

IHO Hydrographic Services and Standards Committee (HSSC)
3rd Meeting, IHB, Monaco 8-10 November 2011

FINAL MINUTES

- Notes:
- 1) The paragraph numbering is the same as in the agenda (Annex D), although the order of taking the items was not exactly followed.
 - 2) A list of acronyms used in this report is provided at Annex A
 - 3) A list of actions agreed at HSSC3 is provided at Annex E
 - 4) All documents referred to in these minutes are available from the HSSC page of the IHO website (http://www.iho.int/mtg_docs/com_wg/HSSC/HSSC3/HSSC3Docs.htm)

1. OPENING AND ADMINISTRATIVE ARRANGEMENTS

- Doc. HSSC3-01A rev7 [List of Documents](#)
HSSC3-01B rev5 [List of Participants](#)
HSSC3-01C [HSSC – List of Contacts](#)
HSSC3-01D [Terms of Reference for HSSC and related Working Groups](#)

The third meeting of the IHO Hydrographic Services and Standards Committee (HSSC3) took place at the IHB in Monaco, from 8-10 November 2011. The Chairman of HSSC (Capt Vaughan NAIL, UK) opened the meeting and welcomed all 62 participants representing 24 Member States, five Non-Governmental International Organizations (NGIOs) and the IHB. He then introduced Director Robert Ward, IHB, who also welcomed participants. The Secretary of HSSC (Ing en chef Michel Huet, IHB) introduced the documentation and recent revision numbers. Dr. Lee Alexander (IALA/IEHG) kindly accepted to serve as rapporteur.

HSSC Chair mentioned that this was the last HSSC meeting before the next IHC. He emphasized the need to balance requirements against resources available to accomplish the necessary work.

Outcome:

- The Committee noted the documents introduced.
- The Committee agreed the Terms of Reference of the WG's – as amended by the meeting.

2. APPROVAL OF AGENDA

- Doc. HSSC3-02A rev8 [Agenda and Timetable](#)

The agenda was accepted with no changes.

Outcome:

- The Committee agreed the agenda.

3. MATTERS ARISING FROM MINUTES OF 2ND HSSC MEETING

3.1 Minutes and Actions from HSSC2

- Doc. HSSC3-03A [Minutes of HSSC2](#)
HSSC3-03B rev2 [Status of Actions List from HSSC2](#)

There were no comments on the minutes of HSSC2.

HSSC Secretary (Huet) summarized the current status of actions arising from HSSC2. Most of the actions had been completed and the remaining actions would be addressed later in the meeting.

Referring to Action HSSC2/20, CIRM (Rambaut) mentioned that IEC TC 80 recently held their Plenary Meeting; as a result the revision of IEC 61174 is now on the program for IEC TC80. Anticipated completion date for the new edition is 2014.

Outcome:

- The Committee agreed the Minutes of HSSC2 as a true record.
- The Committee noted the list of actions reviewed.

3.2 Definition and Length of Coastline

Doc. HSSC3-03C rev1 [Status Report of Correspondence Group on Definition and Length of Coastline \(France\)](#)

France (Louvart) introduced this paper, reporting on progress made by the Correspondence Group on Definition and Length of Coastline and proposing an IHO Resolution on calculating the length of coastline for comparison purposes. He mentioned that there was still a need to continue work on some technical aspects related to determinations between Usage Band 1 and 2 ENC cells, and coastline determinations for river mouth areas.

USA (Andreasen) mentioned that the USA participated in the study and agreed that the issues of river mouth areas and scale bands still need more work.

HSSC Chair summarized that the work was ongoing, and that there was an expectation to complete it before HSSC4. The proposed resolution was considered premature and will be re-examined at HSSC4.

Outcome:

- The Committee noted the paper.
- The Committee endorsed the report and the main findings of the CG and the conclusions made so far, as amended by France at the meeting.
- The Committee invited France to continue leading the CG in refining the proposal further for consideration by HSSC-4.
- **Action HSSC3/01 – France** to continue leading the Correspondence Group on the Definition and Length of Coastline in refining the proposal further for consideration by HSSC-4.

4. HSSC ADMINISTRATION

Doc. HSSC3-04A [The Restructure of HSSC WGs \(Chairs of TSMAD, DPSWG, & DQWG\)](#)
HSSC3-INF7 [Comments by Finland to the Restructure of HSSC WGs \(HSSC3-04A\)](#)

TSMAD Chair (Greenslade) introduced HSSC3-04A and [gave a presentation](#), proposing to restructure certain technical working groups whose main interest is the digital domain and how this, together with the introduction of the concept of an annual combined meeting, would increase the effectiveness of the working groups in the S-100 era. IHB (Ward) further explained his role as 'editor' of this paper. Finland (Korhonen) introduced HSSC3-INF7, including observations, comments and concerns to the proposed re-structuring plans of HSSC Working Groups.

HSSC Chair felt that there were some useful proposals, but that this was a complex topic.

Denmark (Hartmann), Sweden (Engberg), Germany (Jonas) and France (Louvart) agreed with Finland's concerns as described in HSSC3-INF7. They believed that more consideration should be given to the need for re-organization of HSSC WGs, questioned that this would reduce the workload of participants, and felt that a combined working week may not be very productive. Germany (Jonas) however supported TSMAD and DIPWG being merged.

SNPWG Chair (Acland) felt that a big working week, as proposed, would result in less participation in SNPWG meetings. Also, he did not see any advantage of TSMAD and DIPWG being merged. USA (Enabnit) also had concerns about the big working week. He believed that the current method of TSMAD and DIPWG holding combined meetings was working fine. Australia (Prince) added that combining TSMAD and DIPWG meetings has

improved coordination and lowered participation costs. TSMAD (Greenslade) explained the background and outcome of past combined TSMAD and DIPWG meetings; he believed that the proposal to merge these two WGs into a new WG would be mutually beneficial.

RTCA (Bergmann) recommended considering the IALA eNAV Committee structure, as a possible model. IALA (Hadley) explained the pros and cons of the IALA eNAV Committee and how it operates. He provided similar explanation on different types of Committees and WGs as conducted by other international organizations. In any case, intersessional work was discouraged.

HSSC Chair noted this was a very large work package. Key issues are efficiency of working, resources, level of participation, level of coordination, and any re-organization has its own overhead. He asked MS representatives to indicate their support by show of hands to each of the proposed items, i.e.

- Merging TSMAD and DIPWG;
- Establishing a Digital Data Technical Support Working Group (DDTSWG);
- Transferring the role of DPSWG to the proposed DDTSWG;
- Agreeing the concept of an HSSC technical working week; and
- Establishing a Digital Data Coordination Sub Committee (DDCSC).

The result was that there was no majority support for any of the above proposals.

Outcomes:

- The Committee noted the two papers and the presentation.
- The Committee did not agree to amalgamate TSMADWG and DIPWG as the Digital Chart Data Working Group (DCDWG), under new Terms of Reference as set out in Annex A to HSSC3-04A.
- The Committee did not agree to establish a Digital Data Technical Support Working Group (DDTSWG), under the Terms of Reference set out in Annex B to HSSC3-04A.
- The Committee did not agree to transfer the role of the DPSWG to the proposed Digital Data Technical Support Working Group (DDTSWG).
- The Committee did not agree the concept of an HSSC Technical Working Week comprising concurrent meetings of certain Working Groups under the coordination of a Digital Data Coordination Sub Committee.
- The Committee did not agree to establish a Digital Data Coordination Sub Committee (DDCSC), under the terms of Reference and Rules of Procedure as set out in Annex C to HSSC3-04A.
- The Committee did not agree that the new arrangements take effect on completion of the XVIIIth International Hydrographic Conference.

5. REPORTS BY HSSC WORKING GROUPS

5.1 Transfer Standard Maintenance and Application Development (TSMAD)

5.1.1 TSMAD Report

Doc. HSSC3-05.1A rev1 [Report and Recommendations of TSMAD \(TSMAD Chair\)](#)
[Draft S-102 e1.0.0 - Bathymetric Surface Product Specification](#)
[Draft S-64 e2.0.0 - IHO ECDIS Test Data Sets](#)

TSMAD Chair (Greenslade) introduced the report and [gave a presentation](#) on TSMAD activities over the past year.

Saudi Arabia (Srinivasan) noted progress and asked whether S-101 ENC's would be available for use onboard ships by the end of 2012. TSMAD (Greenslade) responded that S-57 ENC's and S-101 ENC's will run in parallel for a number of years. RTCA (Bergmann) commented that what is important for industry is that there is a level of confidence that S-101 development has actually been completed before any implementation starts.

Germany (Jonas) suggested there may be a need for a “generic” S-100 viewer for any S-100 related data sets, e.g. to display S-102 data sets. He also felt the recent publication of a new edition of the *Use of the Object Catalogue* (S-57 Appendix B.1, Annex A) could have effects on ENC encoding and use.

HSSC Chair asked about the end dates for Phase 3 (Extending the data model to include additional complex attributes and information types) and Phase 4 (Scalability - Version 1.0 of S-101). TSMAD (Greenslade) responded that the phases primarily pertain to the document. Some further testing may be required on feature and portrayal catalogues. Most likely, it will be HSSC-5 (2013) when endorsement of S-101 is requested. HSSC Chair mentioned that there is a need to ensure confidence as to what will occur and when, both within the IHO and for external stakeholders.

Proposed new publication S-102 Bathymetric Surface Product Specification

USA (Andreasen) stated the development of S-102 was welcomed and would be used by NGA. He believed that both gridded data sets and navigation products need to be used simultaneously. HSSC Chair pointed out that gridded data was also being used to produce nautical charts. Canada (Hinds) also welcomed the development of S-102 and indicated that prototypes of high-definition gridded bathymetry were produced in Canada and made available to the software industry for trials. HD gridded bathymetry will enable dynamic information (e.g. water levels) to be used as an aid to navigation which conceptually has support from Canadian stakeholders.. He recommended that an information paper on the benefits of S-102 be developed and provided to complement the HSSC report to IHC-18 in 2012, which was supported. The proposed draft S-102 was endorsed by the meeting.

Proposed new edition of S-64 IHO ECDIS Test Data Sets

The meeting discussed whether the proposed new edition of S-64 should be endorsed for immediate publication, or whether TSMAD should be tasked to investigate expanding the standard to improve its usefulness for both OEMs and type approval authorities. Both options were eventually supported. Germany (Jonas) believed that any future S-64 development should include alignment to the next edition of IEC 61174. The proposed draft new edition of S-64 was endorsed by the meeting.

Note: During the 2nd day, TSMAD Chair (Greenslade) provided a demonstration of the IHO S-100 Registry (<http://registry.iho.int/>).

Outcomes:

- The Committee noted the report and the presentation.
- The Committee approved the continuation of the WG under the proposed revised Terms of Reference, as in HSSC3-05.1A.
- The Committee approved the TSMAD work plan as submitted in HSSC3-05.1A.
- The Committee endorsed the final draft of S-102 and instruct IHB to submit to Member States for adoption.
- The Committee directed the IHB to include a brief description of the utility of S-102 in the HSSC report to IHC-18.
- The Committee endorsed the new version of S-64 for immediate publication and invite IHB to seek its adoption by MS.
- The Committee tasked TSMAD to investigate expanding S-64 to improve its usefulness for both OEMs and type approval authorities.
- **Action HSSC3/02 - IHB** to seek MS adoption of S-102 e1.0.0 *Bathymetric Surface Product Specification*.
- **Action HSSC3/03 – IHB** to include a brief description of the utility of S-102 in the HSSC report to IHC-18.
- **Action HSSC3/04 – IHB** to seek MS adoption of S-64 e2.0.0 *IHO ECDIS Test Data Sets*.
- **Action HSSC3/05 - TSMAD** to investigate expanding S-64 to improve its usefulness for both OEMs and type approval authorities.

5.1.2 Consideration of UK Proposals to HSSC-3 and to IHC-18

UK (Pritchard) [gave a presentation](#) on this topic.

HSSC Chair summarized that this paper mainly addresses two proposals submitted by UK to IHC-18, i.e. Pro 2 - *Ensuring the IHB has sufficient technical resource to support Member States and the Working Groups*, and Pro 3 - *Encouraging the IHO to continue taking a leading role in facilitating the resolution of ECDIS issues*. HSSC views were sought on these proposals.

Pro 3 - USA (Enabnit) expressed concern that IHO was taking on an area of responsibility that goes beyond the traditional role of IHO. For instance, ECDIS testing should be the role of IEC TC80. UK (Pritchard) responded that there has been an appreciation by ECDIS stakeholders that IHO has helped identify and address important ECDIS-related issues and gaps, especially those that are ENC-related. IHB (Ward) added that there has been no criticism of the role or involvement that IHO was taking. For example, OEMs and NGOs have been very supportive of the IHO recently issuing an "ENC Check Data Set". USA (Enabnit) however believed that this topic, i.e. the expanding role of IHO, needs to be discussed at IHC-18. CIRM (Rambaut) clarified what could (or should) be the role of IHO in regard to the proper provision and display of chart-related data in ECDIS. Canada (Hinds) pointed out that the interaction between IHO standards S-57 and S-52 are extremely complex. In this light, the IHO should take an active role in resolution of ECDIS display issues given it is IHO expertise who design and code these complex relationships that may not be readily understood by industry.

Pro 2 – IHB (Ward) explained the current level of technical awareness at IHB. Potentially, this proposal would lead to changes. IHB (Maratos) explained that IHB already provides services to MS. If there are changes in the types or scope of services required, these need to be requested by MS. Also, if HSSC feels that IHB is not able to satisfy these types of technical requirements, then this should be brought to the attention of the Directors. Most likely, this proposal would involve some financial considerations in terms of increased contributions by MS.

HSSC Chair summarized that IHO will continue to provide assistance and advice on ECDIS-related issues (re: Pro 3). However, MS need to clearly define the additional technical services, if any, to be provided by IHB (re: Pro 2).

Outcomes:

- The Committee noted the paper and the presentation.
- The Committee Indicated general support for IHC Pro3 – *IHO to take a leading role in the resolution of ECDIS issues*.
- The Committee Indicated general support for further discussion at IHC-18 on Pro 2 – *Ensuring sufficient technical resource at the IHB*.

5.1.3 Restructuring S-58

Doc. HSSC3-5.1B [Review of S-58 Recommended ENC Validation Checks](#) (UK)
HSSC3-INF8 [Comments by Finland to proposed Review of S-58](#)

UK (Pritchard) [gave a presentation](#) on this topic. UK proposed to restructure *S-58 Recommended ENC Validation Checks* to ensure that all ENCs used within ECDIS are tested and certified as conforming to a core subset of S-58 test cases using tools which are fit for the purpose.

Finland (Korhonen) and Sweden (Engberg) wondered whether making S-58 mandatory is actually the best way forward; also how this will relate to S-101. It would mean that there are two mandatory standards, i.e. S-57 and S-58. However S-58 is useful and needs to be reviewed and changed in the future. UK (Pritchard) responded that S-58 is like a "spell checker" for S-57 ENC data. Germany (Jonas) agreed with the first part of the concept that the end user should not have to perform ENC validation checks. This is a data production issue which is the responsibility of the HOs and RENCs, with the ENC validation checks being possibly performed by a 3rd party checker. Potentially, this could also involve the development of a world-wide ENC database that would be certified by IHB.

RTCA (Bergmann) believed that the process of ENC validation cannot be a burden placed on the ECDIS end user. It is the responsibility of the ENC data producer to validate what is being provided. Also, HSSC3-05.1B

does not address the issue of the data supply chain which is becoming increasingly complex. S-58 goes well beyond the so-called “spell checker” analogy and has implications for S-101 ENC. CIRM (Rambaut) pointed out that IEC 61174 does not mention S-58 and ENC validation checks should therefore not be part of an ECDIS operation. IC-ENC (Fowles) pointed out that “errors that must be corrected” is something that has actually to be done (as opposed to “should”). He pointed out that there is a CRC check on all ENC data sets. TSMAD (Greenslade) stressed the difference between “critical errors” and “warnings”. He pointed out that various commercial validation tools give different results and that there is a need for more consistency. He suggested that an ENC test data set for validating the various commercial ENC validation tools may be needed.

There was general support for the proposal to improve S-58, with further suggestions from Saudi Arabia (Srinivasan) that this may have implications in S-100 related standards and from Australia (Prince) that S-57 may need to be revised based on problems identified by S-58.

USA (Enabnit) asked for clarification on what was being proposed, i.e. re-arranging the standard or making S-58 mandatory. He further believed that this should be discussed at IHC-18. UK (Pritchard) agreed that there was a need to develop a plan-of-action in addition to defining what the necessary checks are. TSMAD (Greenslade) believed that some of the S-58 checks are not “understandable.” There is a need for a clear understanding of what constitute errors and warnings and he suggested that this is an issue that TSMAD needs to address. Making S-58 mandatory is a separate issue.

HSSC Chair summarized that:

- The ECDIS is the wrong place to check for ENC errors.
- There is an important role for RENCs to perform.
- It is not satisfactory that an ENC should cause an ECDIS to shut-down.

Outcomes:

- The Committee noted the two papers and the presentation.
- The Committee accepted, in principle that a minimum validation check standard for ENC should be established using the “error” category in S-58.
- The Committee agreed to restructure the S-58 standard into:
 - errors which must be corrected in all ENCs;
 - “warnings” that require cartographic interpretation for a satisfactory solution; and
 - tests to be performed prior to data import in ECDIS.
- The Committee agreed that TSMAD investigate and propose how a minimum validation check standard can be achieved across all ENC providers, including the development of a use-case dataset.
- The Committee agreed that TSMAD develop, in consultation with stakeholders, a migration path, guidance and appropriate tools for establishing a minimum validation check standard.
- **Action HSSC3/06 – TSMAD** to investigate and propose how a minimum validation check standard can be achieved across all ENC providers, including the development of a use-case dataset.
- **Action HSSC3/07 – TSMAD** to develop, in consultation with stakeholders, a migration path, guidance and appropriate tools for establishing a minimum validation check standard.

5.1.4 Maintenance of S-100

Doc. HSSC3-5.1C [Maintenance of S-100](#) (TSMAD)

TSMAD Chair (Greenslade) introduced the paper and [gave a presentation](#) on this topic, proposing that S-100 *IHO Universal Hydrographic Data Model* be granted its own maintenance regime and therefore be excluded from the scope of IHO Resolution 2/2007 *Principles and Procedures for Making Changes to IHO Technical Standards and Specifications*.

IALA (Alexander) asked for examples of other organizations that might request changes to S-100. TSMAD Chair (Greenslade) replied that e-Navigation-related metadata under consideration by IALA could be an example. Canada (Hinds) observed that this may put a lot of responsibility on TSMAD. The checks and balances need to

be assessed. On request from USA (Enabnit), it was clarified that what constitutes “approval” is HSSC endorsement followed with votes of MS.

IHB (Ward) pointed out that if this approach is adopted, it would be a significant change to the governance and approval process of IHO standards, such that TSMAD could approve a change to an IHO standard without MS approval.

HSSC Chair asked for comments regarding IHB concerns. Germany (Jonas) believed that it is the nature of S-100 to be an ‘ever-evolving’ standard. Maintenance will involve clarification, revision and later, new editions. Brazil (Pegas) believed the proposed process was appropriate. Saudi Arabia (Srinivasan) suggested that major changes/revisions to S-100 could be submitted to MS for approval. IHB (Maratos) commented that the current procedure used by IHO is well known. Any change to the S-100 maintenance procedure, as recommended by TSMAD, would first have to be approved by MS. Australia (Prince) wondered what was needed for speedy change to S-100. SNPWG Chair (Acland) pointed out that revisions to S-100 may be necessary to accommodate needed changes. IHB (Ward) questioned any urgent needs for S-100 revision. Denmark (Hartmann) pointed out that making these types of changes seems to be a trend. Saudi Arabia, Italy, USA, Brazil and Turkey expressed support for the proposal.

HSSC Chair commented that there seemed to be considerable Committee support for the proposed approach. However, IHB has expressed some concerns about the implications. This matter could possibly be submitted to IHC-18, but this may indicate a lack of will for HSSC to make a decision. Further, he was not certain that there was any urgency to decide on this matter at this time.

RTCA (Bergmann) suggested that an impact assessment be made. UK (Jones) supported the TSMAD proposal and wanted to see it go forward. USA (Andreassen), while favouring the process where all MS have an opportunity to approve, felt that the IHO side is safety-of-navigation whereas the “Other” side is much broader and needs a cooperative relationship with other organizations that may want to use S-100. TSMAD Chair (Greenslade) pointed out that S-100 constitutes “building blocks” and is not a product specification. France (Louvard) supported TSMAD proposal and believed that having other organizations involved in S-100 would be beneficial.

HSSC Chair suggested that a small group would draw up a series of options that the meeting could then review and discuss, which was agreed. In addition to the TSMAD Chair, Saudi Arabia, Sweden, Turkey, Netherlands, Canada, Australia and USA volunteered to participate. The group subsequently proposed the following options:

1. TSMAD proposal;
2. All standards changed in accordance with Res. 2/2007, including S-100;
3. Defer decision;
4. IHB to make formal proposal at IHC-18.

After lengthy discussion, of the 23 MS represented at the meeting, 14 endorsed the changes proposed by TSMAD. The remaining nine MS representatives preferred either to defer the decision or did not express an opinion.

Outcomes:

- The Committee noted the paper and the presentation.
- The Committee endorsed the proposal that Resolution 2/2007 be amended to indicate that while S-100 is an IHO standard as defined in Resolution 2/2007, it should be subject to a different maintenance routine, in particular, that TSMAD may approve revisions and clarifications to S-100 when considered to be necessary.
- The Committee instructed the IHB to invite MS to adopt the changes described in paper HSSC3-05.1C.
- **Action HSSC3/08 – IHB to invite MS to adopt the changes described in paper HSSC3-05.1C.**

5.1.5 Impact Study of S-101

Doc. HSSC3-INF4 [Impact Study of S-101](#) (France)

France (Louvard) introduced this paper, proposing to study and assess the impact on relevant stakeholders of the soon-to-be-released S-101 standard *ENC Product Specification*.

IALA (Alexander) suggested that the study includes a cost-analysis of the potential impacts of S-101 on the maritime industry and other involved parties.

There was general support for this proposal.

Outcomes:

- The Committee noted the paper.
- The Committee confirmed that Resolution 2/2007 applies to the S-101 standard.
- The Committee instructed TSMAD to conduct a formal impact study on S-101 in conformance with the requirements of Resolution 2/2007 taking into account paper HSSC3-INF4 and report to HSSC-4.
- **Action HSSC3/09 – TSMAD** to conduct a formal impact study on S-101 in conformance with the requirements of Resolution 2/2007 taking into account paper HSSC3-INF4 and report to HSSC-4.

5.1.6 Non-hydrographic Marine Applications of S-100

Doc. HSSC3-INF9 [Feasibility Study into Using S-100 for Non-hydrographic Marine Applications](#) (Jeppesen and Norwegian Coastal Administration).

Norway (Kvamme) introduced this paper, informing the meeting that a recent Norwegian project has shown that it is practical and feasible to use S-100 as the data model for a digital Notice of Arrival and Pilot Request service. RTCA (Bergmann) further explained what had been done as part of the study.

IHB (Ward) observed that this is a good example of S-100 being used by other authorities and organizations for various applications, e.g. e-Navigation. There were no further comments.

Outcomes:

- The Committee noted the paper.

5.2 **Data Protection Scheme (DPSWG)**

Doc. HSSC3-05.2A [Report and Recommendations of DPSWG](#) (DPSWG Chair)

DPSWG Chair (Pritchard) introduced this topic and [gave a presentation](#).

HSSC Chair suggested that what actually constitutes the current 180 S-63 accredited OEMs be clarified. On request from Japan (Ishii), it was mentioned that a new edition of S-63 will likely be published within 3-5 years. RTCA (Bergmann) pointed out that neither S-101 nor S-63 explains how ENC data is supposed to get to a ship.

All proposals in HSSC-05.2A were supported.

Outcomes:

- The Committee noted the report and the presentation.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the DPSWG work plan as submitted in HSSC3-05.2A, including:
 - seeking information on the adoption of S-63 edition 1.1.1 by OEMs and Data Servers and providing information to stakeholders on migration issues;
 - continuing the work of supporting S-63 edition 1.* users; and
 - commencing definition of S-63 edition 2.0.0.

5.3 **Digital Information Portrayal (DIPWG)**

Doc. HSSC3-05.3A [Report and Recommendations of DIPWG](#) (DIPWG Chair)

HSSC3-05.3B rev1 [Proposed Revision of S-52 Presentation Library](#) (UK)

DIPWG Chair (Harmon) introduced HSSC3-05.3A and [gave a presentation](#) via telephone.

Germany (Jonas) asked about the status of the combined INT1 and S-52 ECDIS symbol effort. DIPWG (Harmon) clarified it should be completed by end of 2012. CSPCWG Chair (Jones) mentioned that there would be a progress report on this issue at the forthcoming CSPCWG meeting.

TSMAD Chair (Greenslade) introduced HSSC3-05.3B and [gave a presentation](#), proposing that a new edition of the S-52 Presentation Library be produced, in order to address certain ECDIS anomalies and standards' ambiguities to the mariner's ultimate benefit.

USA (Enabnit) expressed support for the development of a new edition of the Presentation Library, but had three concerns:

- The examples should not become requirements;
- Elimination of Nasi-Sniederman diagrams can wait until S-101 is completed; and
- S-64 should be considered by TSMAD not DIPWG.

RTCA (Bergmann) agreed that the Nasi-Sniederman diagrams are outdated and are no longer relevant.

All proposals in HSSC3-05.3A and HSSC3-05.3B were supported.

Outcomes:

- The Committee noted the report, the paper and the two presentations.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the DIPWG work plan, as submitted in HSSC3-05.3A, with the addition of the following new Work Item "Revision of the S-52 Presentation Library including in relation to aspects of S-64, taking into account the comments contained in paper HSSC3-05.3B".
- **Action HSSC3/10 – DIPWG Chair** to include in the DIPWG work plan the following new Work Item "Revision of the S-52 Presentation Library including in relation to aspects of S-64, taking into account the comments contained in paper HSSC3-05.3B".

5.4 Standardization of Nautical Publications (SNPWG)

Doc. HSSC3-05.4A [Report and Recommendations of SNPWG](#) (SNPWG Chair)

SNPWG Chair (Acland) introduced this topic and [gave a presentation](#).

HSSC Chair asked about the expected use of the type of products that SNPWG is investigating. SNPWG Chair (Acland) answered that SNPWG is not only dealing with ECDIS displays but with other types of screens both on board ships and ashore.

All proposals in HSSC3-05.4A were supported.

Outcomes:

- The Committee noted the report and the presentation.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the SNPWG work plan as submitted in HSSC3-05.4A.

5.5 Chart Specifications and Paper Charts (CSPCWG)

Doc. HSSC3-05.5A rev1 [Report and Recommendations of CSPCWG](#) (CSPCWG Chair)

HSSC3-05.5B [CSPCWG Proposal addition to S-4](#) (CSPCWG Chair)

CSPCWG Chair (Jones) introduced HSSC3-05.5A and [gave a presentation](#).

Referring to the task given to CSPCWG to “develop guidelines for preparation & maintenance of small / medium scale ENC schemes”, TSMAD (Greenslade) questioned the need for a schema for ENCs, particularly if it is based on paper chart boundaries. CSPCWG (Jones) agreed, adding that using S-11 may not be the most appropriate way to manage such schemes.

CSPCWG Chair (Jones) introduced HSSC3-05.5B, proposing a succinct definition of the purpose of a chart and a guide to appropriate content, for inclusion in S-4. The definition was derived from a text originating from Lee Alexander who clarified that his intention was to provide a “mariner’s perspective” on what information should be available from a paper nautical chart – not necessarily an ENC.

There was general support for this proposal. Australia (Prince) observed that ever increasing amounts of information are being asked to be included in nautical charts. IC-ENC (Fowle) felt the concept was good, but was concerned about the last sentence “*The format of electronic charts allows detail additional to that shown on the paper chart, specific to navigation using Electronic Chart Display and Information Systems (ECDIS), to be included*”, as a significant problem with ENCs is the increasing levels of clutter. RTCA (Bergman) explained the difference between what can be shown on paper charts and on ENCs. Saudi Arabia (Srinivasan) commented that, whereas ENCs can provide additional information, a paper chart is not intended to contain everything.

HSSC Chair asked if the inclusion of the proposed definition in S-4 should be treated as a clarification or a revision which would then require MS approval. There was overwhelming support for considering this change as a clarification.

All proposals in HSSC3-05.5A were supported.

Outcomes:

- The Committee noted the report, the paper and the presentation.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the CSPCWG work plan, as submitted in HSSC3-05.5A.
- The Committee agreed that a definition of the purpose and content of a chart, as submitted in HSSC3-05.5B, should be included in S-4.
- The Committee decided that inclusion of such a definition be treated as a clarification (in accordance with IHO Resolution 2/2007).
- **Action HSSC3/11 – CSPCWG Chair** to include a definition of the purpose and content of a chart, as submitted in HSSC3-05.5B, in S-4 at its next revision.

5.6 Data Quality (DQWG)

Doc. HSSC3-05.6A [Report and Recommendations of DQWG](#) (DQWG Chair)

DQWG Chair (Howlett) introduced this topic and [gave a presentation](#). He reported that a questionnaire seeking to establish mariners’ perception of data quality had been produced and circulated. Over 600 responses were received. The results of an analysis should be made available shortly. DQWG would be holding its 5th meeting in Monaco the following week to discuss the results of the questionnaire and formulate a response on the data quality elements of S-101. As part of the future DQWG work programme, he proposed to investigate methods of educating mariners on data quality and that maritime colleges are being involved to trial different forms of portraying data quality. He suggested that relevant HSSC WGs be invited to identify items that have a quality element and indicate if these should be researched by the DQWG for inclusion within S-100.

RTCA (Bergmann) asked about the status of using CATZOC on ENCs. DQWG (Howlett) clarified that DQWG has not yet dealt with CATZOC. Responses to the questionnaire indicate little use of CATZOC on ENCs by mariners. HSSC Chair felt that DQWG should be looking into the use of CATZOC on ENCs. TSMAD (Greenslade) pointed out that CATZOC is intended to be objective rather than subjective as is the case for source diagrams.

DQWG Chair (Howlett) further explained two concepts that are being considered: 1) what constitutes a “minimum standard” for safe navigation and 2) a “fitness for use” of colour scheme for safe/unsafe water depending on vessel draft and quality of survey.

SNPWG Chair (Acland) said that his WG has discussed data quality and that it all is based on the type of survey. IHB (Ward) commented that IMO syllabi did not specify data quality to be included in training on paper charts, but had now been included in training for ECDIS. He suggested that the results of the data quality survey be distributed to MS by CL, which was agreed. Italy (La Pira) suggested that IHO should work with IMO on establishing guidelines on data quality requirements. RTCA (Bergmann) explained how data quality metadata is monitored in the aviation community.

HSSC Chair expressed concern that data quality is apparently important to mariners, but that there is little participation by HOs in the DQWG.

All proposals in HSSC3-05.6A were supported.

Outcomes:

- The Committee noted the report.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the DQWG work plan as submitted in HSSC3-05.6A.
- The Committee invited relevant WGs to identify items that have a quality element and determine whether these should be researched by the DQWG for inclusion within S-100.
- The Committee directed DQWG to provide IHB with a summary report on the outcome of the data quality survey for subsequent distribution to MS by CL.
- **Action HSSC3/12 – HSSC WGs** to identify items that have a quality element and determine whether these should be researched by the DQWG for inclusion within S-100; to be communicated to the DQWG Chair.
- **Action HSSC3/13 – DQWG Chair** to provide IHB with a summary report on the outcome of the data quality survey for subsequent distribution to MS by CL.

5.7 Marine Spatial Data Infrastructure (MSDIWG)

- Doc. HSSC3-05.7A [Report Recommendations of MSDIWG](#) (MSDIWG Chair)
 HSSC3-INF3 [World Forum on Global Geospatial Information Management](#) (IHB)
 HSSC3-INF3-Add 1 [IHO Participation in the UN Committee of Experts on Global Geospatial Information Management and Relationships with Geospatial Organizations and Corporations](#)
 HSSC3-INF6 [Information about MSDI future challenges and MSDI initiatives in the Baltic](#) (BSHC)

MSDIWG Chair (Kenny) introduced HSSC3-05.7A and [gave a presentation](#) via telephone. IHB (Ward) introduced HSSC3-INF3 and HSSC3-INF3 Add1, and [gave a presentation](#), on two recent events related to the United Nations Global Geospatial Information Management with the principle point being that desire for MSDI is gaining traction on the international stage and that IHO and Member States should take note. Denmark (Hartmann) introduced HSSC3-INF6.

Saudi Arabia (Srinivasan) believed the WG should continue and suggested increased participation by Industry. Denmark (Hartmann) mentioned the European BLAST Project that is intended to come up with practical solutions. RTCA (Bergmann) believed that there are larger, overarching issues associated with MSDI, such as how MSDI will affect the scale-independent S-57 objects or the S-101 ENCs.

HSSC Chair suggested there is benefit of providing more operational advice to MS on MSDI and that increased MS participation in MSDI matters should be encouraged. If new work items are desired for the MSDIWG work plan, then these should be put forward.

All proposals in HSSC3-05.7A were supported.

Outcomes:

- The Committee noted the report, the three paper and the two presentations.
- The Committee approved the continuation of the WG under its current Terms of Reference.

- The Committee approved the MSDIWG work plan, as submitted in HSSC3-05.7A, which should also take into account the topics in paper HSSC3-INF6.
- **Action HSSC3/14 – MSDIWG Chair** to take into account the topics in paper HSSC3-INF6, in the MSDIWG work plan.

5.8 Tidal and Water Level (TWLWG)

Doc. HSSC3-05.8A [Report and Recommendations of TWLWG](#) (TWLWG Chair)

Chair TWLWG (Gill) introduced the topic and [gave a presentation](#) via telephone. A revised draft text of IHO resolution 6/1932 was submitted for HSSC endorsement.

All proposals in HSSC3-05.8A were supported.

IEHG (Birkhuber) offered to provide TWLWG with the IEHG xml-based format which is used for the transfer of inland water levels, which was welcome.

Outcomes:

- The Committee noted the report and the presentation.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the TWLWG work plan, as submitted in HSSC3-05.8A.
- The Committee endorsed the revised draft text of IHO resolution 6/1932, as submitted in HSSC3-05.8A, and instructed the IHB to circulate it to Member States for adoption.
- The Committee welcomed the offer of IEHG to provide TWLWG with the IEHG xml-based format for the transfer of inland water levels for consideration.
- **Action HSSC3/15 – IHB** to circulate the revised draft text of IHO resolution 6/1932, as submitted in HSSC3-05.8A, to Member States for adoption.

5.9 Hydrographic Dictionary (HDWG)

Doc. HSSC3-05.9A [Report and Recommendations of HDWG](#) (HDWG Chair)

IHB (Huet) introduced this topic and [gave a presentation](#) on behalf of HDWG Chair (Mills). Draft definitions and draft “business rules” for S-32 were submitted for HSSC endorsement.

Referring to the revised “business rules” for S-32 at Annex D to HSSC3-05.9A, HSSC Chair recommended that “remote sensing” be added to the list at paragraph 3, 2nd bullet, which was agreed.

All proposals in HSSC3-05.9A were supported.

Outcomes:

- The Committee noted the report, the three paper and the two presentations.
- The Committee approved the continuation of the WG under its current Terms of Reference.
- The Committee approved the HDWG work plan, as submitted in HSSC3-05.9A.
- The Committee endorsed the draft definitions as submitted in HSSC3-05.9A and instructed the IHB to circulate these to Member States for adoption.
- The Committee endorsed the draft “business rules” for S-32 as submitted in HSSC3-05.9A and amended by the Committee, and invited the IHB to seek their adoption by MS.
- **Action HSSC3/16 – IHB** to circulate the draft definitions, as submitted in HSSC3-05.9A, to Member States for adoption.

- **Action HSSC3/17 – IHB** to seek the adoption by MS of the draft “business rules” for S-32, as submitted in HSSC3-05.9A and amended by the Committee.

5.10 ENC Updating (EUWG)

Doc. HSSC3-05.10A rev1 [Report and Recommendations of EUWG \(EUWG Chair\)](#)
[Draft S-52 App. 1 e4.0.0 – Guidance on Updating the ENC](#)
[Draft S-65 e2.0.0 – ENC Production, Maintenance and Distribution Guidance](#)

EUWG Chair (Le Franc) introduced this topic and [gave a presentation](#). Draft revised editions of S-52, Appendix 1 *Guidance on Updating the ENC* and S-65 *Guidance for Production, Maintenance and Distribution of ENCs*, were submitted for HSSC endorsement.

TSMAD (Greenslade) expressed concerns on how S-52, Appendix 1 is going to relate to S-100. EUWG Chair (Le Franc) responded that parts of S-52, Appendix 1 could be removed in the future, as needed. CIRM (Rambaut) mentioned that IEC 61174 *Test Specifications for ECDIS* has relationship with S-52, Appendix 1, and suggested liaising with IEC TC80 on this matter.

All proposals in HSSC3-05.10A were supported, as well as the need to liaise with IEC TC80 regarding the new edition of S-52, Appendix 1.

Outcomes:

- The Committee noted the report, the two draft new editions and the presentation.
- The Committee endorsed the draft revised edition of S-65.
- The Committee endorsed the draft revised edition of S-52, Appendix 1.
- The Committee instructed the IHB to inform IEC TC80 of the proposed revised edition of S-52, Appendix 1 and invite comments.
- The Committee instructed the IHB to seek the adoption by MS of the revised editions of S-65 and S-52, Appendix 1, subject to no adverse comments from IEC TC80.
- The Committee instructed the IHB to survey Member States again in 2013 regarding their progress in implementing the recently approved Guidelines for Encoding T&P ENC Updates and to communicate the results to MS.
- The Committee decided that the EUWG be disbanded once its work has been adopted by MS.
- **Action HSSC3/18 – IHB** to inform IEC TC80 of the proposed revised edition of S-52, Appendix 1 and invite comments.
- **Action HSSC3/19 – IHB** to seek the adoption by MS of the revised editions of S-65 and S-52, Appendix 1, subject to no adverse comments from IEC TC80.
- **Action HSSC3/20 – IHB** to survey Member States again in 2013 regarding their progress in implementing the recently approved Guidelines for Encoding T&P ENC Updates and to communicate the results to MS.

6. INTER-ORGANIZATIONAL BODIES

6.1 Inland ENC Harmonization Group (IEHG)

Doc. HSSC3-06.1A [Status Report on Inland ENC Development and Standardization \(IEHG Co-Chair\)](#)

IEHG (Birkhuber) introduced this topic and [gave a presentation](#), describing the IEHG activities related to Inland ENC standards development and implementation, in Europe, North and South America, Russia and Asia. HSSC was invited to assign an S-100 series number to the Inland ENC Product Specification that will be aligned with S-101.

IHB (Ward) explained that the guidance in S-99 states that an appropriate name and numbering system should be selected for assignment to any product specification developed outside the IHO. The number should not be in the S-100 series, thus indicating that the IHO has no responsibility or authority for that product specification. This was supported.

TSMAD (Greenslade) mentioned that S-101 will include the Encoding Guide approach.

Outcomes:

- The Committee noted the report and the presentation.
- The Committee agreed that in accordance with S-99, there was no requirement to assign an S-100 series number to the IEHG Inland ENC Product Specification.

6.2 IHO-IAG Advisory Board on the Law Of the Sea (ABLOS)

Doc. HSSC3-06.2A [Status Report on ABLOS activities](#) (ABLOS Secretary)

IHB (Huet) introduced this topic and [gave a presentation](#) on behalf of the ABLOS Secretary (Shipman).

IHB (Maratos) advised that IHO cooperates very successfully with ABLOS, in particular regarding how hydrography is involved in the implementation of the Law of the Sea.

Saudi Arabia (Srinivasan) asked about the limited number of participants in ABLOS conferences. IHB (Ward) explained that this limitation has to date been constrained by the maximum size of IHB meeting space. However, another larger venue was being sought for the 2012 ABLOS Conference.

USA (Andreasen) commented that IHB should continue to be involved in the technical side of the Law of the Sea.

All proposals in HSSC3-06.2A were supported.

Outcomes:

- The Committee noted the report and the presentation.
- The Committee approved the continuation of ABLOS under its current Terms of Reference.
- The Committee approved the ABLOS work plan, as submitted in HSSC3-06.2A.

7. DECISIONS OF OTHER BODIES AFFECTING HSSC

7.1 IMO

Doc. HSSC3-07.1A [Report on IMO activities affecting HSSC](#) (IHB)
HSSC3-07.1B [Progress Report on Action Taken Concerning Unexpected Behaviour of Some ECDIS](#) (IHB)
[HSSC3-INF10 [Background Information Relating to Certain UK Proposals to HSSC-3 and to the XVIIth IHC](#) (UK)]

IHB (Ward) introduced HSSC3-07.1A and [gave a presentation](#), summarizing recent discussions and decisions taken by IMO that may be relevant to the work of HSSC.

HSSC Chair pointed out the importance of this matter. Referring to the section "New Symbols for AIS Aids to Navigation", Germany (Jonas) mentioned that the CSPCWG has already prepared a set of virtual AtoN symbols. USA (Andreasen) commented about the availability of useful real-time tidal information in coastal areas. He also pointed out the various types of water levels gauges in use. In relation to the ongoing e-Navigation gap analysis being undertaken by the IMO e-Navigation Correspondence Group, IHB (Ward) commented on whether many of the proposed entries were actual "gaps" rather than "wish-list" items.

IHB (Ward) introduced HSSC3-07.1B, summarizing the actions taken so far regarding the unexpected behaviour of some ECDIS at sea. This included the development of an IHO Data Presentation and Performance Check for Mariners.

CIRM (Rambaut) was pleased to see this initiative which should help to ensure that ECDIS software is kept up to date. Software upgrades need to be a part of type-approval process. TSMAD (Greenslade) felt that legacy ECDIS equipment is not properly maintained.

HSSC3-INF10 was mentioned as a reference only in this section. This paper was addressed under § 5.1.2.

Outcomes:

- The Committee noted the report and the presentation.
- The Committee noted that a number of IHO standards related to the performance of ENC data in ECDIS will need amending.
- The Committee reaffirmed its support of the XVIIIth IHC Pro 3 from the UK that confirms that the IHO should continue to take a leading role within the ECDIS stakeholder community to ensure that issues identified in regard to the anomalous operation of ECDIS are collated, analysed, communicated and resolved as speedily as possible

7.2 IEC

Doc. HSSC3-07.2A [Revision of IEC 61174](#) (IHB)

IHB (Ward) introduced this topic and [gave a presentation](#), dealing with a possible revision of IEC 61174 - *ECDIS – Operational and performance requirements, methods of testing and required test results*.

CIRM (Rambaut) noted that, as reported under § 3.1, the revision of IEC 61174 is now on the program for IEC TC80, with an anticipated completion date of 2014. He advised that the starting date for the development of edition 4 will be 2012 and that some pre-work will need to be performed before that date, which CIRM intends to monitor. In particular, a “marked-up” draft including proper references would be helpful to the process. IHB (Ward) suggested that IHO expert contributors participate in this effort to develop an initial revised draft of edition 4. This was supported and it was agreed that IHB would coordinate the IHO volunteers (UK, Germany and France offered to assist).

Outcomes:

- The Committee noted the report and the presentation.
- The Committee agreed that IHO MS should assist the CIRM ECDIS WG to raise an initial revised draft of IEC 61174 for consideration by IEC TC80 in 2012.
- **Action HSSC3/21 – IHB** to coordinate the IHO MS assistance to the CIRM ECDIS WG, to raise an initial revised draft of IEC 61174 for consideration by IEC TC80 in 2012.

8. LIAISON WITH EXTERNAL STAKEHOLDERS

8.1 IHO Stakeholders’ Forum

Doc. HSSC3-08A [ECDIS Stakeholders’ Forum](#) (IRCC)

IRCC Chair (Bessero) introduced this topic. Noting that each strategic direction of the IHO Strategic Plan identifies one or more issues requiring some interaction with the IHO Stakeholders and building on previous considerations about the ECDIS Stakeholders’ Forum, HSSC was invited to consider a joint IRCC-HSSC recommendation to the XVIIIth IHC on developing relations with the IHO Stakeholders.

TSMAD (Greenslade) felt that based on past experience in TSMAD, there needs to be a specific topic for such forums to focus on. CIRM (Rambaut) concurred that focused ECDIS stakeholder meetings are beneficial. This also helps participants to justify their travel. He further said that based on past experience, the opportunity for useful discussions in large meetings may be adversely affected. Germany (Jonas) suggested that HSSC should organize any ECDIS stakeholder meetings and select the topics for discussion. Further, for best results, the scope and attendance should be limited.

IHB (Ward) explained the past involvement of IHB in organizing stakeholder meetings or workshops. He expressed full support for this type of outreach program, providing there is a clear need for these types of meetings, as well as involvement and participation by MS.

Canada (Hinds) supported that this matter be submitted to the XVIIIth IHC. He suggested targeting specific interest groups and arranging stakeholder forums in conjunction with specific conference-type events where these groups would be in attendance, e.g. manufacturers forums, mariners or government forums etc. As an example of topics addressed by IHO at these events, IRCC (Bessero) suggested that such topics as “ECDIS anomalies” are relevant.

After discussion, of the 23 MS represented at the meeting, 14 approved the proposed joint IRCC / HSSC submission to the XVIIIth IHC.

Outcomes:

- The Committee noted the paper.
- The Committee agreed to support a joint IRCC / HSSC submission to the XVIIIth IHC that will put in place procedures for developing and holding biennial IHO Stakeholders’ forum meetings.

8.2 S-44

Doc. HSSC3-08B – [S-44 IHO Standards for Hydrographic Surveys: Consideration for Revision](#) (IHB)

IHB (Ward) introduced this topic and [gave a presentation](#), reporting on the minimal feedback from the commercial hydrographic sector concerning the need to revise S-44.

UK (Howlett) explained the basis for previous revisions and believed that the scope of S-44 should remain limited to hydrography for safety of navigation. France (Louvat) was of the opinion that S-44 is not widely known and noted that SHOM keeps promoting it at a national level. If it needs to be improved to make it more complete, for example on the way to use sensors, then separate documents would need to be drawn up so as not to make the publication too big.

Saudi Arabia (Srinivasan) described how S-44 is being used in Saudi Arabia (completed 100% survey coverage, acoustic and lidar) and felt no changes were needed. Canada (Hinds) and USA (Enabnit) were satisfied with S-44 as it stands and did not see any urgency to have it changed.

There was no support for revising S-44.

Outcomes:

- The Committee noted the paper.
- The Committee agreed that no action is required regarding S-44.

9. REVIEW AND ENDORSEMENT OF HSSC WORK PLAN

Doc. HSSC3-09A [Consolidated HSSC Work Plan](#) (IHB)

IHB (HUET) introduced the paper. He mentioned that all work plans submitted as part of the ten WG reports had been incorporated in this revised HSSC work plan. Some minor corrections agreed during this meeting would be included in the final HSSC work plan.

Outcomes:

- The Committee noted the paper.
- The Committee agreed the consolidated HSSC work plan (as amended by the meeting).

10. REVIEW OF HSSC REPORT TO 18TH IHC

Doc. HSSC3-10A [Report to IHC-18 on the work of HSSC and its WGs for the period 2007-2012](#) (IHB)
HSSC3-INF5 [Draft IHO Five-Year Work Programme 2013 – 2017, with HSSC input](#) (IHB)

IHB (Ward) introduced HSSC3-10A that provides a summary report of the activities of HSSC and its 10 WGs during the period 2007-2012, for submission to the XVIIIth IHC.

There was general support for this report being submitted to the XVIIIth IHC.

IHB (Ward) also introduced HSSC3-INF5, providing a draft IHO five-year work programme (2013-2017), including HSSC input, for consideration by the XVIIIth IHC.

USA (Enabnit) asked how new work items are put into the IHO Work Programme. IHB (Ward) answered that is done on an ongoing basis; input will only address broad items that are known at this time. France (Louwart) noted that length of coastline should be mentioned in the work plan, which was agreed.

There was general support for the proposed HSSC input to the draft IHO five-year work programme.

Outcomes:

- The Committee noted the paper.
- The Committee endorsed the Chairman's draft report to the XVIIIth IHC.
- The Committee Endorsed the HSSC input to the IHB for inclusion in the IHO Five-Year Work Programme 2013 – 2017, including an appropriate entry for the ongoing work on a standardised method for calculating the length of a State coastline.
- **Action HSSC3/22 – IHB** to include an appropriate entry for the ongoing work on a standardised method for calculating the length of a State coastline, as part of the HSSC input to the IHO Five-Year Work Programme 2013 – 2017.

11. REVIEW OF OTHER INFORMATION PAPERS

Doc. HSSC3-INF1 rev1 [Status Report on IHO Publications on Standards, Specifications and Guidelines](#)
HSSC3-INF2 [Digital Nautical Chart \(DNC\) INF Report](#) (USA, NGA)

IHB (Huet) introduced HSSC3-INF1 and [gave a presentation](#), reviewing the status of all IHO publications on standards, specifications and guidelines, under HSSC responsibility.

USA (Andreasen) recommended that S-60 *User's Handbook on Datum Transformations Involving WGS 84* be retired. However, UK (Jones) observed that much of the source data listed in nautical charts was collected prior to WGS-84. HSSC Chair asked participants to express their preference by show of hands. There was a clear majority in favour of keeping S-60.

France (Louwart) reported that a new edition of INT 1 in French should soon be ready for publication; also that translation of S-4 into French by SHOM should be available during the first half of 2012.

TSMAD (Greenslade) suggested that the list of IHO publications which are not subject to Resolution 2/2007, as included in the presentation, be published.

USA (Andreasen) briefly mentioned HSSC3-INF2, which was noted.

Outcomes:

- The Committee noted the two papers.
- The Committee agreed a list of IHO technical standards that should be subject to the terms of Resolution 2/2007 (see Annex F).
- The Committee recommended that MS adopt the agreed list at Annex F as an Appendix to Resolution 2/2007 and instructed the IHB to circulate a proposed amendment to Resolution 2/2007 to Member States for adoption.
- **Action HSSC3/23 – IHB** to circulate a proposed amendment to Resolution 2/2007 to Member States for adoption, including as an Appendix a list of those IHO technical standards that should be subject to Resolution 2/2007 (see Annex F to HSSC3 Minutes).

12. DATE AND LOCATION OF NEXT MEETING

There was some discussion on the best time in the year to hold HSSC meetings. HSSC Chair suggested mid / late September, so that the “dead period” (seven weeks preceding HSSC meetings) be made coincident with the summer holiday period in the northern hemisphere, as far as possible.

CIRM (Rambaut) felt that September is a bad month for industry. TSMAD (Greenslade) said that his WG normally meets soon after HSSC meetings, followed by another meeting in April / May.

The period late September or early October was generally supported.

The Turkish delegation kindly offered to host HSSC4 in Istanbul on 2-4 October 2012, which was gratefully accepted.

Post-Meeting Note: Turkey subsequently informed the HSSC Chair that it would be unable to host HSSC4 as was previously offered. As a result, the venue for HSSC-4 will be at the IHB, Monaco, unless an alternative venue is offered by a State before March 2012. Further, in order to prevent a possible clash with the 2012 ABLOS and GEBCO meetings which will be held at the IHB in the 1st week of October, the tentative dates for HSSC-4 will now be in the second half of September 2012.

Outcomes:

- The Committee agreed HSSC4 to be held 2-4 October 2012, Istanbul, Turkey (but see Post-Meeting Note).
- The Committee agreed HSSC5 to be held late September or early October 2013, venue to be decided.

13. CLOSURE OF THE MEETING

On behalf of the meeting, the Chair warmly thanked the IHB for the excellent arrangements for the meeting. He also thanked all participants and observers for their valuable contribution to the meeting. He remarked on the good progress made at this meeting.

HSSC3 closed at 16:30 on 10 November 2011.

GLOSSARY OF ACRONYMS, TERMS and ABBREVIATIONS

ABLOS	Advisory Board on Law of the Sea
AIS	Automatic Identification System
AtoN	Aid to Navigation
BLAST	Bring Land And Sea Together (EU)
CATZOC	Category of Zones of Confidence attribute (IHO/S-57)
CIRM	Comité International Radio-Maritime
CG	Correspondence Group
CL	Circular Letter
CRC	Cyclic Redundancy Check
CSPCWG	Chart Standardization and Paper Chart Working Group
DIPWG	Digital Information Portrayal Working Group
DNC	Digital Nautical Chart (USA)
DPSWG	Data Protection Scheme Working Group
DQWG	Data Quality Working Group
ECDIS	Electronic Chart Display and Information System
e-NAV	e-Navigation
ENC	Electronic Navigational Chart
EUWG	ENC Updating Working Group
GEBCO	General Bathymetric Chart of the Oceans
HDWG	Hydrographic Dictionary Working Group
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
IC-ENC	International Centre for ENCs
IEC	International Electrotechnical Commission
IEHG	Inland ENC Harmonization Group
IHB	International Hydrographic Bureau

IHC	International Hydrographic Conference
IHO	International Hydrographic Organization
IMO	International Maritime Organization
INT 1	Symbols, Abbreviations and Terms used on Charts
IRCC	Inter-Regional Coordination Committee
MS	Member State
MSDI	Marine Spatial Data Infrastructure
MSDIWG	Marine Spatial Data Infrastructure Working Group
NGA	National Geospatial-Intelligence Agency (USA)
NGIO	Non-Governmental International Organization
OEM	Original Equipment Manufacturer
RENC	Regional ENC Coordinating Centre
RTCA	Radio Technical Commission for Aeronautics
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-32	Hydrographic Dictionary
S-44	IHO Standards for Hydrographic Surveys
S-52	Specifications for Chart Content and Display Aspects of ECDIS
S-57	IHO Transfer Standard for Digital Hydrographic Data
S-58	Recommended ENC Validation Checks
S-60	User's Handbook on Datum Transformations Involving WGS 84
S-63	IHO Data Protection Scheme
S-64	IHO Test Data Sets for ECDIS
S-65	ENC Production Guidance
S-99	IHO Geospatial Information Registry - Structure, Organization and Management
S-100	Universal Hydrographic Data Model
S-101	Future ENC Product Specification, based on S-100
SHOM	Service Hydrographique et Océanographique de la Marine (France)
SNPWG	Standardization of Nautical Publications Working Group
TC	Technical Committee

T&P	Temporary and Preliminary
TSMAD	Transfer Standard Maintenance and Applications Development Working Group
TWLWG	Tidal and Water Level Working Group
UK	United Kingdom
UN	United Nations
USA	United States of America
WG	Working Group
WGS	World Geodetic System

LIST OF DOCUMENTS

Document No	Document Title
HSSC3-01A rev7	List of Documents (IHB)
HSSC3-01B rev5	List of Participants (IHB)
HSSC3-01C	HSSC – List of Contacts (IHB)
HSSC3-01D	Terms of Reference for HSSC and related Working Groups (IHB)
HSSC3-02A rev8	Agenda and Timetable (IHB)
HSSC3-03A	Minutes of the 1 st HSSC Meeting (IHB)
HSSC3-03B rev2	List of Actions from the 20 th CHRIS Meeting and Status (IHB)
HSSC3-03C rev1	Status Report of the Correspondence Group on Definition and Length of Coastline (France)
HSSC3-04A	The Restructure of HSSC WGs (Chairs of TSMAD, DPSWG, DQWG)
HSSC3-05.1A rev1	Report and Recommendations of TSMAD (TSMAD Chair)
	Draft S-102 e1.0.0 - Bathymetric Surface Product Specification
	Draft S-64 e2.0.0 - IHO ECDIS Test Data Sets
HSSC3-05.1B	Review of S-58 Recommended ENC Validation Checks (UK)
HSSC3-05.1C	Maintenance of S-100 (TSMAD)
HSSC3-05.2A	Report and Recommendations of DPSWG (DPSWG Chair)
HSSC3-05.3A	Report and Recommendations of DIPWG (DIPWG Chair)
HSSC3-05.3B rev1	Proposed Revision of S-52 Presentation Library (UK)
HSSC3-05.4A	Report and Recommendations of SNPWG (SNPWG Chair)
HSSC3-05.5A rev1	Report and Recommendations of CSPCWG (CSPCWG Chair)
HSSC3-5.5B	CSPCWG Proposed addition to S-4
HSSC3-05.6A	Report and Recommendations of DQWG (DQWG Chair)

HSSC3-05.7A	Report and Recommendations of MSDIWG (MSDIWG Chair)
HSSC3-05.8A	Report and Recommendations of TWLWG (TWLWG Chair)
HSSC3-05.9A	Report and Recommendations of HDWG (HDWG Chair)
HSSC3-05.10A rev1	Report and Recommendations of EUWG (EUWG Chair)
	Draft S-52 App.1 e4.0.0 - Guidance on Updating the ENC
	Draft S-65 e2.0.0 - ENC Production, Maintenance and Distribution Guidance
HSSC3-06.1A	Status Report on Inland ENC Development and Standardization (IEHG)
HSSC3-06.2A	Status Report on ABLOS activities (ABLOS Chair)
HSSC3-07.1A	Report on IMO activities affecting HSSC (IHB)
HSSC3-07.1B	Progress Report on Action Taken Concerning Unexpected Behaviour of Some ECDIS (IHB)
HSSC3-07.2A	Revision of IEC 61174 (IHB)
HSSC3-08A	ECDIS Stakeholders' Forum (IRCC)
HSSC3-08B	S-44 – IHO Standards for Hydrographic Surveys – Consideration for Revision (IHB)
HSSC3-09A	Consolidated HSSC Work Plan (IHB)
HSSC3-10A	Report to IHC-18 on the work of HSSC and its WGs for the period 2007-2012
	Information Papers
HSSC3-INF1 rev1	Status Report on IHO Publications on Standards and Specifications (IHB)
HSSC3-INF2	Digital Nautical Chart (DNC®) INF Report (USA (NGA))
HSSC3-INF3	World Forum on Global Geospatial Information Management (IHB)
HSSC3-INF3-Add1	IHO Participation in the UN Committee of Experts on Global Geospatial Information Management and Relationships with Geospatial Organisations and Corporations
HSSC3-INF4	Impact study of S-101 (France)
HSSC3-INF5	Draft IHO Five-Year Work Programme 2013 – 2017, with HSSC input
HSSC3-INF6	Information about MSDI future challenges and MSDI initiatives in the Baltic (BSHC)

HSSC3-INF7	Comments by Finland to the Restructure of HSSC WGs (<i>HSSC3-04A</i>)
HSSC3-INF8	Comments by Finland to proposed Review of S-58 (<i>HSSC3-05.1B</i>)
HSSC3-INF9	Feasibility Study into Using S-100 for Non Hydrographic Marine Applications (Norway)
	The IHO S-100 Standard and e-Navigation Information - Concept Exploration with Ship Reporting Data and Product Specification (Jeppesen and NCA)
HSSC3-INF10	Background Information Relating to Certain UK Proposals to HSSC-3 and to the XVIIIth IHC (UK)

LIST OF PARTICIPANTS

Member States	Name	Email
Australia	Mike PRINCE	international.relations@hydro.gov.au mike.prince@defence.gov.au
Brazil	Carlos A. PÊGAS FERREIRA	pegas@chm.mar.mil.br
Canada	Sean HINDS	Sean.Hinds@dfo-mpo.gc.ca
China	SANG Jin WU Lingzhi WU Yuxiao	hydro@msa.gov.cn
China (HK)	CHAU Chun Ming	michaelchau@mardep.gov.hk
Denmark	Jens Peter HARTMANN Peter Ladegaard SØRENSEN	jepha@kms.dk pls@kms.dk
Finland	Juha KORHONEN	Juha.Korhonen@liikennevirasto.fi
France	Laurent LOUVART Yves LE FRANC (EUWG CHAIR) Jean-Luc DENIEL	louart@shom.fr yves.le.franc@shom.fr jeanluc.deniel@wanadoo.fr
Germany	Mathias JONAS (HSSC Vice Chair)	mathias.jonas@bsh.de
Greece	Alexis HADJANTONIOU	dcd@hnhs.gr
Italy	Rosario LA PIRA Carlo MARCHI	rosario.lapira@marina.difesa.it carlo.marchi@marina.difesa.it
Japan	Haruo ISHII	ishii-ta7@jha.jp
Korea, Rep. of	Yong HUH Jae Yon LEE Sewoong OH GiGab HA	tideman@naver.com jlee0921@korea.kr osw@moeri.re.kr ggha@kesti.co.kr
Netherlands	Jan SCHAAP	J.Schaap.01@mindef.nl j.schaap2@mindef.nl
Norway	Ole B. KVAMME	ole.b.kvamme@statkart.no
Poland	Henryk NITNER	nitner@mw.mil.pl
Saudi Arabia	Saud Hamoud AL OTAIBI K.R. SRINIVASAN Salem Salman AL GHZWANI	sssauddd@hotmail.com admiralvasan.sa@gmail.com diver10001@hotmail.com
Singapore	Weng Choy LEE	wclee@mpa.gov.sg
Spain	José Manuel MILLÁN GAMBOA	josmil@fn.mde.es
Sweden	Ralf LINDGREN Hans ENGBERG	Ralf.Lindgren@sjofartsverket.se Hans.Engberg@Sjofartsverket.se
Thailand	Witoon TANTIGUN Nattavut PRATEEPAPHALIN	wittoon.t@navy.mi.th nattavut85@yahoo.com
Turkey	Bülent GÜRSES Mustafa IPTES	bgurses@shodb.gov.tr miptes@hotmail.com
UK	Vaughan NAIL (HSSC Chair) Peter JONES (CSPCWG Chair)	vaughan.nail842@mod.uk peter.jones@ukho.gov.uk

	Barrie GREENSLADE (TSMAD Chair) David ACLAND (SNPVG Chair) Jonathan PRITCHARD (DPSWG Chair) Chris Howlett (DQWG Chair)	barrie.greenslade@ukho.gov.uk david.acland@ukho.gov.uk jonathan.pritchard@ukho.gov.uk chris.howlett@ukho.gov.uk
USA	Christian ANDREASEN David B. ENABNIT Lucy HICK James BRAUD	christian.andreasen@nga.mil dave.enabnit@noaa.gov Lucy.Hick@noaa.gov James.braud@navy.mil
IHB	Name	Email
	Alexandros MARATOS Robert WARD (Secretary) Michel HUET (Ass. Secretary) Anthony PHARAOH	amaratos@ihb.mc robert.ward@ihb.mc mhuet@ihb.mc apharaoh@ihb.mc
IRCC	Name	E-mail
	Gilles BESSERO (IRCC Chair)	gilles.bessero@orange.fr
Observers	Name	Email
CIRM	Michael RAMBAUT	secgen@cirm.org
IALA	Michael HADLEY Lee ALEXANDER	mike.hadley@iala-aism.org leealex@ccom.unh.edu
IC-ENC	Richard FOWLE	richard.fowle@ic-enc.org
IEHG	Bernd BIRKLHUBER Lee ALEXANDER	Bernd.Birkhuber@bmvit.gv.at leealex@ccom.unh.edu
RTCA	Michael BERGMANN Giuseppe ANGRISANO	michael.bergmann@jeppesen.com giuseppeangrisano@gmail.com

AGENDA AND TIMETABLE

Note: Presenters of papers in parentheses ().

Monday 7 Nov	HSSC CHAIR GROUP
1400	Chair Group meet at the IHB
1400 - ~1730	HSSC Chair Group Meeting (HSSC WG Chairs, Vice-chairs, WG speakers only)
Tuesday 8 Nov	DAY ONE of HSSC-3
0900	1. Opening and Administrative Arrangements <i>Docs: HSSC3-01A List of Documents (IHB)</i> <i>HSSC3-01B List of Participants (IHB)</i> <i>HSSC3-01C HSSC – List of Contacts (IHB)</i> <i>HSSC3-01D Terms of Reference for HSSC and related Working Groups (IHB)</i>
0915	2. Approval of Agenda <i>Docs: HSSC3-02A Agenda and Timetable (Chair)</i>
0930	3. Matters arising from Minutes of 2nd HSSC Meeting <i>Docs: HSSC3-03A Minutes of HSSC-2 (IHB)</i> <i>HSSC3-03B Status of Actions List from HSSC-2 (IHB)</i> <i>HSSC3-03C Status Report of the Correspondence Group on Definition and Length of Coastline (France)</i>
1030	Group Photo followed by Coffee Break
	5. Reports by HSSC Working Groups
1100	5.1 Transfer Standard Maintenance and Application Development (TSMAD) <i>Docs: HSSC3-05.1A Report and Recommendations of TSMAD (TSMAD Chair)</i> <i>Draft S-102 e1.0.0 Bathymetric Surface Product Specification</i> <i>Draft S-64 e2.0.0 IHO ECDIS Test Data Sets</i>
1230	Lunch

1400	<p>5.1 Transfer Standard Maintenance and Application Development (TSMAD) (continued)</p> <p><i>Docs: HSSC3-INF10 Background Information Relating to Certain UK Proposals to HSSC-3 and to the XVIIIth IHC (UK)</i></p> <p><i>HSSC3-05.1B Review of S-58 Recommended ENC Validation Checks (UK)</i></p> <p><i>HSSC3-INF8 Comments by Finland to proposed Review of S-58 (HSSC3-05.1B)</i></p> <p><i>HSSC3-05.1C Maintenance of S-100 (TSMAD)</i></p> <p><i>HSSC3-INF4 Impact Study of S-101 (France)</i></p> <p><i>HSSC3-INF9 Feasibility Study into Using S-100 for Non Hydrographic Marine Applications (Norway)</i></p> <p><i>The IHO S-100 Standard and e-Navigation Information - Concept Exploration with Ship Reporting Data and Product Specification (Jeppesen and NCA)</i></p>
1530	Coffee Break
1600	break into drafting groups (if required)
1730	END OF DAY ONE
1800 - 2000	Reception at the IHB
Wednesday 9 Nov	DAY TWO of HSSC-3
	5. Reports by HSSC Working Groups
0900	<p>5.2 Data Protection Scheme (DPSWG)</p> <p><i>Docs: HSSC3-05.2A Report and Recommendations of DPSWG (DPSWG Chair)</i></p>
0945	<p>5.6 Data Quality (DQWG)</p> <p><i>Docs: HSSC3-05.6A Report and Recommendations of DQWG (DQWG Chair)</i></p>
1030	Coffee Break
1100	<p>5.4 Standardization of Nautical Publications (SNPWG)</p> <p><i>Docs: HSSC3-05.4A Report and Recommendations of SNPWG (SNPWG Chair)</i></p>
1130	<p>4. HSSC Administration</p> <p><i>Docs: HSSC3-04A The Restructure of HSSC WGs (Chairs of TSMAD, DPSWG, DQWG)</i></p> <p><i>HSSC3-INF7 Comments by Finland to the Restructure of HSSC WGs (HSSC3-04A)</i></p>
1230	Lunch
1400	<p>5.3 Digital Information Portrayal (DIPWG)</p> <p><i>Docs: HSSC3-05.3A Report and Recommendations of DIPWG (DIPWG Chair)</i></p> <p><i>HSSC3-05.3B Proposed Revision of S-52 Presentation Library (UK)</i></p> <p><i>[HSSC3-INF10 Background Information Relating to Certain UK Proposals to HSSC-3 and to the XVIIIth IHC (UK)]</i></p>

1445	5.7 Marine Spatial Data Infrastructure (MSDIWG) <i>Docs: HSSC3-05.7A Report and Recommendations of MSDIWG (MSDIWG Chair)</i> <i>HSSC3-INF3 World Forum on Global Geospatial Information Management (IHB)</i> <i>HSSC3-INF3 Add 1 IHO Participation in the UN Committee of Experts on Global Geospatial Information Management and Relationships with Geospatial Organizations and Corporations</i> <i>HSSC3-INF6 Information about MSDI future challenges and MSDI initiatives in the Baltic (BSHC)</i>
1530	Coffee Break
1600	break into drafting groups (if required)
1700	END OF DAY TWO
Thursday 10 Nov	DAY THREE of HSSC-3
0900	consider work of drafting group(s) (if required)
0945	5.5 Chart Specifications and Paper Charts (CSPCWG) <i>Docs: HSSC3-05.5A Report and Recommendations of CSPCWG (CSPCWG Chair)</i> <i>HSSC3-05.5B CSPCWG Proposed addition to S-4</i>
1030	Coffee Break
1100	5.10 ENC Updating (EUWG) <i>Docs: HSSC3-05.10A Report and Recommendations of EUWG (EUWG Chair)</i> <i>Draft S-52 App.1 e4.0.0 Guidance on Updating the ENC</i> <i>Draft S-65 e2.0.0 ENC Production, Maintenance and Distribution Guidance</i>
1145	5.9 Hydrographic Dictionary (HDWG) <i>Docs: HSSC3-05.9A Report and Recommendations of HDWG (HDWG Chair)</i>
1200	6. Inter-Organizational Bodies 6.1 Inland ENC Harmonization Group (IEHG) <i>Docs: HSSC3-06.1A Status Report on Inland ENC Development and Standardization (IEHG)</i>
1215	6.2 IHO-IAG Advisory Board on the Law Of the Sea (ABLOS) <i>Docs: HSSC3-06.2A Status Report on ABLOS activities (ABLOS Chair)</i>
1230	Lunch
1400	5.8 Tidal and Water Level (TWLWG) <i>Docs: HSSC3-05.8A Report and Recommendations of TWLWG (TWLWG Chair)</i>

1420	<p>7. Decisions of other bodies affecting HSSC</p> <p>7.1 IMO</p> <p><i>Docs: HSSC3-07.1A Report on IMO activities affecting HSSC (IHB)</i></p> <p><i>HSSC3-07.1B Progress Report on Action Taken Concerning Unexpected Behaviour of Some ECDIS (IHB)</i></p> <p><i>[HSSC3-INF10 Background Information Relating to Certain UK Proposals to HSSC-3 and to the XVIIIth IHC (UK)]</i></p>
1445	<p>7.2 IEC</p> <p><i>Docs: HSSC3-07.2A Revision of IEC 61174 (IHB)</i></p>
	<p>8. Liaison with External Stakeholders</p>
1500	<p><i>Docs: HSSC3-08A IHO Stakeholders' Forum (IRCC)</i></p> <p><i>HSSC3-08B S-44 – IHO Standards for Hydrographic Surveys – Consideration for Revision (IHB)</i></p>
1530	<p>Coffee Break</p>
1600	<p>9. Review and Endorsement of HSSC Work Plan</p> <p><i>Docs: HSSC3-09A Consolidated HSSC Work Plan (IHB)</i></p>
1615	<p>10. Review of HSSC Report to IHC-18</p> <p><i>Docs: HSSC3-10A Report to IHC-18 on the work of HSSC and its WGs for the period 2007-2012</i></p> <p><i>HSSC3-INF5 Draft IHO Five-Year Work Programme 2013 – 2017, with HSSC input</i></p>
1630	<p>Final review of the TORs for HSSC and related Working Groups</p>
1640	<p>11. Review of other Information Papers</p> <p><i>Docs: HSSC3-INF1 Status Report on IHO Publications on Standards and Specifications (IHB)</i></p> <p><i>HSSC3-INF2 Digital Nautical Chart (DNC®) INF Report (USA (NGA))</i></p>
1650	<p>12. Date & Location of 2012 Meeting, and Date of 2013 Meeting</p> <p>[5-8 Nov 2012? ; 4-7 Nov 2013?]</p>
1655	<p>13. Closure of the Meeting</p>
1700	<p>END OF MEETING</p>

LIST OF ACTIONS FROM HSSC3

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)
3	Length of coastline	HSSC3/01	France to continue leading the Correspondence Group on the Definition and Length of Coastline in refining the proposal further for consideration by HSSC-4.
5.1.1	S-102	HSSC3/02	IHB to seek MS adoption of S-102 e1.0.0 <i>Bathymetric Surface Product Specification</i> .
5.1.1	S-102 at IHC-18	HSSC3/03	IHB to include a brief description of the utility of S-102 in the HSSC report to IHC-18.
5.1.1	S-64	HSSC3/04	IHB to seek MS adoption of S-64 e2.0.0 <i>IHO ECDIS Test Data Sets</i> .
5.1.1	S-64	HSSC3/05	TSMAD to investigate expanding S-64 to improve its usefulness for both OEMs and type approval authorities.
5.1.3	S-58	HSSC3/06	TSMAD to investigate and propose how a minimum validation check standard can be achieved across all ENC providers, including the development of a use-case dataset.
5.1.3	S-58	HSSC3/07	TSMAD to develop, in consultation with stakeholders, a migration path, guidance and appropriate tools for establishing a minimum validation check standard.
5.1.4	S-100 maintenance	HSSC3/08	IHB to invite MS to adopt the changes described in paper HSSC3-05.1C.
5.1.5	S-101 impact study	HSSC3/09	TSMAD to conduct a formal impact study on S-101 in conformance with the requirements of Resolution 2/2007 taking into account paper HSSC3-INF4 and report to HSSC-4.
5.3	S-52 Presentation Library	HSSC3/10	DIPWG Chair to include in the DIPWG work plan the following new Work Item "Revision of the S-52 Presentation Library including in relation to aspects of S-64, taking into account the comments contained in paper HSSC3-05.3B".
5.5	Chart definition	HSSC3/11	CSPCWG Chair to include a definition of the purpose and content of a chart, as submitted in HSSC3-05.5B, in S-4 at its next revision.
5.6	Quality elements for S-100	HSSC3/12	HSSC WGs to identify items that have a quality element and determine whether these should be researched by the DQWG for inclusion within S-100; to be communicated to the DQWG Chair.
5.6	Survey on data quality	HSSC3/13	DQWG Chair to provide IHB with a summary report on the outcome of the data quality survey for subsequent distribution to MS by CL
5.7	MSDI	HSSC3/14	MSDIWG Chair to take into account the topics in paper HSSC3-INF6, in the MSDIWG work plan.
5.8	Res. 6/1932	HSSC3/15	IHB to circulate the revised draft text of IHO resolution 6/1932, as submitted in HSSC3-05.8A, to Member States for adoption.
5.9	S-32 definitions	HSSC3/16	IHB to circulate the draft definitions, as submitted in HSSC3-05.9A, to Member States for adoption.
5.9	S-32 business rules	HSSC3/17	IHB to seek the adoption by MS of the draft "business rules" for S-32, as submitted in HSSC3-05.9A and amended by the Committee.

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)
5.10	S-52 App1 & IEC TC80	HSSC3/18	IHB to inform IEC TC80 of the proposed revised edition of S-52, Appendix 1 and invite comments.
5.10	S-65 & S-52 App1	HSSC3/19	IHB to seek the adoption by MS of the revised editions of S-65 and S-52, Appendix1, subject to no adverse comments from IEC TC80.
5.10	T&P ENC Updates	HSSC3/20	IHB to survey Member States again in 2013 regarding their progress in implementing the recently approved Guidelines for Encoding T&P ENC Updates and to communicate the results to MS.
7.2	Revision of IEC 61174	HSSC3/21	IHB to coordinate the IHO MS assistance to the CIRM ECDIS WG, to raise an initial revised draft of IEC 61174 for consideration by IEC TC80 in 2012.
10.	Length of coastline	HSSC3/22	IHB to include an appropriate entry for the ongoing work on a standardised method for calculating the length of a State coastline, as part of the HSSC input to the IHO Five-Year Work Programme 2013 – 2017.
11.	Res. 2/2007	HSSC3/23	IHB to circulate a proposed amendment to Resolution 2/2007 to Member States for adoption, including as an Appendix a list of those IHO technical standards that should be subject to Resolution 2/2007 (see Annex F to HSSC3 Minutes).

A - IHO technical standards that should be subject to the terms of Resolution 2/2007

Number	Name	Relevant maintenance body
S-11 Part A	Guidance for the Preparation and Maintenance of INT Chart schemes	CSPCWG
S-12	Standardization of List of Lights and Fog Signals	WG when/if required
S-32	Hydrographic Dictionary	HDWG
S-32 Appendix 1	Glossary of ECDIS-Related Terms	HDWG
S-44	IHO Standards for Hydrographic Surveys	S44 WG when required
S-49	Standardization of Mariners' Routeing Guides	CSPCWG
S-52	Specifications for Chart Content and Display Aspects of ECDIS	DIPWG
S-52 Annex A	IHO ECDIS Presentation Library	DIPWG
S-52 Appendix 1	Guidance on Updating the ENC	WG when/if required
S-57	IHO Transfer Standard for Digital Hydrographic Data	TSMAD
S-57 Appendix B.1	ENC Product Specification	TSMAD
S-57 Appendix B.1 Annex A	Use of the Object Catalogue for ENC	TSMAD
S-58	Recommended ENC Validation Checks	TSMAD
S-60	Users Handbook on Datum Transformations involving WGS 84	WG when/if required
S-61	Product Specifications for Raster Navigational Charts (RNC)	WG when/if required
S-63	IHO Data Protection Scheme	DPSWG
S-64	Test Data Sets for ECDIS	TSMAD
S-65	ENC Production Guidance	TSMAD
S-66	Facts about Electronic Charting and Carriage Requirements	ICENC-PRIMAR Joint Information Working Group (JIWG), on behalf of HSSC
S-99	Operational Procedures for the Organization and Management of the IHO Geospatial Information Registry	TSMAD
S-10n (when adopted)	S-100 based Product Specifications	WG when/if required
C-17	Spatial Data Infrastructures: "The Marine Dimension" - Guidance For Hydrographic Offices	MSDIWG
C-51	A Manual on Technical Aspects of The United Nations Convention on the Law of The Sea - 1982	ABLOS

B - IHO technical standards that are not subject to the terms of Resolution 2/2007

Number	Name	Relevant maintenance body
S-4 ¹	Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO (including INT 1, INT 2, INT 3)	CSPCWG
INT 1	Symbols, Abbreviations and Terms used on Charts	Germany (English), France (French) and Spain (Spanish), on behalf of IHO
INT 2	Borders, Graduations, Grids and Linear Scales	Netherlands, on behalf of IHO
INT 3	Use of Symbols and Abbreviations	UK, on behalf of IHO
S-62 ²	ENC Producer Codes	IHB
S-100 ³	IHO Universal Hydrographic Data Model	TSMAD

¹ As long as the current revision cycle of S-4 Part B is not completed (expected in 2012), S-4 spec. B-160 will continue to apply. Then S-4 will be subject to the terms of Resolution 2/2007.

² Generated directly from the Data Producer Code Register in the Geospatial Information Registry (see <http://registry.iho.int>)

³ Endorsed by HSSC3 (to be approved by MS)