to the inability and lack of will and resources of IHO Member States to carry out a thorough review.

The HSSC Chair concluded that it was probably better to keep the IHO Resolution unchanged but to work in the spirit of the IEC proposal.

### **Outcome:**

- The Committee noted the IEC report and welcomed the effective phasing of the revision of IHO and IEC ECDIS-related standards.
- The Committee invited the IEC to liaise with the S-100WG if and when the development of an S-100-based Product Specification is required in relation to IEC 61162 series interface standards.
- The Committee confirmed the intention to document the consultation of stakeholders on the maintenance of IHO standards in accordance with IHO Resolution 2/2007 as amended and agreed that no further amendment of the IHO Resolution was required.

## **7.3 Inland ENC Harmonization Group (IEHG)**

Docs: HSSC6-07.3A [Status Report on Inland ENC Development and Standardization](#) (IEHG co-Chair) - [Presentation](#)

The IEHG presented a comprehensive report on its activities and the outcome of its last meeting held early October.

It was noted that the IEHG will use the IHO S-101 as a basis for its own IEHG S-401 product specification to align the two products as far as possible.

It was duly noted that the IEHG had some concerns regarding the S-100 Registry and previously registered enumerated values being duplicated in the S-101 Data Classification and Encoding Guide (DCEG). It was confirmed that no duplication should occur.

### **Outcome:**

- The Committee noted the IEHG report and welcomed the progress in developing IEHG S-401 - *Inland ENC* in alignment with IHO S-101.

## **7.4 CIRM**

Docs: HSSC6-07.4A [Presentation](#) of CIRM activities affecting HSSC (CIRM)

The IEC representative presented the CIRM report on behalf of the CIRM president Michael Bergman, who was not able to attend the meeting due to internal business commitments and had sent his apologies. He reminded HSSC members of IMO Circular SN.1/Circ.266 which states that an ECDIS which is not updated for the latest version of IHO standards may not meet chart carriage requirements as set out in SOLAS regulation V/19.2.1.4. Currently however, vessel owners/operators

do not appear to regard updating software as a routine maintenance requirement. He stated that CIRM is of the opinion that software updates must be seen as expected part of the ECDIS maintenance process, to ensure this equipment performs properly: CIRM is currently compiling advice documentation addressing software update requirements as they relate to the revisions of relevant standards.

**Outcome:**

- The Committee noted the CIRM report and welcomed the continuing cooperation between IHO and CIRM.
- The Committee noted that the introduction of Service Life Cycle Management was addressed through the development of the Harmonised IMO Guidelines for Software Quality Assurance.

## 7.5 IALA

Docs: [HSSC6-07.5A \*Presentation\* of IALA activities affecting HSSC \(IALA\)](#)

UK, as Chair of the Harmonization WG of the IALA E-Nav Committee, reported on the activities of the association in relation with S-100 development.

IALA requested discussion on whether IALA S-201 should be IHO S-57 compatible or IHO S-100 compatible, to which the TSMAD Chair confirmed, with the Committee's support, that it should clearly be IHO S-100 compatible. It was also reported that trials of IALA S-201 products between Trinity House (UK) and the UKHO were expected in 2016.

**Outcome:**

- The Committee noted the IALA report and welcomed the continuing cooperation between IHO and IALA.
- The Committee noted the intention of IALA to develop proposal(s) related to the inclusion of "service oriented" processes in S-100 for the consideration of the S-100WG.
- The Committee welcomed the progress in developing IALA S-201 - *Aids to Navigation Information* and advised not to develop an S-57 implementation.
- The Committee noted that IALA S-201 aims at standardizing data exchange between official organizations. The relevant data is not intended to be displayed on ship equipment directly.

## 7.6 ISO

Docs: [HSSC6-07.6A rev1 ISO activities affecting HSSC \(IHB\) - \*Presentation\*](#)

The IHB reported on various ISO activities and on developments such as an XML Schema Implementation of ISO 19157 which might be of interest to the DQWG as it deals with data quality. The development of a Multi-Lingual Glossary of Terms under the responsibility of ISO/TC211 had been already reported under the HDWG agenda item. It was also noted, in relation with the report on UN-GGIM activities (see agenda item 5.7), that the IHO, OGC and TC211 had produced "A Guide to the Role of Standards in Geospatial Information Management" of interest to HOs and available from the IHO website: [www.ihc.int](http://www.ihc.int) > Committees & WG > HSSC > MSIDIWG > Miscellaneous.

**Outcome:**

- The Committee noted the report on ISO/TC211 activities affecting HSSC.

## **7.7 IOGP - OGC**

Docs: HSSC6-07.7A - [Presentation](#) of IOGP-OGC activities affecting HSSC, including Common Operating Picture (IOGP)

A very comprehensive presentation on IOGP<sup>1</sup> and OGC activities was given by a representative from Caris on behalf of both organizations. Specific topics were highlighted as OGC/ISO web standards (WMS, WFS, WCS, etc.) and 3D information management and portrayal (including 3D aids to navigation), as well as SeabedML, a non-proprietary survey data exchange format used by the energy and offshore industry.

The presentation included the progress made in the management of oil spill response through a GIS-based common operating picture approach in the development of which the IHO has been involved (IHO CL 52/ 2013 refers).

### **Outcome:**

- The Committee noted the report on IOGP and OGC activities affecting HSSC and identified the relevance of ensuring proper harmonization in the development of IHO and IOGP and OGC standards related to Seabed Data Modelling.

→ Action [HSSC6/37](#)

- The Committee identified the development of 3D applications as a potential item for future stakeholders' meetings and general consideration for further S-100 development.

## **7.8 IRCC**

Docs: HSSC6-07.8A [Outcome of the 6th IRCC Meeting \(IRCC Vice-Chair\)](#) - [Presentation](#)

HSSC6-07.8B [Status report on the development of S-124 - Navigational Warnings \(FR\)](#) - [Presentation](#)

### **7.8A IRCC Report**

The IRCC Vice-Chair reported on IRCC activities impacting HSSC, most of them having been already addressed under previous agenda items such as the transfer of MSIDIWG activities under the IRCC, and the discussion about performance indicators.

### **7.8B Status report on the development of S-124**

France reported on the progress made within the WWNWS-SC on the development of S-124 product specification with the important contribution of stakeholders (CIRM, Danish Maritime Authority, Korea Research Institute of Ships and Ocean Engineering). Following the suggestion to harmonize and extend the specification to T & Ps in ER profiles, UK, while fully supporting the development of S-124, noted that the Navigation Warnings component had to be considered as the highest priority for the group.

### **Outcome:**

- The Committee noted the report presented by the IRCC Vice-Chair.

- The Committee noted the report of the Correspondence Group of the WWNWS-SC on the development of a Product Specification for Navigational Warnings (S-124) and confirmed the relevance of liaison with the S-100WG.

<sup>1</sup> International Association of Oil & Gas Producers, formerly known as OGP.

## **7.9 JCOMM**

|       |                         |   |
|-------|-------------------------|---|
| Docs: | <i>HSSC6-07.9A rev1</i> | <a href="#"><i>Status report on the development of S-411 - Sea Ice (BSH) - Presentation</i></a> |
|       | <i>HSSC6-07.9B (US)</i> | <a href="#"><i>Status report on the development of S-412 - Met Ocean Forecasts</i></a>          |

### **7.9A S-411 progress report**

Germany presented the report on behalf of Dr Vasily Smolyanitsky, JCOMM, Chair of the Expert Team on Sea Ice.

The Ice Service agencies will establish a world-wide data delivery service at the latest by the ice season 2015/16. The data itself could be loaded in ECDIS and in any other GIS applications.

The necessary ECDIS software development kit is available. It was announced by ECDIS developers that the first ECDIS which would be able to display the ice data will be available by mid- 2015.

The HSSC Chair noted that he would inform the leader of this project that it will be possible to complete the portrayal component and that there will be soon an S-100 viewer available which can be used to test their product.

### **7.9B S-412 progress report**

USA presented the report on behalf of the JCOMM Expert Team on Maritime Safety Services summarizing the principal activities and achievements as well as some outstanding issues (industry involvement for final portrayal guidelines and database schema for instance).

#### **Outcome:**

- The Committee noted the reports on JCOMM activities affecting HSSC and welcomed the progress in the development of JCOMM S-411 (*Sea Ice*) and S-412 (*MetOcean Forecasts*).

## **7.10 RTCM**

|       |                     |  |
|-------|---------------------|--|
| Docs: | <i>HSSC6-07.10A</i> | <a href="#"><i>Presentation of RTCM Report</i></a> |
|-------|---------------------|--|

RTCM reported on various topics relevant to the IHO. It was first noted that the RTCM e-Navigation Steering Committee (<http://rtcm.info/enav/>) had initiated an evaluation of mobile platform technology, to put together ENCs and meteorological information with AIS data, a service that could be implemented for the benefit of small vessels and recreational boats.

The RTCM representative confirmed that RTCM sees its role in contributing to e-Navigation as a developer of standards for navigation and communications equipment under the framework of international standards developed by ISO, IEC, ITU, IALA and the IHO.

Finally, the RTCM representative mentioned the activities of the joint RTCM/NMEA working group developing new GPS/GNSS data messages. The HSSC Chair noted that these activities needed to be monitored and eventually reported at the next HSSC meeting as they can impact hydrographic surveys.

#### **Outcome:**

- The Committee noted the report on RTCM activities relevant to HSSC.

## **8. REVIEW OF NEW DEVELOPMENTS AND OTHER INFORMATION PAPERS**

|       |                           |   |
|-------|---------------------------|---|
| Docs: | <i>HSSC6-08INF1</i>       | <a href="#"><i>Australian experiences in deriving paper charts from ENC (AU) - Presentation</i></a> |
|       | <i>HSSC6-08INF2</i>       | <a href="#"><i>Backscatter measurements by seafloor-mapping sonars (FR)</i></a>                     |
|       | <i>HSSC6-08INF3A rev2</i> | <a href="#"><i>Development of Web Enabled Spatial Database and Map Service to</i></a>               |

[Support Management of S-11 Part B \(KR\) - Presentation](#)

[HSSC6-08INF3B Comments and proposals to HSSC6-08INF3A \(FI\)](#)

[HSSC6-08INF5 IHO Digital Reference Tool for Cartographers \(KR\) - Presentation](#)

[HSSC6-08INF6 Progress on Development of e-MIO Product Specification for East Asia Region \(KR\) - Presentation](#)

All the presentations made to illustrate the different topics listed as INF documents were of great interest to HSSC participants. The most important comments are as follows:

- INF1: Australia confirmed that in theory it would be possible to produce an INT version of a chart using the method described. The IHB added that a paper chart had to be produced not only by a relevant hydrographic authority to meet SOLAS requirements but had also to be compliant with IHO standards.
- INF2: the HSSC noted that the revision of the backscatter guide book could be referred to the Hydrographic Survey WG when/if created.
- INF3: Finland reported that they had developed a similar system and appreciated the large amount of work that had been undertaken. Further comments will be sent to the Republic of Korea. UK commented that the work by ROK was very appreciated and noted that the updating of the database would need further consideration and should be discussed at IRCC. Canada provided its full support to this initiative.
- INF5: the HSSC Chair thanked ROK for the excellent tool which will be of great use for chart/ENC production and capacity building.
- INF6: following a question raised by the IEC, the SNPWG Chair confirmed that ROK had worked closely with the WG. It is intended that the e-MIO Product Specification will be aligned with S-122. There will be no duplication of information.

**Outcome:**

- The Committee noted the information papers submitted by Australia, France, Korea (the Republic of) and Finland.
- The Committee thanked Australia for the provision of the information paper on the production of paper charts from ENCs and noted that Australia stands ready to provide additional information on request.
- The Committee suggested that the review of future Guidelines and Recommendations on Backscatter Measurements by Seafloor-mapping Sonars would likely fall under the responsibility of the proposed Hydrographic Surveys WG (if established - see also agenda item 4.2 and **action HSSC6/11**).
- The Committee commended the presentation made by Korea (the Republic of) on the development, in liaison with the IHB, of a web enabled spatial database and map service for the management of S-11 Part B. Canada offered its support for this development. Finland, as Baltic Sea INT Chart Coordinator, also indicated its full support of this project.
- The Committee commended the presentations made by Korea (the Republic of) on behalf of the East Asia Hydrographic Commission on the development of e-Marine Information Overlays (e-MIO). The Committee noted that these experimentations were monitored by the SNPWG and aligned with the development of the IHO S-122 - *Marine Protected Areas Product Specification*.

## **9. LIAISON WITH EXTERNAL STAKEHOLDERS**

Docs: HSSC6-09Arev1      [Status of potential Stakeholders' events in 2015 \(IHB\) - Presentation](#)

The meeting noted the report by the IHB and agreed in principle to hold an IHO stakeholders forum in conjunction with the HSSC-7 meeting with the main subject being development of S-100 developments, subject to further investigations. CIRM, CARIS and Furuno all indicated that they would be willing to participate in such a forum, provided that industry participants will be authorized to attend HSSC-7 as observers.

### **Outcome:**

- The Committee noted the IHB report on Stakeholders' events and agreed that the possibility and the interest of organizing an IHO Stakeholders' Forum in conjunction with HSSC-7 had to be further investigated by the IHB.

→ Action [HSSC6/38](#)

## **10. REVIEW AND ENDORSEMENT OF HSSC WORK PLAN AND LIST OF ACTIONS**

Doc: HSSC6-10A      [Draft HSSC Work Plan \(IHB\)](#)  
HSSC6-10B rev1      [Status Report on IHO Publications on Standards, Specifications and Guidelines](#)

### **Outcome:**

- The Committee noted the status report on IHO Publications and invited further comments by correspondence regarding the next edition dates and possible requirements and contributions for translation in French and/or Spanish.

→ Action [HSSC6/39](#)

- The Committee agreed that no further amendment to the draft list of tasks reviewed for each WG during the meeting needed to be considered, and therefore approved the HSSC work plan for 2015-16, subject to editorial amendments as appropriate.

## **11. DATE & LOCATION OF THE NEXT MEETINGS**

### **Outcome:**

- The Committee welcomed the offer of the Republic of Korea to host the next meeting (HSSC-7) in Busan. *Post-meeting note:* the meeting is planned from 9 to 13 November 2015
- The Committee thanked Canada for its offer to host HSSC-9 in 2017 and agreed on the proposal from the IHB to host HSSC-8 in 2016 in Monaco.

## **12. CLOSURE OF THE MEETING**

The HSSC Chair congratulated the delegates, the WGs' officers, and industry members for the excellent quality of papers provided prior to the meeting and their active participation during the sessions. He noted that there was much satisfaction with the progress made in S-100-related developments, thanks also to the demonstrations provided by ROK, as a positive illustration that the IHO is on the right track.

He thanked the IHB for the support provided in the preparation of HSSC-6. He also paid tribute to Mr Barrie Greenslade, TSMAD Chair, who attended an HSSC meeting for the last time before retiring: “Gringo” Greenslade was offered a Chilean poncho.

Lastly, on behalf of all participants, the Chair expressed his sincere gratitude to the staff of SHOA and noted that it had been an outstanding hosting, and likely one of the best meetings that HSSC had experienced.

**Terms of Reference of the new HSSC WGs and generic TOR of Project Teams**

*Note: The new HSSC WGs and generic TOR of Project Teams can also be downloaded from the IHO website at: [www.ihodata.org](http://www.ihodata.org) > Committees & WGs > HSSC > HSSC-6 > Post Meeting Documents: [New HSSC WGs 'Terms of Reference'](#)*

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**I. S-100 WORKING GROUP (S-100WG)**

*Ref: 6<sup>th</sup> HSSC Meeting (Viña del Mar, Chile, November 2014)*

**1. Objective**

- a) To maintain, develop and extend
  - (i) S-100 - Universal Hydrographic Data Model;
  - (ii) S-99 - Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry;
- b) To supervise the management and development of the S-100 Geospatial Information Registry;
- c) To advise and support the development and maintenance of S-100-based product specifications in liaison with the relevant IHO bodies and non-IHO entities;
- d) To monitor the development of other relevant international standards.

**2. Authority**

This WG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC). Its work is subject to HSSC approval.

**3. Composition and Chairmanship**

- a) The WG shall comprise representatives of IHO Member States (MS), Expert Contributors (EC), observers from accredited international organizations, and a representative of the IHB ("IHB" to be replaced by "IHO Secretariat" when the IHO Secretariat is established). A membership list shall be maintained and posted on the IHO website.
- b) EC membership is open to entities and organizations that can provide a relevant and constructive contribution to the work of the WG.
- c) The Chair and Vice-Chair shall be a representative of a MS. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters into force) and shall be determined by vote of the MS present and voting.
- d) If a secretary is required it should normally be drawn from a member of the WG.

- e) 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.
- f) ECs shall seek approval of membership from the Chair.
- g) EC membership may be withdrawn in the event that a majority of the MS represented in the WG agrees that an EC's continued participation is irrelevant or unconstructive to the work of the WG.
- h) All members shall inform the Chair in advance of their intention to attend meetings of the WG.
- i) In the event that a large number of EC members seek to attend a meeting, the Chair may restrict attendance by inviting ECs to act through one or more collective representatives.

#### **4. Procedures**

- a) The WG should:
  - (i) maintain S-100 as directed in Part 12 (S-100 Maintenance Procedures) and in accordance with IHO Resolution 2/2007 as amended;
  - (ii) maintain S-99 in accordance with IHO Resolution 2/2007 as amended;
  - (iii) draft new editions of S-99 and S-100 as instructed by HSSC;
  - (iv) keep under review relevant international standards and specifications and advise HSSC accordingly; and
  - (v) consider new topics as instructed by HSSC and advise HSSC accordingly.
- b) The WG should work by correspondence, teleconferences, group meetings, workshops or symposia. The WG should meet about once a year. When meetings are scheduled, and in order to allow any WG submissions and reports to be submitted to HSSC on time, WG meetings should not normally occur later than nine weeks before a meeting of the HSSC.
- c) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only MS may cast a vote. Votes at meetings shall be on the basis of one vote per MS represented at the meeting. Votes by correspondence shall be on the basis of one vote per MS represented in the WG.
- d) The date and venue of group meetings shall normally be announced by the Chair at least six months in advance.
- e) The draft record of meetings shall be distributed by the Chair (or the secretary) within six weeks of the end of meetings and participants' comments should be returned within three weeks of the date of despatch. Final minutes of meetings should be posted on the IHO website within three months after a meeting.
- f) Sub-working groups and project teams may be created by the WG or proposed to HSSC to undertake detailed work on specific topics. The terms of reference and rules of procedure of the sub-working groups and project teams are determined or proposed by the WG as appropriate.
- g) The WG should liaise with other IHO bodies, international organizations and industry to educate on and encourage the application of S-100 to the work of those entities.
- h) The WG should prepare annually a report on its activities and a rolling two-year work plan, including expected time frame.

## **II. ENC STANDARDS MAINTENANCE WORKING GROUP (ENCWG)**

*Ref: 6<sup>th</sup> HSSC Meeting (Viña del Mar, Chile, November 2014)*

### **1. Objective**

To maintain IHO standards which apply to ENC production and display:

- (i) S-52 - Specifications for Chart Content and Display Aspects of ECDIS (including its components);
- (ii) S-57 - IHO Transfer Standard for Digital Hydrographic Data (including its components);
- (iii) S-58 - Recommended ENC Validation Checks;
- (iv) S-62 - List of Data Producer Codes
- (v) S-64 - IHO Test Data Sets for ECDIS.
- (vi) S-65 - ENCs: Production, Maintenance and Distribution Guidance

### **2. Authority**

This WG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC). Its work is subject to HSSC approval.

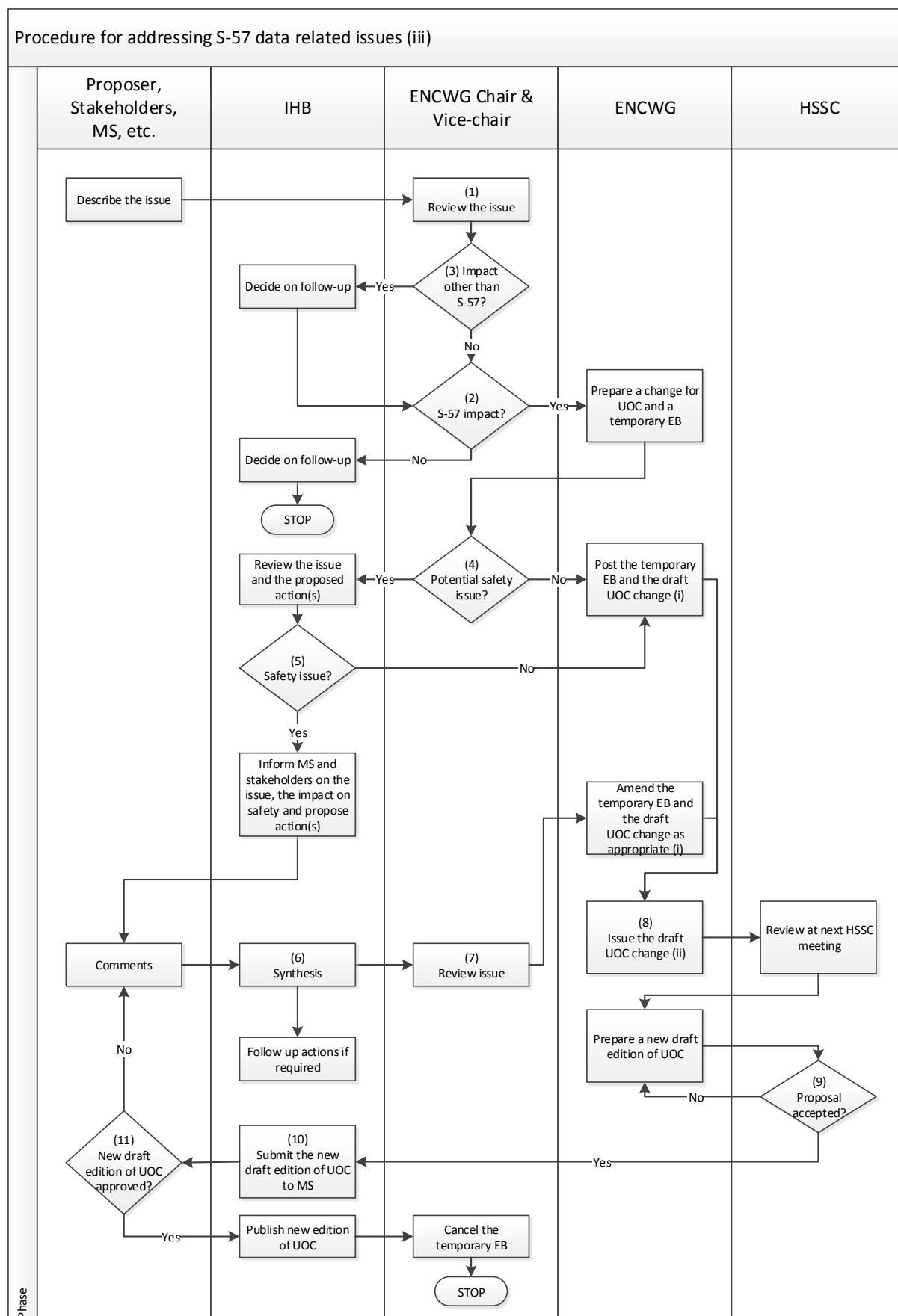
### **3. Composition and Chairmanship**

- a) The WG shall comprise representatives of IHO Member States (MS), Expert Contributors (EC), observers from accredited NGIO, and a representative of the IHB (“IHB” to be replaced by “IHO Secretariat” when the IHO Secretariat is established). A membership list shall be maintained and posted on the IHO website.
- b) EC membership is open to entities and organizations that can provide a relevant and constructive contribution to the work of the WG.
- c) The Chair and Vice-Chair shall be a representative of a MS. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters into force) and shall be determined by vote of the MS present and voting.
- d) If a secretary is required it should normally be drawn from a member of the WG.
- e) 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.
- f) ECs shall seek approval of membership from the Chair.
- g) EC membership may be withdrawn in the event that a majority of the MS represented in the WG agrees that an EC’s continued participation is irrelevant or unconstructive to the work of the WG.
- h) All members shall inform the Chair in advance of their intention to attend meetings of the WG.
- i) In the event that a large number of EC members seek to attend a meeting, the Chair may restrict attendance by inviting ECs to act through one or more collective representatives.

#### **4. Procedures**

- a) The WG should:
  - (i) maintain S-57 by preparing and promulgating maintenance documents containing clarifications, corrections and extensions when required. In the case of issues reported which may be data related, the procedure described in Annex 1 must be adhered to;
  - (ii) maintain S-52 and its accompanying Presentation Library by preparing and promulgating maintenance documents or new editions when required. In the case of issues which may be related to the portrayal of objects according to S-52, the procedure described in Annex 2 must be adhered to;
  - (iii) maintain S-58, S-62, S-64 and S-65 to ensure consistency with the evolution of S-52 and S-57;
  - (iv) coordinate technical exchange with type-approval authorities, ECDIS manufacturers and ECDIS user community and offer guidance and advice as appropriate; and
  - (v) keep under review the relevant IHO publications and resolutions in order to advise HSSC on their updating.
- b) The WG should work by correspondence, teleconferences, group meetings, workshops or symposia. The WG should meet about once a year. When meetings are scheduled, and in order to allow any WG submissions and reports to be submitted to HSSC on time, WG meetings should not normally occur later than nine weeks before a meeting of the HSSC.
- c) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only MS may cast a vote. Votes at meetings shall be on the basis of one vote per MS represented at the meeting. Votes by correspondence shall be on the basis of one vote per MS represented in the WG.
- d) The date and venue of group meetings shall normally be announced by the Chair at least six months in advance.
- e) The draft record of meetings shall be distributed by the Chair (or the secretary) within six weeks of the end of meetings and participants' comments should be returned within three weeks of the date of despatch. Final minutes of meetings should be posted on the IHO website within three months after a meeting.
- f) Sub-working groups and project teams may be created by the WG or proposed to HSSC to undertake detailed work on specific topics. The terms of reference and rules of procedure of the sub-working groups and project teams are determined or proposed by the WG as appropriate.
- g) The WG should liaise with other IHO bodies, international organizations and industry to ensure the relevance of its work and timely notice of changes to the standards.
- h) The WG should prepare annually a report on its activities and a rolling two-year work plan, including expected time frame.

## **Annex 1**



## Description of the procedure for addressing S-57 data related issues

1. New issues which are potentially related to S-57 are submitted to the ENCWG chair group (chair and vice-chair of ENCWG) for review.
2. The ENCWG chair group considers whether the issue impacts S-57.
  - 2.a If it considers that the issue does not impact S-57, it reports to the IHB which decides on any follow-up action(s).
  - 2.b If it considers that the issue impacts S-57, it invites ENCWG to prepare of a temporary encoding bulletin (EB) and a draft change for S-57 Appendix B.1, Annex A - Use of the Object Catalogue for ENC (UOC).
3. In parallel the ENCWG chair group considers whether the issue has any other impact, i.e. on other IHO publication or on other stakeholders. The ENCWG chair group reports other impact(s), if any, to the IHB which decides on any follow-up action(s).
4. In parallel, the ENCWG chair group considers whether the issue is related to safety of navigation.
  - 4.a If it considers that the issue is safety-related, it reports to the IHB with proposed actions. See item 5.
  - 4.b If it considers that the issue is not safety-related, it authorizes the posting of the relevant temporary EB and draft UOC change. See note (i) and item 8.
5. The IHB reviews the report from the ENCWG chair group.
  - 5.a If the IHB agrees that the issue is safety-related, it informs Member States (MS) and stakeholders on the issue and the impact on safety, proposes the appropriate actions and invites comments. It also authorizes the posting of the relevant temporary EB and the draft UOC change. See note (i) and item 6.
  - 5.b If the IHB decides that the issue is not safety-related, it informs the ENCWG chair group and authorizes the posting of the relevant temporary EB and draft UOC change. See note (i) and item 8.
6. The IHB analyses the comments from MS and stakeholders. It establishes a synthesis to be considered by the ENCWG chair group and takes any follow-up actions which it considers appropriate.
7. The ENCWG chair group reviews the issue and invites ENCWG to amend the temporary EB and the draft UOC change if required.
8. ENCWG prepares/reviews and issues the draft UOC change and reports to HSSC at its next meeting. When appropriate, and as instructed by HSSC, ENCWG prepares a draft new edition of the UOC. ENCWG submits its proposal to HSSC.
9. HSSC reviews the draft new edition of the UOC submitted by ENCWG.
  - 9.a If HSSC accepts the draft new edition of the UOC, it invites the IHB to submit the draft to the approval of MS (in accordance with IHO Resolution 2/2007 as amended). See item 10.
  - 9.b If HSSC does not accept the draft new edition of the UOC, the proposal is sent back to the ENCWG chair group. See item 7.
10. The IHB submit the draft new edition of the UOC to the approval of MS.
11. MS reviews the draft new edition of the UOC
  - 11.a If the draft new edition is approved by the simple majority of MS, then the IHB publishes the new edition (taking into account comments if appropriate) and the temporary EB is cancelled.

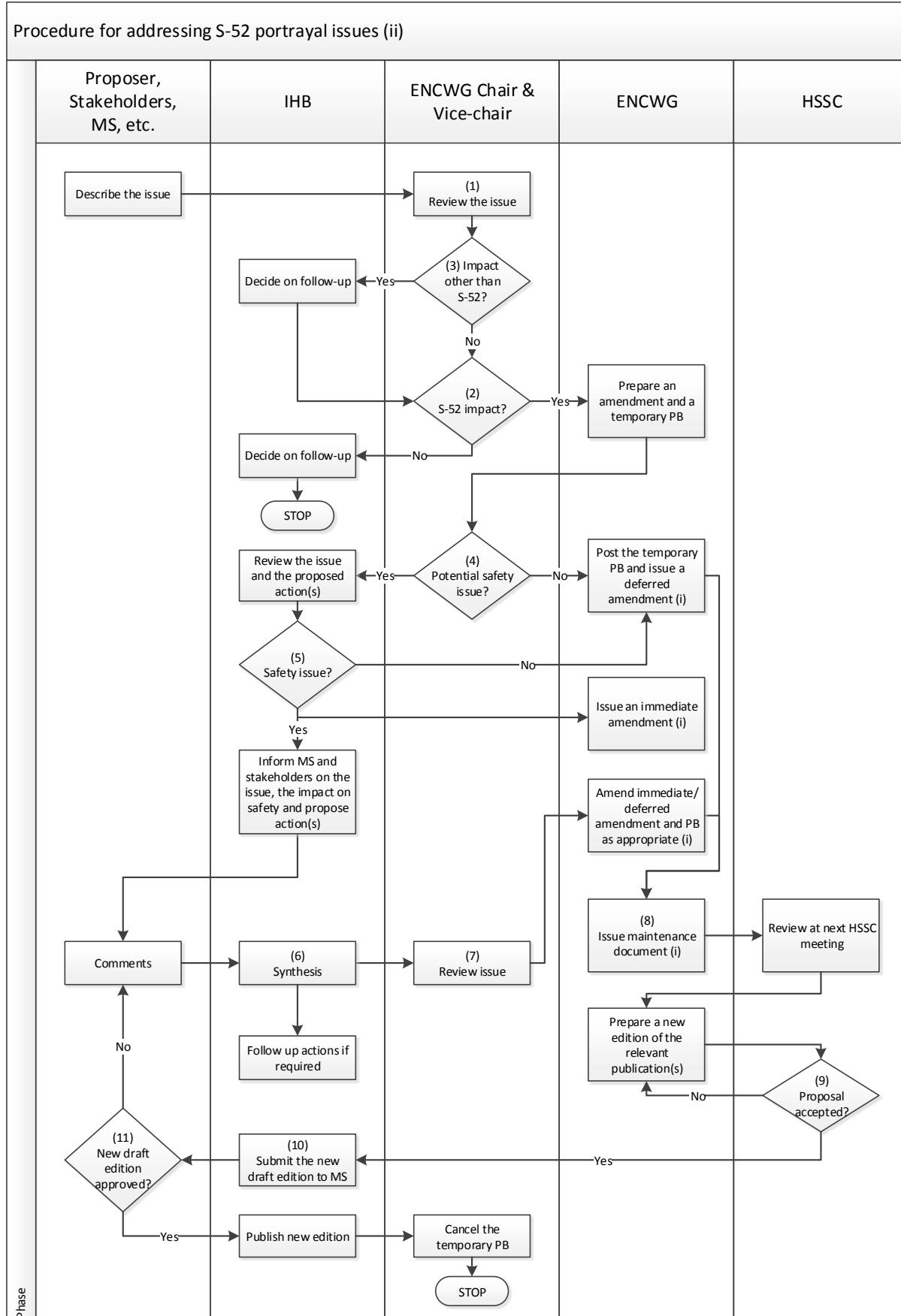
END.

- 11.b If the draft new edition is not approved by the MS, see item 6.

Notes:

- (i) The IHB informs MS and stakeholders of the posting of every EB by circular letter. Active EB are reviewed by ENCWG at its next meeting. ENCWG reports on the situation at the next HSSC meeting.
- (ii) ENCWG may decide to postpone the update of the UOC until a number of EB have been promulgated or until a period of time has elapsed since the previous revision/edition of the UOC.
- (iii) The flow diagram does not reflect the timeline. Potential safety issues are processed as expeditiously as possible.

## Annex 2



## **Description of the procedure for addressing S-52 portrayal issues**

1. New issues which are potentially related to S-52 are submitted to the ENCWG chair group (chair and vice-chair of ENCWG) for review.
2. The ENCWG chair group considers whether the issue impacts S-52.
  - 2.a If it considers that the issue does not impact S-52, it reports to the IHB which decides on any follow-up action(s).
  - 2.b If it considers that the issue impacts S-52, it invites ENCWG to prepare an amendment to the relevant component(s) of S-52 and a temporary chart presentation bulletin (PB).
3. In parallel the ENCWG chair group considers whether the issue has any other impact, i.e. on other IHO publication or on other stakeholders. The ENCWG chair group reports other impact(s), if any, to the IHB which decides on any follow-up action(s).
4. In parallel, the ENCWG chair group considers whether the issue is related to safety of navigation.
  - 4.a If it considers that the issue is safety-related, it reports to the IHB with proposed actions. See item 5.
  - 4.b If it considers that the issue is not safety-related, it authorizes the posting of the relevant temporary PB and issue a deferred amendment to the relevant publication. See note (i) and item 8.
5. The IHB reviews the report from the ENCWG chair group.
  - 5.a If the IHB agrees that the issue is safety-related, it informs Member States (MS) and stakeholders on the issue and the impact on safety, proposes the appropriate actions and invites comments. It also tasks ENCWG to issue an immediate amendment. See note (i) and item 6.
  - 5.b If the IHB decides that the issue is not safety-related, it informs the ENCWG chair group and authorizes the posting of the relevant temporary PB and the issuance of a deferred amendment. See note (i) and item 8.
6. The IHB analyses the comments from MS and stakeholders. It establishes a synthesis to be considered by the ENCWG chair group and takes any follow-up actions which it considers appropriate.
7. The ENCWG chair group reviews the issue and invites ENCWG to amend the relevant amendment and temporary PB if required.
8. ENCWG prepares/reviews and issues a S-52 maintenance document and reports to HSSC at its next meeting. When appropriate, and as instructed by HSSC, ENCWG prepares a draft new edition of the relevant component of S-52. ENCWG submits its proposal to HSSC.
9. HSSC reviews the draft new edition submitted by ENCWG.
  - 9.a If HSSC accepts the draft new edition, it invites the IHB to submit the draft to the approval of MS (in accordance with IHO Resolution 2/2007 as amended). See item 10.
  - 9.b If HSSC does not accept the draft new edition, the proposal is sent back to ENCWG. See item 8.
10. The IHB submits the draft new edition to the approval of MS.
11. MS review the draft new edition.
  - 11.a If the draft new edition is approved by the simple majority of MS, then the IHB publishes the new edition (taking into account comments if appropriate) and the temporary PB is cancelled.  
END.

11.b If the draft new edition is not approved by the MS, see item 6.

Notes:

- (i) The IHB informs MS and stakeholders of the posting of every PB and the issuance of every amendment by circular letter.
- (ii) The flow diagram does not reflect the timeline. Potential safety issues are processed as expeditiously as possible.

### **III. NAUTICAL INFORMATION PROVISION WORKING GROUP (NIPWG)**

*Ref: 6<sup>th</sup> HSSC Meeting (Viña del Mar, Chile, November 2014)*

#### **1. Objective**

- a) To develop and maintain guidance, resolutions and specifications in order to provide shipboard users the necessary and up-to-date information in a timely manner to allow for the planning of a safe route for the intended voyage and the safeguarding of the ship's navigation throughout the voyage;
- b) To support the development and maintenance of related specifications in liaison with the relevant IHO bodies and non-IHO entities;
- c) To monitor the evolution of the requirements and regulations of marine navigation.
- d) To develop and maintain the relevant IHO publications for which the WG is responsible.

#### **2. Authority**

This WG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC). Its work is subject to HSSC approval.

#### **3. Composition and Chairmanship**

- a) The WG shall comprise representatives of IHO Member States (MS), Expert Contributors (EC), observers from accredited NGIO, and a representative of the IHB (“IHB” to be replaced by “IHO Secretariat” when the IHO Secretariat is established). A membership list shall be maintained and posted on the IHO website.
- b) EC membership is open to entities and organizations that can provide a relevant and constructive contribution to the work of the WG.
- c) The Chair and Vice-Chair shall be a representative of a MS. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters into force) and shall be determined by vote of the MS present and voting.
- d) If a secretary is required it should normally be drawn from a member of the WG.
- e) 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.
- f) ECs shall seek approval of membership from the Chair.
- g) EC membership may be withdrawn in the event that a majority of the MS represented in the WG agrees that an EC's continued participation is irrelevant or unconstructive to the work of the WG.
- h) All members shall inform the Chair in advance of their intention to attend meetings of the WG.
- i) In the event that a large number of EC members seek to attend a meeting, the Chair may restrict attendance by inviting ECs to act through one or more collective representatives.

#### **4. Procedures**

- a) The WG should:
  - (i) keep under review the relevant IHO publications and resolutions in order to

- advise HSSC on their updating;
  - (ii) draft or revise guidance documents, resolutions and specifications as appropriate and as instructed by HSSC;
  - (iii) keep under review relevant requirements and regulations of marine navigation and advise HSSC accordingly;
  - (iv) monitor the operational performance of IHO specifications, the progress in relevant technologies and navigational equipment , and the feedback from users; and
  - (v) consider new relevant topics as instructed by HSSC and advise HSSC accordingly.
- b) The WG should work by correspondence, teleconferences, group meetings, workshops or symposia. The WG should meet about once a year. When meetings are scheduled, and in order to allow any WG submissions and reports to be submitted to HSSC on time, WG meetings should not normally occur later than nine weeks before a meeting of the HSSC.
- c) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only MS may cast a vote. Votes at meetings shall be on the basis of one vote per MS represented at the meeting. Votes by correspondence shall be on the basis of one vote per MS represented in the WG.
- d) The date and venue of group meetings shall normally be announced by the Chair at least six months in advance.
- e) The draft record of meetings shall be distributed by the Chair (or the secretary) within six weeks of the end of meetings and participants' comments should be returned within three weeks of the date of despatch. Final minutes of meetings should be posted on the IHO website within three months after a meeting.
- f) Sub-working groups and project teams may be created by the WG or proposed to HSSC to undertake detailed work on specific topics. The terms of reference and rules of procedure of the sub-working groups and project teams are determined or proposed by the WG as appropriate.
- g) The WG should liaise with other IHO bodies, international organizations and industry to ensure the relevance of its work.
- h) The WG should prepare annually a report on its activities and a rolling two-year work plan, including expected time frame.

## **IV. TIDES, WATER LEVEL AND CURRENTS WORKING GROUP (TWCWG)**

*Ref: 6<sup>th</sup> HSSC Meeting (Viña del Mar, Chile, November 2014)*

### **1. Objective**

- a) To provide technical advice and coordination on matters related to tides, water levels, currents and vertical datum, including integrated water level/current data models.
- b) To support the development and maintenance of related specifications in liaison with the relevant IHO bodies and non-IHO entities;
- c) To develop and maintain the IHO publications for which the WG is responsible.

### **2. Authority**

This WG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC). Its work is subject to HSSC approval.

### **3. Composition and Chairmanship**

- a) The WG shall comprise representatives of IHO Member States (MS), Expert Contributors (EC), observers from accredited NGIO, and a representative of the IHB (“IHB” to be replaced by “IHO Secretariat” when the IHO Secretariat is established). A membership list shall be maintained and posted on the IHO website.
- b) EC membership is open to entities and organizations that can provide a relevant and constructive contribution to the work of the WG.
- c) The Chair and Vice-Chair shall be a representative of a MS. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters into force) and shall be determined by vote of the MS present and voting.
- d) If a secretary is required it should normally be drawn from a member of the WG.
- e) 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.
- f) ECs shall seek approval of membership from the Chair.
- g) EC membership may be withdrawn in the event that a majority of the MS represented in the WG agrees that an EC’s continued participation is irrelevant or unconstructive to the work of the WG.
- h) All members shall inform the Chair in advance of their intention to attend meetings of the WG.
- i) In the event that a large number of EC members seek to attend a meeting, the Chair may restrict attendance by inviting ECs to act through one or more collective representatives.

### **4. Procedures**

- a) The WG should:
  - (i) monitor and develop the use of tidal, water level and current information including integrated water level/current data models;
  - (ii) advise on the use of vertical datums;
  - (iii) advise on tidal, water level and current observation, analysis and prediction;

- (iv) advise on matters concerning exchange, distribution and use of tidal, water level and current related data/information;
  - (v) study principles and contribute to the development of improved methods for conveying tidal, water level and current information to mariners and other users;
  - (vi) keep under review the relevant IHO publications and resolutions in order to advise HSSC on their updating;
  - (vii) draft or revise guidance document(s), resolutions and specifications as appropriate and as instructed by HSSC; and
  - (viii) consider new related topics as instructed by HSSC and advise HSSC accordingly.
- b) The WG should work by correspondence, teleconferences, group meetings, workshops or symposia. The WG should meet about once a year. When meetings are scheduled, and in order to allow any WG submissions and reports to be submitted to HSSC on time, WG meetings should not normally occur later than nine weeks before a meeting of the HSSC.
- c) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only MS may cast a vote. Votes at meetings shall be on the basis of one vote per MS represented at the meeting. Votes by correspondence shall be on the basis of one vote per MS represented in the WG.
- d) The date and venue of group meetings shall normally be announced by the Chair at least six months in advance.
- e) The draft record of meetings shall be distributed by the Chair (or the secretary) within six weeks of the end of meetings and participants' comments should be returned within three weeks of the date of despatch. Final minutes of meetings should be posted on the IHO website within three months after a meeting.
- f) Sub-working groups and project teams may be created by the WG or proposed to HSSC to undertake detailed work on specific topics. The terms of reference and rules of procedure of the sub-working groups and project teams are determined or proposed by the WG as appropriate.
- g) The WG should liaise with other IHO bodies, international organizations and industry to ensure the relevance of its work.
- h) The WG should prepare annually a report on its activities and a rolling two-year work plan, including expected time frame.

## **V. Generic terms of reference and rules of procedure for HSSC Project Teams**

Reference: [x]<sup>th</sup> [WG name/HSSC] Meeting [location, date]

### **1. Objective**

To [develop / revise / extend / ...] ... (*name of standards, publication, or product specification*).

### **2. Authority**

This Project Team is a subsidiary of the ... (*name of WG or Committee*). Its work is guided by the work plan established by ... (*acronym of the WG or Committee*) and subject to its approval.

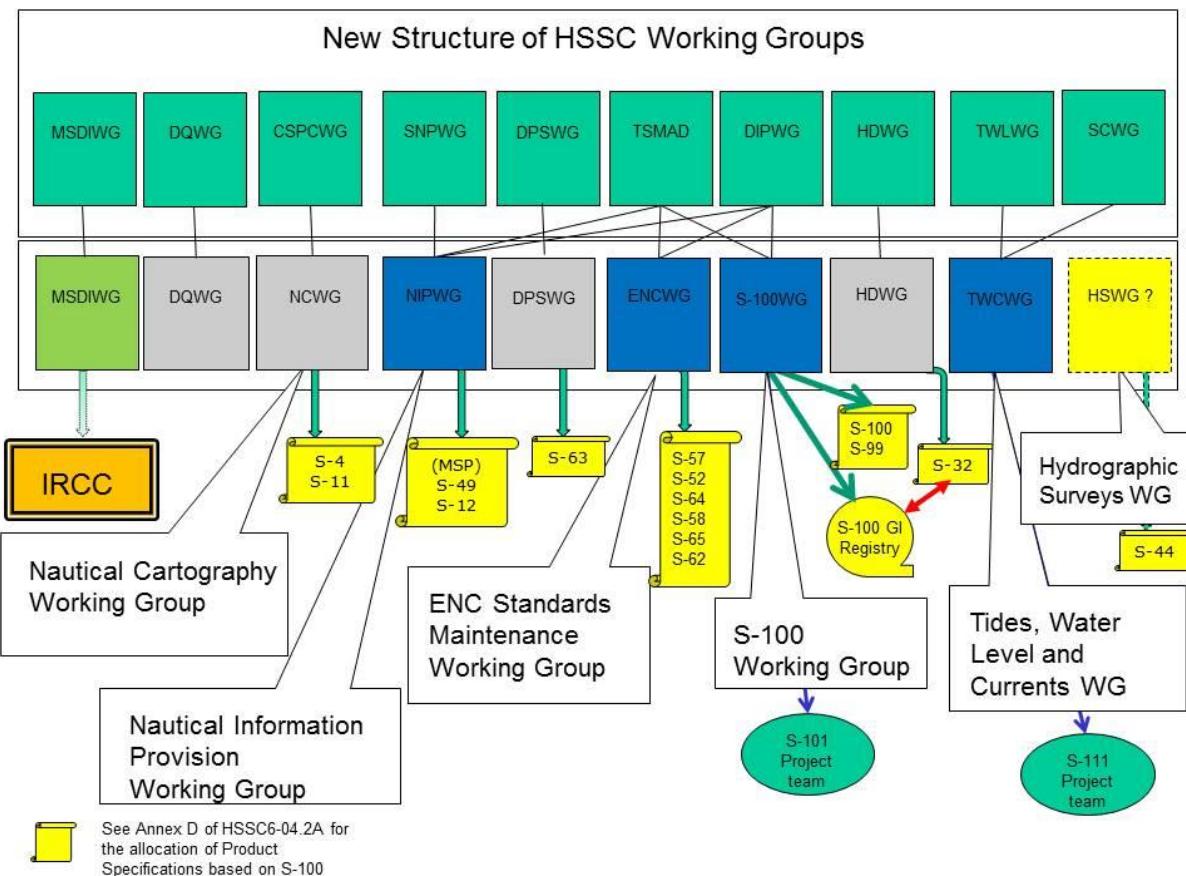
### **3. Composition and Chairmanship**

- a) The Project Team shall comprise representatives of IHO Member States (MS), Expert Contributors (EC) and observers from accredited international organizations. The IHB may be represented (“IHB” to be replaced by “IHO Secretariat” when the IHO Secretariat is established). A membership list shall be maintained and posted on the IHO website.
- b) EC membership is open to entities and organizations that can provide a relevant and constructive contribution to the work of the Project Team.
- c) The Chair is designated by the parent body.
- d) If a secretary is required it should normally be drawn from a member of the Project Team.
- e) ECs shall seek approval of membership from the Chair.
- f) EC membership may be withdrawn in the event that a majority of the members in the Project Team agrees that an EC’s continued participation is irrelevant or unconstructive to the work of the Project Team.

### **4. Procedures**

- a) The Project Team should work primarily by correspondence and teleconferences, although face to face meetings at the project start, and at other significant milestones, may be convenient when held in conjunction with another convenient IHO forum.
- b) Decisions should be made by consensus. Dissenting opinions if any should be reflected in the Project Team report.
- c) The Project Team should liaise with other IHO bodies, international organizations and industry to ensure the relevance of its work.
- d) The Project Team should report in accordance with its work plan.

**ARRANGEMENTS FOR THE TRANSITION TO THE NEW STRUCTURE OF HSSC WGs**



| New WG Title | Current WG | Last meeting of Current WG | Transition Coordinator | First meeting of New WG | Comments  |  |  |
|--------------|------------|----------------------------|------------------------|-------------------------|---|--|--|
| S-100WG      | TSMAD      | (31 Mar - 4 Apr 2014)      | Chair TSMAD            | 2-6 Feb 2015            | Joint meeting aligned with planned dates for TSMAD29 & DIPWG7 |  |  |
|              | DIPWG      |                            |                        |                         |   |  |  |
| ENCWG        | TSMAD      | (31 Mar - 4 Apr 2014)      | Chair DIPWG            |                         |   |  |  |
|              | DIWPG      |                            |                        |                         |   |  |  |
| TWCWG        | TWLWG      | (25-28 Mar 2014)           | Chair TWLWG            | 21-24 Apr 2015          |   |  |  |
|              | SCWG       | (28-30 May 2014)           |                        |                         |   |  |  |
| NIPWG        | SNPWG      | 1-4 Dec 2014               | Chair SNPWG            | June 2015               |   |  |  |

|        | DPSWG      |                         |                        |                      | Review of the continuation at HSSC-7 |
|--------|------------|-------------------------|------------------------|----------------------|--------------------------------------|
|        | DQWG       |                         |                        |                      |                                      |
|        | HDWG       |                         |                        |                      |                                      |
|        | NCWG       |                         |                        |                      |                                      |
| New WG | Current WG | Last meeting Current WG | Transition Coordinator | First meeting New WG | Comments                             |

**Note:** MSDIWG will report to IRCC from 1 January 2015

## LIST OF ACTIONS FROM HSSC6

| AGENDA ITEM  | SUBJECT   | ACTION No. | ACTIONS<br>(in bold, action by)  | TARGET DATE/EVENT   | STATUS (at 14 Nov. 2014) |
|--|---|------------|--|---------------------|--------------------------|
| <b>3. MATTERS ARISING FROM DRAFT REPORT OF 5<sup>th</sup> HSSC MEETING</b> |   |            |  |                     |                          |
| 3  | S-66  | HSSC6/01   | <b>IHO MS</b> to consider and plan translation of the English version of S-66 in other languages (French, Spanish, etc.) when Stage 1 proposed by S-66 Project Team is completed (expected end of June 2015).  | <b>HSSC-7</b>       |                          |
| 3  | S-66  | HSSC6/02   | <b>S-66 Project Team</b> to refer to the draft IMO ECDIS Guidance endorsed by NCSR 1, subject to the outcomes of HTW 2 and MSC 95.   | <b>HSSC-7</b>       |                          |
| <b>4. HSSC ADMINISTRATION</b>  |   |            |  |                     |                          |
| <b>4.1 Implementation of Programme Performance Indicators</b>              |   |            |  |                     |                          |
| 4.1  | HSSC Programme Performance Indicators (PIs)     | HSSC6/03   | Inputs to the current HSSC WPI for the 2014 period to be provided by <b>HSSC WG Chairs</b> (Performance Indicators No 2 and 3) and WEND WG Chair (Performance Indicator No 5) by 31 January 2015.  | <b>31 Jan. 2015</b> |                          |
| <b>4.2 Restructuring of HSSC Working Groups</b>                            |   |            |  |                     |                          |
| 4.2  | IHO MS information on outcomes of restructuring | HSSC6/04   | <b>IHB</b> to issue an IHO CL informing on the outcomes of the HSSC WGs restructuring and inviting IHO MS to designate their representatives and nominate candidates for WGs Officers (Chair, Vice-Chair, Secretary) so elections can be organized at the 1 <sup>st</sup> meeting of the new groups. | <b>30 Nov. 2014</b> |                          |
| 4.2  | Implementation of transition arrangements       | HSSC6/05   | <b>Chairs of S-100WG, DPSWG, HDWG</b> to investigate the interactions between their activities and report at HSSC-7.   | <b>HSSC-7</b>       |                          |
| 4.2  | Implementation of transition arrangements       | HSSC6/06   | <b>S-100WG</b> to consider the need for creating an S-101 Project Team (with contribution of ENCWG if deemed necessary).   | <b>HSSC-7</b>       |                          |

| AGENDA ITEM  | SUBJECT                                   | ACTION No. | ACTIONS<br>(in bold, action by)  | TARGET DATE/EVENT   | STATUS<br>(at 14 Nov. 2014) |
|--|---|------------|--|---------------------|-----------------------------|
| 4.2  | Implementation of transition arrangements | HSSC6/07   | <b>TWCWG</b> to consider the need for creating an S-111 Project Team (in liaison with S-100WG).  | <b>HSSC-7</b>       |                             |
| 4.2  | Implementation of transition arrangements | HSSC6/08   | <b>Transition coordinators</b> to manage the implementation of the new structure of WGs in accordance with transition arrangements agreed at HSSC-6.   | <b>HSSC-7</b>       |                             |
| 4.2  | Implementation of transition arrangements | HSSC6/09   | <b>NCWG</b> to report on its continuance after 2015 and if required propose amendments to the current CSPCWG TORs to reflect the change of name.   | <b>HSSC-7</b>       |                             |
| 4.2  | S-100WG TOR                               | HSSC6/10   | <b>S-100WG</b> to consider whether additional business rules should be imposed (via draft amendments to S-100 Part 12).  | <b>HSSC-7</b>       |                             |
| 4.2  | HSSC WGs Restructuring                    | HSSC6/11   | <b>IHB</b> to issue an IHO CL inviting IHO MS to provide their views on the scope, topics and work items, if any, to be addressed through the establishment of an Hydrographic Surveys WG and on their involvement if such a WG was established. | <b>March 2015</b>   |                             |
| <b>5. REPORTS BY HSSC WORKING GROUPS</b>                                     |   |            |  |                     |                             |
| <b>5.1 Transfer Standard Maintenance and Application Development (TSMAD)</b> |   |            |  |                     |                             |
| 5.1  | S-100 Ed. 2.0.0                           | HSSC6/12   | <b>TSMAD</b> to provide relevant documentation to the IHB in accordance with Resolution 2/2007 as amended, so the <b>IHB</b> can issue an IHO CL for seeking approval of S-100 Ed.2.0.0 by IHO MS.   | <b>31 Dec. 2014</b> |                             |
| 5.1  | S-102                                     | HSSC6/13   | In accordance with Resolution 2/2007 as amended, <b>TSMAD</b> to provide relevant documentation on the impact assessment for HOs and Industry of the future edition of S-102.  | <b>HSSC-7</b>       |                             |

| AGENDA ITEM | SUBJECT        | ACTION No. | ACTIONS<br>(in bold, action by)  | TARGET DATE/EVENT                              | STATUS (at 14 Nov. 2014) |
|-------------|----------------|------------|--|--|--------------------------|
| 5.1         | S-58           | HSSC6/14   | <b>IHB</b> to issue a letter to IHO ENC Producers and RENCs asking them whether the principles of including <u>all</u> necessary ENC updates in ER profiles (including those affecting <u>existing</u> ENCs) in order to make these updated ENCs compliant to Ed.5.0.0 of S-58, can be achieved from 1 January 2016 and report on any potential implementation issues. | <b>31 Dec. 2014</b>                            |                          |
| 5.1         | S-58           | HSSC6/15   | Based on the outcomes of action HSSC6/14, <b>IHB</b> to report to the IHO MS on the implementation scheme and on the entry-into-force of S-58 Ed.5.0.0 (1 Jan 2016).   | <b>By HSSC-7</b>                               |                          |
| 5.1         | S-99           | HSSC6/16   | <b>S-100WG</b> to implement the proposal of TSMAD related to the registration of Product Specifications and to draft the appropriate changes to the S-100 GI Registry and S-99.  | <b>HSSC-7</b>                                  |                          |
| 5.1 & 4.3   | S-100 Registry | HSSC6/17   | <b>Chairs of TSMAD and DIPWG</b> to provide the IHB with the final version of the job description for S-100 Registry administration together with the estimate of resource (man/day) required.   | <b>21 Nov. 2014</b>                            |                          |
| 5.1 & 4.3   | S-100 Registry | HSSC6/18   | <b>IHB</b> to issue a CL requesting IHO MS to investigate for available resources against the Registry Manager job description and informing them that, if needed, they would have to consider an amendment to the IHO 2015 Approved Budget for supporting/funding that specific new task at the expense of agreed tasks in the IHO Work Programme.                    | <b>30 Nov. 2014</b><br><br><b>15 Jan. 2015</b> |                          |
| 5.1 & 4.3   | S-100 Registry | HSSC6/19   | Noting the retirement of the actual Registry Manager planned at the end of Feb. 2015 and considering the outcome of action HSSC6/18, <b>HSSC Chair Group in liaison with IHB</b> to implement a short term (interim?) solution for S-100 Registry Administration.  | <b>1 March 2015</b>                            |                          |

| AGENDA ITEM  | SUBJECT   | ACTION No. | ACTIONS<br>(in bold, action by)   | TARGET DATE/EVENT                                | STATUS (at 14 Nov. 2014) |
|--|---|------------|---|--|--------------------------|
| 5.1 & 4.3  | S-100 Registry  | HSSC6/20   | <b>S-100 WG</b> to investigate possible options for providing some redundancy/robustness in the administration of the Registry and Registers managed by the IHO in the long term.   | <b>HSSC-7</b>                                    |                          |
| <b>5.2 Data Protection Scheme Working Group (DPSWG)</b>              |   |            |   |  |                          |
| 5.2  | S-63 Ed. 1.2  | HSSC6/21   | Following endorsement of Annex C to S-63 Ed. 1.2.0 by HSSC at the 6 <sup>th</sup> meeting, <b>IHB in liaison with DPSWG Chair</b> (subject to his availability), to finalize the draft version of S-63 Ed 1.2.0 within 2 weeks.         | <b>23 Nov. 2014</b>                              |                          |
| 5.2  | S-63 Ed. 1.2  | HSSC6/22   | Considering the timelines for the adoption of IEC 61174 (deadline for IEC Committee Draft for Voting is 9 Jan. 2015), <b>IHB</b> to issue an IHO CL seeking the approval of S-63 Ed. 1.2.0 by IHO MS by end of January 2015.            | <b>30 Nov. 2014</b><br><b>31 Jan. 2015</b>       |                          |
| 5.2  | Extension of S-63 certificates to other navigational products | HSSC6/23   | <b>DPSWG</b> to consider the extension of S-63 certificates to other navigational products, and report to HSSC with an assessment of additional resources needed (if any) and potential impact on other tasks and their prioritization. | <b>31 Jan. 2015 (interim report) then HSSC-7</b> |                          |
| <b>5.4 Standardization of Nautical Publications WG (SNPWG)</b>       |   |            |   |  |                          |
| 5.4  | Liaison between IALA / Light Identifiers                      | HSSC6/24   | <b>NIPWG</b> to monitor IALA activities on Aids-to-Navigation data transfer (S-201) and report to HSSC.   | <b>HSSC-7</b>                                    |                          |
| 5.6  | Portrayal of Data Quality                                     | HSSC6/25   | <b>NIPWG</b> to stand up a project team to develop the portrayal of data quality categories in collaboration with S-100WG and NCWG.   | <b>HSSC-7</b>                                    |                          |
| <b>5.7 Marine Spatial Data Infrastructure Working Group (MSDIWG)</b> |   |            |   |  |                          |
| 5.7  | Liaison between MSDIWG and HSSC in the future                 | HSSC6/26   | <b>HSSC Secretary</b> to ensure that a specific report on MSDIWG activities affecting HSSC is included in the HSSC meeting agenda every year.   | <b>HSSC-7</b>                                    |                          |
| 5.7  | Transfer under IRCC   | HSSC6/27   | <b>IHB</b> to implement the transfer of MSDIWG to IRCC in liaison with IRCC Chair.  | <b>31 Dec. 2014</b>                              |                          |

| AGENDA ITEM   | SUBJECT   | ACTION No. | ACTIONS<br>(in bold, action by)  | TARGET DATE/EVENT   | STATUS (at 14 Nov. 2014) |
|---|---|------------|--|---------------------|--------------------------|
| <b>5.8 Tidal and Water Level Working Group (TWLWG)</b>  |   |            |  |                     |                          |
| 5.8   | Resolution 3/1919   | HSSC6/28   | <b>TWCWG</b> to submit a new draft Resolution 3/1919 and relevant definitions (MSL, LAT) to HSSC, in liaison with HDWG, taking into account observations received from IHO MS (IHO CL 44/2014 refers).   | <b>HSSC-7</b>       |                          |
| 5.4, 5.6 & 5.8  | S-112 – Real-time Tidal Data Transfer Product Specification | HSSC6/29   | <b>TWCWG</b> to liaise with S-100WG to identify the appropriate expertise to progress in the development of real-time tidal data transfer product specification (S-112).   | <b>HSSC-7</b>       |                          |
| 5.4, 5.6 & 5.8  | S-10x – Tidal Product Specification for Surface Navigation  | HSSC6/30   | <b>TWCWG</b> to liaise with S-100WG to identify the appropriate expertise to progress in the development of tidal product specification for surface navigation (S-10x).  | <b>HSSC-7</b>       |                          |
| 5.8   | Tide Courses  | HSSC6/31   | <b>TWCWG</b> to consider the IOC Special Tide Course material for progressing work item M.1.   | <b>HSSC-7</b>       |                          |
| 5.8   | TWCWG Future Programme of Work 2016-....                    | HSSC6/32   | <b>TWCWG</b> to consider the need to add a new task in its future programme of work on the applications of water level and current products for non-navigation purposes.   | <b>HSSC-7</b>       |                          |
| <b>5.9 Hydrographic Dictionary Working Group (HDWG)</b> |   |            |  |                     |                          |
| 5.9   | Future of HDWG Business Rules                               | HSSC6/33   | AU to liaise with HDWG Chair and Members by correspondence in order to draft new business rules for the HDWG, focused on database approach and addressing relation with the S-100 Registry on one hand, with HSSC WGs and other IHO and inter-organizational bodies (such as SCUFN) on the other hand. | <b>1 March 2015</b> |                          |
| 5.9   | Future of HDWG  | HSSC6/34   | <b>HDWG</b> to consider the need for a face-to-face meeting in 2015 and report to HSSC-7 on the transition and implementation plan of the new business rules taking into account available resources.  | <b>HSSC-7</b>       |                          |

| AGENDA ITEM   | SUBJECT                                | ACTION No. | ACTIONS<br>(in bold, action by)  | TARGET DATE/EVENT                         | STATUS (at 14 Nov. 2014) |
|---|--|------------|--|---|--------------------------|
| <b>6. INTER-ORGANIZATIONAL BODIES</b>                                   |  |            |  |   |                          |
| <b>6.1 Advisory Board on the Law of the Sea (ABLOS)</b>                 |  |            |  |   |                          |
| 6.1   | ABLOS TORs                             | HSSC6/35   | <b>IHB</b> to liaise with IAG to amend the TORs of ABLOS, and then issue a CL seeking the approval of IHO MS on the amendments of HSSC TORs which will reflect that the ABLOS Chair could designate a representative to report at HSSC meetings. | <b>by 8<sup>th</sup> ABLOS Conference</b> |                          |
| 6.1   | S-121 – Maritime Limits and Boundaries | HSSC6/36   | <b>AU</b> to report on the development of the Product Specification on Maritime Limits and Boundaries (S-121) at HSSC-7.   | <b>HSSC-7</b>                             |                          |
| <b>7. DECISIONS OF OTHER BODIES AFFECTING HSSC</b>                      |  |            |  |   |                          |
| <b>7.7 IOGP – OGC</b>   |  |            |  |   |                          |
| 7.7   | Harmonization in standards development | HSSC6/37   | <b>S-100WG</b> to monitor and coordinate interactions with OGC and IOGP, to ensure proper harmonization in the development of standards (such as IOGP SSDM SeabedML) and facilitate the multi-use of survey data and report to HSSC.             | <b>HSSC-7</b>                             |                          |
| <b>9. LIAISON WITH EXTERNAL STAKEHOLDERS</b>                            |  |            |  |   |                          |
| 9.1   | IHO Stakeholders' forum                | HSSC6/38   | <b>HSSC Chair Group</b> to consider the organization of a Stakeholders' forum in conjunction with HSSC-7 pending marks of interest from Stakeholders to be polled by the IHB.  | <b>HSSC-7</b>                             |                          |
| <b>10. REVIEW AND ENDORSEMENT OF HSSC WORK PLAN AND LIST OF ACTIONS</b> |  |            |  |   |                          |
| 10  | Status of IHO Publications             | HSSC6/39   | <b>Members</b> to provide further comments on the list of IHO Publications regarding the next edition dates and possible requirements and contributions for translation in French and/or Spanish.  | <b>HSSC-7</b>                             |                          |