

IHO HYDROGRAPHIC SERVICES & STANDARDS COMMITTEE (HSSC)
1st Meeting, Singapore, 22-24 October 2009

MINUTES

- Notes: 1) Paragraph numbering is the same as in the agenda (Annex D)
2) A list of acronyms used in this report is provided at Annex A
3) A list of actions agreed at HSSC1 is provided at Annex E
4) All documents referred to in these minutes are available from the HSSC page of the IHO website (www.iho-ohi.net/mtg_docs/com_wg/HSSC/HSSC1/HSSC1Docs.htm)

1. OPENING AND ADMINISTRATIVE ARRANGEMENTS

- Docs: [HSSC1-01A](#) rev.12 List of Documents (also Annex B)
[HSSC1-01B](#) rev.8 List of Participants (also Annex C)
[HSSC1-01C](#) HSSC – List of Contacts
[HSSC1-01D](#) Terms of Reference for HSSC and related Working Groups

The Chair of HSSC (Capt Vaughan NAIL, United Kingdom) opened the meeting and welcomed delegates. He mentioned that in attendance were the chief Hydrographers from several HOs. In particular, he noted the attendance for the first time of North Korea (DPRK), and several Non-Governmental International Organizations (NGIOs), namely IMPA, IALA, CNITA, and a sister inter-governmental organization UN DOALOS. Ing. en chef Michel HUET (IHB) served as Secretary and introduced the above documents. Dr. Lee ALEXANDER (IALA/IEHG) agreed to serve as Rapporteur. Capt Robert WARD, IHB Director, represented the Bureau.

Outcome:

- The Committee noted the documents introduced.

2. APPROVAL OF AGENDA

- Docs: [HSSC1-02A](#) rev.12 Agenda and Timetable (also Annex D)

IHB (HUET) explained the most recent amendments. The agenda was approved with amendments.

Outcome:

- The Committee approved the agenda, as amended (see Annex D).

3. MATTERS ARISING FROM MINUTES OF 20TH CHRIS MEETING

- Docs: [HSSC1-03A](#) Minutes of the 20th CHRIS Meeting
[HSSC1-03B](#) rev.3 List of Actions from the 20th CHRIS Meeting and Status
[HSSC1-03C](#) Relationship between ISO and IHO Geospatial Standards
[HSSC1-03D](#) NHC Report on the possible need for an S100-based data exchange standard for paper charts
[HSSC1-03E](#) Status Report of RTCA Correspondence Group on Data Supply Chain certification (CG-DSCC)
[HSSC1-03F](#) Report on the creation and first outcomes of the Correspondence Group on Definition and Length of Coastline

IHB (HUET) reviewed the status of Actions from CHRIS20, noting that most actions were completed. Some pending actions would be addressed later in the meeting. The following points were noted:

- Action CHRIS20/2 (*Use of ISO standards*) - IHB (WARD) reported on recent communications with ISO (HSSC1-03C). He reported that ISO has allowed the IHO to use ISO copyright material in the standards in S-100 supporting documentation. ISO is also considering acknowledging the IHO as a recognized certifying authority.
- Action CHRIS20/10 (*Product Specification for digital paper charts*) - Sweden (MAGNUSSON) clarified the issue of improved data exchange within the NHC region (HSSC1-03D) and reported that NHC now considers that there are no requirements for the development of a Product Specification for Digital Paper Charts (Task A.9 in the TSMAD Work plan). Data exchange can be achieved by existing IHO standards and no further work is required. The Committee therefore agreed that Task A.9 be removed from the TSMAD Work Plan
- Action CHRIS20/9 (*Data Supply Chain Certification*) - RTCA (BERGMANN) reported on the work of the Data Supply Chain Certification Correspondence Group (HSSC1-03E). He proposed that a WG be established to develop a Data Supply Chain Certification Standard. Relevant aviation standards could be used as a model. A proposal for terms of reference for such a WG was provided.

There followed a lengthy discussion on the pros and cons of setting up a new WG on this matter. While there was consensus on the importance of this issue and the benefits expected from supply chain certification, it was generally felt there were not sufficient convincing arguments to establish a WG at this stage. UK (JONES) felt that this type of work could be incorporated in the current work of DPSWG. Germany (JONAS) suggested that the considerations in HSSC1-03E be expanded to address data coming from various sources and did not believe that synchronization should occur in the end user devices. Norway (KVAMME) suggested this development be coordinated with TSMAD.

The Committee agreed that the RTCA Correspondence Group (CG) should be invited to continue its studies and provide a further report to HSSC2. The report should include appropriate evidence and justification if a data supply chain certification standard was warranted, particularly for value-added products, together with a proposal for how such a standard could be implemented under the IHO. The Chair encouraged the active participation of MS in the CG to provide input to both technical and strategic issues. Germany, Canada, Australia, USA, UK, Chile, Portugal, and Norway indicated that they would participate in the RTCA CG.

- Action CHRIS20/5 (*Length of Coastline*) – France (DÉNIEL) [reported on the progress](#) made so far on this matter (HSSC1-03F), further stressing this is an important issue within the European Union. USA (ANDREASEN) strongly supported that this study be continued. Discussions related to the reference water mark and to the point density to be used in expressing a coastline's length. The Committee, noting that this work is relevant to MS, agreed that the Correspondence Group on the Length of Coastline be invited to continue its work and report back to HSSC2.
- Action CHRIS20/35 (*Facts about Electronic Charts and Carriage Requirements*) – IHB (WARD) reported that the finalization of S-66 is at an advanced stage. The PRIMAR / IC-ENC Joint Information WG (JIWG) has updated the former RENC document and therefore S-66 can be published in early 2010. He noted that MS have already approved the publication of S-66, subject to the completion of the revision by JIWG.

Outcome:

- The Committee agreed the Minutes of CHRIS20 as a true record.
- The Committee noted the list of actions reviewed.
- **Action HSSC1/1 - IHB/TSMAD Chair** to remove Task A.9 “*Develop S-57 to paper chart functionality and Print-on-Demand (POD) file transfer guidelines*” from the TSMAD Work Plan.
- **Action HSSC1/2 - RTCA Correspondence Group** (RTCA, Germany, Canada, Australia, USA, UK, Chile, Portugal, and Norway) invited to continue studies on Data Supply Chain Certification and provide a further

report to HSSC2 with any compelling evidence on its necessity, particularly for value-added products, and a proposal for implementation within the IHO.

- **Action HSSC1/3 - France** invited to continue to lead a correspondence group on the development of a standardised approach to the determination of the length of coastlines and report to HSSC2.
- **Action HSSC1/4 - IHB** to complete the revision of *Facts about Electronic Charts and Carriage Requirements*, and circulate it as an IHO publication as soon as possible.

4. DECISION OF OTHER BODIES AFFECTING HSSC

4.1 4th Extraordinary International Hydrographic Conference

Docs: [HSSC1-04.1A](#) *Outcomes from the 4th Extraordinary International Hydrographic Conference, Monaco, 2-5 June 2009*

IHB (WARD) introduced the paper and highlighted the ongoing study by the IHB, assisted by Norway, to develop an IHO risk management plan. The study, the outcomes of which should be reported to MS by the end of 2011, will identify the roles and obligations of the IHB, the IHO committees and the MS in the development, monitoring, and execution of the IHO strategic plan. This will include identifying any additional resource required to undertake the risk management, performance measurement, and associated reporting activities proposed by the ISPWG and agreed by MS at the 4th EIHC.

Outcome:

- The Committee noted the paper.

4.2 IMO

Docs: [HSSC1-04.2A](#) rev.3 *Report on IMO activities affecting HSSC*

IHB (WARD) introduced the paper. He highlighted the growing interest in e-Navigation (e-Nav) and the important role that the IHO and its MS will play in terms of providing ENC data coverage, noting that the ENC will be a fundamental base layer against which other information available in the e-Nav environment will often be referenced. He mentioned the active role being played by the IALA e-Nav Committee, and the recent establishment of an IMO e-Nav Correspondence Group, in which he encouraged IHO MS to participate. He mentioned that certain dynamic elements of hydro-related data/information can be transmitted via AIS binary messages, which is another activity in which IALA is involved. He noted the establishment by IALA of a Register for AIS Binary messages that is quite similar to the approach taken for the IHO S-100 Registry. He mentioned that a virtual Aids to Navigation (AtoN) workshop will be held at IALA headquarters (St Germain-en-Laye, near Paris, France) on 25-28 January 2010. IHB will participate (WARD and HUET).

IALA (KRUUSE) explained that liaison with "sister organizations" such as IHO was important to the IALA e-Nav Committee in order to conduct a holistic approach to e-Nav. IALA's initial focus on e-Nav is to determine what is required, which will be followed by how this can be achieved.

Canada (NARAYANAN) suggested that, in addition to maintaining close relationship with IALA and IMO on e-Nav and AtoN matters, the IHO cooperate with IOC in relation to oceanographic developments and applications; a letter to IOC that identifies specific action would be helpful. The Committee agreed that the IHO should communicate with the Chair of IOC-WMO Joint Committee on Oceanography and Marine Meteorology (JCOMM) to encourage working relations with HSSC on matters of common interest.

Concerns were expressed that virtual AtoN depictions on paper charts and ENCs should remain an IHO responsibility. Chair stressed the dangers which could arise from uncoordinated actions. It was hoped that the forthcoming IALA virtual AtoN workshop will result in a much better level of coordination and understanding by all parties involved.

The Committee encouraged IHB to continue close liaison with IALA particularly with AIS binary messages and virtual AtoN.

Outcome:

- The Committee noted the report.
- **Action HSSC1/5 - IHB** to monitor the development of virtual Aids to Navigation and AIS Binary Messages, in liaison with IALA, and report to HSSC2.
- **Action HSSC1/6 - IHB** to write a letter to the IOC-WMO Joint Committee on Oceanography and Marine Meteorology (JCOMM) to encourage working relations with HSSC on matters of common interest, e.g. S-100.

4.3 IEC and RTCM

Docs: [HSSC1-04.3A](#) *Report on IEC and RTCM work relating to electronic charting (D. Enabnit, USA (NOAA))*

USA (ENABNIT) reported that IEC 62376 *Electronic chart system (ECS) - Operational and performance requirements, methods of testing and required test results* was finished and would be circulated as a Committee Draft for Voting in December 2009. He also reported that RTCM Standard 10900.4 for ECS, which is identical to IEC 62376, had been adopted. There were no comments.

Outcome:

- The Committee noted the report.

5. LIAISON WITH EXTERNAL STAKEHOLDERS

5.1 Open ECDIS Forum

Docs: [HSSC1-05.1A](#) *Report on Activities of the Open ECDIS Forum (OEF) (L. Alexander, USA (UNH))*

OEF (ALEXANDER) introduced the paper. He reported that the list of S-57 data producer codes, which is maintained on the OEF, was continuously increasing. He also pointed out that there were a number of "orphan" S-57 objects and attributes still on the OEF. The Chair felt that the OEF will likely play an increasing role as ECDIS carriage becomes mandatory. There were no other comments.

Outcome:

- The Committee note the report.

6. REPORTS BY HSSC WORKING GROUPS

6.1 Transfer Standard Maintenance and Application Development (TSMAD)

A. TSMAD Report

Docs: [HSSC1-06.1A](#) rev.1 *Report and Recommendations of TSMAD*

TSMAD (GREENSLADE, Chair) introduced the report and [gave a presentation](#) on TSMAD activities over the past year. He noted that HSSC1-06.1A included proposals for revised TSMAD Work Plan and Terms of Reference, as well as a revised list of "Specific SCAMIN Step Values for Object and Attribute Combinations" (Appendix 1 of S-65 Annex A).

IHB (WARD) raised the question of whether Task A.7 "Develop S-100 Bathymetric Content Specification" (also called "Hydro Survey Product Specification") was still required in the TSMAD WP and, should the need be

confirmed, whether the survey industry should be involved. After discussion, the Committee agreed that this work item should be continued and would be reviewed as part of TSMAD's next report to HSSC2.

The Committee agreed that Task D of the TSMAD WP "*Develop Marine Environment Protection Programme based on S-100*" be discontinued, and the remaining work assigned to SNPWG.

UN-DOALOS (SANDEV) thanked IHO and in particular TSMAD for its assistance in developing an S-100 compliant product specification for a Law of the Sea feature code directory. USA (ANDREASEN) suggested that information regarding this work should be communicated to ABLOS. This was agreed by the Committee, as well as that TSMAD continue to assist UN-DOALOS in this development.

There was general support for the proposed Work Plan and Terms of Reference.

Outcome:

- The Committee noted the report.
- The Committee endorsed the revised TSMAD Terms of Reference and Work Plan, as in HSSC1-06.1A.
- The Committee endorsed the revised Appendix 1 of S-65 Annex A, as in HSSC1-06.1A.
- **Action HSSC1/7 - IHB/TSMAD Chair** to remove Work Item D "*Develop Marine Environment Protection Programme based on S-100*" from the TSMAD Work Plan.
- **Action HSSC1/8 - IHB/SNPWG Chair** to include a new low priority Work Item in the SNPWG Work Plan to address the remaining work in former TSMAD Work Item D "*Develop Marine Environment Protection Programme based on S-100*".
- **Action HSSC1/9 - TSMAD** to continue assisting UN-DOALOS in the development of an S-100 compliant product specification for a Law of the Sea feature code directory.
- **Action HSSC1/10 - TSMAD Chair** to inform the Secretary of ABLOS of the ongoing development of an S-100 compliant product specification on a Law of the Sea feature code directory.
- **Action HSSC1/11 - IHB** to include in S-65, Annex A, Appendix 1, the revised "*Specific SCAMIN Step Values for Object and Attribute Combinations*", as contained in Annex B to HSSC1-06.1A, and seek MS approval of the resulting new edition of S-65. (see also Action HSSC1/34)
- **Action HSSC1/12 - IHB** to include in IHO Publication M-3 "*Resolutions of the IHO*", the revised TSMAD Terms of Reference (TR K2.21), as contained in Annex A to HSSC1-06.1A.

B. Geospatial Information Infrastructure (GII)

Doc: [HSSC1-06.1G](#) *Update on the Proposed Management Arrangements for the Geospatial Information Infrastructure (GII)*

[HSSC1-06.1I](#) *IEHG Comments on the Proposed Management Arrangements for the GII*

TSMAD (GREENSLADE, Chair) introduced the first paper and [gave a presentation](#) on the IHO Geospatial Information Infrastructure (GII), explaining the proposed concept, structure and administration of the S-100 GI registry and its component registers. IEHG (LADUE) introduced HSSC1-06.1I, noting that, while IEHG was in favour of the proposed concept, they had a number of concerns that were summarized in their paper.

IALA (ALEXANDER) expressed support to the S-100 registry arrangements. He noted they are similar to those in other organizations where the registers are also based on ISO TC211 standards, for example, the Inland ENC Register, the IMO AIS Application Specific Message Register, and the IALA Regional AIS Binary Message Register. He felt that each organization involved with the S-100 registry would expect to have its own "Control Body" to oversee any of its items that would be placed in the registry.

USA (ENABNIT) proposed an alternative organizational approach for the registry, based more on stakeholder groups rather than the domains as proposed by TSMAD. There was no support for this approach.

The Committee broadly supported the S-100 registry management arrangements proposed by TSMAD and agreed this was the best way forward. However, more detailed guidance should be developed at the operational level as soon as possible, also taking into account the detailed input by IEHG. This guidance should be presented for review at HSSC2.

Outcome:

- The Committee noted the two papers.
- **Action HSSC1/13 - TSMAD** to develop as a high priority work item detailed operational processes and business rules for S-100 register management and report to HSSC2.

C. Maintenance of IHO Standards

Docs: [HSSC1-06.1B](#) *Standardised Development, Consultation and Approval Procedures for IHO Technical Standards*

TSMAD (DÉNIEL, Vice-Chair) introduced the paper and [gave a presentation](#) on how best to standardise the procedures for making changes to IHO technical standards. He explained the three levels of change, *extension*, *correction* and *clarification*, and their proposed application to the various technical standards.

It was clarified that the “Hydro Register Control Body” mentioned in the diagrams would be HSSC. The Committee endorsed the proposed overall framework for managing standards and recommended that MS adopt the proposed amendments to Resolution A1.21, as in HSSC1-06.1B.

Outcome:

- The Committee noted the paper.
- **Action HSSC1/14 - IHB** to seek MS approval of the revised IHO Resolution A1.21 “*Principles and Procedures for Making Changes to IHO Technical Standards and Specifications*”, based on Annex C of HSSC1-06.1B, taking into account the discussions held at HSSC1 on the *Hydrographic Dictionary*, and other special cases, such as S-4.

D. Publication of S-100 and Plain Language Title

Docs: [HSSC1-06.1H](#) rev.1 *Progress Report on the Development of S-100 and its Introduction as an IHO Standard*
[HSSC1-06.1J](#) *Plain Language Title for S-100*

TSMAD (GREENSLADE, Chair) introduced the report and [gave a presentation](#) on S-100 development. Following circulation of an earlier draft in May 2009, stakeholders’ feedback was taken into account to produce a final draft of S-100 which was now ready for release.

In accordance with TSMAD proposal, the Committee agreed to recommend to MS that S-100 be adopted by the IHO as an active standard effective from 1 January 2010.

IHB (WARD) introduced a proposal for the plain language, ISO conforming and self-explanatory title *Universal Hydrographic Data Model (UHDM)* for S-100. The Committee adopted the new name.

Outcome:

- The Committee noted the report and the paper.
- The Committee adopted the title *Universal Hydrographic Data Model (UHDM)* for S-100.
- **Action HSSC1/15 - IHB** to seek MS approval of S-100 “*Universal Hydrographic Data Model (UHDM)*” as an active standard to be effective from 1 January 2010.

E. Auxiliary Informational Layer Integration

Docs: [HSSC1-06.1F](#) *New Work Item Proposal for the Establishment of a Standard for the Integration of Multiple Layers of S-100 compliant Auxiliary Navigational Information (S.10x)*

Canada (HINDS, for TSMAD) introduced the paper and [gave a presentation](#) on a proposed S-10x standard on “Auxiliary Navigational Information”. He explained that integration of auxiliary information such as *Tides, Currents, Ice information, and High-density bathymetry* has potential to improve navigation; further that such information must conform to a standard in order to allow manufacturers and data producers to integrate additional information layers, at no risk to ENC.

USA (ANDREASEN and ENABNIT), while supporting the concept, had doubt about TSMAD expertise to undertake this development and felt that HOs may have difficulties in providing data such as high-density bathymetry. However, there was general support for the proposal. IALA (KRUUSE) believed that this development would also support the objectives of e-Nav.

The Committee agreed a new TSMAD work item on this topic.

Outcome:

- The Committee noted the paper.
- Action HSSC1/16 - **IHB/TSMAD Chair** to add to the TSMAD Work Plan the following medium priority Work Item: “*Develop an S-10X product specification for ‘Auxiliary Informational Layer Integration’*”.

F. Grid Referencing System in S-100

Doc: [HSSC1-06.1C](#) *Proposal to Include a Grid Referencing System in S-100*

TSMAD (MELLOR, GII Registry Manager) introduced the paper and [gave a presentation](#) on a proposal to include a Grid Referencing System in S-100, based on the “c-squares” concept.

Canada (NARAYANAN) explained that such a system is used by WMO and IOC. It was also clarified that there would be no impact on ECDIS software and type-approval. Some concern was expressed on whether this would work in high latitudes. Australia pointed out that a grid system is already used in Australia for ENCs and works effectively.

There was general support for the proposal and the Committee agreed a new TSMAD low priority work item to investigate a suitable grid referencing system for S-100.

Outcome:

- The Committee noted the paper.
- **Action HSSC1/17 - IHB/TSMAD Chair** to add to the TSMAD Work Plan the following low priority Work Item: “*Investigate a suitable grid referencing system for S-100*”.

G. Dynamic Water Levels in S-57 ENCs

Doc: [HSSC1-06.1D](#) rev.1 *Dynamic Water Levels in S-57 based ENCs*

TSMAD (MELLOR, GII Registry Manager) introduced the paper and [gave a presentation](#) on this topic. He explained the pros and cons of the two options envisaged to enable the use of tidal and water height information to adjust charted depths in S-57 based ECDIS equipment; either using predicted tides (or real-time water level) values and additional (small interval) depth areas; or, using tidal input and gridded (or TIN) bathymetric datasets as an additional layer to the ENC. He reported that TSMAD recommended not to adopt either solution, on the grounds that the inconsistent nature of the associated tidal data standards and the inability of ECDIS to rapidly alter its functionality make both options demanding and untenable at this present time. Instead, it would be better to work with ECDIS manufacturers and the tidal experts to ensure the technological capabilities are built into the

next generation ECDIS.

TWLWG Vice-chair (PINEAU-GUILLOU) [gave a brief presentation](#) on this topic, stressing that dynamic tidal information in ECDIS is potentially an important safety enhancement which should be developed further and suggesting that TWLWG be tasked to prepare a tidal data exchange format.

IHB (WARD) said that where there was appropriate bathymetric data, a tidal model, and tidal input then dynamic adjustment of water levels in ECDIS could and should occur. There should obviously be a structured and standardized way forward to ensure safety and liability concerns were addressed. In the absence of any action by the IHO, the capability to display dynamic water level information will be progressed in ECS and PPU's, leaving ECDIS with a potentially inferior capability. This view was generally supported. Indeed, IMPA (STRIGA) reported that at least ten pilot associations were using dynamic under-keel clearance using S-57 ENC data on PPU's. Successful local applications of tides in ECDIS were also reported in Australia and on the St. Lawrence River.

TSMAD (GREENSLADE) pointed out that an underlying problem is that there may be incompatible tidal models or tidal data formats in different ports of the world. There is a need for a generic, global solution. RTCA (BERGMANN) mentioned the very complex systems in aircraft and suggested the focus should be to define international data concepts, and then implement locally.

Singapore (OEI) commented that tidal regimes would differ across different ports of the world. Therefore, the focus of the work should be placed on standardising tidal data formats (data string) as this would then allow ships with draught constraints to take advantage of the tides by easily accessing the real time tidal data. He emphasised the importance of setting the standards as soon as possible to prevent the emergence of different standards in the market. He added that Singapore has already installed the infrastructure ready to support the provision of real time tidal data to meet users' requirements.

The Chair proposed that TWLWG and TSMAD continue this work, and identify implementation issues at a local level, including the method of transfer. This approach was supported by the Committee. The Committee directed TWLWG to continue work on standardization of the transmission of real-time tidal data, and report to HSSC2 which will review and reconsider "tide-aware" ENCs in ECDIS.

Outcome:

- The Committee noted the paper.
- **Action HSSC1/18 - IHB/TWLWG Chair** to add to the TWLWG Work Plan the following high priority Work Item "*Develop a Standard for the transmission of real-time tidal data*".

6.2 Data Protection Scheme (DPSWG)

Docs: [HSSC1-06.2A](#) *Report and Recommendations of DPSWG*

DPSWG (PRITCHARD, Chair) introduced the report (via telephone), noting that the proposed DPSWG Work Plan included completing edition 1.1.1 of S-63 and starting to develop a new edition 2.0 in conjunction with S-101 development.

UK (JONES) suggested a need for a close working relationship between DPSWG and the RTCA Correspondence Group on Data Supply Chain Certification. This was supported by the Committee.

There was general support for the proposed Work Plan.

Outcome:

- The Committee noted the report.
- The Committee endorsed the revised DPSWG Work Plan, as in HSSC1-06.2A.

6.3 Digital Information Portrayal (DIPWG)

Docs: [HSSC1-06.3A](#) rev.1 Report and Recommendations of DIPWG

DIPWG (HARMON, Chair) introduced the report and [gave a presentation](#) (via telephone). A draft new edition 6.0 of S-52 had been completed, as well as C&S Maintenance Document No. 7 containing Deferred Amendment 8. An XML based Portrayal Model was being developed under an IHB contract, as a profile of the ISO 19117 standard. Revised DIPWG TOR and WP were proposed. He supported the proposal in HSSC1-06.10B to move S-52 Appendix 1 *Guidance on Updating the ENC* to S-65 and that it be maintained by EUWG.

CIRM (RAMBAUT), also representing IEC TC80, reported that he was only made aware at the meeting of an IHB letter sent to the TC80 Chair earlier in 2009¹ providing details of the changes made to S-52 in its draft edition 6.0, in particular the updates of all references to S-52 in edition 3 of IEC 61174. He would further investigate the matter on the basis of the IHB letter. RTCM (PONCE) mentioned that IEC 61174 is scheduled for maintenance in September 2012, with a call for a maintenance team planned in 2010 and an edition 4 Committee Draft for Voting (CDV) not later than January 2011. He added that a clear statement is needed from IHO when edition 6.0 of S-52 becomes effective, ideally on the IHO website to support IMO SN/Circ.266 and Port State Control shipboard survey of chart carriage compliance. Germany (JONAS) clarified that the differences between the 5th and 6th editions of S-52 were primarily in changes to the format of the document and updating of references, and that these changes should therefore not affect ECDIS type-approval certification. IHB (WARD) explained that it has now been made clear on the IHO website, which standards affect ECDIS equipment, and which standards affect ENC production.

Germany (JONAS) recommended that improvement of paper chart symbols and portrayal of nautical publications in ECDIS be added to the DIPWG Work Plan. This was agreed by the Committee. There was general support for the proposed Work Plan, as amended, and Terms of Reference.

The Committee agreed that S-52 Appendix 1 be moved to another suitable publication, such as S-65, when it has been revised by EUWG (see also section 6.10 and Action HSSC1/35).

The Committee endorsed the draft edition 6.0 of S-52 and recommended that it be submitted for approval to MS. It also approved that C&S Maintenance Document No. 7 (MD07) be released.

Regarding the contracts on Portrayal Register and ECDIS Chart 1, IHB (WARD) explained that funds for this ongoing activity come from sales of the IHO Presentation Library (PresLib) on CD-Rom. However, most purchases of the PresLib have already been made and its long term maintenance may require a sustainable budget item. Also, a number of MS may be unaware that contract resources are required to maintain this IHO standard. The Committee endorsed continuance of funding support to contracts on portrayal-related matters.

Outcome:

- The Committee noted the report.
- The Committee endorsed the revised DIPWG Terms of Reference and Work Plan, as in HSSC1-06.3A and as amended.
- **Action HSSC1/19** - IHB to seek MS approval of Edition 6 of S-52.
- **Action HSSC1/20** - IHB to arrange contract support to continue the maintenance / improvement of the IHO Presentation Library on ECDIS and the development of the S-100 Portrayal Register.
- **Action HSSC1/21** - IHB to include in IHO Publication M-3 "*Resolutions of the IHO*", the revised DIPWG Terms of Reference (TR K2.26), as contained in Annex D to HSSC1-06.3A.
- **Action HSSC1/22** - IHB/DIPWG Chair to release Colours & Symbols Maintenance Document No. 7.

¹ IHB Letter S3/8151/DIPWG of 15 May 2009

- **Action HSSC1/23 - IHB/DIPWG Chair** to add to the DIPWG Work Plan the following Work Items “*Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour*” (low priority) and “*Develop symbology for portrayal of nautical publications in ECDIS*” (medium priority).

6.4 Standardization of Nautical Publications (SNPWG)

Docs: [HSSC1-06.4A](#) rev.1 *Report and Recommendations of SNPWG*
[HSSC1-06.4B](#) *Report of the 11th Meeting of SNPWG*
[HSSC1-INF5](#) *Development of Portrayal Specifications for Nautical Publications Information*

SNPWG (ACLAND, Chair) introduced the two reports and the information paper (via telephone). The SNPWG is slowly populating the Nautical Publications register in the S-100 registry. Current discussions relate to whether nautical publication data should be integrated in the ENC or interact with ENC data, and to the development of a product specification for nautical publications. He suggested that SNPWG and DIPWG cooperate in developing suitable symbology for nautical publications (agreed; see Action HSSC1/23). A revised SNPWG Work Plan was proposed.

There was general support for the proposed Work Plan.

Outcome:

- The Committee noted the two reports and the information paper.
- The Committee endorsed the revised SNPWG Work Plan, as in HSSC1-06.4A.

6.5 Chart Specifications and Paper Charts (CSPCWG)

Docs: [HSSC1-06.5A](#) *Report and Recommendations of CSPCWG*
[HSSC1-06.5B](#) *Draft ToR/RoP for Regional Charting Groups Doc:*
[HSSC1-06.5C](#) *BSHC Comments on the Draft ToR/RoP for Regional Charting Groups*
[HSSC1-INF2](#) *Draft of S-49 under development by CSPCWG*

CSPCWG (JONES, Chair) introduced the report. Revision of section B-400 of publication S-4 has been completed and a new section B-600 on ‘chart maintenance’ was in preparation. Also, a new edition of S-49 - *Recommendations Concerning Mariners’ Routeing Guides* was being finalized. A revised CSPCWG Work Plan was proposed. He then introduced the proposed ToR/RoP for Regional Charting Groups that were prepared by CSPCWG. This included that any such groups be re-named as International Charting Coordination Working Groups (ICCWG).

Referring to HSSC1-06.5C, Finland (KORHONEN) stated that the Baltic Sea Hydrographic Commission reviewed the proposed ToR/RoP and fully supports this draft, with some minor amendments. BSHC also supports the joint coordination of ENCs and INT charts; although they felt that it may not be possible for one coordinator to perform all tasks.

USA (ENABNIT) commented that RHCs cannot be directed to adopt these ToR/RoP as they are not official bodies of the IHO; further that these TORs for an RHC WG are outside the scope of HSSC’s responsibility and expertise (see US position in Annex F). IHB (WARD) explained that the purpose of the model ToR/RoP for ICCWG is for RHCs to make use of them, in the development and maintenance of regional charting schemes, and the monitoring of INT charts and ENC production, in order to improve standardization in IHO charting activities. RHCs would be invited to consider using the model TOR / ROP in support of the coordination of ENC and INT chart coverage and production. It was not intended to make the use of the ToR/RoP mandatory.

With this clarification, the Committee endorsed the proposed ToR/RoP for ICCWG (taking into account the amendments proposed by Finland and minor comments during the meeting), and the IHB recommendation that they be included in S-11 part A - *Guidance for the Preparation and Maintenance of International Chart Schemes*.

China (NG) believed that the INT chart concept is not realistic and could not be implemented every where and the model TOR/ROP could not be imposed in all regions. He mentioned example of very out-of-date information in S-11 Part B - *Catalogue of INT Charts*. IHB (Ward) commented that the IHB has provided a copy of S-11 Part B to each regional coordinator (also available from the IHO website: http://www.iho-ohi.net/mtg_docs/com_wg/CSPCWG/CSPCWG_MISC/S-11/S-11.htm). The IHB can only keep S-11 up-to-date based on the input received. The Committee agreed that IHB should write to INT chart coordinators, on behalf of HSSC, encouraging them to forward updates to S-11 Part B to the IHB, and to monitor and coordinate ENC coverage, particularly to avoid overlapping ENCs.

CSPCWG (JONES) mentioned that HSSC1-INF2 included a draft Edition 2 of S-49 which, when finalized, would be submitted to MS for approval. The Committee noted the progress of this work item.

There was general support for the proposed Work Plan.

Outcome:

- The Committee noted the report and the three papers.
- The committee endorsed the revised CSPCWG Work Plan, as in HSSC1-06.5A.
- The committee noted the draft new edition of S-49.
- **Action HSSC1/24 - IHB/CSPCWG Chair** to incorporate the *Terms of Reference and Rules of Procedure for Regional International Charting Coordination Working Groups (ICCWG)*, as contained in HSSC1-06.5C, in S-11 Part A, taking into account the comments made by the Committee.
- **Action HSSC1/25 - IHB**, on behalf of HSSC, to write to INT chart coordinators, encouraging them to forward to the IHB updates to S-11 part B "*Catalogue of INT Charts*".

6.6 Data Quality (DQWG)

Docs: [HSSC1-06.6A](#) rev.2 *Report and Recommendations of DQWG*

UK (JONES) introduced this report, on behalf of DQWG. Mr Chris HOWLETT (UK) took over as DQWG Chair from LCdr Shepard SMITH (USA) from May 2009. A revised DQWG Work Plan was proposed, including defining a better way of depicting to the mariner the quality of the underlying data that has been compiled into the chart or ENC.

Sweden (MAGNUSSON) stressed that quality is an important issue. In addition to bathymetry, other areas of concern need to be addressed, such as the dynamic nature of the seafloor or sea floor classification. He agreed that Sweden would prepare a list of those other parameters.

There was general support for the proposed Work Plan.

Outcome:

- The Committee noted the report and endorsed the revised DQWG Work Plan , as in HSSC1-06.6A.
- **Action HSSC1/26 - Sweden** invited to compile a list of parameters other than bathymetry, for DQWG to address, and report to HSSC2.

6.7 Marine Spatial Data Infrastructure (MSDIWG)

Docs: [HSSC1-06.7A](#) *Report and Recommendations of MSDIWG*
[HSSC1-INF6](#) *IHO EU Member State Involvement in INSPIRE Developments*

USA (ENABNIT) introduced the report, on behalf of MSDIWG. The report was prepared by Mr John Pepper (UK) who chaired MSDIWG until he retired in September 2009. MSDIWG chairmanship had been vacant since then and the report proposed that the WG be discontinued on the grounds that "its work is now complete". The report included a draft MSDI guidance document *Spatial Data Infrastructures "The Marine Dimension" Guidance for*

Hydrographic Offices, that was proposed for adoption as a new IHO publication. The report also included the following four MSDI supporting documents:

- SDI - Frequently Asked Questions (FAQ's)
- SDI - Capacity Building Material - SDI Awareness Training Course (Template)
- Stakeholders to be Considered by IHO Member States in Developing their Understanding and Engagement in SDI
- SDI Hydrographic Data Policy - Best Practice Guidelines for Hydrographic Offices

The Committee endorsed the proposed MSDI guidance document and recommended it for adoption by MS, as a new IHO publication. The Committee also endorsed the four MSDI supporting documents and that they be posted on the IHO website.

USA (ENABNIT) believed that MSDIWG should continue, with the objective of supporting the SDI activities of the IHO. He proposed revised ToR for MSDIWG which had been prepared overnight by an ad hoc team led by USA (see Annex G). There was general support for the continuance of MSDIWG under the proposed ToR. USA agreed to provide the chair of this WG.

Referring to HSSC1-INF6, Netherlands (VOS) suggested that EU MS should be encouraged to participate in the INSPIRE specification process, through active involvement in the relevant Thematic Working Groups and Drafting Teams; further that the other MS should be informed about the INSPIRE-related activities and their relation to S-100. She also reported on a meeting of EU MS representatives immediately before HSSC1, where it was agreed to establish an EU MS INSPIRE Correspondence Group, led/coordinated by Mrs Ellen VOS (Netherlands) and with IHB participation. USA (ENABNIT) expressed the view that MSDIWG should not be involved in this EU effort. However, there was general support from the Committee for MSDIWG to follow the INSPIRE developments and liaise with TSMAD about S-100 interoperability with INSPIRE. The IHB would assist in any coordination work with IHO MS, as needed.

IHB (WARD) mentioned that the UN Committee on Global Geographic Information Management (CCGIM) would be meeting on 25 October 2009 in Bangkok, Thailand. This committee is primarily focused on land - not marine aspects, and it will therefore be important to increase awareness of MSDI in this forum.

Outcome:

- The Committee noted the report and the paper.
- The Committee approved the continuation of MSDIWG, under USA Chair, and endorsed the revised MSDIWG Terms of Reference at Annex G.
- The Committee noted the INSPIRE developments.
- **Action HSSC1/27** - IHB to seek MS' approval of new IHO Publication "*Spatial Data Infrastructures: The Marine Dimension - Guidance for Hydrographic Offices*", as contained in Annex 1 to HSSC1-06.6A.
- **Action HSSC1/28** - IHB to post on the IHO website the MSDI supporting information contained in Annexes 2, 3, 4 and 5 of HSSC1-06.5A.
- **Action HSSC1/29** - IHB to include in IHO Publication M-3 "*Resolutions of the IHO*", the revised MSDIWG Terms of Reference (TR K2.45), as contained in Annex G of the HSSC1 Minutes.

6.8 Tidal and Water Level (TWLWG)

Docs: [HSSC1-06.8A](#) *Report and Recommendations of TWLWG*

TWLWG (PINEAU-GUILLOU, Vice-Chair) introduced the report and [gave a presentation](#). A TWLWG Work Plan was proposed, including an item on dynamic tides in ECDIS.

On request from Canada (NARAYANAN), it was clarified that TWLWG and the IOC GLOSS interact through the TWLWG Secretary and the IOC Secretariat. Both groups are represented at each others' meetings.

There was general support for the proposed Work Plan, as amended to include an additional work item on format for real-time transfer of tidal data (see also section 6.1.G).

Outcome:

- The Committee noted the report.
- The Committee endorsed the proposed TWLWG Work Plan, as in HSSC1-06.8A as amended. See also Action HSSC1/18.

6.9 Hydrographic Dictionary (HDWG)

Docs: [HSSC1-06.9A](#) *Report and Recommendations of HDWG*
[HSSC1-06.9B](#) *Proposed Amendment to IHO Resolution K3.3 – Hydrographic Dictionary*

IHB (HUET) introduced the report, on behalf of HDWG, and the paper. ToR and a WP for HDWG, as well as a definition of *Navigable Inland Waters* and an amended IHO Resolution K3.3 were proposed. In particular, the amended K3.3 included in its para. 4 that:

“IHO bodies wishing to add or amend definitions to the dictionary may make proposals directly to the WG. Such proposals should include justification for the addition / change and provide a draft definition approved by the submitting body. Following consideration of the proposals, the HDWG will submit recommendations to the HSSC for endorsement and subsequent submission to IHO Member States for approval.”

The Committee endorsed the proposed definition of “inland navigable waters” with the substitution of “confused” for “mixed up”, thus reading:

Navigable Inland Waters – Those navigable areas of water, within land boundaries, such as rivers, lakes, lagoons, channels, etc, upon which vessels need to navigate and for which navigational supporting tasks, such as hydrography and nautical cartography may be required.*

**Note: This definition must not be confused with the legal definition of Internal Waters given in UNCLOS Article 8.*

On request from UK (JONES) about the meaning of the word “general” in HSSC1-06.A (Item f under Action Required of HSSC, i.e. “determine whether the HD should include any term requested by IHO Committees, Sub-Committees and Working Groups or should be restricted to more general ‘hydrographic’ terminology”), the Chair indicated that the goal of any definition in the dictionary should be clarity of description of all the terms needed for the work of IHO, whether specific or general.

The Committee endorsed the proposed amended Resolution K3.3 and that it be submitted to MS for approval. It was acknowledged that the new para. 4 would make the approval process for HD entries a special case, like S-100 and S-100 Registry, which should be taken into consideration in the revised Resolution A1.21 (see also section 6.1.C and Action HSSC1/14).

There was general support for the proposed Work Plan and ToR; also that the IHB invite MS to nominate representatives for the HDWG.

Outcome:

- The Committee noted the report and the paper.
- The Committee endorsed the proposed HDWG Terms of Reference and Work Plan, as in HSSC1-06.9A.
- **Action HSSC1/30** - IHB to invite MS to nominate representatives for HDWG.
- **Action HSSC1/31** - IHB to seek MS approval of the definition for “*Inland Navigable Waters*”, as contained in Annex D to HSSC1-06.9A, as amended.

- **Action HSSC1/32 - IHB** to seek MS approval of amended Resolution K3.3 “*Hydrographic Dictionary (S-32)*”, as contained in Annex A to HSSC1-06.9B. **IHB** to adjust proposed revision of resolution A1.21 (Action HSSC1/14) to agree with amended K3.3.
- **Action HSSC1/33 - IHB** to include in IHO Publication M-3 “*Resolutions of the IHO*”, the revised HDWG Terms of Reference (Resolution K2.32), as contained in Annex C to HSSC1-06.9A.

6.10 ENC Updating (EUWG)

Docs: [HSSC1-06.10A](#) *Report and Recommendations of EUWG*
[HSSC1-06.10B](#) *Proposal to Review Appendix 1 to S-52*

EUWG (LE FRANC, Chair) introduced the report and [gave a presentation](#). Guidelines for encoding Temporary and Preliminary (T&P) ENC updates were developed by the WG, proposing a pragmatic approach to overcome any current shortcomings in the updating mechanisms for T&P notices in ENCs. He mentioned the possible need for S-57 New Objects as an alternative to caution area objects (CTNARE); also the need for harmonisation between electronic information services as RNW and ENC updates. Due to the constraint of time, EUWG was not able to revise S-52 Appendix 1 - *Guidance on updating the ENC*, and needed guidance on how to proceed.

IHB (Ward) introduced HSSC1-06.10B, proposing to incorporate the Guidelines for encoding T&P ENC updates in S-65 - *ENC Production Guidance*, and to direct an enhanced EUWG to review S-52 Appendix 1, with a view to incorporating the revised text in S-65 in the future. ToR for an enhanced EUWG were proposed.

The Committee endorsed the proposed *Guidelines for encoding T&P ENC updates*, and that it be incorporated in S-65 and the resulting new edition of S-65 submitted to MS for approval.

The Committee endorsed the proposed amended ToR for EUWG and directed EUWG to revise S-52 Appendix 1, for subsequent incorporation into S-65.

The Committee tasked TSMAD to study the possibility of using S-57 New Objects as an alternative for caution area objects, and noted the need for harmonization between electronic information services as RNW and ENC updates.

Outcome:

- The Committee noted the report and the paper.
- The Committee approved the continuation of EUWG and endorsed the revised EUWG Terms of Reference, as in HSSC1-06.10B.
- The Committee noted the need for harmonization between electronic information services as RNW and ENC updates.
- **Action HSSC1/34 - IHB** to include in S-65, as a new Annex B, the “*Guidelines for encoding Temporary and Preliminary ENC updates*”, as contained in Annex B to HSSC1-06.10A, and seek MS approval of the resulting new edition of S-65. (see also Action HSSC1/11)
- **Action HSSC1/35 - EUWG** to develop a revised version of Appendix 1 to S-52 “*Guidance for ENC Updating*”, for inclusion in S-65.
- **Action HSSC1/36 - IHB** to include in IHO Publication M-3 “*Resolutions of the IHO*”, the revised EUWG Terms of Reference (TR K2.47), as contained in Annex A to HSSC1-06.10B.
- **Action HSSC1/37 - IHB/TSMAD Chair** to add to the TSMAD Work Plan the following medium priority Work Item: “*Study the possibility to encode information features as New Objects (see S-57 supplement) to avoid caution area objects (CNTARE) in some cases, e.g. to encode T&Ps*”.
- **Action HSSC1/38 - IHB** to invite MS to nominate suitably experienced representatives for the new work of the EUWG.

7. INTER-ORGANIZATIONAL BODIES

7.1 Inland ENC Harmonization Group (IEHG)

Doc: [HSSC1-07.1A](#) rev.1 Status Report on Inland ENC Development and Standardization

IEHG (LADUE, Co-Chair) introduced the report and [gave a presentation](#). IEHG has established a process for submitting proposals for amendments (i.e., Change Requests) to Inland ENC standards. This includes the Inland ENC Feature Catalogue, Product Specification, Encoding Guide, and Validation Checks. IEHG has agreed a formal definition for Inland ENC, based on that of a 'maritime' ENC. They now have a specific website (<http://ienc.openecdis.org>). As part of the planned S-100 Registry, IEHG expects that there will be an Inland ENC Register. In this connection, they will welcome advice on the means/process for registering Inland ENC extensions and related Product Specifications.

Brazil (CAVALHEIRO) explained that there is some interest by Argentina and Uruguay in IEHG work, but no commitment to date. IEHG (LADUE) indicated that enhancing local IENCs to include water levels was being addressed. She also explained that Governments issue the base IENCs, but private companies can add additional layers of information (called River Information Overlays or RIOs).

Outcome:

- The Committee noted the report.

7.2 Marine Information Overlays (MIO) developments

Docs: [HSSC1-INF3](#) Information Overlays in ECDIS

TSMAD (GREENSLADE, Chair) introduced this information paper. He proposed that TSMAD, in cooperation with other appropriate working groups and stakeholders, investigate the practicalities of developing a generic MIO product specification based on S-100 including common characteristics of metadata, feature/portrayal catalogues and encoding.

There was general support for the proposal; further that the existing S-57 General MIO Content Specification (HGMIO), which was endorsed by CHRIS19, be taken into account.

Outcome:

- The Committee noted the paper.

- **Action HSSC1/39 - IHB/TSMAD Chair** to add to the TSMAD Work Plan the following medium priority Work Item: "Develop a template Product Specification for Marine Information Overlays (MIO)"

7.3 IHO-IAG Advisory Board on the Law of the Sea (ABLOS)

Docs: [HSSC1-07.3A](#) Status Report on ABLOS activities

IHB (HUET) introduced the report, on behalf of ABLOS. A Work Plan and revised ToR were proposed.

IHB (WARD) explained the relationship between IHO and ABLOS, noting that ABLOS is not a body of the HSSC, but reports equally to both its parent organizations – in the case of IHO, this is through the HSSC and the IH Conferences. USA (ANDREASEN) suggested closer cooperation of ABLOS with TSMAD and UN DOALOS.

There was general support for the proposed Work Plan and ToR.

Outcome:

- The Committee noted the report.

- The Committee endorsed the proposed ABLOS Work Plan and revised Terms of Reference, as in HSSC1-07.3A.
- **Action HSSC1/40 - IHB** to include in IHO Publication M-3 "*Resolutions of the IHO*", the revised ABLOS Terms of Reference (TR K2.20), as contained in Annex C to HSSC1-07.3A.

8. OTHER HSSC BUSINESS

8.1 Review of M-3

Docs: [HSSC1-08.1A](#) *Status Report on Revision of M-3 "IHO Resolutions"*

IHB (HUET) introduced the report. The set of IHO resolutions which were reviewed at CHRIS20 had been forwarded to MS for consideration and most of the recommendations by the Committee had been accepted. In a few cases, resolutions were further amended by MS. As a result, the review of all 'technical' IHO resolutions in M-3 is now complete. The following step would for the IHB to consider how to better structure and present M-3 and make proposals to MS for their consideration.

Outcome:

- The Committee noted the report.

9. REVIEW AND ENDORSEMENT OF HSSC WORK PLAN

Docs: [HSSC1-09A](#) rev.2 *Consolidated HSSC Work Plan*

IHB (HUET) introduced the paper. The consolidated HSSC Work Plan included the Work Plans of all WGs', as contained in the WGs' reports. It would need updating based on the decisions made during the meeting.

USA (ENABNIT) suggested that other IHO-related activities/groups be included in this document. IHB (WARD) clarified that only recognized HSSC subordinate bodies were considered in the HSSC Work Plan.

The Committee agreed the HSSC Work Plan and that it be adjusted to reflect current status.

Outcome:

- The Committee noted the paper.
- The Committee endorsed the HSSC Work Plan.
- **Action HSSC1/41 - IHB** to update the HSSC Work Plan (HSSC1-09A) to include all relevant decisions of HSSC1, and post it on the IHO website.

10. HSSC ADMINISTRATION

Docs: [HSSC1-10A](#) *Scheduling of HSSC and WG meetings*

IHB (Ward) introduced the paper. It was proposed that the Terms of Reference for subordinate bodies of HSSC be amended to indicate that meetings should not normally be held within nine weeks prior to an HSSC meeting.

There was general support for the proposal and belief that it will be beneficial. It was noted that HSSC will normally meet between late October and early December. All WGs will therefore need to programme their meeting dates accordingly.

Outcome:

- The Committee noted the paper.

- **Action HSSC1/42 - IHB** to include in all HSSC WG terms of reference the “*nine week moratorium*” clause, as contained in Annex A to HSSC1-10A, and amend IHO Publication M-3 “*Resolutions of the IHO*” accordingly.

11. REVIEW OF OTHER INFORMATION PAPERS

Docs: [HSSC1-INF1](#) Status Report on IHO Publications on Standards and Specifications
[HSSC1-INF4](#) Digital Nautical Chart (DNC®) INF Report

IHB (HUET) introduced the first information paper. A brief description of the status of all IHO publications on standards, specifications and guidelines, as of September 2009, was provided in the paper. The status of the various publications was reviewed.

Germany (JONAS) suggested that S-100 related status reports could be extracted from the GI Registry. TSMAD (GREENSLADE) agreed and added that an XML download of the relevant parts of the information paper could be generated from the Registry. To a request from IC-ENC (FOWLE) about the availability of IHO standards, specifications and guidelines in other languages, e.g. Spanish, IHB (WARD) explained that English and French are the official languages. Any Spanish version of an IHO technical publication must be provided by MS. He noted that the English to French translation workload is constantly increasing at the IHB, which results in some technical publications not being available in French due to resource constraints.

The Committee agreed that publications C-51 *Manual on Technical Aspects of the UN Convention on the Law of the Sea* and S-44 *IHO Standards for Hydrographic Surveys*, not listed in HSSC1-INF1, should be included in future.

USA (ANDREASEN) tabled HSSC1-INF4 for information. There were no comments.

Outcome:

- The Committee noted the two papers.
- **Action HSSC1/43 - IHB** to include C-51 “*TALOS Manual*” and S-44 “*IHO Standards for Hydrographic Surveys*” in the next issue of the “*Status Report on IHO Publications on Standards, Specifications and Guidelines*”.

12. DATE AND LOCATION OF NEXT MEETING

Germany (JONAS) offered to host HSSC2 in Rostock, Germany, on 28-30 October 2010. This would precede the Hydro 2010 Conference (www.hydro2010.com). The Committee gratefully accepted this offer.

USA (ENABNIT) felt that telephone connections for some WG Chair reports were useful and should be considered again for future meetings. The Chair commented that while it was beneficial to the meeting that those WG Chairs were able to deliver their reports by phone, it will always be more effective for WG Chairs to attend HSSC meetings in person in order to ensure the coordination of the HSSC activities and for the benefit of peer to peer discussions outside the formalities of the meeting.

Outcome:

- The Committee agreed for HSSC2 to take place in Rostock, Germany, on 28-30 October 2010.
- **Action HSSC1/44 - IHB and Germany** to coordinate the organization of HSSC2 (Rostock, Germany, 28-30 October 2010).

13. CLOSURE OF THE MEETING

IHB (WARD) commented that the timely submission of papers had enabled all participants and the IHB to prepare well for the meeting. He mentioned the very positive contributions of NGOs during the meeting. In his view, the most significant outcome of this meeting was the endorsement of S-100 by HSSC. While further work will be needed, it can become a framework for future IHO standards. He paid tribute to the late Mr. Don VACHON (Canada) for his determining contribution to the ten years of development of S-100.

The Chair expressed his appreciation for the contribution of all, and felt that a good consensus was achieved by the meeting. He thanked the NGOs for their attendance. He also thanked the Singapore MPA for the excellent facilities and the organisational and secretarial support.

There being no further topic to discuss, the Chair closed the meeting at 13:00 on 24 October 2009.

GLOSSARY OF ACRONYMS, TERMS and ABBREVIATIONS

ABLOS	Advisory Board on Law of the Sea
AIS	Automatic Identification System
AtoN	Aid to Navigation
BSHC	Baltic Sea Hydrographic Commission
C-51	Manual on Technical Aspects of the UN Convention on the Law of the Sea
CCGIM	UN Committee on Global Geographic Information Management
CHRIS	Committee on Hydrographic Requirements for Information Systems
CIRM	Comité International Radio-Maritime
CG	Correspondence Group
CL	Circular Letter
CNITA	Chart and Nautical Instrument Trade Association
CSPCWG	Chart Standardization and Paper Chart Working Group
CTNARE	Caution Area attribute (IHO/S-57)
DIPWG	Digital Information Portrayal Working Group
DNC	Digital Nautical Chart (USA-NGA)
DOALOS	UN Division for Ocean Affairs and the Law of the Sea
DPRK	Democratic People Republic of Korea
DPSWG	Data Protection Scheme Working Group
DQWG	Data Quality Working Group
DSCC	Data Supply Chain Certification
ECDIS	Electronic Chart Display and Information System
ECS	Electronic Chart System
EIHC	Extraordinary International Hydrographic Conference
e-Nav	e-Navigation
ENC	Electronic Navigational Chart
EU	European Union
EUWG	ENC Updating Working Group
FAQ	Frequently Asked Questions
GII	Geospatial Information Infrastructure
GLOSS	Global Sea Level Observing System of IOC
HD	Hydrographic Dictionary
HDWG	Hydrographic Dictionary Working Group
HGMIO	Harmonizing Group on Marine Information Objects
HO	Hydrographic Office
HSSC	Hydrographic Services and Standards Committee
IAG	International Association of Geodesy
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ICCWG	International Charting Coordination Working Group
IC-ENC	International Centre for ENCs
IEC	International Electrotechnical Commission
IEHG	Inland ENC Harmonization Group (USA–EU–Russia)
IENC	Inland Electronic Navigational Chart
IHB	International Hydrographic Bureau
IHO	International Hydrographic Organization
IMO	International Maritime Organization
IMPA	International Maritime Pilots' Association
INSPIRE	INfrastructure for SPatial InfoRmation in Europe (EU)
INT Chart	International Chart
IOC	Intergovernmental Oceanographic Commission of UNESCO

ISO	International Organization for Standards
ISPWG	IHO Strategic Plan Working Group
JCOMM	Joint Committee on Oceanography and Marine Meteorology (IOC-WMO)
JIWG	Joint Information Working Group (IC-ENC & PRIMAR))
M-3	Resolutions of the IHO
MIO	Marine Information Overlay
MS	Member State
MSDI	Marine Spatial Data Infrastructure
MSDIWG	Marine Spatial Data Infrastructure Working Group
NHC	Nordic Hydrographic Commission
NGA	US National Geospatial-Intelligence Agency
NGIO	Non-Governmental International Organization
NOAA	US National Oceanic and Atmospheric Administration
OEF	Open ECDIS Forum
PPU	Portable Piloting Unit
PresLib	Presentation Library for ECDIS
PRIMAR	North-European RENC
RENC	Regional ENC Coordinating Centre
RHC	Regional Hydrographic Commission
RIO	River Information Overlay
RNW	Radio Navigational Warning
RoP	Rules of Procedure
RTCA	Radio Technical Commission for Aeronautics
RTCM	Radio Technical Commission for Maritime Services
S-4	Chart Specifications of the IHO and Regulations for International (INT) Charts
S-11	Guidance for the Preparation and Maintenance of INT Chart Schemes and Catalogue of International (INT) Charts
S-44	IHO Standards for Hydrographic Surveys
S-49	Recommendations concerning Mariners' Routeing Guides
S-52	Specifications for Chart Content and Display Aspects of ECDIS
S-57	Transfer Standard for Digital Hydrographic Data
S-65	ENC Production Guidance
S-66	Facts about Electronic Charts and Carriage Requirements
S-100	Universal Hydrographic Data Model
S-101	Future ENC Product Specification, based on S-100
SCAMIN	Scale Minimum attribute (IHO/S-57)
SDI	Spatial Data Infrastructure
SNPWG	Standardization of Nautical Publications Working Group
TC	Technical Committee
T&P	Temporary and Preliminary
TIN	Triangulated Irregular Network
ToR	Terms of Reference
TSMAD	Transfer Standard Maintenance and Applications Development Working Group
TWLWG	Tidal and Water Level Working Group
UHDM	Universal Hydrographic Data Model
UN	United Nations
UNCLOS	United Nations Commission on the Law Of the Sea
WG	Working Group
WMO	World Meteorological Organization
WP	Work Plan
XML	eXtensible Markup Language

LIST OF DOCUMENTS

Document No	Document Title
HSSC1-01A rev.12	List of Documents (IHB)
HSSC1-01B rev.8	List of Participants (IHB)
HSSC1-01C	HSSC – List of Contacts (IHB)
HSSC1-01D	Terms of Reference for HSSC and related Working Groups (IHB)
HSSC1-02A rev.12	Agenda and Timetable (IHB)
HSSC1-03A	Minutes of the 20th CHRIS Meeting (IHB)
HSSC1-03B rev.3	List of Actions from the 20 th CHRIS Meeting and Status (IHB)
HSSC1-03C	Relationship Between ISO and IHO Geospatial Standards (IHB letter to ISO)
HSSC1-03D	NHC Report on the possible need for an S100-based data exchange standard for paper charts (Sweden on behalf of NHC)
HSSC1-03E	Status Report of RTCA Correspondence Group on Data Supply Chain Certification (CG-DSCC) (CG-DSCC Chair)
HSSC1-03F	Report on the creation and first outcomes of the Correspondence Group on Definition and Length of Coastline (France)
HSSC1-04.1A	Outcomes from the 4 th Extraordinary International Hydrographic Conference, Monaco, 2-5 June 2009 (IHB)
HSSC1-04.2A rev.3	Report on IMO activities affecting HSSC (IHB)
HSSC1-04.3A	Report on IEC and RTCM work relating to electronic charting (D. Enabnit, USA (NOAA))
HSSC1-05.1A	Report on Activities of the Open ECDIS Forum (OEF) (L. Alexander, USA (UNH))
HSSC1-06.1A rev.1	Report and Recommendations of TSMAD (TSMAD Chair)
HSSC1-06.1B	Standardised Development, Consultation and Approval Procedures for IHO Technical Standards (TSMAD)

HSSC1-06.1C	Proposal to Include a Grid Referencing System in S-100 (TSMAD)
HSSC1-06.1D rev.1	Dynamic Water Levels in S-57 based ENC's (TSMAD)
HSSC1-06.1F	New Work Item Proposal for the Establishment of a Standard for the Integration of Multiple Layers of S-100 compliant Auxiliary Navigational Information (S.10x) (CHS on behalf of TSMAD)
HSSC1-06.1G	<i>Update on the Proposed Management Arrangements for the Geospatial Information Infrastructure (GII) (TSMAD)</i>
HSSC1-06.1H rev.1	<i>Progress Report on the Development of S-100 and its Introduction as an IHO Standard (TSMAD)</i>
HSSC1-06.1I	<i>IEHG Comments on the Proposed Management Arrangements for the GII (IEHG)</i>
HSSC1-06.1J	<i>Plain Language Title for S-100</i>
HSSC1-06.2A	Report and Recommendations of DPSWG (DPSWG Chair)
HSSC1-06.3A rev.1	Report and Recommendations of DIPWG (DIPWG Chair)
HSSC1-06.4A rev.1	Report and Recommendations of SNPWG (SNPWG Chair)
HSSC1-06.4B	Report of the 11 th Meeting of SNPWG (SNPWG Chair)
HSSC1-06.5A	Report and Recommendations of CSPCWG (CSPCWG Chair)
HSSC1-06.5B	Draft ToR/RoP for Regional Charting Groups (CSPCWG Chair)
HSSC1-06.5C	BSHC Comments on the Draft ToR/RoP for Regional Charting Groups (Denmark & Finland on behalf of BSHC)
HSSC1-06.6A rev.2	Report and Recommendations of DQWG (DQWG Chair)
HSSC1-06.7A	Report and Recommendations of MSDIWG (MSDIWG Chair)
HSSC1-06.8A	Report and Recommendations of TWLWG (TWLWG Chair)
HSSC1-06.9A	Report and Recommendations of HDWG (HDWG Chair)
HSSC1-06.9B	Proposed amendment to IHO Resolution K3.3 – Hydrographic Dictionary (IHB)
HSSC1-06.10A	Report and Recommendations of EUWG (EUWG Chair)
HSSC1-06.10B	Proposal to Review Appendix 1 to S-52 (IHB)

HSSC1-07.1A rev.1	Status Report on Inland ENC Development and Standardization (IEHG)
HSSC1-07.3A	Status Report on ABLOS activities (ABLOS Chair)
HSSC1-08.1A	Status Report on Revision of M-3 "IHO Resolutions" (IHB)
HSSC1-09A rev.2	Consolidated CHRIS Work Plan (IHB)
HSSC1-10A	Scheduling of HSSC and WG meetings (IHB)
	Information Papers
HSSC1-INF1	Status Report on IHO Publications on Standards and Specifications (IHB)
HSSC1-INF2	Draft of S-49 under development by CSPCWG (P. Jones, UK, CSPCWG Chair)
HSSC1-INF3	Information Overlays in ECDIS (B. Greenslade, UK, TSMAD Chair)
HSSC1-INF4	Digital Nautical Chart (DNC®) INF Report (C. Andreasen, USA-NGA)
HSSC1-INF5	Development of Portrayal Specifications for Nautical Publications Information (D. Acland, UK, SNPWG Chair)
HSSC1-INF6	IHO EU Member State Involvement in INSPIRE Developments (Netherlands)

LIST OF PARTICIPANTS

Member States	Name	Email
Australia	Mr Mike PRINCE Mr Jeffrey WOOTTON (CSPCWG Vice-Chair)	mike.prince@defence.gov.au jeff.wootton@defence.gov.au
Brazil	Capt Carlos A. PÊGAS FERREIRA Capt (Ret.) Wesley W. CAVALHEIRO	pegas@chm.mar.mil.br int.rel@dhn.mar.mil.br
Canada	Dr Savithri NARAYANAN Mr Sean HINDS	savithri.narayanan@dfo-mpo.gc.ca HindsS@DFO-MPO.GC.CA
Chile	Capt Patricio CARRASCO	subdirector@shoa.cl
China	Mr CHEN Lei Mr YANG Yi Miss SUN Bing Mr NG Kwok-chu	hydro@msa.gov.cn hydro@msa.gov.cn sunbing@msa.gov.cn ngkwokchu@mardep.gov.hk
Denmark	Mr Peter Ladegård SØRENSEN	pls@kms.dk
Finland	Ms Tiina TUURNALA Mr Juha KORHONEN Mr Hannu PEIPONEN	tiina.tuurnala@fma.fi juha.korhonen@fma.fi hannu.peiponen@furuno.fi
France	Ing en chef Jean-Luc DENIEL (TSMAD Vice-Chair) Mr Yves LE FRANC (EUWG Chair) Ing (Ms) Lucia PINEAU-GUILLOU (TWLWG Vice-Chair)	deniel@shom.fr yves.le.franc@shom.fr lucia.pineau-guillou@shom.fr
Germany	Dr Mathias JONAS (HSSC Vice Chair)	mathias.jonas@bsh.de
Greece	Ms Maria BIA Lt Konstantinos MOURAMPETZIS	dcd@hnhs.gr 2ntinos@gmail.com
Indonesia	Capt ROSYID Capt Ferial FACHRONI LtCdr Agus SUTRIANTO	diysor_99@yahoo.com ferialfachroni@gmail.com agussutrianto@gmail.com
Italy	LtCdr Alessandro NOBILI	alessandro.nobili@marina.difesa.it
Japan	Mr Tatsuo KOMORI Mr Kunikazu NISHIZAWA	ico@jodc.go.jp nishizawa-iok@jha.jp
Korea (Rep.)	Mr Hongyeol CHANG Mr Kwanchang LIM Mr Woongkyo SONG Mr Jongmin PARK	hychang1@korea.kr Kclim00@korea.kr woongkyo@korea.kr pjm@moeri.re.kr
Korea (D.P.R.K.)	RAdm Chang Sik KIM Capt Myong Chol O Senior Cdr Sng Mu KIM Cdr Kon Yong KIM	busong@co.chesin.com paekho@co.chesin.com Fax : +850-381-4692
Malaysia	Capt Wan Baderul Hisan	wbaderul@yahoo.com
Netherlands	Mr Jan SCHAAP Mrs Ellen VOS	j.schaap2@mindef.nl em.vos@mindef.nl
Norway	Dr Ole B. KVAMME	ole.b.kvamme@statkart.no
Pakistan	LtCdr Fayyaz ul Hassan BHATTI	hydropk@paknavy.gov.pk
Philippines	Cdr Jacinto Cablayan	sonny1731@yahoo.com
Portugal	Capt Carlos Ventura SOARES LtCdr António Martins PINHEIRO	ventura.soares@hidrografico.pt martins.pinheiro@hidrografico.pt
South Africa	Capt Abri KAMPFER	hydrosan@iafrica.com

Singapore	Dr Parry OEI Mr Jamie CHEN	parry@mpa.gov.sg Jamie_Y_K_CHEN@mpa.gov.sg
Sweden	Mr Åke MAGNUSSON	ake.magnusson@sjofartsverket.se
Thailand	RAdm Prayuth NETRPRAPA Capt Nuttavut PRATEEPAPHALIN	hydrotech@navy.mi.th hydrotech@navy.mi.th
Turkey	Lt Eşref GUNSAY	egunsay@shodb.gov.tr
UK	Capt Vaughan NAIL (HSSC Chair) Mr Peter JONES (CSPCWG Chair) Mr Barrie GREENSLADE (TSMAD Chair) Mr Tom MELLOR	vaughan.nail@ukho.gov.uk peter.jones@ukho.gov.uk barrie.greenslade@ukho.gov.uk Thomas.Mellor@UKHO.gov.uk
USA	RAdm Christian ANDREASEN Mr Jim MCGAUGHRAN Mr Peter LEE Mr David ENABNIT Capt John LOWELL	christian.andreasen@nga.mil james.mcgaughran@nga.mil Peter.Lee@nga.mil dave.enabnit@noaa.gov John.Lowell@noaa.gov
IHB (HSSC Secretariat)	Name	Email
	Capt Robert WARD Ing en Chef Michel HUET	robert.ward@ihb.mc mhuet@ihb.mc
Observers	Name	Email
CIRM	Mr Michael RAMBAUT	secgen@circm.org
CNITA	Mr Willem AMELS	willem@datema.nl
IC - ENC	Mr Richard FOWLE	richard.fowle@ic-enc.org
IALA	Mr Torsten KRUUSE Dr Lee ALEXANDER	secgen.iala@wanadoo.fr lee.alexander@unh.edu
IEHG	Ms Denise LADUE Dr Lee ALEXANDER	Denise.R.LaDue@usace.army.mil lee.alexander@unh.edu
IMPA	Captain Rodolphe STRIGA	rodolphe.striga@orange.fr
RTCA	Mr Michael BERGMANN (CG-DSCC Chair)	michael.bergmann@jeppesen.com
RTCM	Mr Rafael PONCE	rponce@esri.com
UN (DOALOS)	Mr Robert SANDEV	sandev@un.org

AGENDA AND TIMETABLE

Note: Presenters of papers in parentheses ().

Wednesday 21 Oct	HSSC CHAIR GROUP
1650	Chair Group meet at The Regent Hotel Lobby
1700 - ~1800	HSSC Chair Group Meeting (HSSC WG Chairs, Vice-chairs, WG speakers only)
Thursday 22 Oct	DAY 1 of HSSC-1
0900	1. Opening and Administrative Arrangements <i>Docs:</i> HSSC1-01A <i>List of Documents (IHB)</i> HSSC1-01B <i>List of Participants (IHB)</i> HSSC1-01C <i>HSSC – List of Contacts (IHB)</i> HSSC1-01D <i>Terms of Reference for HSSC and related Working Groups (IHB)</i>
0915	2. Approval of Agenda <i>Docs:</i> HSSC1-02A <i>Agenda and Timetable</i>
0930	3. Matters arising from Minutes of 20th CHRIS Meeting <i>Docs:</i> HSSC1-03A <i>Minutes of CHRIS-20 (IHB)</i> HSSC1-03B <i>Status of Actions List from CHRIS-20 (IHB)</i> HSSC1-03C <i>Relationship Between ISO and IHO Geospatial Standards (IHB)</i> HSSC1-03D <i>NHC Report on the possible need for an S100-based data exchange standard for paper charts (Sweden on behalf of NHC)</i> HSSC1-03E <i>Status Report of RTCA Correspondence Group on Data Supply Chain Certification (CG-DSCC) (CG-DSCC Chair)</i> HSSC1-03F <i>Report on the creation and first outcomes of the Correspondence Group on Definition and Length of Coastline (France)</i>
1030	Group Photo followed by Coffee Break
1100	4. Decisions of other bodies affecting HSSC 4.1 <i>4th Extraordinary International Hydrographic Conference</i> <i>Docs:</i> HSSC1-04.1A <i>Outcomes from the 4th Extraordinary International Hydrographic Conference, Monaco, 2-5 June 2009 (IHB)</i>
1115	4.2 IMO <i>Docs:</i> HSSC1-04.2A <i>Report on IMO activities affecting HSSC (IHB)</i>
1130	4.3 IEC and RTCM <i>Docs:</i> HSSC1-04.3A <i>Report on IEC and RTCM work relating to electronic charting (D. Enabnit, USA (NOAA))</i>
	5. Liaison with External Stakeholders

1145	5.1	Open ECDIS Forum <i>Docs: HSSC1-05.1A Report on Activities of the Open ECDIS Forum (OEF) (L. Alexander, USA (UNH))</i>
	6.	Reports by HSSC Working Groups
1200	6.1	Transfer Standard Maintenance and Application Development (TSMAD) <i>Docs: HSSC1-06.1A Report and Recommendations of TSMAD (TSMAD Chair)</i>
1230		Lunch
1330		<i>Docs: HSSC1-06.1G Update on the Proposed Management Arrangements for the Geospatial Information Infrastructure (GII) (TSMAD Chair)</i> <i>HSSC1-06.1I IEHG Comments on the Proposed Management Arrangements for the GII (IEHG Co-Chair)</i>
1500		Coffee Break
1530	6.9	Hydrographic Dictionary (HDWG) <i>Docs: HSSC1-06.9A Report and Recommendations of HDWG (IHB)</i> <i>HSSC1-06.9B Proposed Amendment to IHO Resolution K3.3 – Hydrographic Dictionary (IHB)</i>
1600 (0900 in UK)	6.2	Data Protection Scheme (DPSWG) <i>Docs: HSSC1-06.2A Report and Recommendations of DPSWG (DPSWG Chair)</i>
1615 (0915 in UK)	6.4	Standardization of Nautical Publications (SNPWG) <i>Docs: HSSC1-06.4A Report and Recommendations of SNPWG (SNPWG Chair)</i> <i>HSSC1-06.4B Report of the 11th Meeting of SNPWG (SNPWG Chair)</i> <i>HSSC1-INF5 Development of Portrayal Specifications for Nautical Publications Information (SNPWG Chair)</i>
1645 (0945 in UK)	6.6	Data Quality (DQWG) <i>Docs: HSSC1-06.6A Report and Recommendations of DQWG (DQWG Chair)</i>
1700		END OF DAY 1
Friday 23 Oct		DAY 2 of HSSC-1
0900 (2100 in USA)	6.3	Digital Information Portrayal (DIPWG) <i>Docs: HSSC1-06.3A Report and Recommendations of DIPWG (DIPWG Chair)</i>
0930	6.1	Transfer Standard Maintenance and Application Development (TSMAD) (continued) <i>Docs: HSSC1-06.1B Standardised Development, Consultation and Approval Procedures for IHO Technical Standards (TSMAD Vice-Chair)</i>
1030		Coffee Break
1100		<i>Docs: HSSC1-06.1H Progress Report on the Development of S-100 and its Introduction as an IHO Standard (TSMAD Chair)</i> <i>HSSC1-06.1J Plain Language Title for S-100</i>
1145		<i>Docs: HSSC1-06.1F New Work Item Proposal for the Establishment of a Standard for the Integration of Multiple Layers of S-100 compliant Auxiliary Navigational Information (S.10x) (S. Hinds, Canada)</i>
1230		Lunch

1330	<i>Docs:</i> HSSC1-06.1C <i>Proposal to Include a Grid Referencing System in S-100 (GII Registry Mgr)</i> HSSC1-06.1D <i>Dynamic Water Levels in S-57 based ENC's (GII Registry Mgr)</i>
1345	6.5 Chart Specifications and Paper Charts (CSPCWG) <i>Docs:</i> HSSC1-06.5A <i>Report and Recommendations of CSPCWG (CSPCWG Chair)</i> HSSC1-06.5B <i>Draft ToR/RoP for Regional Charting Groups (CSPCWG Chair)</i> HSSC1-06.5C <i>BSHC Comments on the Draft ToR/RoP for Regional Charting Groups (Finland on behalf of BSHC)</i> HSSC1-INF2 <i>Draft of S-49 under development by CSPCWG (CSPCWG Chair)</i>
1430	6.7 Marine Spatial Data Infrastructure (MSDIWG) <i>Docs:</i> HSSC1-06.7A <i>Report and Recommendations of MSDIWG (D. Enabnit, USA (NOAA))</i> HSSC1-INF6 <i>IHO EU Member State Involvement in INSPIRE Developments (Netherlands)</i>
1500	Coffee Break
1530	6.8 Tidal and Water Level (TWLWG) <i>Docs:</i> HSSC1-06.8A <i>Report and Recommendations of TWLWG (TWLWG Vice-Chair)</i>
1545	6.10 ENC Updating (EUWG) <i>Docs:</i> HSSC1-06.10A <i>Report and Recommendations of EUWG (EUWG Chair)</i> HSSC1-06.10B <i>Proposal to Review Appendix 1 to S-52 (IHB)</i>
1615	7. Inter-Organizational Bodies 7.1 Inland ENC Harmonization Group (IEHG) <i>Docs:</i> HSSC1-07.1A <i>Status Report on Inland ENC Development and Standardization (IEHG Co-Chair)</i>
1630	7.2 Marine Information Overlays (MIO) developments <i>Docs:</i> HSSC1-INF3 <i>Information Overlays in ECDIS (TSMAD Chair)</i>
1645	7.3 IHO-IAG Advisory Board on the Law Of the Sea (ABLOS) <i>Docs:</i> HSSC1-07.3A <i>Status Report on ABLOS activities (IHB)</i>
1700	END OF DAY 2
Saturday 24 Oct	DAY 3 of HSSC-1
0900	8. Other HSSC Business 8.1 Review of M-3 <i>Docs:</i> HSSC1-8.1A <i>Status Report on Revision of M-3 "IHO Resolutions" (IHB)</i>
0915	9. Review and Endorsement of HSSC Work Plan <i>Docs:</i> HSSC1-09A <i>Consolidated HSSC Work Plan (IHB)</i>
0945	10. HSSC Administration <i>Docs:</i> HSSC1-10A <i>Scheduling of HSSC and WG meetings (IHB)</i>
1000	11. Review of other Information Papers <i>Docs:</i> HSSC1-INF1 <i>Status Report on IHO Publications on Standards and Specifications (IHB)</i> HSSC1-INF4 <i>Digital Nautical Chart (DNC®) INF Report (USA (NGA))</i>

1030	Coffee Break
1100	12. Date and Location of Next Meeting
1230	Lunch
1330-1500	SPARE
o/c	13. Closure of the Meeting
not later than 1500	END OF DAY 3

LIST OF ACTIONS FROM HSSC1

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)
3	Product Specification for Digital Paper Charts	HSSC1/1	IHB/TSMAD Chair to remove Task A.9 “ <i>Develop S-57 to paper chart functionality and Print-on-Demand (POD) file transfer guidelines</i> ” from the TSMAD Work Plan.
3	Data Supply Chain Certification	HSSC1/2	RTCA Correspondence Group (RTCA, Germany, Canada, Australia, USA, UK, Chile, Portugal, and Norway) invited to continue studies on Data Supply Chain Certification and provide a further report to HSSC2 with any compelling evidence on its necessity, particularly for value-added products, and a proposal for implementation within the IHO.
3	Length of coastlines	HSSC1/3	France invited to continue to lead a correspondence group on the development of a standardised approach to the determination of the length of coastlines and report to HSSC2.
3	S-66 <i>Facts about Electronic Charts and Carriage Requirements</i>	HSSC1/4	IHB to complete the revision of <i>Facts about Electronic Charts and Carriage Requirements</i> , and circulate it as an IHO publication as soon as possible
4.2	Virtual Aids to Navigation and AIS Binary Messages	HSSC1/5	IHB to monitor the development of virtual Aids to Navigation and AIS Binary Messages, in liaison with IALA, and report to HSSC2.
4.2	Cooperation with IOC-WMO JCOMM	HSSC1/6	IHB to write a letter to the IOC-WMO Joint Committee on Oceanography and Marine Meteorology (JCOMM) to encourage working relations with HSSC on matters of common interest, e.g. S-100.
6.1	MEP Product Specification	HSSC1/7	IHB/TSMAD Chair to remove Work Item D “ <i>Develop Marine Environment Protection Programme based on S-100</i> ” from the TSMAD Work Plan.
6.1	MEP Product Specification	HSSC1/8	IHB/SNPWG Chair to include a new low priority Work Item in the SNPWG Work Plan to address the remaining work in former TSMAD Work Item D “ <i>Develop Marine Environment Protection Programme based on S-100</i> ”.
6.1	UN-DOALOS Product Specification	HSSC1/9	TSMAD to continue assisting UN-DOALOS in the development of an S-100 compliant product specification for a Law of the Sea feature code directory.
6.1	UN-DOALOS Product Specification	HSSC1/10	TSMAD Chair to inform the Secretary of ABLOS of the ongoing development of an S-100 compliant product specification on a Law of the Sea feature code directory.
6.1	Recommendations for Consistent ENC Data Encoding	HSSC1/11	IHB to include in S-65, Annex A, Appendix 1, the revised “ <i>Specific SCAMIN Step Values for Object and Attribute Combinations</i> ”, as contained in Annex B to HSSC1-06.1A, and seek MS approval of the resulting new edition of S-65. (see also Action HSSC1/34)
6.1	ToR/RoP for TSMAD	HSSC1/12	IHB to include in IHO Publication M-3 “ <i>Resolutions of the IHO</i> ”, the revised TSMAD Terms of Reference (TR K2.21), as contained in Annex A to HSSC1-06.1A.
6.1	Geospatial Information Infrastructure (GII)	HSSC1/13	TSMAD to develop as a high priority work item detailed operational processes and business rules for S-100 register management and report to HSSC2.
6.1	Maintenance of IHO Standards	HSSC1/14	IHB to seek MS approval of the revised IHO Resolution A1.21 “ <i>Principles and Procedures for Making Changes to IHO Technical Standards and Specifications</i> ”, based on Annex C of HSSC1-06.1B, taking into account the discussions held at HSSC1 on the Hydrographic Dictionary, and other special cases, such as S-4.
6.1	Publication of S-100	HSSC1/15	IHB to seek MS approval of S-100 “ <i>Universal Hydrographic Data Model (UHDM)</i> ” as an active standard to be effective from 1 January 2010.
6.1	Auxiliary Informational Layer Integration	HSSC1/16	IHB/TSMAD Chair to add to the TSMAD Work Plan the following medium priority Work Item: “ <i>Develop an S-10X product specification for ‘Auxiliary Informational Layer Integration’</i> ”.
6.1	Grid referencing system for S-100	HSSC1/17	IHB/TSMAD Chair to add to the TSMAD Work Plan the following low priority Work Item: “ <i>Investigate a suitable grid referencing system for S-100</i> ”

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)
6.1	Standard for the transmission of real-time tidal data	HSSC1/18	IHB/TWLWG Chair to add to the TWLWG Work Plan the following high priority Work Item “Develop a Standard for the transmission of real-time tidal data”.
6.3	New edition of S-52	HSSC1/19	IHB to seek MS approval of Edition 6 of S-52.
6.3	Maintenance of the IHO Presentation Library	HSSC1/20	IHB to arrange contract support to continue the maintenance / improvement of the IHO Presentation Library on ECDIS and the development of the S-100 Portrayal Register.
6.3	ToR/RoP for DIPWG	HSSC1/21	IHB to include in IHO Publication M-3 “Resolutions of the IHO”, the revised DIPWG Terms of Reference (TR K2.26), as contained in Annex D to HSSC1-06.3A.
6.3	Maintenance of the IHO Presentation Library	HSSC1/22	IHB/DIPWG Chair to release Colours & Symbols Maintenance Document No. 7.
6.3	Traditional symbols for ECDIS and Portrayal of nautical publications in ECDIS	HSSC1/23	IHB/DIPWG Chair to add to the DIPWG Work Plan the following Work Items “Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour” (low priority) and “Develop symbology for portrayal of nautical publications in ECDIS” (medium priority)
6.5	ToR/RoP for regional charting groups	HSSC1/24	IHB/CSPCWG Chair to incorporate the Terms of Reference and Rules of Procedure for Regional International Charting Coordination Working Groups (ICCWG), as contained in HSSC1-06.5C, in S-11 Part A, taking into account the comments made by the Committee.
6.5	Updating the INT Chart Catalogue	HSSC1/25	IHB , on behalf of HSSC, to write to INT chart coordinators, encouraging them to forward to the IHB updates to S-11 part B “Catalogue of INT Charts”.
6.6	DQWG WP	HSSC1/26	Sweden invited to compile a list of parameters other than bathymetry, for DQWG to address, and report to HSSC2.
6.7	Guidance to HOs on Marine SDIs	HSSC1/27	IHB to seek MS’ approval of new IHO Publication “Spatial Data Infrastructures: The Marine Dimension - Guidance for Hydrographic Offices”, as contained in Annex 1 to HSSC1-06.6A.
6.7	SDI Capacity Building material	HSSC1/28	IHB to post on the IHO website the MSDI supporting information contained in Annexes 2, 3, 4 and 5 of HSSC1-06.5A.
6.7	ToR/RoP for MSDI	HSSC1/29	IHB to include in IHO Publication M-3 “Resolutions of the IHO”, the revised MSDIWG Terms of Reference (TR K2.45), as contained in Annex xx of the HSSC1 Minutes.
6.9	HDWG membership	HSSC1/30	IHB to invite MS to nominate representatives for HDWG.
6.9	Inland Navigable Waters	HSSC1/31	IHB to seek MS approval of the definition for “Inland Navigable Waters”, as contained in Annex D to HSSC1-06.9A, as amended.
6.9	HDWG procedure	HSSC1/32	IHB to seek MS approval of amended Resolution K3.3 “Hydrographic Dictionary (S-32)”, as contained in Annex A to HSSC1-06.9B. IHB to adjust proposed revision of resolution A1.21(Action HSSC1/14) to agree with amended K3.3.
6.9	ToR/RoP for HDWG	HSSC1/33	IHB to include in IHO Publication M-3 “Resolutions of the IHO”, the revised HDWG Terms of Reference (Resolution K2.32), as contained in Annex C to HSSC1-06.9A.
6.10	Guidelines for encoding T & P ENC updates	HSSC1/34	IHB to include in S-65, as a new Annex B, the “Guidelines for encoding Temporary and Preliminary ENC updates”, as contained in Annex B to HSSC1-06.10A, and seek MS approval of the resulting new edition of S-65. (see also Action HSSC1/11)
6.10	Appendix 1 of S-52	HSSC1/35	EUWG to develop a revised version of Appendix 1 to S-52 “Guidance for ENC Updating”, for inclusion in S-65.
6.10	ToR/RoP for EUWG	HSSC1/36	IHB to include in IHO Publication M-3 “Resolutions of the IHO”, the revised EUWG Terms of Reference (TR K2.47), as contained in Annex A to HSSC1-06.10B.
6.10	Use of S-57 New Objects in place of CNTARE	HSSC1/37	IHB/TSMAD Chair to add to the TSMAD Work Plan the following medium priority Work Item: “Study the possibility to encode information features as New Objects (see S-57 supplement) to avoid caution area objects (CNTARE) in some cases, e.g. to encode T&Ps”
6.10	EUWG membership	HSSC1/38	IHB to invite MS to nominate suitably experienced representatives for the new work of the EUWG.

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)
7.2	Generic Product Specification for MIO	HSSC1/39	IHB/TSMAD Chair to add to the TSMAD Work Plan the following medium priority Work Item: " <i>Develop a template Product Specification for Marine Information Overlays (MIO)</i> "
7.3	ToR/RoP for ABLOS	HSSC1/40	IHB to include in IHO Publication M-3 " <i>Resolutions of the IHO</i> ", the revised ABLOS Terms of Reference (TR K2.20), as contained in Annex C to HSSC1-07.3A.
9.	HSSC WP	HSSC1/41	IHB to update the HSSC Work Plan (HSSC1-09A) to include all relevant decisions of HSSC1, and post it on the IHO website.
10.	ToR/RoP for all HSSC WGs – nine weeks clause	HSSC1/42	IHB to include in all HSSC WG terms of reference the " <i>nine week moratorium</i> " clause, as contained in Annex A to HSSC1-10A, and amend IHO Publication M-3 " <i>Resolutions of the IHO</i> " accordingly.
11.	TALOS Manual and S-44	HSSC1/43	IHB to include C-51 " <i>TALOS Manual</i> " and S-44 " <i>IHO Standards for Hydrographic Surveys</i> " in the next issue of the " <i>Status Report on IHO Publications on Standards, Specifications and Guidelines</i> "
12	Next meeting	HSSC1/44	IHB and Germany to coordinate the organization of HSSC2 (Rostock, Germany, 28-30 October 2010).

US POSITION ON DOC. HSSC1/06.5B

Draft ToR / RoP for Regional Charting Groups

The US supports the findings of HSSC1-06.5B in principle, acknowledging that standardization throughout the RHCs is a positive goal. However, the US must point out that because the RHCs are not official bodies of the IHO, they cannot be directed to adopt the new Terms of Reference included with this paper. Further, these TORs for an RHC WG are outside the scope of HSSC's responsibility and expertise. There is no overwhelming technical issue requiring HSSC's intervention, and none is apparent in the TORs.

Taking all of this into consideration, the US recommends this paper be forwarded directly to the RHCs for consideration. If the RHCs agree that this recommendation should be adopted, it could be proposed as an agenda item at the next IRCC meeting.

Some additional thoughts:

1. The RHCs are all different
2. They are all at varying stages of development
3. They all operate under independent Statutes
4. They are all structured differently
5. They all have different approaches to addressing their activities
6. They all have different priorities

Thus trying to standardize (micromanage) a particular activity under each RHC without standardizing the RHC structure (with standardized Statutes) itself would not be very successful or desirable.

If this had been a request for guidance from the RHCs it might be viewed in a more positive light. But we must assume that each RHC is handling these issues as they deem best. Mandating these TORs/ROPs be adopted by the RHCs could be perceived negatively, suggesting they (RHCs) don't know how to handle these issues.

MARINE SPATIAL DATA INFRASTRUCTURES W.G. (MSDIWG) – M-3 Resolution K2.45

Revised Terms of Reference and Rules of Procedure

As agreed by HSSC1, October 2009

(Changes from the previous ToR/RoP have been emphasized)

1. Objective

~~Identify the Hydrographic Community inputs to National Spatial Data Infrastructures (NSDI) Support the SDI activities of the IHO.~~

2. Authority

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

3. Procedures

The WG should:

- a) Monitor national and international SDI activities and present information on those activities to HSSC members by correspondence and at the annual meeting.
- ab) ~~Identify, in line with the objectives, mission and vision of the IHO, the level and nature of the IHO's role in assisting Member States (M/S) in their support of NSDI~~ Promote the use of IHO standards and member state marine data in SDI activities.
- bc) Liaise, as appropriate, with other relevant technical bodies such as the IOC, and the World Data Centres ~~infor~~ Oceanography, Bathymetry and Marine Geophysics, ~~to increase the visibility of marine spatial data.~~
- ed) Propose any Technical and/or Administrative Resolutions that may be required to reflect IHO involvement in the support of ~~N~~SDI.
- de) Identify actions and procedures that the IHO might take to contribute to the development of ~~National~~ Spatial Data Infrastructure (~~N~~SDI) and / or MSDI in support of Member States.
- ef) Determine any actions that the IHO and individual M/S might take to forge links with other bodies (e.g. OGC, ISO TC211, IOC) to ensure M/S are best placed to meet the developing challenges associated with data management and governance.
- fg) Identify and recommend possible solutions to any significant technical issues related to interoperability between maritime and land based inputs to ~~N~~SDI, and in particular:
 - 1) Datum issues.
 - 2) S-100 interoperability with ~~N~~SDI.
 - 3) S-100 interoperability with oceanographic, marine biological, geological and geophysical data structures.
- gh) Identify any IHO capacity building requirements.

- hi) The WG should work by correspondence, and use group meetings, workshops or symposia only if required.
- ij) Submit a report ~~annually to HSSC and recommendations to CHRIS/20 in 2008 for subsequent consideration at the 4th Extraordinary International Hydrographic Conference in 2009.~~

4. Composition and Chairmanship

- a) The WG shall comprise representatives of Member States, Expert Contributors and Accredited NGIO Observers, all of whom have expressed their willingness to participate.
- b) Member States, Expert Contributors and Accredited NGIO Observers may indicate their willingness to participate at any time. A membership list shall be maintained and confirmed annually.
- c) Expert Contributor membership is open to entities and organisations that can provide a relevant and constructive contribution to the work of the WG.
- d) The Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair should normally 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 force) and, in such case, shall be determined by vote of the Member States present and voting.
- e) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only M/S may cast a vote. Votes shall be on the basis of one vote per M/S represented. In the event that votes are required between meetings or in the absence of meetings, including for elections of the Chair and Vice Chair, this shall be achieved through a postal ballot of those M/S on the current membership list.
- f) If a secretary is required it should normally be drawn from a member of the WG.
- g) 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.
- h) Expert Contributors shall seek approval of membership from the Chairman.
- i) Expert Contributor membership may be withdrawn in the event that a majority of the M/S represented in the WG agrees that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.
- j) All members shall inform the Chairman in advance of their intention to attend any meetings of the WG.
- k) In the event that a large number of Expert Contributor members seek to attend a meeting, the Chairman may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.