19th CHRIS MEETING
Rotterdam, Netherlands, 5-9 November 2007

FINAL 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 CHRIS19 is provided at Annex E
4) All documents referred to in these minutes are available from the CHRIS page of the IHO website www.iho.int> Committees > CHRIS > List of CHRIS19 Documents)
5) Names of contributors are written in full the first time they appear in these minutes. Then, only the surname is shown.

1. OPENING AND ADMINISTRATIVE ARRANGEMENTS

Docs: *CHRIS19-01A rev.7 List of Documents (also Annex B)*
CHRIS19-01B rev.8 List of Participants (also Annex C)
CHRIS19-01C CHRIS Membership and Observers List

Capt. Robert WARD (IHB Director) opened the meeting as the retiring Chairman of CHRIS and introduced Capt. Vaughan NAIL (UK) as the recently elected Chairman of CHRIS. Capt. NAIL welcomed participants.

The Chairman reminded delegates that the position of Vice Chairman was unfilled and called for volunteers or nominations. Dr. Mathias JONAS (Germany) was subsequently nominated for the position which he accepted unopposed. Ing. En chef Michel HUET (IHB) served as Secretary. Dr. Lee ALEXANDER (HGMIO) agreed to serve as Rapporteur.

Outcome:

- Dr. Mathias JONAS (Germany) was nominated and elected unopposed as Vice-Chairman of CHRIS

IHB (WARD) reported briefly on the work of the CHRIS Chair Group that had met on the previous evening and in the morning before the meeting. In particular, he highlighted that the Chairs of each WG had discussed the main activities of their Work Plans (WP), progress and proposals for future activity, particularly in relation to their relevance to other CHRIS WGs. The Chair Group had also developed an illustration of the organizational model to be known as the IHO Geospatial Information Infrastructure (GII) that illustrates how the IHO digital data standards and associated documentation is managed, and developed, particularly in a web-based environment. The model was presented to the Committee under Agenda Item 5 and again at the ECDIS Stakeholders' Forum, where it was well received as providing a clearer picture of the roles and inputs of the various Stakeholders and IHO contributors. The model is included at Annex F to these minutes.

2. APPROVAL OF AGENDA

Doc: *CHRIS19-02A rev.7 Agenda and Timetable*

The following minor changes to the Agenda were agreed:
Agenda item 11.2 was moved in the agenda between items 4.6 and 4.7.
Agenda item 9 was moved in the agenda between item 5 and item 6.

Outcome:

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

3. MATTERS ARISING FROM MINUTES OF 18TH CHRIS MEETING

Docs: *CHRIS19-03A* *Minutes of CHRIS-18*
CHRIS19-03B rev.1 *Status of Actions List from CHRIS-18*
CHRIS19-03C *Terms of Reference for CHRIS Committee and related Working Groups*

The Minutes of CHRIS-18 were agreed. IHB (HUET) presented the "*Status of Actions List from CHRIS-18*." There were no matters arising from this review.

Outcome:

- The Committee agreed the Minutes of CHRIS-18 as a true record.

4. DECISIONS OF OTHER BODIES AFFECTING CHRIS

4.1 International Hydrographic Conference

Doc: *CHRIS19-04.1A* *CL 62/2007 on Inland Waters WG and Marine SDI WG (IHB)*

IHB (HUET) informed the Committee that the 17th IHC directed that CHRIS establish two new WGs. He reported that the IHB had subsequently included some editorial changes and clarifications to the draft ToRs originally tabled at the 17th IHC to ensure consistency with other WGs and to conform to the CHRIS business templates. These ToRs would be considered later in the meeting at Agenda Item 7.

Outcome:

- The Committee noted the report.

4.2 WEND Committee

Doc: *CHRIS19-04.2A* *Outcomes from the Extraordinary WEND Committee* Meeting, Monaco, 30-31 October 2007 (IHB)

IHB (WARD) briefed the Committee on the outcomes of the recent Extraordinary WEND meeting, drawing attention to the key points in the paper supporting this agenda item, in particular:

- A list of topics was drawn up that IHO and its Member State HOs must address to ensure that the IHO can provide an appropriate report to IMO NAV at its next meeting (NAV 54). Principal amongst these topics was a priority to ensure adequate ENC coverage for the World's major trading routes and ports, improving the consistency of ENCs, and acknowledging that the price of ENCs is a factor in the uptake of ECDIS.
- HOs were strongly encouraged to follow the IHO guidelines on consistency of ENC data, especially the use of SCAMIN, and were reminded that RENCs and RHCs have a vital role to play in ensuring consistency of ENCs.
- Guidance was provided to the IHB on how the IHO's position should be presented at NAV 54, i.e.:
    - Member States should lobby and educate their IMO delegations (and their regional neighbours) prior to NAV 54 and provide feedback to IHB to assist NAV 54 preparations.
    - The draft action plan proposed by France (see Doc. X-WEND1-07D on the WEND page of the IHO website) should be used as a basis for an IHO submission to IMO which will be presented by the IHB.

Outcome:

- The Committee noted the report.

4.3 IMO

Doc: CHRIS19-04.3A – Report on IMO activities affecting CHRIS (IHB)

IHB (WARD) highlighted a number of important items discussed or decided by IMO in the last year. These included the mandatory carriage requirements of ECDIS in High-Speed Craft; on-going consideration of mandatory carriage requirements for ECDIS in other vessels, and the activities of the IMO Correspondence Group on e-Navigation (e-Nav). HGMIO (ALEXANDER) drew the Committee's attention to two recent e-Nav Seminars organized by IALA. He subsequently provided a presentation on e-Nav and Electronic Charting at the 3rd ECDIS Stakeholders' Forum (ESF-3). NOAA-USA (Mr. Dave ENABNIT) suggested that more discussion was needed on how IHO Member States should become involved in and deal with e-Nav.

Outcome:

- The Committee noted the report.

4.4 ISO-TC211 (Geographic Information-Geomatics)

Doc: CHRIS19-04.4A Report on ISO-TC211 activities affecting CHRIS (B. Greenslade)

Chairman TSMAD (Mr. Barrie GREENSLADE) provided an overview of current activity and progress in the development of ISO geospatial data standards. He noted that there are some ISO-TC211 standards that will underpin S-100, which are still under development.

Outcome:

- The Committee noted the report.

4.5 NATO-DGIWG (Digital Geographic Information W.G.)

Doc: CHRIS19-04.5A Report on DGIWG activities affecting CHRIS (B. Greenslade)

Chairman TSMAD (GREENSLADE) described the involvement of IHO in DGIWG. He mentioned that the new suite of DGIWG standards, although still following the basic structure of DIGEST, will be ISO based, which should facilitate interoperability with S-100.

Outcome:

- The Committee noted the report.

4.6 IEC-TC80-WG7 (ECDIS and ECS)

Doc: CHRIS19-04.6A Report on IEC-TC80-WG7 activities affecting CHRIS (USA-NOAA)

USA-NOAA (ENABNIT) briefed the Committee on the status of the revision of IEC 61174 (ECDIS Test Standard). He encouraged IHO MS to review and provide comments on the Committee Draft for Voting (CDV). Germany (JONAS) provided a further explanation of why these changes were needed, and the impact on the ENC Test Dataset that IHO would need to produce for this revised IEC standard. Chair emphasized that IHO MS should

review the CDV and consider the impact on IHO. UK (Mr. Chris SMITH) suggested that this was a topic that could be brought up at ESF-3. This was agreed. It was also agreed that IHB should inform MS of the situation by CL. (Feedback from ESF-3 was that the IEC WG considered that it did not have enough time to properly include the outstanding items. The chair of the WG suggested that this could be raised by voting Members during the CDV process and changes could then be made as a result of this).

Outcome:

- The Committee noted the report.

- The Committee recommended that IHO MS should consult their respective IEC voting bodies concerning the shortcomings of not including the extra tests for the proper implementation of the IHO Presentation Library for ECDIS (PresLib). IHB to prepare a CL to this effect. (**Action 19/1 – IHB**)

- The Committee agreed that the matter should be raised at ESF-3 to elicit feedback.

4.7 IHO General

Doc: *CHRIS19-04.7A rev.1* *Progress Report on several IHO Technical Resolutions affecting CHRIS (IHB)*

IHB (WARD) reported on the status of three proposed TRs which arose from WEND-10 and/or CHRIS-19:

1) TR A3.13 – *ENC distribution and the use of the term "ENC"* – Not yet adopted; only 36 affirmative votes received, whilst 38 are required.
2) TR A1.21 – *Principles and Procedures for making changes to IHO Technical Standards and Specifications* – 42 affirmative votes received; now adopted and in-force.
3) TR A3.14 – *Recommendations for Consistent ENC data encoding* – Voting suspended, as some adverse comments were received. See also Agenda Item 6.1.

As a general note he commented that obtaining 38 affirmative votes from IHO MS by CL, which is currently the minimum required for a proposal to be approved, can be difficult since about half of the 80 MS do not answer CLs. USA-NOAA (ENABNIT) commented that perhaps an alternative approach would be to issue CLs asking MS to reject a proposal. IHB (WARD) responded that this would not overcome the low response rate, as there must be a simple majority of MS expressly supporting any proposal, based on the total number of MS entitled to vote (currently, 77).

Outcome:

- The Committee noted the report.

5. LIAISON WITH INDUSTRY

5.1 Consideration of Feedback Items from ECDIS Stakeholders

Doc: *CHRIS19-05.1A rev.2* *Programme of the 3rd ECDIS Stakeholders' Forum (IHB)*

Prior to the 3rd ECDIS Stakeholders' Forum IHB (WARD) explained that no comments had been received on the further development of a Programme Agenda, despite circulation of a draft to ECDIS Stakeholders and CHRIS Members / Observers. CIRM (Mr. Michael RAMBAUT) hoped that there would be time for comment / discussion; in particular, on the need for IHO to be proactive at IMO NAV 54. Australia (Cdre. Rod NAIRN) suggested there was a need in the program for specific industry input / feedback. More specifically, Industry should be asked to comment on the ability of ENC distributing agents and VARs to deliver a consolidated and complete global ENC coverage under the current RENC and data warehousing arrangements. Also any recommendations from Industry to IHO, on how any identified difficulties can be overcome, would be welcome. (*Although a question on*

ENC distribution was posed at ESF-3 by Australia (ROBERTS), there were no significant responses provided. This was probably because the stakeholder group represented the equipment user and manufacturer community more than the data distribution sector). USA-NOAA (ENABNIT) requested an opportunity to review / discuss beforehand what would be presented at ESF-3. UK (Capt. Joe COLLINS) suggested that there needs to be a clear statement by IHO that S-100 / S-101 will not have any impact on the considerations for mandatory carriage requirements for ECDIS.

A number of the prospective ESF-3 presenters provided an overview of their intended presentations, including:
Ward (IHB) – *IHO Structure and Decision Making Processes, Global ENC Coverage, IHO Geospatial Information Infrastructure*
Alexander (HGMIO) – *e-Navigation, MIO's*
Greenslade (TSMAD) – *S-100 and the web-based IHO Registry tool*
Jonas (CSMWG) – *ECDIS symbology issues*
Acland (SNPWG) – *Development of a Digital Nautical Information Standard*

As a result, the Committee provided further input on the programme for ESF-3.

Outcome:

- The Committee provided input to enable the ESF-3 programme to be finalised.

The meeting was suspended on 6 November to enable ESF-3 to take place on 7 and the morning of 8 November. CHRIS-19 resumed in the afternoon of 8 November. A brief summary of the conduct of ESF-3 is included at Annex G to these minutes. The mood of the meeting was good, with no contentious issues arising. Copies of the presentations given at ESF-3 have been posted on the IHO website at www.iho.int > Committees > CHRIS.

Doc: CHRIS19-05.1B Enhancing the Presentation of Survey Quality in ENC (UK)

UK (SMITH) presented the paper and briefly reviewed the need to show "survey quality" in ENC data as a further safety feature. At present CATZOC does not appear to deal with this adequately. He suggested investigating ways of ensuring that ECDIS displays provide a clear warning or indication to the mariner whenever the underlying survey data is of poor quality. Canada (Mr. Don VACHON) mentioned that, at a recent Mariners' Workshop, this issue was raised.

Australia (NAIRN) suggested there are two issues related to using capabilities that currently exist: 1) CATZOC for data encoding, and 2) existing display standards. RTCA (Mr. Michael BERGMANN) felt that proper education / interpretation by mariners was also needed. Germany (JONAS) recommended that a small Task Group be formed to propose the best approach for CHRIS to deal with this matter, e.g. by issuing a CHRIS CL. IHB (WARD) further suggested that these items be considered by the re-activated Data Quality WG. This was agreed.

Outcomes:

- The Committee agreed that MS be reminded by CL of the need for and the use of CATZOC (**Action 19/2 – IHB**).
- The Committee agreed that consideration of CATZOC be added to the DQWG mandate (**Action 19/3 – IHB**).

6. REPORTS BY CHRIS WORKING GROUPS

6.1 Transfer Standard Maintenance and Application Development (TSMAD)

Doc: CHRIS19-06.1A Report of TSMAD (B. Greenslade, UK, Chair)

Chairman TSMAD (GREENSLADE) provided an overview on the activities of TSMAD. Progress on the main work item – S-100, has been generally good, but continuing problems with the completion of some key underlying ISO 19100 standards has been frustrating. On request from CIRM (RAMBAUT), he confirmed that ISO standards are copyrighted and available at cost, even for the IHO. He referred to the 10% rule with respect to using ISO copyright material in other standards such as IHO standards. He added that it is intended that S-100 will be distributed at no-cost. The Chair, noting the IHO's positive contribution to ISO standards development, suggested that IHB should communicate with ISO on this matter. He felt there should be a two-pronged approach: 1) a letter from IHB to ISO, and 2) a review by IHB of the IHO-ISO MoU issue. This was agreed.

Chairman TSMAD (GREENSLADE) provided an overview demonstration of the functionality of the new web-based IHO Hydrographic Registry engine (see http://195.217.61.120/iho_registry/). On request from USA-NOAA (Ms. Julia POWELL), he clarified that the Registry is effectively ready for use, but has yet to be advertised. RTCA (BERGMANN) stressed the need for the Registry to be both functional and stable. Chairman TSMAD (GREENSLADE) mentioned that it is currently maintained at the UKHO, but will be eventually moved to the IHO website.

Outcome:

- The Committee noted the report.

- The Committee reconfirmed that IHB, in consultation with Chairman TSMAD, should seek clarification from ISO, arguing that the S-100 work is complementary to ISO TC211 work and should therefore be exempt from any royalty payments. Conclusion of a MoU/Cooperation Agreement should be pursued also. (**Action 19/4 – IHB**)[1]

- The Committee agreed that the ENC encoding bulletin on the Emergency Wreck Marking Buoy be published. (**Action 19/5 – TSMAD**)

Doc: *CHRIS19-06.1B* *S-101 ENC Product Specification (B. Greenslade, J. Powell, R. Fowle)*

Chairman TSMAD (GREENSLADE) reviewed Doc. CHRIS19-06.1B regarding the "*S-101 ENC Product Specification – Next Generation ENCs*". It is intended that S-57 ENCs will be capable of being used in an S-101 configured ECDIS. The Chair concluded that MS should contribute to this work, and the need to engage other Stakeholders in the process should be acknowledged.

Outcome:

- The Committee took note of the paper and encouraged MS and all other stakeholders to actively participate in the S-101 development process. (**Action 19/6 – MS and Stakeholders**)

Docs: *CHRIS19-06.1C* *Recommendations for Consistent ENC Data Encoding (Chairman TSMAD)*
CHRIS19-06.1D *Consistent Application of the attribute SCAMIN (Denmark, Finland, Sweden)*

Chairman TSMAD (GREENSLADE) gave an overview brief on "Recommendations for Consistent ENC Data Encoding" (Doc. CHRIS19-06.1C). With a view to providing a uniform and unambiguous portrayal of ENC data, supporting a safer navigation environment, he asked the Committee to endorse the revised set of recommendations contained in the paper. The Chair re-emphasized that these rules were not intended to be employed immediately by HO's that had existing ENCs but that they are intended as baseline guidance for future major revisions and compilation of new ENCs.

Sweden (Mr. Åke MAGNUSSON) presented Doc. CHRIS19-06.1D on same subject, on behalf of Denmark, Finland and Sweden, expressing concerns about the proposed new rules on the use of the attribute SCAMIN. More

[1] Action completed. See letter in Annex J.

specifically, these MS consider that the TSMAD recommendations in Doc. CHRIS19-06.1C are not mature enough, and that more testing is needed before they can be accepted. He reported that The Baltic Sea Hydrographic Commission has established a Baltic Sea ENC Harmonization Working Group (BSEHWG) that will report by the end of July 2008. He asked that the findings and recommendations from the BSEHWG be taken into consideration. Canada (VACHON) and Germany (JONAS) supported these views, indicating that this issue should be resolved before CHRIS-20 in November 2008. France (Ing. En chef Michel EVEN) also supported this position and stated that France does not currently apply SCAMIN. He suggested that another possible solution would be to develop a common set of rules on SCAMIN that would be applied at the ECDIS display level rather than ENC compilation. This did not receive support – it being considered as unwise to allow the level of display to be determined by the wide variety of OEM software used in ECDIS.

Australia (Mr. Chris ROBERTS), USA-NOAA (POWELL), South Africa (Capt. Abri KAMPFER) and UK (SMITH) supported the use of the TSMAD Recommendations. USA-NOAA (Powell) further noted that as long as the methodology to compute SCAMIN remains the same for production system to implement, then it is just a manner of refining the values. IC-ENC (Mr. Richard FOWLE) pointed out that some HOs do not currently employ SCAMIN because they did not believe that there was sufficient guidance available. While the TSMAD recommendations may not solve all inconsistency issues, he thought that it is the best recommended approach. UK (SMITH) added that there may not be a "perfect solution", but a reasonable approach that is followed would be of benefit to all.

USA-NGA (Radm. Chris ANDREASEN), whilst supporting what TSMAD has done in relating chart scales to radar, felt there may be too many recommended scales, which may in fact lead to less consistency between adjacent ENCs. Chairman TSMAD (GREENSLADE) replied that in regard to radar, the compilation scale is the largest scale that should be safely used. He stressed that there is a difference between compilation scale (of source data) and display scale. Australia (ROBERTS) felt that display scale was an equally important issue which could perhaps be brought up at ESF-3 in order to hear the views of OEMs and ECDIS users. (*In the event, there were no particular comments or input provided from the ESF-3 participants*).

Chair summarized that while it may be too early to adopt a technical resolution at this time, IHO cannot afford to delay, pointing to the recent recommendations of the X-WEND and the Resolutions passed at the 17th IHC concerning data consistency. As such he proposed that the SCAMIN Guidelines be accepted, and be published as an Annex to S-65. The BSEHWG was invited to report on the ENC Consistency issue to CHRIS-20 in order to take the working groups findings and recommendations into consideration. This was agreed.

Outcome:

- The Committee endorsed the revised version of "*Recommendations for Consistent ENC Encoding*", as an Annex to S-65 – *ENC Production Guidance,* noting its importance in support of the recent IHC resolution on ENC coverage and consistency.

- The Committee invited IHB to inform MS by CL of the endorsement by CHRIS of revised "*Recommendations for Consistent ENC Encoding*", as an Annex to S-65 – *ENC Production Guidance.* (**Action 19/7 – IHB**)

- The Committee invited the BSEHWG to report on ENC Consistency to CHRIS-20. (**Action 19/8 – BSEHWG**)

Doc: CHRIS19-06.1E The Present Status of Small Scale ENC Coverage with Respect to the Allocation of cells to Usage Bands 1- Overview and 2 General (T. Pharaoh, IHB)

IHB (WARD) provided a brief overview on small-scale ENC coverage and highlighted the inconsistency of compilation scales used for Navigational Purposes 1 and 2. He proposed that allocation of NP bands 1 and 2 would be best addressed at the regional level. Whilst USA-NOAA (ENABNIT) thought this was a matter for WEND rather than CHRIS, IHB (WARD) clarified that it applied to both CHRIS and WEND. Chairman TSMAD (GREENSLADE) felt this was a problem for ECDIS that hopefully would be solved in S-101.

Outcome:

- The Committee recommended that ENC coverage in Navigational Purposes 1 and 2 should be coordinated on a regional basis. Regional INT Chart Coordinators and/or Regional Hydrographic Commissions are appropriate organizations to do this.

- The Committee invited IHB to write to regional INT chart coordinators and RHC chairpersons, recommending that ENC coverage in Navigational Purposes 1 and 2 should be coordinated on a regional basis. (**Action 19/9 – IHB**)[2]

6.2 Colours and Symbols Maintenance (CSMWG)

Doc: CHRIS19-06.2A Report of CSMWG (M. Jonas, Germany, Chair)

Chairman CSMWG (JONAS) provided an overview of the activities of CSMWG. He mentioned in particular that:

- C&S Maintenance Document No. 5, reflecting the changes in S-57 e3.1.1, was published on the IHO website in summer 2007.
- C&S Maintenance Document No. 6, reflecting the changes in the revised IMO Performance Standards for ECDIS (December 2006), was completed and ready for publication before end 2007.
- Edition 3.4 of the IHO Presentation Library for ECDIS (Annex A to S-52 Appendix 2) was near to completion and could be published in early 2008.
- An IHO Symbol Specifications Register is under construction, as part of S-100 development, using an IHO funded contractor. In this connection, USA-NOAA (POWELL) gave an explanation of the S-100 Portrayal Register.

Chairman TSMAD (GREENSLADE) stressed that the new generic objects (NEWOBJ) with the specific display instructions for the attribute SYMINS, as in S-57 e3.1.1, are intended only to be used if pre-approved by both TSMAD and CSMWG. RTCA (BERGMANN) reminded the Committee about the benefits of declaring an "effective date" and "retirement date" according to the *Lifecycle of an IHO Standard***,** as agreed to at CHRIS-18 in 2006.

Outcome:

- The Committee noted the report.

- The Committee noted that Edition 3.4 of the Presentation Library was close to completion, as part of S-52, Appendix 2, and endorsed its publication by the IHB in early 2008. (**Action 19/10 – IHB and Chairman CSMWG**)

- The Committee endorsed the proposal to issue C&S Maintenance Document No. 6 at short notice; that is, before end 2007, to facilitate the entry of Edition 3.4 of Presentation Library with the revised IMO ECDIS Performance Standards for ECDIS. (**Action 19/11 – IHB**)

- The Committee recommended the continuation of encoding of linear depth areas until at least 1 January 2009. To be reviewed at CHRIS-20. (**Action 19/12 : MS**)

- The Committee recommended an IHO Circular Letter be addressed to Member States (**Action 19/13 – IHB**), proposing that:

  - HOs consider issuing a Notice to Mariners to alert mariners when any of the new S-57 Supplement No. 1 (Edition 3.1.1) objects are first used in their ENCs, and
  - HOs encode INFORM and/or TXTDSC attributes of these new objects, so that the information is available in those out-of-date ECDIS that cannot display the new Objects or Attributes.

- The Committee confirmed the continuation of activities to establish an IHO Symbol Specifications Register as

[2] Action completed. See letter in Annex K.

part of S-100, to be done under an IHO contract of approximately 12,000 Euros per year. (**Action 19/14 – IHB**)

- The Committee endorsed the proposal for a workshop to resolve cell loading issues, addressing the problems from both a data production and OEM perspective. This workshop should be held in conjunction with the S-101 user requirements workshop proposed by the TSMAD chairman. (**Action 19/15 – Chairmen CSMWG & TSMAD, and IHB**)

- The Committee approved the proposed CSMWG work items as part of the CHRIS work program.

6.3 Data Protection Scheme (DPSWG)

Docs: *CHRIS19-06.3A* *Report of DPSWG (R. Sandvik, Norway, Chair)*
CHRIS19-06.3B *Draft Edition 1.1 of S-63*

UK (SMITH) provided a brief review of the activities of DPSWG (on behalf of the Chairman DPSWG, Mr. Robert SANDVIK, Norway/ECC, who was unable to attend the meeting). He stated that the WG had completed a new edition 1.1 of the IHO Data Protection Scheme S-63, as tasked by CHRIS-18, and was now submitting it to CHRIS-19 for endorsement. The main motivation for introducing changes was to:

- Change the structure of the document to make it easier to use
- Include texts from published guidance notes
- Introduce some minor changes to assist operability and overcome certain problems identified with implementation

He noted that completion of the S-63 test data required for IEC61174 had been delayed slightly but was expected to be completed by the end of 2007. He stressed that DPSWG will continue to provide support to users of S-63. Currently, 94 OEMs and 14 data servers were registered as users of the IHO S-63 data protection scheme.

Following a request from USA-NOAA (ENABNIT), it was acknowledged that the maintenance and further development of S-63 must be reflected in the IHO Geospatial Information Infrastructure (GII).

Outcome:

- The Committee noted the report.

- The Committee endorsed the revised S-63 e1.1 and invited IHB to seek Member States approval by Circular Letter. (**Action 19/16 – IHB**)

- The Committee approved the proposed DPSWG work items as part of the CHRIS work program.

6.4 Standardization of Nautical Publications (SNPWG)

Doc: *CHRIS19-06.4A* *Report of SNPWG (D. Acland, UK, Chair)*

Chairman DPSWG (Mr. David ACLAND, UK) described the activities of SNPWG. Their work is primarily to define a data dictionary that will enable the capture of information currently found in nautical publications. Key outcomes of this work will be an ability to create machine readable data, and thereby enable much more flexible use, presentation and availability of nautical publications information. There are obvious linkages to e-Nav. The required data standard will be compatible with S-100 and is based on an extension of the current S-57 objects and attributes to enable the preparation of nautical publications, in a digital format compatible with ENCs. In S-100 terminology, there are currently about 10 information feature classes, 20 new geo feature classes and more than 100 new feature attributes to describe and encode nautical information.

Sweden (Mr. Hans ENGBERG) asked if all information in the nautical publications would eventually be the subject of a separate product specification; or whether some information related to safety-of-navigation should be included in the future ENC Product Specification S-101. While this was not resolved, Chair pointed out that SOLAS regulations currently recognize charts and nautical publications separately, but this was not necessarily a requirement. USA-NOAA (ENABNIT) said it would be useful if SNPWG could provide some empirically-based estimates of the time required to compile NP3 data according to their emerging data dictionary and product specification. This is to ensure that the compilation and maintenance effort required by HOs in using the NP3 specification will be realistic and achievable.

Outcome:

- The Committee noted the report.

- The Committee approved the proposed SNPWG work items as part of the CHRIS work program.

Doc: CHRIS19-06.4B Digipilot (Netherlands)

Netherlands (Mr. Jan SCHAAP) explained that NLHO has developed an *NP2*-type digital Sailing Directions according to the general guidance in the relevant IHO TRs. It is known as *Digipilot*. The first release is expected in January 2008. He suggested, should there be a need for an intermediate *NP2* product specification / standard, that the NLHO *Digipilot* might be used as a reference. USA-NOAA (ENABNIT) expressed concern that the current guidance in IHO TRs concerning *NP2*-type products is not sufficient. IHO (WARD) reminded the Committee that the TRs on this subject had been revised relatively recently and had been made generic on purpose, to allow for innovative developments such as *Digipilot*. Sweden (ENGBERG) believed that SNPWG should focus on *NP3*. There was no support to conduct work on specific standards for *NP2*.

Subsequently, Netherlands (SCHAAP) clarified that Netherlands primary intention was to bring their development to the attention of the Committee and MS. Further, if other HOs are interested they are welcome to become involved.

Australia (NAIRN) felt that *Digipilot* has potential, and wondered if this product could be made available to other HOs. Netherlands (SCHAAP) responded that the underlying engine is a prototype, but could be provided. USA-NOAA (ENABNIT) stated that if NOAA proposed digital publications of a standards-compliant NP2 type for U.S. carriage regulations, then the Coast Guard has stated that they would likely accept them. Therefore work on NP2 standards would have value, and would provide an electronic product in the short term that could be used concurrently with ECDIS.

Outcome:

- The Committee noted the Netherlands paper.

- The Committee considered that the guidance for "*NP2*" contained in the relevant IHO Technical Resolutions is adequate at this stage.

6.5 Chart Standardization and Paper Chart (CSPCWG)

Doc: CHRIS19-06.5A Report of CSPCWG (P. Jones, UK, Chair)

Chairman CSPCWG (Mr. Peter JONES, UK) summarized the activities of CSPCWG. The principal work of the CSPCWG has been progressing the revision of Section B-400 of IHO Publication M-4. This activity should be completed by the end of 2008 and will be followed by a new specification on chart maintenance, Section B-600. He mentioned that ed. 3.004 of M-4 was published in July 2007, ed. 4 of INT 1 in French in November 2006 (by FR), and ed. 4 of INT 2 in February 2007 (by NL). Harmonization of the 3 official language INT 1 documents has

been enhanced by the establishment of a sub-WG of CSPCWG comprising the producer MS HO (DE, ES, FR). He stated that CSPCWG had taken no action on charting of the Emergency Wreck Marking Buoy, pending completion of trials by IALA which should not occur before 2010, but proposed a plan of actions in the event that this buoy would become an IALA aid to navigation.

Australia (ROBERTS) alerted the Committee to a reported routine review (2007-2010) of its recommended buoyage schemes by IALA and inquired whether anyone was aware of this or its potential scope and impact. Chairman CSPCWG was not aware and the committee invited IHB to seek further information from IALA.

Outcome:

- The Committee noted the report.

- The Committee agreed with the actions taken on the IALA Emergency Wreck Marking Buoy.

- The Committee invited IHB to contact IALA regarding a reported review of buoyage policies and to inform the Chairman CHRIS if there is anything of significance to report. (**Action 19/17 – IHB**)

- The Committee approved the proposed CSPCWG work items as part of the CHRIS work program.

7. NEW CHRIS WORKING GROUPS

7.1 Data Quality (DQWG)

Doc: CHRIS19-07.1A rev.2 Draft Terms of Reference for DQWG

IHB (WARD) reported that the Terms of Reference for this re-activated WG were agreed at CHRIS-18, but have been refined to align them with the CHRIS business templates for ToRs. CL 36/2007 sought nominees for membership of DQWG. He indicated that USA had proposed LCdr. Shepard SMITH (NOAA) as Chairman of DQWG, which was gratefully accepted by the meeting.

Outcome:

- The Committee endorsed the proposed ToRs and RoPs for DQWG.

- The Committee approved LCdr. Shepard SMITH (USA-NOAA) as Chairman of DQWG, and invited him to begin the assigned work.

- The Committee agreed to add "*presentation of data quality*" to the DQWG Work Plan and that DQWG ToRs be amended accordingly. (**Action 19/18 : Chairman DQWG and IHB**)

7.2 Marine Spatial Data Infrastructures (MSDIWG)

Doc: CHRIS19-07.2A rev.4 Draft Terms of Reference for MSDIWG

IHB (WARD) explained that Decision 22 of the 17th IHC instructed CHRIS to establish this new WG. Its Terms of Reference are based on those tabled in support of Decision 22; and have been refined to align them with the CHRIS business templates for ToRs. CL 62/2007 sought MSDIWG membership. He indicated that UK had proposed Mr. John PEPPER as Chairman of MSDIWG, which was gratefully accepted by the meeting. MSDIWG is required to provide a report to the next Extraordinary IHC in June 2009 via CHRIS.

Outcome:

- The Committee endorsed the proposed ToRs and RoPs for MSDIWG.

- The Committee approved Mr. John PEPPER (UK) as Chairman of MSDIWG, and invited him to begin the assigned work.

7.3 Hydrography and Cartography in Inland Waters (HCIWWG)

Doc: CHRIS19-07.3A rev.3 Draft Terms of Reference for HCIWWG

IHB (WARD) explained that Decision 19 of the 17th IHC instructed CHRIS to establish this new WG. Its Terms of Reference are based on those tabled in support of Decision 19; and have been refined to align them with the CHRIS business templates covering ToRs. CL 62/2007 sought HCIWWG membership; however, there were no nominations as office bearers. During the course of the meeting, the following delegates agreed to be considered for the various offices:

- Chairman: Capt. Wesley CAVALHEIRO (Brazil);
- Vice Chairman: Mr. Juha KORHONEN (Finland)
- Secretary: Ms. Denise LADUE (USA-ACE)

The Committee agreed with these proposals.

USA-ACE (Ms. Denise LADUE) sought clarification on arrangement for the WG to liaise with the Inland ENC Harmonization Group (IEHG). IHB (WARD) responded that the HCIWWG is required to perform a scoping study, which includes liaison with all relevant stakeholder groups and IEWG is specifically mentioned in the ToRs. The HCIWWG is required to report to the next Extraordinary IHC in June 2009 via CHRIS.

Outcome:

- The Committee endorsed the proposed ToRs and RoPs for HCIWWG.

- The Committee agreed Capt. Wesley CAVALHEIRO (Brazil) as Chairman of HCIWWG, Mr. Juha KORHONEN (Finland) as Vice Chairman and Ms. Denise LADUE (USA-ACE) as Secretary, and invited them to begin the assigned work.

8. INTER-ORGANIZATIONAL BODIES

8.1 IHO/IEC Harmonization Group on Marine Information Overlays (HGMIO)

Doc: CHRIS19-08.1A rev.1 Report of IHO-IEC Harmonization Group on Marine Information Overlays (HGMIO) (L. Alexander, Univ. of NH, Chair)

Chairman HGMIO (ALEXANDER) provided a brief update on HGMIO related activities. *The General Content Specification for MIOs* e1.1 has been developed and will be the basis for all individual MIO product specifications. The benefit of this approach is that ENC software manufacturers can use the same tools to produce MIOs as are used for ENCs and Additional Military Layers (AMLs). An explanation regarding the portrayal of MIOs was provided.

Outcome:

- The Committee noted the report.

- The Committee endorsed the *General Content Specification for MIO's, e1.1*, as contained in Annex A to Doc. CHRIS19-08.1A.

- The Committee endorsed the *Relationship of MIOs to Current / Future IHO Standards, v3,* as contained in Annex B to Doc. CHRIS19-08.1A.

- The Committee agreed the need to establish an MIO Register for MIO S-57_based objects / attributes, product specifications, and portrayal. MIOs will be included in the IHO Geospatial Information Infrastructure (GII). (**Action 19/19 : Chairman HGMIO and IHB**)

Docs: *CHRIS19-08.1B* *Marine Environmental Protection Product Specification (USA-NOAA)*
CHRIS19-08.1C *Letter to CHRIS Chair from World Bank: Proposal for the Preparation and Adoption of an S-57 Product Specification for the Exchange and Use of Marine Environment Protection (MEP) Hydrographic Data*

USA-NOAA (ENABNIT) introduced this proposal for the preparation and adoption of an S-57 Product Specification for the exchange and use of marine environmental protection (MEP) hydrographic data. He stated that the customers of this new product specification would be HOs, environmental agencies, and mariners. Canada (VACHON) and Chairman TSMAD (GREENSLADE) expressed concern that this would require the frozen ENC Product Specification to be changed and re-issued to allow the use of new S-57 objects / attributes. Instead, they recommended that it become a new S-10X Product Specification. Australia (NAIRN) believed that the USA proposal would be seen as changing the S-57 ENC and could affect the adoption of IMO mandatory carriage requirements for ECDIS. To a question asking why they were not following the HGMIO avenue, USA-NOAA (ENABNIT) responded that the S-57 Standard is what is currently in use within IHO, and he believed that those standards / product specifications to be developed by HGMIO will be self-published standards and not official. Chair enquired whether other MS supported the USA proposal. Brazil expressed their support. He then summarized that there is a need for IHO to accommodate new requirements. However, an S-57 solution appears to have unfortunate consequences for ECDIS whereas basing further developments on S-100 would appear to be better. He suggested that this matter be taken on by TSMAD as an additional work item. This was agreed.

Outcome:

- The Committee considered that developing a sole S-57 Marine Environmental Protection (MEP) Product Specification has shortcomings, and recommended that this proposal be developed under the S-100 / IHO GII environment as an additional work item of TSMAD.

- The Committee recommended that any resultant MEP Product Specification should if possible conform with the guidelines of HGMIO.

- The Committee agreed that the Chairman of CHRIS should respond to the letter from The World Bank. A text was subsequently presented by the Chairman and advice from the Committee will be incorporated. (**Action 19/20 – Chairman CHRIS**)[3]

8.2 Inland ENC Harmonization Group (IEHG)

Doc: *CHRIS19-08.2A rev.1* *Status Report on Inland ENC Development and Harmonization (IEHG)*

[3] Action completed. See letter in Annex I.

USA-ACE (LADUE) provided a description of the activities of IEHG relating to Inland ENC development / implementation in Europe, North America, Russia and most recently – South America. The IEHG has completed the development of an S-57 based Inland ENC Standard (Feature Catalogue, Product Specification and Encoding Guide), and has established an Inland ENC Register, based on S-57 e3.1, on the *Open ECDIS Forum*. IEHG will base its developments on S-100 wherever possible. She stressed IEHG's wish to contribute to the work of the newly formed HCIWWG (see § 7.3).

Outcome:

- The Committee noted the report and encouraged further close cooperation between IEHG and the relevant CHRIS WGs.

9. OPEN ECDIS FORUM (OEF)

Doc: CHRIS19-09A rev.1 Report on Activities of the Open ECDIS Forum (L. Alexander, USA-UNH)

The OEF administrator (ALEXANDER) provided a brief summary of the activities of the OEF. Although the OEF continues to support ENC and ECDIS-related development, those activities pertaining directly to IHO might be more logically placed on IHO website(s). He pointed out that a number of former IHO discussion groups were no longer used, or were instead being conducted on IHO sites.

Outcome:

- The Committee agreed that Discussion Forums on the OEF for CSMWG, DSPWG, SNPWG, and TSMAD can be discontinued. (**Action 19/21 – OEF Administrator**)

- The Committee agreed that the S-57 Data Producer Codes register be transferred from the OEF to IHO website. (**Action 19/22 – IHB and OEF Administrator**)

- The Committee agreed that the various S-57 objects, attributes and attribute values not contained in the S-57 object catalogue and which are currently registered on the OEF, be moved to a "Miscellaneous" Register under the new IHO Registry (as described under Agenda item 6.1). (**Action 19/23 – IHB and OEF Administrator**)

10. TRANSITION TO HSSC

Doc: CHRIS19-10A Transition to HSSC (IHB)

IHB (WARD) explained that it is envisaged that the HSSC will come into force on 1 Jan 2009 by effectively taking on responsibility for some additional existing WGs and Committees such as the S-44 WG and the Tides Committee. CHRIS-20 will therefore be the last meeting of CHRIS. He suggested that experience over the last few years has shown that the meeting of the CHRIS Chair Group immediately prior to CHRIS meetings has provided an effective and efficient means of coordinating CHRIS activity and that this arrangement could be adopted for the HSSC. This would mean that there was no need to establish the Sub-Committee layer of HSSC (DATS and SDPS). This would avoid the need for another level of meetings – noting that concern was raised both by some members of the SPWG and subsequently at the 3rd EIHC that a sub-committee layer in HSSC could be an additional administrative and financial burden on MS. There was general support for this approach.

Outcome:

- The Committee noted the report.

- The Committee agreed that there is no need to establish the DATS and SDPS Sub-Committees when the HSSC is established in 2009.

11. OTHER CHRIS BUSINESS

11.1 Re-activation of S-49

Docs: *CHRIS19-11.1A* *Re-activation of S-49 "Recommendations concerning Mariners' Routeing Guides" (IHB)*
CHRIS19-11.1B *S-49, 1985 Edition*

IHB (HUET) explained that there may be a need to review and re-publish S-49 which was originally published in 1985 and has not been revised since. New developments have also occurred, such as the increase in routeing measures and VTS systems, and the questioning by BSHC HOs of the non-INT status of Mariners' Routing Guides (MRG). He proposed that CSPCWG would be the appropriate body to undertake a revision of S-49.

Finland (KORHONEN) and USA-NOAA (ENABNIT) supported the proposal whilst Chairman CSPCWG (JONES) stated he was willing to take it on as part of the CSPCWG work program. It was agreed that, since MRG form a collection of "charts", they really relate more to the Paper Chart group than to the Nautical Publications group.

Outcome:

- The Committee agreed that S-49 requires revision and eventual re-publication.

- The Committee agreed that CSPCWG should revise S-49 as a new medium priority Work Item. (**Action 19/24 – Chair CSPCWG**)

11.2 Review of M-3

Doc: *CHRIS19-11.2A rev.1* *Revision of M-3 "IHO Resolutions" (IHB)*

IHB (WARD) explained that IHO Publication M-3 was under complete revision and that a number of Technical Resolutions (TRs) had tentatively been identified by the IHB as relating to CHRIS or its WGs. He suggested that the opportunity of this meeting should be taken to begin a review of the relevant TRs. Chair explained that this was really a "house-keeping" activity. It was agreed that the CHRIS Chair Group would make an initial assessment of the relevant TRs and assign review responsibilities to the appropriate subordinate bodies of CHRIS.

The CHRIS Chair Group held several side meetings during the week and was able to review about half of the concerned TRs. Initial review of the remaining TRs will be undertaken by the Chair Group by correspondence. The Chairs of the various WGs will review and determine what revisions are needed.

Outcome:

- The Committee agreed that the CHRIS Chair Group will complete an initial review of TRs by correspondence, coordinated by IHB and assign any follow-on action to the relevant subordinate bodies of CHRIS. Recommendations and proposals for amendments to M-3 to be submitted for review at CHRIS-20. (**Action 19/25 – IHB**)

11.3 Proposed Changes to the CHRIS WG Terms of Reference

Doc: *CHRIS19-11.3A* *Proposed Amendments to the Generic Terms of Reference of CHRIS Working Groups*

IHB (WARD) explained that the recent requirement to elect the Chair of CHRIS via correspondence has highlighted the fact that the ToRs of CHRIS and its WGs do not make it clear who is a member of each of these bodies for the purposes of reaching decisions by correspondence. Opinion was divided over how a membership list might best be maintained or whether membership included all MS in any case. As a result, IHB withdrew the proposal. Chair suggested that this matter could be discussed again at CHRIS-20 if it was still considered to be important.

Outcome:

- Proposal withdrawn.

12. REVIEW AND ENDORSEMENT OF CHRIS WORK PLAN

Doc: CHRIS19-12A rev.1 Consolidated CHRIS Work Plan (IHB)

Chair explained the process to be followed to update the consolidated CHRIS Work Plan. The CHRIS WP comprises the work plans of all its WGs and should be endorsed by the Committee at each of its meetings. Each WG Chair should report on the status of implementation of his WP in the annual WG reports to CHRIS meetings, which should also include any proposed change to the WP. The consolidated work plan, as agreed at the CHRIS meeting during a review on the final day of the meeting, should be circulated at the same time as the draft minutes of the meeting to ensure that any consequential changes are properly reflected. As a rule of principle, once a WP item is completed and reported to CHRIS as being complete, it should be removed from the relevant section of WP.

Each WG Chair then provided a brief overview / update about their individual work plan and adjustments were made as appropriate. IHB (HUET) commented that the next issue of the consolidated CHRIS WP will be based on the IHO Work Programme 2008-2012 which has already been approved by IHO Member States.

Chairman TSMAD (GREENSLADE) informed the Committee about a potential problem that could arise through publishing e-mail addresses in CHRIS documents available on the www. This is because web-trawling can harvest e-mail addresses and use them for various dubious purposes such as internet petitions. He suggested that the e-mail contact lists might use a "at" rather than a "@".

It was agreed that HGMIO was effectively a WG of CHRIS, while acknowledging that it is also a WG of IEC TC 80. It was also confirmed that Marine Environmental Protection would remain a Work Item of HGMIO, to continue in parallel with the MEP proposal by USA-NOAA which will be handled by TSMAD (see Agenda Items 8.1b and 8.1c).

Outcome:

- The Committee agreed that a revised consolidated CHRIS Work Plan (WP) incorporating all approved additional WP items should be circulated to participants of the meeting for final comment at the same time as the draft minutes of the meeting. (**Action 19/26 – IHB**)[4]

- The Committee invited the chairs of all WGs to liaise with IHB to ensure their respective WPs are properly reflected in the 2008-2012 IHO Work Programme. (**Action 19/27 – IHB and WG Chairmen**)

- The Committee invited IHB to review the way that email addresses are posted on the IHO website to ensure that inappropriate *trawling* of the Web and misuse of addresses is minimised. (**Action 19/28 – IHB**)

- The Committee agreed that WG Chairmen should present an updated WP on the last day of CHRIS meetings,

[4] Action completed. See CHRIS Work Plan in Annex H.

incorporating the agreed changes discussed during that meeting. (**Action 19/29 – WG Chairmen**)

- The Committee agreed that completed Work Items should be removed from WPs after they have been reported at a subsequent CHRIS meeting. (**Action 19/30 – WG Chairmen**)

13. REVIEW OF INFORMATION PAPERS

Doc: CHRIS19-INF1 rev.1 Status of IHO Publications on ECDIS (IHB)

IHB (HUET) briefly reviewed the current status of ECDIS-related publications and plans. In addition to what had been mentioned earlier in the meeting, for example, the new edition of PresLib and the development of S-100, he noted that:

- A new edition of S-52 (main document) would be prepared by CSMWG in the 1st half of 2008.
- S-52 Appendix 1 on ENC updating is obsolete and useless; CSMWG has suggested its cancellation.
- S-52 Appendix 3 on ECDIS glossary has ceased to exist; its content has been transferred to the IHO Hydrographic Dictionary S-32.
- A new edition 1.1 of S-64 on test data for ECDIS is under preparation.

Chairman CSMWG (JONAS) provided further clarification about the status of S-52 and its relationship to the revised IMO Performance Standards for ECDIS and the ECDIS test standard IEC 61174. He mentioned that the work by IEC on IEC 61174 is somewhat unpredictable in terms of their requirements and time scale.

Outcome:

- The Committee noted the INF paper with minor amendments.

Doc: CHRIS19-INF2 Electronic Chart Status (ENCs, RNCs, IENCs) in the USA (USA-NOAA)

USA-NOAA (ENABNIT) provided a brief overview on the status of ENC, RNC and IENC production and availability in the USA.

Outcome:

- The Committee noted the INF paper.

Doc: CHRIS19-INF3 Digital Nautical Chart Report (USA-NGA)

USA-NGA (ANDREASEN) mentioned that NGA is making a major transition to producing DNCs from a vector dataset rather than from paper charts. These new DNCs will be withdrawn from public availability.

Outcome:

- The Committee noted the INF paper.

Doc: CHRIS19-INF4 Progress Report on "Printed ENCs" (USA-NOAA)

USA-NOAA (ENABNIT) provided a brief overview of the status of Printed ENCs in the USA.

Outcome:

- The Committee noted the INF paper.

Doc: CHRIS19-INF5 Print on Demand Nautical Charts Status (USA-NOAA)

USA-NOAA (ENABNIT) provided a brief overview of the status of Print on Demand in the USA.

Outcome:

- The Committee noted the INF paper.

Doc: CHRIS19-INF6 IEC 62376, Electronic Chart Systems – Status Report (USANOAA)

USA-NOAA (ENABNIT) provided a brief overview of the status of the ECS Standard IEC 62376. He highlighted that this IEC draft standard was near completion. However, it needed to be re-approved as a new work item in order to have additional time for completion. Chair encouraged MS to facilitate the completion of this work.

Outcome:

- The Committee noted the INF paper.

- The Committee encouraged MS to contact their IEC representative and request that the new IEC 62376 work item be accepted. (**Action 19/31 : MS**)

Doc: CHRIS19-INF7 PRIMAR Report on the Level of ENC Use On Board SOLAS Vessels (Primar)

There was no representative from PRIMAR to present this paper. It was noted that the name PRIMAR-Stavanger was no longer in use, and has been replaced by the single name: PRIMAR.

Outcome:

- The Committee noted the INF paper.

Other Issues

a) Use of IHO Standards Lifecycle Diagram in WG reports

Chair asked WG Chairs to include timeline diagrams in their work plan reports using the IHO's diagram of the lifecycle of a standard to indicate progress. Chairman TSMAD requested that some minor modifications be made to the template to achieve this.

Outcome:

- The Committee agreed that the IHO's diagram of the lifecycle of a standard be used as appropriate when submitting WG progress reports. IHB is invited to amend the relevant CHRIS reporting templates accordingly. (**Action 19/32 – IHB and WG Chairmen**)

b) Change to the limits between INT Regions B and C1

Chair reported that he had received a letter from the Chairs of the MACHC and the SWAtHC, informing that both Regional Hydrographic Commissions had agreed revised boundaries between INT Regions B (Caribbean Sea – Coordinator: Mexico) and C1 (South West Atlantic – Coordinator: Brazil), and was seeking CHRIS endorsement of the new limits. It was agreed that the boundaries were a matter for negotiation between the relevant parties

and did not require any action by CHRIS. The Committee invited the IHB to ensure that the new boundaries were promulgated.

Outcome:

- The Committee noted the letter to the CHRIS Chairman, dated 10 October 2007, from the MACHC and SWAtHC Chairpersons, reporting on MACHC & SWAtHC agreement regarding the limits of INT Regions C1 and B, and invited the IHB to amend IHO Publication M-11 accordingly. (**Action 19/33 – IHB**)

c) SENC Delivery Test Dataset(s)

A question was raised at ESF-3 regarding whether specific test data relating to the SENC delivery option should be compiled by the IHO, as part of S-64. Germany (JONAS) explained that this question arises because of the need to provide similar testing of SENCs to what is done for ENCs using the IHO ENC test dataset. However, he did not believe that this was the responsibility of IHO. This view was supported by USA-NGA (ANDREASEN). It was agreed that the testing of SENC conversions cannot be standardized since it depends on each ECDIS software kernel and how it handles and processes the SENC data. UK (SMITH) suggested that there should be some wording provided with the ENC Test Dataset in S-64, regarding the purpose of the IHO test dataset. This was agreed.

Outcome:

- The Committee invited the IHB to include an explanation in the next edition of S-64 that the ENC test dataset was intended only to test the ability of ECDIS to handle ENC data, therefore excluding any testing of the optional SENC distribution capability. (**Action 19/34 – IHB**)

14. DATE AND LOCATION OF NEXT MEETING

Brazil (CAVALHEIRO) conveyed the offer by the Brazilian HO to host the next CHRIS meeting in late 2008.

Outcome:

- The Committee accepted the kind offer of Brazil to host CHRIS-20 in late 2008. The meeting to coincide with other relevant regional workshops and seminars that will call upon the expertise and experience of CHRIS members. Dates and venue of the meeting will be promulgated by January 2008. (**Action 19/35 – Brazil**)

There being no other points to discuss, Chair closed the meeting at 12:00 on 9 November 2007.

LIST OF ACRONYMS

AML	Additional Military Layer
BSEHWG	Baltic Sea ENC Harmonization Working Group (IHO/BSHC)
BSHC	Baltic Sea Hydrographic Commission (IHO)
CA	Cooperation Agreement
CATZOC	Category of Zone of Confidence attribute (IHO/S-57)
CDV	Committee Draft for Voting (IEC-ISO)
CHRIS	Committee on Hydrographic Requirements for Information Systems (IHO)
CIRM	Comité International Radio-Maritime
CL	Circular Letter (IHO)
C&S	Colours and Symbols
CSMWG	Colours and Symbols Maintenance Working Group (IHO)
CSPCWG	Chart Standardization and Paper Chart Working Group (IHO)
DATS	Data Acquisition and Transfer Standards (IHO/HSSC)
DGIWG	Digital Geographic Information Working Group (NATO)
DIGEST	Digital Geographic Information Exchange Standard (NATO/DGIWG)
DNC	Digital Nautical Chart (NGA)
DPSWG	Data Protection Scheme Working Group (IHO)
DQWG	Data Quality Working Group (IHO)
ECC	Electronic Chart Centre (Norway)
ECDIS	Electronic Chart Display and Information System
ECS	Electronic Chart System
ENC	Electronic Navigational Chart
ESF	ECDIS Stakeholders Forum (IHO)
GII	Geospatial Information Infrastructure (IHO)
HCIWWG	Hydrography and Cartography in Inland Waters Working Group (IHO)
HGMIO	Harmonizing Group on Marine Information Objects (IHO-IEC)
HO	Hydrographic Office
HSSC	Hydrographic Services and Standards Committee (IHO)
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 (USA–EU–Russia)
IHB	International Hydrographic Bureau (IHO)
IHC	International Hydrographic Conference (IHO)
IHO	International Hydrographic Organization
IMO	International Maritime Organization
INFORM	Information attribute (IHO/S-57)
INT 1	Symbols, Abbreviations and Terms used on Charts (IHO)
INT 2	Borders, Graduations, Grids and Linear Scales (IHO)
INT Chart	International Chart (IHO)
ISO	International Organization for Standards
M-3	Resolutions of the IHO
M-4	Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO
M-11	Guidance for the Preparation and Maintenance of INT Chart schemes and Catalogue of International (INT) Charts
MACHC	Meso-American and Caribbean Sea Hydrographic Commission (IHO)
MEP	Marine Environment Protection

MIO	Marine Information Overlay (IHO-IEC)
MoU	Memorandum of Understanding
MRG	Mariners' Routeing Guide (IHO)
MS	Member State
MSDIWG	Marine Spatial Data Infrastructure Working Group (MSDIWG)
NATO	North Atlantic Treaty Organization
NAV	Sub-committee on Navigation (IMO)
NEWOBJ	New Generic Object (IHO/S-57)
NGA	National Geospatial-Intelligence Agency (USA)
NOAA	National Oceanic and Atmospheric Administration (USA)
NP	Nautical Publication
NP2	Digital Nautical Publication (IHO)
NP3	Digital Nautical Publication for ECDIS (IHO)
OEF	Open ECDIS Forum
OEM	Original Equipment Manufacturer
PresLib	Presentation Library for ECDIS (IHO)
RENC	Regional ENC Coordinating Centre (IHO)
RHC	Regional Hydrographic Commission (IHO)
RNC	Raster Navigational Chart
RTCA	Radio Technical Commission for Aeronautics
S-32	Hydrographic Dictionary (IHO)
S-44	Standards for Hydrographic Surveys (IHO)
S-49	Recommendations concerning Mariners' Routeing Guides (IHO)
S-52	Colours & Symbols Specifications for ECDIS - Presentation Library (IHO)
S-57	Transfer Standard for Digital Hydrographic Data (IHO)
S-63	Data Protection Scheme (IHO)
S-64	Test Data Sets for ECDIS (IHO)
S-65	ENC Production Guidance (IHO)
S-100	Geospatial Standard for Hydrographic Data (IHO)
S-101	Future ENC Product Specification (IHO)
SCAMIN	Scale Minimum attribute (IHO/S-57)
SDPS	Symbology and Data Presentation Standards (IHO/HSSC)
SENC	System ENC
SNPWG	Standardization of Nautical Publications Working Group (IHO)
SOLAS	Safety of Life at Sea Convention (IMO)
SPWG	Strategic Planning Working Group (IHO)
SWAtHC	South West Atlantic Hydrographic Commission
ToR	Terms of Reference
TR	Technical Resolution
TXTDSC	Text Description attribute (IHO/S-57)
TSMAD	Transfer Standard Maintenance and Application Development Working Group (IHO)
UNH	University of New Hampshire (USA)
USA-ACE	United States Army Corps of Engineers (USA)
USCG	United States Coast Guard (USA)
VTS	Vessel Traffic Service
WEND	Worldwide ENC Database (IHO)
WG	Working Group
WP	Work Plan

LIST OF DOCUMENTS

CHRIS19-01A rev.7	List of Documents
CHRIS19-01B rev.8	List of Participants
CHRIS19-01C	CHRIS Membership and Observers List
CHRIS19-02A rev.7	Agenda and Timetable
CHRIS19-03A	Minutes of CHRIS-18
CHRIS19-03B rev.1	Status of Actions List from CHRIS-18
CHRIS19-03C	Terms of Reference for CHRIS Committee and related Working Groups
CHRIS19-04.1A	CL 62/2007 on Inland Waters WG and Marine SDI WG
CHRIS19-04.2A	Outcomes from the Extraordinary WEND Committee Meeting , Monaco , 30-31 October 2007 (IHB)
CHRIS19-04.3A	Report on IMO activities affecting CHRIS (IHB)
CHRIS19-04.4A	Report on ISO-TC211 activities affecting CHRIS (B. Greenslade)
CHRIS19-04.5A	Report on DGIWG activities affecting CHRIS (B. Greenslade)
CHRIS19-04.6A	Report on IEC-TC80-WG7 activities affecting CHRIS (USA-NOAA)
CHRIS19-04.7A rev.1	Progress Report on several IHO Technical Resolutions affecting CHRIS (IHB)
CHRIS19-05.1A rev.2	Programme of the 3rd ECDIS Stakeholders' Forum (7-8 Nov. 07)
CHRIS19-05.1B	Enhancing the Presentation of Survey Quality in ENC (UK)
CHRIS19-06.1A	Report of TSMAD (B. Greenslade, UK, Chair)
CHRIS19-06.1B	S-101 ENC Product Specification (B. Greenslade, J. Powell, R. Fowle)
CHRIS19-06.1C	Recommendations for Consistent ENC Data Encoding (Chairman TSMAD)
CHRIS19-06.1D	Consistent Application of the attribute SCAMIN (Denmark, Finland, Sweden)
CHRIS19-06.1E	The Present Status of Small Scale ENC Coverage with Respect to the Allocation of cells to Usage Bands 1- Overview and 2 – General (T. Pharaoh, IHB)
CHRIS19-06.2A	Report of CSMWG (M. Jonas, Germany, Chair)
CHRIS19-06.3A rev.1	Report of DPSWG (R. Sandvik, Primar-Stavanger, Chair)
CHRIS19-06.3B	Draft Edition 1.1 of S-63
CHRIS19-06.4A	Report of SNPWG (J. Melles, Germany, Chair)
CHRIS19-06.4B	Digipilot (Netherlands)
CHRIS19-06.5A	Report of CSPCWG (P. Jones, UK, Chair)
CHRIS19-07.1A rev.2	Terms of Reference for Data Quality Working Group (DQWG)
CHRIS19-07.2A rev.4	Draft Terms of Reference for Marine Spatial Data Infrastructures WG (MSDIWG)
CHRIS19-07.3A rev.3	Draft Terms of Reference for Hydrography and Cartography in Inland Waters WG (HCIWWG)
CHRIS19-08.1A rev.1	Report of HGMIO (L. Alexander, USA-UNH, Chair)
CHRIS19-08.1B	Marine Environmental Protection Product Specification (USA-NOAA)
CHRIS19-08.1C	Letter to CHRIS Chair from World Bank: Proposal for the Preparation and Adoption of an S-57 Product Specification for the Exchange and Use of Marine Environment Protection (MEP) Hydrographic Data

CHRIS19-08.2A rev.1	Status Report on Inland ENC Development and Harmonization (L. Alexander, USA-UNH)
CHRIS19-09A rev.1	Report on Activities of the Open ECDIS Forum (L. Alexander, USA-UNH)
CHRIS19-10A	Transition to HSSC (IHB)
CHRIS19-11.1A	Re-activation of S-49 "Recommendations concerning Mariners' Routeing Guides" (IHB)
CHRIS19-11.1B	S-49, 1985 Edition
CHRIS19-11.2A rev.1	Revision of M-3 "IHO Resolutions" (IHB)
CHRIS19-11.3A	Proposed Amendments to the Generic Terms of Reference of CHRIS Working Groups (IHB)
CHRIS19-12A rev.1	Consolidated CHRIS Work Plan (IHB)
CHRIS19-INF1 rev.1	Status of IHO publications on ECDIS (IHB)
CHRIS19-INF2	Electronic Chart Status (ENCs, RNCs, IENCs) in the USA (USA-NOAA)
CHRIS19-INF3	Digital Nautical Chart Report (USA-NGA)
CHRIS19-INF4	Progress Report on "Printed ENCs" (USA-NOAA)
CHRIS19-INF5	Print on Demand Nautical Charts Status (USA-NOAA)
CHRIS19-INF6	IEC 62376, Electronic Chart Systems – Status Report (USA-NOAA)
CHRIS19-INF7	PRIMAR report on the level of ENC use on board SOLAS vessels

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AGENDA AND TIMETABLE

1300	**1. Opening and Administrative Arrangements**
	(Confirmation of Chairman – (IHB)) *(Appointment of Vice Chairman (Chair))* *Docs: CHRIS19-01A List of Documents* *CHRIS19-01B List of Participants* *CHRIS19-01C CHRIS Membership and Observers List*
	2. Approval of Agenda *Docs: CHRIS19-02A Agenda and Timetable*
1330	**3. Matters arising from Minutes of 18th CHRIS Meeting** *Docs: CHRIS19-03A Minutes of CHRIS-18* *CHRIS19-03B Status of Actions List from CHRIS-18* *CHRIS19-03C Terms of Reference for CHRIS Committee and related Working Groups*
1400	**4. Decisions of other bodies affecting CHRIS** 4.1 International Hydrographic Conference *Docs: CHRIS19-04.1A CL 62/2007 on Inland Waters WG and Marine SDI WG (IHB)*
	4.2 WEND Committee *Docs: CHRIS19-04.2A Outcomes from the Extraordinary WEND Committee Meeting, Monaco, 30-31 October 2007 (IHB)*
	4.3 IMO *Docs: CHRIS19-04.3A Report on IMO activities affecting CHRIS (IHB)*
	4.4 ISO-TC211 (Geographic Information-Geomatics) *Docs: CHRIS19-04.4A Report on ISO-TC211 activities affecting CHRIS (B. Greenslade)*
	4.5 NATO-DGIWG (Digital Geographic Information W.G.) *Docs: CHRIS19-04.5A Report on DGIWG activities affecting CHRIS (B. Greenslade)*
	4.6 IEC-TC80-WG7 (ECDIS and ECS) *Docs: CHRIS19-04.6A Report on IEC-TC80-WG7 activities affecting CHRIS (USA- NOAA)*
1500	**Coffee Break**
1520	*(Introduce Agenda Item 11.2 – appoint Review Group 1 to address "CHRIS" items in CHRIS19-11.2A)*
1535	4.7 IHO General *Docs: CHRIS19-04.7A Progress Report on several IHO Technical Resolutions effecting CHRIS (IHB)*
1540	**5. Liaison with Industry** 5.1 Consideration of Feedback Items from ECDIS Stakeholders *Docs: CHRIS19-05.1A Programme of the 3rd ECDIS Stakeholders' Forum (IHB)*
1550	*CHRIS19-05.1B Enhancing the Presentation of Survey Quality in ENC (UK)* *(Move 9 in the agenda)*

1610	**6. Reports by CHRIS Working Groups** 6.1 Transfer Standard Maintenance and Application Development (TSMAD) *Docs: CHRIS19-06.1A Report of TSMAD (B. Greenslade, UK, Chair)* *CHRIS19-06.1B S-101 ENC Product Specification (B. Greenslade, J. Powell, R. Fowle)*

Tuesday 0900	*CHRIS19-06.1C*	*Recommendations for Consistent ENC Data Encoding (Chairman TSMAD)*
0930	*CHRIS19-06.1D*	*Consistent Application of the attribute SCAMIN (Denmark, Finland, Sweden)*
0945	*CHRIS19-06.1E*	*The Present Status of Small Scale ENC Coverage with Respect to the Allocation of cells to Usage Bands 1- Overview and 2- General (IHB)*
1000	**Coffee Break**	
1020	6.2 Colours and Symbols Maintenance (CSMWG) *Docs: CHRIS19-06.2A Report of CSMWG (M. Jonas, Germany, Chair)*	
1045	6.3 Data Protection Scheme (DPSWG) *Docs: CHRIS19-06.3A Report of DPSWG (R. Sandvik, Norway, Chair)* *CHRIS19-06.3B Draft Edition 1.1 of S-63*	
1100	6.4 Standardization of Nautical Publications (SNPWG) *Docs: CHRIS19-06.4A Report of SNPWG (D. Acland, UK, Chair)* *CHRIS19-06.4B Digipilot (Netherlands)*	
1140	6.5 Chart Standardization and Paper Chart (CSPCWG) *Docs: CHRIS19-06.5A Report of CSPCWG (P. Jones, UK, Chair)*	
1200	**Lunch**	
1300	**7. New CHRIS Working Groups** 7.1 Data Quality (DQWG) *Docs: CHRIS19-07.1A Draft Terms of Reference for DQWG*	
1320	7.2 Marine Spatial Data Infrastructures (MSDIWG) *Docs: CHRIS19-07.2A Draft Terms of Reference for MSDIWG*	
1340	7.3 Hydrography and Cartography in Inland Waters (HCIWWG) *Docs: CHRIS19-07.3A Draft Terms of Reference for HCIWWG*	
	8. Inter-Organizational Bodies IHO/IEC Harmonization Group on Marine Information Overlays (HGMIO)	
1400	*Docs: CHRIS19-08.1A Report of HGMIO (L. Alexander, USA-UNH, Chair)*	

1420	*CHRIS19-08.1B*	*Marine Environmental Protection Product Specification (USA-NOAA)*
	CHRIS19-08.1C	*Letter to CHRIS Chair from World Bank: Proposal for the Preparation and Adoption of an S-57 Product Specification for the Exchange and Use of Marine Environment Protection(MEP) Hydrographic Data*
1500	**Coffee Break**	
1520	*(Review Group 1 convenes)*	

Thursday 8 Nov		
1300	*(Review of the outcomes of ESF-3)*	
1315	8.2 Inland ECDIS	
	Docs: CHRIS19-08.2A	*Status Report on Inland ECDIS development (L. Alexander, USA-UNH)*
	9. Open ECDIS Forum	
1330	*Docs: CHRIS19-09A*	*Progress Report on the migration of IHO functions currently operated on the OEF, to other IHO-sponsored servers (L. Alexander, USA-UNH and M. Huet, IHB)*
1400	**10. Transition to HSSC**	
	Docs: CHRIS19-10A	*Transition to HSSC (IHB)*
	11. Other CHRIS Business	
	11.1 Re-activation of S-49	
1420	*Docs: CHRIS19-11.1A*	*Re-activation of S-49 "Recommendations concerning Mariners' Routeing Guides" (IHB)*
	CHRIS19-11.1B	*S-49, 1985 Edition*
1435	11.2 Review of M-3	
	Docs: CHRIS19-11.2A	*Revision of M-3 "IHO Resolutions" (IHB)*
	(Consider proposals from Review Group 1)	
1500	**Coffee Break**	
1520	11.3 Proposed Changes to the CHRIS WG Terms of Reference	
	Docs: CHRIS19-11.3A	*Proposed Amendments to the Generic Terms of Reference of CHRIS Working Groups*
1540	*(Review Group 1 re-convenes)*	

Friday 9 Nov	**12. Review and Endorsement of CHRIS Work Plan**
0900	*Docs: CHRIS19-12A Consolidated CHRIS Work Plan (IHB)*
0930	**13. Review of Information Papers** *Docs: CHRIS19-INF1 Status of IHO Publications on ECDIS (IHB)*
1000	**Coffee Break**
1020	*CHRIS19-INF2 Electronic Chart Status (ENCs, RNCs, IENCs) in the USA (USA-NOAA)*
	CHRIS19-INF3 Digital Nautical Chart Report (USA-NGA)
	CHRIS19-INF4 Progress Report on "Printed ENCs" (USA-NOAA)
	CHRIS19-INF5 Print on Demand Nautical Charts Status (USA-NOAA)
	CHRIS19-INF6 IEC 62376, Electronic Chart Systems – Status Report (USA- NOAA)
	CHRIS19-INF7 PRIMAR report on the level of ENC use on board SOLAS vessels
1100	**14. Date and Location of Next Meeting** Proposed date: November 2008. MS are invited to make proposals for the location.
1200	**15. Closure of the Meeting**

LIST OF ACTIONS FROM CHRIS-19

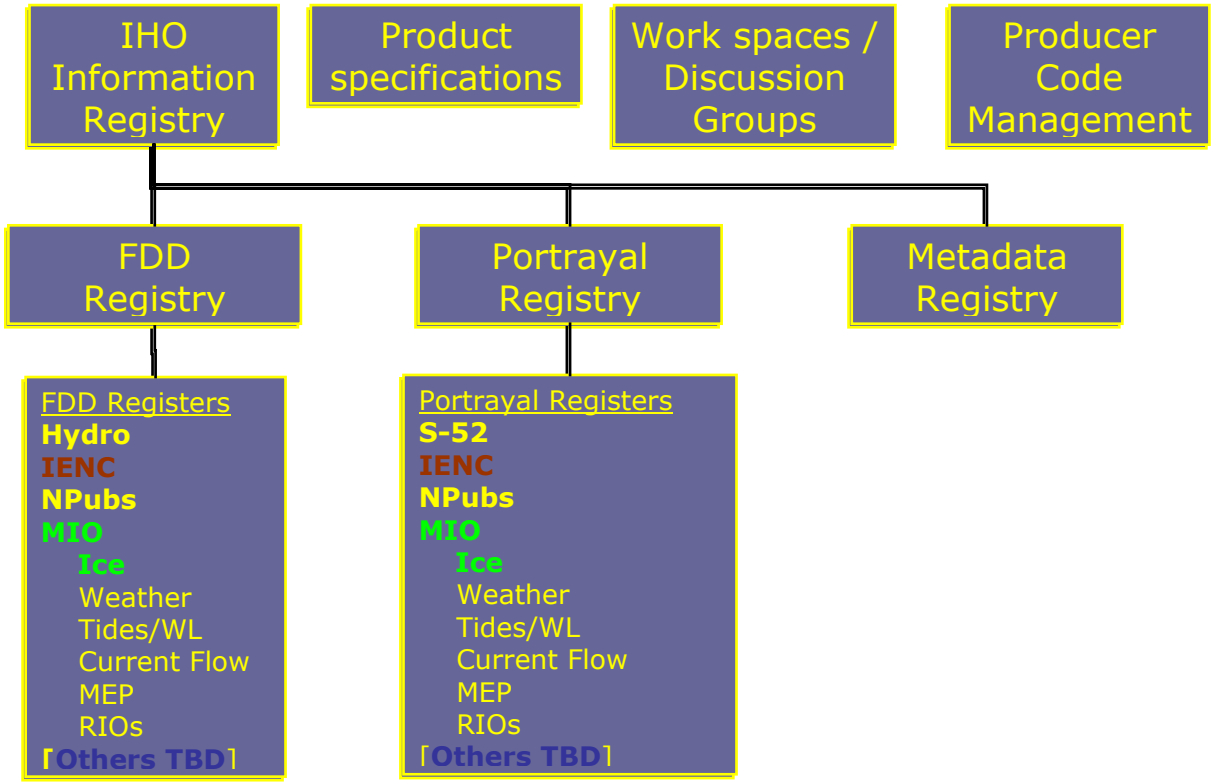
AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)
4.6	IEC 61174 – New Edition	19/1	**IHB** to urge MS by CL to consult their respective IEC voting bodies concerning the shortcomings of not including the extra tests for the proper implementation of the IHO Presentation for ECDIS (PresLib).
5.1	Use of CATZOC	19/2	**IHB** to remind MS by CL of the need for and the use of CATZOC.
5.1	CATZOC by DQWG	19/3	**IHB** to add consideration of CATZOC to the DQWG mandate.
6.1	Use of ISO texts in IHO standards	19/4	**IHB**, in consultation with Chairman TSMAD, to seek clarification from ISO, arguing that the S-100 work is complementary to ISO TC211 work and should therefore be exempt from any royalty payments; **IHB** to also pursue conclusion of an IHO-ISO MoU / Cooperation Agreement.
6.1	Emergency Wreck Marking Buoy	19/5	**TSMAD** to publish, on the IHO website, the ENC encoding bulletin on the Emergency Wreck Marking Buoy.
6.1	S-101	19/6	**MS and all other stakeholders** to actively participate in the S-101 development process.
6.1	ENC consistency	19/7	**IHB** to inform MS by CL of the endorsement by CHRIS of revised "*Recommendations for Consistent ENC Encoding*", as an Annex to S-65 – *ENC Production Guidance.*
6.1	ENC consistency	19/8	**BSEHWG** to report on ENC Consistency to CHRIS-20.
6.1	ENCs in NP bands 1 & 2	19/9	**IHB** to write to regional INT chart coordinators and RHC chairpersons, recommending that ENC coverage in Navigational Purposes 1 and 2 should be coordinated on a regional basis.
6.2	PresLib e3.4	19/10	**IHB, in liaison with Chairman of CSMWG**, to publish Edition 3.4 of the Presentation Library in early 2008, as part of S-52, Appendix 2.
6.2	C&S MD6	19/11	**IHB** to issue C&S Maintenance Document No. 6 before end 2007, to facilitate the entry of Edition 3.4 of Presentation Library with the revised IMO ECDIS Performance Standards for ECDIS.
6.2	Linear depth areas	19/12	**Member States** to continue encoding linear depth areas until at least 1 January 2009; to be reviewed at CHRIS-20.

6.2	Encoding of S-57 e3.1.1 objects	19/13	**IHB** to issue a CL proposing to MS that: • HOs consider issuing a Notice to Mariners to alert mariners when any of the new S-57 Supplement No. 1 (Edition 3.1.1) objects are first used in their ENCs, and • HOs encode INFORM and/or TXTDSC attributes of these new objects, so that the information is available in those out-of-date ECDIS that cannot display the new Objects or Attributes.
6.2	Symbol specifications register	19/14	**IHB** to monitor the continuation of activities to establish an IHO Symbol Specifications Register as part of S-100, to be done under an IHO contract of approximately 12,000 Euros per year.
6.2	S-101 user requirements workshop	19/15	**Chairmen of CSMWG & TSMAD, and IHB** to organize an S-101 user requirements workshop; it should also resolve cell loading issues, addressing the problems from both a data production and OEM perspective.
6.3	S-63 e1.1	19/16	**IHB** to seek MS approval by CL of the revised S-63 e1.1 in view of its publication.
6.5	IALA buoyage policies	19/17	**IHB** to contact IALA regarding a reported review of buoyage policies and to inform the Chairman CHRIS if there is anything of significance to report.
7.1	Presentation of data quality	19/18	**IHB** to add consideration of "*presentation of data quality*" to the DQWG ToRs and, **in liaison with Chairman of DQWG**, to ensure that this topic be included as a Work Item in the DQWG Work Plan.
8.1	MIO register	19/19	**Chairman of HGMIO and IHB** to establish an MIO Register for MIO S-57_based objects / attributes, product specifications, and portrayal. **IHB** to include MIOs in the IHO Geospatial Information Infrastructure (GII).
8.1	World Bank	19/20	**Chairman of CHRIS** to respond to the letter from The World Bank.
9.	OEF Discussion Forums	19/21	**OEF Administrator** to discontinue Discussion Forums on the OEF for CSMWG, DSPWG, SNPWG, and TSMAD.
9.	OEF S-57 Data Producer Codes	19/22	**IHB and OEF Administrator** to transfer the S-57 Data Producer Codes register from the OEF to IHO website.
9.	OEF S-57 based objects, not in S-57 OC	19/23	**IHB and OEF Administrator** to move the various S-57 based objects, attributes and attribute values not contained in the S-57 object catalogue and which are currently registered on the OEF, to a "Miscellaneous" Register under the new IHO Registry (as described under Agenda item 6.1).

11.1	Revision of S-49 by CSPCWG	19/24	**Chair of CSPCWG** to include revision of S-49 as a new medium priority Work Item in the CSPCWG Work Plan.
11.2	Review of TRs	19/25	**CHRIS Chair Group** to complete an initial review of TRs by correspondence, **coordinated by IHB**, and assign any follow-on action to the relevant subordinate bodies of CHRIS; recommendations and proposals for amendments to M-3 to be submitted for review at CHRIS-20.
12.	CHRIS Work Plan	19/26	**IHB** to circulate a revised consolidated CHRIS Work Plan (WP) incorporating all approved additional WP items to participants of the meeting for final comment.
12.	Consideration of 2008-2012 IHO WP	19/27	**Chairmen of WGs to liaise with IHB** to ensure their respective WPs are properly reflected in the 2008-2012 IHO Work Programme.
12.	Minimising SPAMs	19/28	**IHB** to review the way that email addresses are posted on the IHO website to ensure that inappropriate *trawling* of the Web and misuse of addresses is minimised.
12.	Updating of CHRIS WGs' Work Plans	19/29	**Chairmen of WGs** to present an updated WP on the last day of CHRIS meetings, incorporating the agreed changes discussed during that meeting.
12.	Removing of completed WIs	19/30	**Chairmen of WGs** to ensure that completed Work Items are removed from WPs after they have been reported at a subsequent CHRIS meeting.
13.	ECS Standard	19/31	**MS** to contact their IEC representative and request that the new IEC 62376 work item on ECS Standard be accepted.
13.	Standard lifecycle diagram	19/32	**Chairmen of WGs** to use the IHO's diagram of the lifecycle of a standard, as appropriate, when submitting WG progress reports. **IHB** to amend the relevant CHRIS reporting templates accordingly.
13.	Limits of INT Regions B and C1	19/33	**IHB** to amend IHO Publication M-11 taking account of the letter to the CHRIS Chairman, dated 10 October 2007, from the MACHC and SWAtHC Chairpersons and which reported on MACHC & SWAtHC agreement regarding the limits of INT Regions B and C1.
13.	Purpose of ENC test dataset in S-64	19/34	**IHB** to include an explanation in the next edition of S-64 that the ENC test dataset is intended only to test the ability of ECDIS to handle ENC data, therefore excluding any testing of the optional SENC distribution capability.
14.	20th CHRIS Meeting in Brazil	19/35	**Brazil** to organise the 20th CHRIS Meeting in late 2008; meeting to coincide with other relevant regional workshops and seminars that will call upon the expertise and experience of CHRIS members; dates and venue of the meeting to be promulgated by January 2008.

IHO Geospatial Information Infrastructure (GII)

Need to maintain and develop S-57 and S-100 in an ISO compatible environment



Location of Functions on www

Registries	www.iho.int
IHO product specifications	www.iho.int
Non-IHO product specifications	elsewhere but referenced on www.iho.int
Metadata Registries	www.iho.int
Workspaces / discussion groups - IHO development	www.iho.int
Workspaces / discussion groups - non IHO development	elsewhere – OEF ?
Producer code management	www.iho.int

3rd ECDIS Stakeholders Forum
Rotterdam, The Netherlands, 7-8 November 2007

Summary

A 3rd meeting of the ECDIS Stakeholders' Forum (ESF-3) was convened on 7-8 November 2007. ESF-3 was chaired by Captain Robert Ward, Director IHB and was attended by over 40 representatives from a range of stakeholder groups including equipment manufacturers, data distributors, shipping managers and GIS software developers, in addition to the 50 IHO / IHB representatives.

The forum took the form of an open information session concentrated on the IHO's technical programme. The programme for the forum concentrated on the work being undertaken by the IHO Committee on Hydrographic Requirements for Information Systems (CHRIS) and its Working Groups, particularly in relation to the current ECDIS specifications S-57 and S-52 and its impact on existing systems. The meeting also considered the future S-100 hydrographic geospatial data standard and the development of the S-101 ENC product specification.

The following presentations were given during ESF-3:

1. (3.2Mb): Structure; Decision Making Process; New WGs; Resolutions; ENC Coverage; e-Navigation; by Capt. Robert Ward, IHB Director.
2. e-Navigation and Electronic Charting (51 Mb): Challenges and Opportunities; by Dr. Lee Alexander, U. of Durham, NH, USA.
3. The IHO Geospatial Information Infrastructure (GII) (150 Kb); by Capt. Robert Ward, IHB Director.
4. S-100 (1.6 Mb): The IHO Geospatial Standard for Hydrographic Data; by Mr. Barrie Greenslade, UK Hydrographic Office.
5. S-101 (5.4 Mb): The Next Generation ENC Product Specification; by Mr. Barrie Greenslade, UK Hydrographic Office.
6. Inland ENCs (1.8 Mb); by Mr. Bernd Birklhuber, Federal Ministry of Transport , Austria.
7. Digital Nautical Publications and ECDIS (14.3 Mb); by Mr. David Acland, UK Hydrographic Office.
8. Marine Information Overlays (MIOs) (4.2 Mb): Relationship to Current/Future IHO Standards; by Dr. Lee Alexander, U. of Durham, NH, USA.
9. IHO Activities in ECDIS Symbology (720 Kb); by Dr. Mathias Jonas, German Hydrographic Office (BSH).
10. IEC Standards on ECDIS/ECS (40 Kb); by David Blevins, CIRM.

Stakeholders were encouraged to actively participate in the development of the IHO standards so that the views and existing developments of stakeholders can be taken into account. As a result, it was agreed to convene an S-101 User Requirements Workshop in early 2008[5] at the IHB in Monaco which will be attended by a number of Expert Contributors drawn from the stakeholders attending the ESF.

The 4th meeting of the ECDIS Stakeholders' Forum (ESF-4) has been planned on 3-4 September 2008 in Tokyo, Japan, in conjunction with the next meeting of the IHO Committee on the Worldwide ENC Database (WEND).

Appendices:

1. Outline Program
2. List of Participants

[5] Subsequently scheduled on 4-6 March 2008

Appendix 1

OUTLINE PROGRAMME OF ESF-3

DAY ONE – Wednesday 7 November 2007

0900	**Introduction**	Ward
	Topics to be Covered	
	• **IHO Structure** • **Decision Making Process** • **New WGs** • **IHO Resolutions** • **ENC Coverage**	Ward
	• **E-Nav – Introduction**	Ward
	• **E-Nav – Another Perspective**	Alexander
	• **Preparing for the Future** ○ **IHO Geospatial Information Infrastructure (GII) and the IHO Geospatial Registry**	Ward Greenslade
	• **S-100 – Hydrographic Geospatial Data Standard – development status report**	Greenslade
	• **S-101 - ENC Product Specification – status report**	Greenslade
	• **Inland ECDIS developments – status report**	Bernd Birklhuber

	• **Other ECDIS-related digital development - status reports**
	  ○ **Digital Nautical Publications**
	  ○ **Marine Information Overlays**
		Acland
		Alexander

	• **S-52 - ECDIS Symbology – status report**	Jonas
	• **Stakeholder Involvement**	Ward

KEY TIMES

1000 - 1020	**Morning Coffee**
1200 - 1330	**Lunch**
1500 - 1520	**Afternoon Coffee**
1630	**End Day One**
1830	**Evening Function**

DAY TWO – Thursday 8 November 2007

0900	**ESF continues**

Topics to be covered

- **Matters Arising** Ward
- **Review of Meeting** Ward

1000-1020 **Morning coffee**

1200 **ESF Closes**

Appendix 2

LIST OF PARTICIPANTS IN ESF-3

INDUSTRY / ACADEMIA / INSTITUTIONS (40)		
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Annex H to CHRIS-19 Minutes

CONSOLIDATED CHRIS WORK PLAN

December 2007

Objective:
To enable efficient project resource management and coordination, monitor progress and provide an overview of CHRIS activities for interested internal and external parties.

Rationale:
The CHRIS Workplan supports the IHO Strategic Plan, particularly in relation to the following elements of the IHO Work Programme – 2003/07:

3.1. Nautical Cartography
3.4. Data for Geomatic Applications

Revisions:
The Chairs of each Working Group and the CHRIS Chair meet prior to each CHRIS meeting to review progress, to harmonize working group activities and to revise the Workplan.

Approval:
The revised workplan is approved by the CHRIS plenary at each annual meeting. The CHRIS Chair may seek Committee members' interim approval for emerging issues between meetings.

Communications:
The CHRIS Workplan is posted on the IHO website, and a progress summary is provided at IHO Conferences.

Project Numbering:
Each task is given a sequential number independent of other Working Groups. The related IHO Work Programme Element number and the specific CHRIS meeting that approved the inclusion of the task is identified in the CHRIS Work Plan summary. Each WG SubTask is numbered using an alphanumeric sequence, "A*n*,B*n*,C*n*.."

Priorities:
Three Levels of Priorities (H, M, and L) are assigned by CHRIS using the following *Guidelines on the Evaluation of Proposals in the Work of CHRIS and Subsidiary Bodies*.

1. Guidelines for the Evaluation of Proposed New work Items for CHRIS and its subsidiary bodies

Introduction

1.1 In order to best use the limited resources available to CHRIS and its subordinate bodies, it is necessary to evaluate and prioritise proposed new work items. These guidelines are based on the principles originally agreed at CHRIS/13 and CHRIS/15 and revised and enhanced at CHRIS/18. They are intended to provide a uniform basis for evaluation and prioritisation.

1.2 Evaluation should be done as a two-stage process:

a. general consideration leading to acceptance or rejection; and if accepted,

b. establishment of priorities.

General acceptance

1.3 Before deciding to include a new item in the work programme of CHRIS and its subordinate bodies, the following factors should be taken into account:

a. is the subject addressed by a proposal considered to be within:

(1) the scope of IHO objectives?

(2) the current IHO work programme?

b. has a need for the measure proposed been identified (for example, client demand, internal improvements)?

c. do adequate industry standards or solutions exist or are they being developed thereby reducing the need for action through CHRIS and its subordinate bodies?

d. is the objective achievable in the existing CHRIS and its subordinate bodies' work program?

e. What are the envisaged deliverables ?

Establishment of priorities

1.4 Priorities for accepted work items should normally be assigned based on consideration of the following factors:

a. measures aimed at substantially preventing maritime casualties, marine pollution incidents or enhancing maritime security

b. measures to overcome identified deficiencies in existing IHO standards and technical resolutions;

c. measures needed to align IHO standards and resolutions with those of other relevant international standards and recommendations;

d. measures required to take into account the introduction of new technologies and methods in maritime operations;

e. measures required to take into account new techniques in data acquisition, processing and management, and production techniques in hydrography;

f. measures leading to increased Hydrographic Office efficiency.

1.5 Follow up actions in response to specific requests from the International Hydrographic Conference or other international and intergovernmental organisations should be evaluated in light of paragraph 4 above unless specifically identified as urgent matters.

General remarks

1.6 When setting priorities, certain flexibility should be provided to allow for initiatives that could not be foreseen.

1.7 Once a decision has been made on the basis of the above for a new work item to be included in the work programme of CHRIS and its subordinate bodies, an appropriate target completion date should be established, taking into account the urgency of the matter concerned.

1.8 In general, proposals for new work items as well as the revised work programs raised by WG Chairs as part of their annual reports should include a proposed priority for each work item, based on the guidelines above.

1.9 Wherever possible, proposed priorities for work items will be considered ahead of a meeting by a "Chair Group" comprising Chairman, Vice chairman, Secretary and all available Work Group Chairs. Final endorsement of work item priorities will rest with CHRIS and be considered at the respective meeting.

2. CHRIS relevant elements of IHO Work Programme 2003-2007

2.1 IHO Programme 3. Element 3.1 Nautical Cartography

O 3. 1. 1 Continuation of the co-operative work on development of ECDIS services, particularly:

On-going refinement and expansion of specifications and standards through the CHRIS and its working groups, with links to the CSPCWG, IEC and ISO**. [HP]**

Participation in the regulatory, testing and certification aspects of ECDIS through the IMO/IHO HGE and IEC/TC80 in matters concerning ECDIS, RCDS, and ECS. **[HP]**

Develop contacts with the international bodies representing private industry [umbrella organizations], to reduce potential conflicts and to maximize quality and availability of adequate digital nautical products, by inviting their participation in appropriate IHO forums, and through IHO participation in non-government activities such as Open ECDIS Forum [OEF]. **[HP]**

O 3. 1. 2 Participation in the development of standards for cartography and geographic information in association with groups such as DGIWG, ICA, IEC and ISO, in order to ensure that the interests of IHO members receive attention in the formulation of standards. **[HP]**

O 3. 1. 3 Development of the international [paper] chart series through the relevant committees and bodies. **[MP]**

3.1.3.1 Development of new symbology for ship routeing, including archipelagic sea lanes, vessel traffic services, environmentally sensitive areas, etc. **[MP]**

3.1.3.2 Progress of the work of the Committee on the Standardization of Nautical Publications, (i.e. Sailing Directions and other nautical publications) and monitor the development of standard formats for Notices to Mariners. **[MP]**

3.1.3.3 Resolution of issues concerning the extension of the INT chart scheme to include large scale charts. **[MP]**

Tasks

T 3. 1. 1 Revise, develop, and maintain the following publications:
S-52, S-57 New Editions **[by 2006],** M-4, M-11, **[by 2003]**

2.2 IHO Programme 3. Element 3.4 Data for Geomatics Application

O 3. 4. 1 Assist Member States to optimize and extend the use of their hydrographic data sets for purposes other than navigation through:

3.4.1.1 Development of generic product and service specifications. Investigate, through the Subgroup of TSMAD for Hydro Survey Data and Exchange, how to include these data as a part of S-57. **[HP]**.

Tasks

T 3. 4. 2 Complete harmonization of IHO spatial data standards with ISO standards. **[by 2006]**

3. TSMAD Work Plan

[*Any remarks relevant to the understanding of the plan to be inserted here*]

3.1 TSMAD Tasks

A Develop S-100 based on ISO TC211 geo-spatial standards (IHO T3.4.2 refers)

B Keep S-58 Recommended ENC validation checks up to date (IHO O3.1.1 refers)

C Support FAQ and encoding advice sections of IHO web site up to date (IHO O3.1.1 refers)

D Develop Marine Environment Protection Programme based on S-100

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.1a	Develop S-100 Feature Dictionary component	H		2001	Feb 06	C	Holger Bothien		Web interface launched
A.1b	Develop S-100 Feature Catalogue component	H		2007	Dec 07	O	Holger Bothien		Committee Draft Stage
A.2	Develop S-101 ENC product specification	M		2006	Jan 12	O	Julia Powell, Richard Fowle		
A.3	Develop S-100 Imagery and Gridded Data component	H		2001	Feb.06	C	Don Vachon		Needs evaluation against published ISO standard
A.4	Develop S-100 Time varying and 3-D data. component	H		2001	Oct.04		Jim Radice		Deleted, absorbed into other work items.
A.5a	Develop S-100 metadata component	H		2001	Dec 07	O	Tony Pharaoh		
A.5b	Develop S-100 quality metadata component	H		2007	Jan 08		Dion Gaulton		

* H = High, M = Medium, L = Low

** P = Planned, O = Ongoing, C = Completed

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.6a	Develop Application Schema component	H		2001	Jan 08	O	Barrie Greenslade		
A 6b	Develop S-100 Framework Document	H		2006	Dec 07	O	Barrie Greenslade		
A 6c	Develop S-100 Spatial Component	H		2003	Sep 06	C	Barrie Greenslade		
A 6d	Develop S-100 Encoding Component	H				O	Barrie Greenslade		
A.7	Develop S-100 Bathymetric Content Specification.	H		2001		O	Wade Ladner		
A.8	Develop S-100 Portrayal Component	H		2006		O	CSMWG		
A.9	Develop S-57 to paper chart functionality and Print-on-Demand (POD) file transfer guidelines.	M		2003		P	No current work item leader		Not Activated
A.10	Liaise with Non-IHO Constituents, e.g. Inland ECDIS, Marine Navigation Industry, DGIWG, AML, WMO Ice, and GIS Industry.	H		2004	-	O			
B.1	Keep S-58 Recommended Validation Checks up to date	H		2003	-	O	Guy Uguen		
C.1	Support FAQ and Encoding Bulletins	H		2003	-	O	Jeff Wooton		
D	Develop Marine Environment Protection Programme based on S-100	M		2008	2009	O			

3.2 TSMAD Meetings

TSMAD

Date	Location	Activity
29 Sep – 3 Oct 03	Wollongong, Australia	10th Meeting
11-12 November 04	IHB, Monaco	11th Meeting
10-11 November 05	Wollongong, Australia	12th Meeting
18-22 September 06	Wellington, New Zealand	13th Meeting
4-8 June 07	UKHO, Taunton	14th Meeting

TSMAD Sub-WG

Date	Location	Activity
25-29 April 05	Univ. of NH, USA	8th Meeting
7-9 November 05	Wollongong, Australia	9th Meeting
15-19 May 06	Brest, France	10th Meeting
18-22 September 06	Wellington, New Zealand	11th Meeting
27-1 December 06	Silver Spring, USA	12th Meeting
23-27 April 07	Ottawa, Canada	13th Meeting
17-21 September 07	Hamburg, Germany	14th Meeting

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Secretary: Anthony PHARAOH E-mail: apharaoh@ihb.mc

4. CSMWG Work Plan

[*Any remarks relevant to the understanding of the plan to be inserted here*]

4.1 CSMWG Tasks

A	Develop S-52 App. 2 “Colours and Symbols Specifications for ECDIS”, Edition 4.2 and its Annex A “Presentation Library”, Edition 3.3 (IHO T3.1.1 refers).
B	Contribute to IEC TC80/WG13 symbol harmonizing work (IHO O3.1.1 refers).
C	Examination of S-52 main documents and annexes for redundant operational aspects of ECDIS (IHO T3.1.1 refers).
D	Introduce new website based recommendation service for good application practice of S-52 (IHO O3.1.1 refers).
E	Contribute to harmonised rules for ENC loading strategy, use of SCAMIN and overscale indication (IHO O3.1.1 refers).
F	Assess the impact on S-52 C&S regulations of other IHO standards (IHO T3.1.1 refers).
G	Improving ENC Consistency/loading strategies.
H	Harmonisation of pick report presentation.
I	Develop Symbols for object and attribute enhancements of S-57 Edition 3.1.1.
J	Harmonisation with CSPCWG.
K	Built a CSMWG bulletin and FAQ section on the IHO website.

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.1	Issue S-52, App.2, Edition 4.3; Annex A, Edition 3.4 and Addendum by application of Maintenance Documents Nos. 5 and 6	M		2007	2008	P	Mathias Jonas Chris Roberts Julia Powell	S-52, App. 2, Annex A, Addendum	
A.2	Implementation of changed requirements of revised IMO ECDIS PS into S-52 C&S regulations	H		2006	2008	P	Mathias Jonas Chris Roberts Julia Powell	S-52, App. 2, Annex A,	
F.1	Consideration of the implications of future S100/S101 on S-52 C&S regulations	M		2003		O	Mathias Jonas Julia Powell	S-52, App.2 S100	
F.2	In close liaison with TSMAD, set up a portrayal register within the S100 registry	M		2005		O	Mathias Jonas Pol Lebihan Julia Powell	S-52, App. 2 S100	
G.1	Contribute and attend to a loading strategy workshop organized by ECDIS industry	M		2005		P	Mathias Jonas	S-52, App.2	
H.1	Contribute to common work of SNPWG and other relevant organizations, for NP3 presentation.	M		2006		P	Mathias Jonas	S-52, App.2	
I.1	Adapt ECDIS chart 1 to PL Edition 3.4 by means of SYMINS mechanism	M		2007	2007	P	Mathias Jonas Olaf Wentzel	S-52, App. A	
J.1	Liase with CSPCWG	M		2005		O	Mathias Jonas	S-52, App.2 Annex A	
K.1	Establish links at IHB server	M		2005		P	Michel Huet	S-52, App.2 Annex A	

* H = High, M = Medium, L = Low
** P = Planned, O = Ongoing, C = Completed

4.2 CSMWG Meetings

Date	Location	Activity
18-20 May 03	Ottawa, Canada	14th Meeting
2-4 May 05	Rostock, Germany	15th Meeting
29-31 May 06	IHB, Monaco	16th Meeting
11-13 June 07	Stavanger, Norway	17th Meeting

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5. DPSWG Work Plan

[*Any remarks relevant to the understanding of the plan to be inserted here*]

5.1 DPSWG Tasks

A Complete IHO S-63 Data Protection Scheme documentation (IHO O3.1.1 refers).

B Publish IHO S-63 and provide support (IHO O3.1.1 refers).

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard
A.1	Prepare S-63 edition 1.1	H	Draft available	Sep 06	Nov 07	C	Richard Coombes / Jonathan Pritchard, UKHO	S-63 edition 1.0
A.2	Prepare a comprehensive test data set for edition 1.1 .including full support for a multi supplier environment.	H		Sep 06	Dec 07	P	Robert Sandvik, Primar	S-63 edition 1.0
A.3	Provision of S-63 edition 1.1 to IHB for publication.	H		Dec 07	Jan 08	P	Robert Sandvik, Primar	S-63 edition 1.0
B.1	Provide S-63 technical and operational support to Data Servers and OEMs	H		Aug 03		O	DPSWG members	S-63 edition 1.0/1.1

* H = High, M = Medium, L = Low

** P = Planned, O = Ongoing, C = Completed

5.2 DPSWG Meetings

Date	Location	Activity
22-23 June 04	IHB, Monaco	Discuss feedback from industry and users and agree specific support activities. Review feedback on current S-63 documentation.
31 Aug – 1 Sept 05	IHB, Monaco	5th Meeting
28-30 May 07	IHB, Monaco	6th Meeting

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Secretary: Vacant Email:

6. CSPCWG Work Plan

- *Objectives, Tasks and Work Items are pursued in accordance with IHO Work Programme 2008-2012, Programme 3 (Techniques and Standards Coordination and Support):*
    - *Element 3.1 Meetings of Working Groups:*
        - *Task 3.1.3 Chart Standardization and Paper Chart Working Group*
    - *Element 3.3 Nautical Cartography. In particular:*
        - *Task 3.3.1 Nautical publications*
        - *Task 3.3.5 INT Chart Series*
- *The focus is on maintaining and enhancing the cartographic standards in paper charts to suit the needs of the modern mariner in support of safe navigation, whilst drawing together, wherever possible, common issues of paper/electronic charting.*

- *As a Plan it will and should evolve; accordingly, contributions from WG members and others are welcomed at any time.*

6.1 CSPCWG Tasks

A Revise, develop and maintain Publication M-4 'Chart Specifications of the IHO & Regulations of the IHO for INT Charts'.

B Revise, develop and maintain Publication M-11 'Catalogue of INT Charts' Part A maintained by CSPCWG.

C International NMs (Task completed).

D Development of new (and revised) symbology.

E Maintenance of M-4 supplementary publications INT 1, 2 & 3.

F Revise, develop and maintain S-49 'Recommendations concerning Mariners' Routeing Guides'.

G Revise, develop and maintain Publication M15 'List of Booklets on Chart Symbols & Abbreviations'.

H Review selected Technical Resolutions from Publication M3 'Technical and Administrative Resolutions'.

Task	Work item	Priority *	Next Milestone	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.4	Revise M-4 Part B Section 400	H	Revise and publish	2005	2009	O	Sec CSPCWG	M-4 / B-400	B-400 divided into sub-sections for manageability.
A.4.3	Sub-section B-440 to B-449	H	Final agreement on changes from WG	2006	2008	O	Sec CSPCWG	M-4 / B-400	Include final items raised at CSPCWG4
A.4.4.1	Sub-section B-450 to B-479	H	Responses to WG Ltr 12/07	2007	2008	O	Sec CSPCWG	M-4 / B-400	1st draft with WG (see WG Ltr 12/07)
A.4.4.2	Sub-section B-480 to B-499	H	WG Ltr for round 1	2008	2009	P	Sec CSPCWG	M-4 / B-400	Not started
A.5	Revise M-4 Part B Section 300	L	Completion of A.8			P	Sec CSPCWG	M-4 / B-300	Start after A.8 completed
A.6	Revise M-4 Part B Section 500	L	Completion of A.5			P	Sec CSPCWG	M-4 / B-500	Start after A.5
A.8	New specification for Chart Maintenance Section B-600	M	WG Ltr for round 1	2006	2009	O	Sec CSPCWG	M-4 / B-600	1st draft in prep with Sec/Chair
A.9	Additional paragraph in B-100 re colour examples	L	Inclusion in M-4 and IHO CL	2006	2007	C	IHB, Sec CSPCWG	M-4 / B-100	IHO CL 58/2007 responses.
A.10	Use of English on charts	H	MS approval	2006	2007	O	Sec/Chairman CSPCWG	M-4	IHO CL 82/2007 refers
D.9	Develop new symbol for synchronized and sequential lights	M		2005	2008	O	Sec CSPCWG	M-4, INT 1	Included in A.4.4.1
D.13	Mangroves	M	WG Ltr	2006	2008	O	Sec, AU (C Roberts)	M-4, INT 1	CSPCWG4 Action 10
E.1	Maintain official INT 1s	n/a	Publish Spanish language version			O	FR: Y Le Franc ES: A Chans DE: S Spohn	INT 1	French version 2006. Spanish version 2007. English version planned 2008.
E.4	Symbols for vacant entries in INT 1	L				P	Sec CSPCWG	INT 1, M-4 part B	CSPCWG4 Action 32
E.5	Small craft symbols	L				P	Sec CSPCWG	INT 1, M-4 part B	
E.6	INT abbreviations	M	Include in M-4	2006	2008	O	Sec CSPCWG	INT1, M-4 part B	CSPCWG4 Action 31
E.7	Review terms in INT1 for consistency with M4	L				P	Sec CSPCWG		Selected pages, to gauge extent of issue. CSPCWG4 Action 9
E.8	Move part of INT1 K into L	L				P	INT1 subWG		CSPCWG4 Action 33

* H = High, M = Medium, L = Low
** P = Planned, O = Ongoing, C = Completed

F.1	Review S-49	M	WG Ltr	2007	2009	P	Chairman	S-49	CSPCWG4 Action 38
H.1	Review allocated Technical Resolutions (as listed in IHB Ltr 7/09/07 to Committee Chairman)	H	CHRIS Chairman ltr to WG Chairman	2007	2008	O	Chairman	M-3	Work to be completed for CHRIS20 (Nov 2008)

6.2 CSPCWG Meetings

Date	Location	Activity
03-05 November 04	IHB, Monaco	1st Meeting
19-21 October 05	IHB, Monaco	2nd Meeting
22-24 November 06	IHB, Monaco	3rd Meeting
13-15 November 07	IHB Monaco	4th Meeting
late 2008 (tbd)	Australia	5th Meeting

Chairperson: Peter JONES Email: peter.jones@ukho.gov.uk
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Secretary: Andrew HEATH-COLEMAN Email: andrew.coleman@ukho.gov.uk

7. SNPWG Work Plan

[*Any remarks relevant to the understanding of the plan to be inserted here*]

7.1 SNPWG Tasks

A Decide on the Data Format of NP-data intended for use in ECDIS (NP3).

B Define the content requirements of NP-data intended for use in ECDIS (NP3).

C Develop test data sets

D Develop basic display rules for NP-data intended for use in ECDIS (NP3).

E Draft guidance documents

F Revise technical resolutions as required

G Liaise with other CHRIS WG's and other IHO and international bodies.

Task	Work Item	Priority H-high M-medium L-low	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs /Standard	Remarks
A.1	Decide on the Data Structure of NPs-Data intended for use in ECDIS (NP3)	H	2003	2004	C	Chair/Sec SNPWG		NP3 Data should be encoded as S-57-objects which were modeled in UML where required.
A.2	Look at existing systems on the market	H	2003	2004	C	Chair/Sec SNPWG		
A.3	Evaluate the pros and cons	H	2003	2004	C	Chair/Sec SNPWG		
B.1	Examine the content of traditional NPs	M	2004	2006	C	Chair/Sec SNPWG		Which NPs and NP data type should be included in NP3
B.2	Model the data where required.	H	2004	2008	O	Chair/Sec SNPWG	S-100	To be included in NPUBS register
B.3	Review of objects and attributes	H	2004	2008	O	Chair/Sec SNPWG	S-100	Review of objects and attributes

B.4	Propose amendments for Hydro register to TSMAD	H	2005	2008	O	Chair/Sec SNPWG	S-100	To be included in S-100 registry
B.5	Create the NPUBS Register	H	2006	2007	C	Chair/Sec SNPWG	S-100	
B.6	Populate the NPUBS Register	H	2006	Open	O	Chair/Sec SNPWG	S-100	
B.7	Draft Product Specification	H	2008	2009	P	Chair/Sec SNPWG	S-10X	
C.1	Produce test data set	H	2008	2009	P	Chair/Sec SNPWG		
C.2	Set up a test bed ECDIS	M	2009	2009	P	Chair/Sec SNPWG		
D.1	Develop basic presentation rules for NP data intended for use in ECDIS (NP3)	M	2008	2009	P	Chair/Sec SNPWG	S52	Close Co-operation with CSMWG required
E.1	Data Capture Guidance	H	2008	2009	P	Chair/Sec SNPWG		Document for NPs similar to Use of the Object Catalog
F.1	Revise technical resolutions	H	2007	2008	P	Chair/Sec SNPWG	M3	
G.1	Liaise with the CSMWG for the development of the display rules	H	2005	Open	O	Chair/Sec SNPWG		
G.2	Liaise with the TSMADWG	H	2004	Open	O	Chair/Sec SNPWG		
G.3	Liaise with other groups	H	2004	Open	O	Chair/Sec SNPWG		Tides, MIO's, AML, ICE, Inland ECDIS

7.2 SNPWG Meetings

Date	Location	Activity
7-9 June 04	NOAA, Silver Spring, MD, USA	3rd Meeting
1-3 March 05	IHB, Monaco	4th Meeting
24-28 October 05	Copenhagen, Denmark	5th Meeting
19-23 June 06	IHB, Monaco	6th Meeting
12-16 Feb 07	Rostock, Germany	7th Meeting
3-7 Sept 07	IHB, Monaco	8th Meeting
21-25 Apr 08	SHOM, Brest	9th Meeting

Chairperson: David ACLAND Email: david.acland@ukho.gov.uk
Vice-chairperson: John NYBERG Email: John.Nyberg@noaa.gov
Secretary: Steve OFFENBACK Email: Steven.R.Offenback@nga.mil

8. DQWG Work Plan

[*Any remarks relevant to the understanding of the plan to be inserted here*]

To be developed

Chairperson: Shepard SMITH Email: shep.smith@noaa.gov
Vice-chairperson: Chris. HOWLETT Email: Chris.Howlett@ukho.gov.uk
Secretary: Vacant Email:

9. HGMIO Work Plan

As a technical liaison Working Group that is a subsidiary of two Committees (IHO CHRIS and IEC TC80), the primary purpose of HGMIO is to harmonize the activities of IHO and IEC related to the provision and display of supplemental chart- and navigation-related information on ECDIS.

As agreed at HGMIO 2 (on 14 June 2003), the primary focus will be to assess the current status of previously developed or proposed IHO S-57 objects/attributes and display aspects for:

- Ice Information, Marine Environmental Protection, & Status of Aids-to-Navigation

Other potential topics for future investigation could include:

- Current Flow, Meterological, & Oceanographic

9.1 HGMIO Tasks

A For each MIO category, describe the current status of development efforts (e.g., data or display-related).

B For each MIO category, assess level of completion and further development required.

C Recommend to TSMAD and CSMWG on MIO development-related matters

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Related Pubs/Standard
A	**Describe current status of development efforts**							
A.1	Ice Information	M	Work Item agreed at HGMIO 2	Fall 03	2008	O	John Falkingham, Canadian Ice Services (Ottawa)	S-57 & S-52
A.2	Meteorological	L	Work Item agreed at HGMIO 2	Fall 03	unknown	P	Michel Huet (IHB) and Dan Pillich	S-57 & S-52
A.3	Tides/Water Levels	L	Work Item agreed at HGMIO 2	Fall 03	unknown	P	[vacant]	-

* H = High, M = Medium, L = Low

** P = Planned, O = Ongoing, C = Completed

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Related Pubs/Standard
A.4	Oceanographic	L	Work Item agreed at HGMIO 2	-	-	-	[vacant]	-
A.5	Current Flow	L	No tasking or volunteer	-	-	-	[vacant]	-
A.6	Aids to Navigation Status (e-ANSI)	M	Developed e-ANSI objects/attributes	Jun 05	Jun 08	O	Michel Huet (IHB)	S-57
A.7	Marine Environnemental Protection	H	Developed Prototype Product Spec	Nov 07	Dec 07	O	Lee Alexander (UNH) & Cameron McLeay (CARIS)	S-57
C.1	Recommend to TSMAD MIO-related matters that warrant consideration related to product specifications	M	Proposed at CHRIS 19	Dec 07	Jun 08	P	Lee Alexander (Univ. of NH)	S-57, S-100
C.2	Recommend to CSMWG MIO-related matters related to portrayal	M	Proposed at CHRIS 19	Dec 07	Jun 08	P	Lee Alexander (Univ. of NH)	S-52, IEC 62288
C.3	Develop General Content Specification for MIOs	H	Agreed to at HGMIO 4th Mtg	Jan 07	Jun 07	C	Lee Alexander (UNH) & Cameron McLeay (CARIS)	S-57
C.4	Establish MIO Register for Product Specs and Portrayal	M	Proposed at CHRIS19	Dec 07	Dec 08	P	Lee Alexander (Univ. of NH)	S-57, S-52, S-100

9.2 HGMIO Meetings

Date	Location	Activity
14 June 03	IHB, Monaco	2nd Meeting
27 June 05	IHB, Monaco	3rd Meeting
28 June 05	IHB, Monaco	e-ANSI (IALA) – MIO Workshop
22-23 May 07	Durham, NH, USA	4th Meeting

Chairperson: Lee ALEXANDER Email: lee.alexander@unh.edu
Vice-chairperson: Vacant Email:
Secretary: Michel HUET Email: mhuet@ihb.mc

10. HCIWWG Work Plan (Draft)

[*Any remarks relevant to the understanding of the plan to be inserted here*]

10.1 HCIWWG Tasks

A Initiate the work of the HCIWWG.

B Identify waters / countries / areas / regions, organisations concerned, and other relevant facts

C Analyse possible IHO role in these areas

D Make proposals to CHRIS-20 and 4th EIHC

Task	**Work item**	**Priority** * H-high M-medium L-low	**Milestones**	**Start Date**	**End Date**	**Status** ** P-planned O-ongoing C-completed	**Contact Person(s)**	**Related Pubs/Standard**
A.1	HCIWWG Letter 1 – Initiate the work	H		Nov 07	17 Nov 07	O	Chair HCIWWG	
A.2	HCIWWG Letter 1 – Response	H		17 Nov 07	03 Dec 07	O	HCIWWG Members	
B.1	Questionnaire to RHCs, etc.	H		Dec 07	15 Feb 08	O	Chairs HCIWWG, RHCs, IEHG, etc.	
B.2	Analysis of questionnaire replies	H		16 Feb 08	30 Mar 08	P	Chair HCIWWG	
B.3	HCIWWG Letter 2 –comments on the list of waters and waterways concerned	H		31 Mar 08	TBD	P	Chair HCIWWG	

* H = High, M = Medium, L = Low

** P = Planned, O = Ongoing, C = Completed

Task	Work item	Priority * H-high M-medium L-low	Milestones	Start Date	End Date	Status ** P-planned O-ongoing C-completed	Contact Person(s)	Related Pubs/Standard
C.1	Draft analysis of the IHO role in identified waters / waterways	H		TBD	TBD	P	Chair HCIWWG	
C.2	HCIWWG Letter 3 –comments on the analysis of IHO role	H		TBD	TBD	P	Chair HCIWWG	
C.3	Liaise with IEHG	H		Permanent	Permanent	O	Chairs HCIWWG and IEHG	
C.4	Liaise with ISPWG	H		Permanent	Permanent	O	Chairs HCIWWG and ISPWG	
C.5	Meeting	L		TBD	TBD	TBD	Chair HCIWWG	
D.1	Draft proposals to CHRIS-20	H		TBD	TBD	P	Chair HCIWWG	
D.2	Draft report of HCIWWG	H		TBD	TBD	P	Chair HCIWWG	
D.3	HCIWWG Letter 4 –comments on the draft proposals and draft report	H		30 Apr 08	TBD	P	Chair HCIWWG	
D.4	Report and proposals to CHRIS-20	H		-	12 Sep 08(*)	P	Chairs HCIWWG and CHRIS	
D.5	Final report and proposals to 4th EIHC	H		-	01 Apr 09(*)	P	Chair CHRIS / IHB	

(*) Observations:

1) 12 September 2008 is the deadline imposed by **Instructions for the Submission of Reports and Proposals for Consideration by CHRIS**;
2) 1 April 2009 is the deadline imposed by the IHO **General Regulations, Article 8**, for the IHB to submit the report to IHO MS;
3) This Work Plan is flexible and may be updated as much as necessary;
4) Task C2: The Chair Group may send to the Group as many letters as necessary to finalize the Report; and
5) Task C5: a face to face meeting may be convened, if required, in the case of unresolved matters.

Chairperson: Wesley W. CAVALHEIRO Email: wesley.cavalheiro@yahoo.com
Vice-chairperson: Juha KORHONEN Email: Juha.Korhonen@fma.fi
Secretary: Denise LADUE Email: Denise.R.LaDue@usace.army.mil

11. MSDIWG Work Plan

[*Any remarks relevant to the understanding of the plan to be inserted here*]

To be developed.

Chairperson: John PEPPER Email: John.Pepper@UKHO.gov.uk
Vice-chairperson: Vacant Email:
Secretary: Vacant Email:

INTERNATIONAL HYDROGRAPHIC BUREAU

BUREAU HYDROGRAPHIQUE INTERNATIONAL

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PRINCIPAUTE DE MONACO

Ms Laura TLAIYE
Sector Manager
Environment Department
The World Bank
1818 H Street N.W
Washington D.C 20433
USA

IHB File N° S3/8151/CHRIS & TA5-4 14 November 2007

Dear Ms Tlaiye,

I am writing to report the outcome of the United States' proposal to the International Hydrographic Organization's (IHO) Committee on Hydrographic Requirements for Information Systems (CHRIS) to develop an international product specification for the exchange of Marine Environmental Data, and also to respond in more detail to your letter of 11 October 2007.

The IHO CHRIS has recognised the growing pressure on its Member States' governments to provide ever more effective conservation measures for the marine environment and has a number of work items on hand to help address this. Nevertheless, this particular initiative from the United States is relatively unusual in nature, since it proposes, for the first time, the potential incorporation of detailed environmental protection data into the Electronic Chart Display and Information Systems (ECDIS) carried on ships. This would, in effect, require a modification of the existing hydrographic data specifications that underpin ECDIS, during a period when the International Maritime Organization is actively considering making the carriage of Electronic Chart Display and Information Systems (ECDIS) mandatory for ships. The IHO considers that such a mandatory carriage requirement of ECDIS is a very important measure that will significantly increase navigational safety and protection of the marine environment and does not want to embark on any short-term developments that might jeopardise that decision. In particular, it is important to maintain software stability in the near term in order to obtain both the IMO's and the wider maritime community's confidence in ECDIS.

The CHRIS noted that recent changes to the chart Product Specification already allow Hydrographic Offices to show Environmentally Sensitive Sea Areas, which ships are required to avoid. The Committee therefore decided that, on balance, it was undesirable to introduce a further change to the ECDIS data specifications at the moment. However, the opportunity exists to develop an appropriate product specification as part of a family of Product Specifications that will be developed under the new IHO Geospatial Standard for Hydrographic Data now under development and to be known as S-100. The Committee therefore directed that the development of such a product specification be added to the work program of the relevant IHO technical experts. This should result in a further advance in

marine environmental protection, as well as providing a contemporary and universal exchange format for scientists and natural resource managers.

The CHRIS sees safe and efficient navigation as one of the fundamental building blocks in the economic development and well-being of a coastal state, and like the World Bank, remains committed to the protection of the marine environment. As the Chairman of CHRIS I look forward to continuing to work together to achieve our common aims.

Yours sincerely

Captain Vaughan NAIL, RN
Chairman of CHRIS

INTERNATIONAL HYDROGRAPHIC BUREAU

BUREAU HYDROGRAPHIQUE INTERNATIONAL

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PRINCIPAUTE DE MONACO

Mr. K. Brannon
ISO Central Secretariat
1, rue de Varembé
1211 GENEVA 20

IHB File N° S1/5058 21 November 2007

Subject: Relationship between ISO and IHO Geospatial Standards

Dear Mr. Brannon,

You may recall that my predecessor Rear Admiral Kenneth BARBOR discussed the possibility of entering a formal agreement between the IHO and ISO (see Attachments 1 and 2). Subsequently he reported to the IHO Member States that after further discussions with you, it might actually be the case that the Class A liaison status of the IHO before ISO/TC211 and the accreditation of ISO as an observer to the IHO defined sufficient rights and responsibilities of each organization in their mutual dealings such that an MoU was not warranted.

However, in view of the increasing interdependence of the IHO and ISO standards relating to geospatial data I am now wondering whether there is still a need for a more formal arrangement between our organizations. If not, then we seek greater clarity on how the IHO may use the ISO standards in support of its own standards – especially S-100.

You are aware that the International Hydrographic Organization (IHO) is the recognized World authority concerning hydrography and nautical charting and is the recognized competent authority by the United Nations (UN) and in particular the International Maritime Organization of the UN. We maintain a range of standards, specifications and guidelines concerning hydrographic data and nautical charts. Over the last 20 years, the IHO has developed and maintained a data transfer standard for digital hydrographic data and digital nautical charts known as S-57. It is my understanding that S-57 pre-dates any comparable ISO/TC211 standard and specifications and is in fact defined as a functional standard in ISO 19101. It is also a normative reference for a number of IEC specifications, such as IEC61174 and IEC62288. In addition, it is the technical reference for electronic chart data in the UN Convention on the Safety of Life at Sea.

As Rear Admiral BARBOR would have explained, in order to offer the most flexible and contemporary suite of hydrographic geospatial data standards that will meet modern

requirements and be universally compatible with the wide range of geospatial applications that now exist, the IHO has embarked on the development of a new hydrographic geospatial standard to eventually replace S-57. This will be known as S-100, and will be modeled on the ISO TC211 191xx series of geospatial standards.

We are aware that under normal circumstances ISO imposes strict limits on the reproduction of its standards in other documentation. However, in the case of S-100, we believe that a more collaborative approach is required. This was one of the principle reasons for proposing a formal Arrangement between our organizations. There are a number of particular factors that we believe need to be taken into account:

- While it is obviously possible to develop and document S-100 by merely referring to the relevant parts of the ISO 191xx standards where necessary, S-100 would be much easier to use and be adopted far more quickly if the relevant parts of the various ISO standards can be accessed directly as part of S-100.
- Much of the textual content of the ISO 191xx standards cannot be rewritten or expressed in an alternative framework without potentially changing the meaning.
- There are now more than 40 ISO 191xx standards. This is unusual in terms of specifying requirements for products derived from standards.
- All references to ISO 191xx standards will be included in a normative list.
- A statement in the scope of S-100 will strongly advise users and contractors to purchase the ISO 191xx standards as references.
- IHO has participated in, and contributed to TC211 working group activities and plenary meetings, since their inception, both as part of national delegations and as liaison members.
- The S-57 standard has been widely adopted and used for the production of Electronic Navigational Charts. The International Maritime Organization (IMO), in their Safety of Life Convention (SOLAS) mandated that <insert relevant text from SOLAS chapter 5>
- The S-100 standard will in due course supersede S-57 as the IMO/SOLAS reference, as well as being used for the development of many other hydrographic products.

The IHO therefore seeks your further comments on how best to ensure that our organizations can best move forward and in particular to ensure that the relevant ISO standards benefit from S-100 and vice-versa.

On behalf of the Directing Committee
Yours sincerely,

Captain Robert WARD
Director

Attachments:
1. Email Barbor-Brannon 21 Dec 05
2. Draft MoU between ISO and IHO

Robert Ward

To: Michel Huet
Subject: RE: [Fwd: IHO-ISO MOU]

-------- Message original --------
Sujet: IHO-ISO MOU
Date: Wed, 21 Dec 2005 17:25:47 +0100
De: dir1 <dir1@ihb.mc>
Pour :: <Brannon@iso.org>
Copie à :: 'Takahashi Maho' <takahashi@iso.org>, <pac@ihb.mc>

Dear Mr. Brannon,
Attached is a draft MOU that is largely derived from MOUs (OECD/ISO and DGIWG/ISO) that we understnad have recieved ISO approval in the past. This draft has been initially screened by our Member States.
I would appreciate your comments and assistance in progressing this through the ISO for ultimate approval and implementation.
Thank you for your attention in this matter.
Sincerely,
Ken Barbor
Rear Admiral Kenneth Barbor
Director
International Hydrographic Bureau
4, Quai Antoine 1er B.P. 445
MC98011
Monaco
Tel: +(377) 93 10 81 00
Fax: +(377) 93 10 81 40
e-mail: kbarbor@ihb.mc

MEMORANDUM OF UNDERSTANDING BETWEEN THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) AND THE INTERNATIONAL HYDROGRAPHIC ORGANISATION (IHO)

This Memorandum of Understanding is made and entered into by and between The International Organization for Standardization (ISO) and the International Hydrographic Organization (IHO) relating to cooperation between ISO/ TC 211 and IHO to enable the development and alignment of agreed joint standards and profiles based on some or all of the parts of the ISO 19100 series or other related standards. The resulting standards and profiles may be published by ISO as ISO deliverables subject to the ISO Directives and jointly by IHO as IHO publications. IHO will continue to support existing IHO standards and specifications. Existing IHO specifications for geographic information will however be aligned wherever possible with the ISO 19100 series of standards.

WHEREAS, The IHO is an intergovernmental consultative and technical organization that was established in 1921 to support the safety of navigation and the protection of the marine environment. The IHO is committed to the promotion of international standards, necessary for insuring uniformity of products and for facilitating the exchange of information.

WHEREAS, ISO is a nongovernmental organization comprised of a network of national standards institutes and is the world's largest developer of standards. Technical Committee 211 of ISO (ISO/TC 211) produces ISO International Standards for Geographic Information/Geomatics through a national body balloting process.

WHEREAS, the IHO seeks to develop joint standards with ISO/TC 211 for certain aspects of geographic information and align working practices with ISO/TC 211 while retaining its user responsiveness.

WHEREAS, ISO/TC 211 seeks to access relevant international user specifications as input to the ISO standards development process and to co-operate with IHO in assisting the alignment of life cycle working practices within the constraints of the ISO Directives.

WHEREAS, ISO/TC 211 and IHO wish to harmonize their respective work programs, achieve mutual benefit from sharing expertise of domain experts of the two organization and welcome cross-project participation where appropriate.

Now THEREFORE, the parties hereto mutually agree as follows:

LIAISON

As a class A liaison organization to ISO/TC 211, IHO members, IHO technical staff, and IHO nominated experts may attend ISO/TC 211 working groups and plenary meetings and participate in the work in a non-voting capacity. IHO liaison to ISO/TC 211 provides overall co-ordination of this activity within IHO.

ISO/TC 211 representatives may participate as non-voting liaison members to the IHO committees and working groups so that reciprocal liaison can be achieved. Notification of intended participation should be communicated between the ISO/TC 211 secretariat and the IHO liaison or other select Working Group chairs.

MEMORANDUM OF UNDERSTANDING BETWEEN THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) AND THE INTERNATIONAL HYDROGRAPHIC ORGANISATION (IHO)

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WHEREAS, The IHO is an intergovernmental consultative and technical organization that was established in 1921 to support the safety of navigation and the protection of the marine environment. The IHO is committed to the promotion of international standards, necessary for insuring uniformity of products and for facilitating the exchange of information.

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WHEREAS, the IHO seeks to develop joint standards with ISO/TC 211 for certain aspects of geographic information and align working practices with ISO/TC 211 while retaining its user responsiveness.

WHEREAS, ISO/TC 211 seeks to access relevant international user specifications as input to the ISO standards development process and to co-operate with IHO in assisting the alignment of life cycle working practices within the constraints of the ISO Directives.

WHEREAS, ISO/TC 211 and IHO wish to harmonize their respective work programs, achieve mutual benefit from sharing expertise of domain experts of the two organization and welcome cross-project participation where appropriate.

Now THEREFORE, the parties hereto mutually agree as follows:

LIAISON

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ISO/TC 211 representatives may participate as non-voting liaison members to the IHO committees and working groups so that reciprocal liaison can be achieved. Notification of intended participation should be communicated between the ISO/TC 211 secretariat and the IHO liaison or other select Working Group chairs.

DISTRIBUTION OF FINAL STANDARDS

Both IHO and ISO individually retain the rights to publish all documents developed under this agreement according to their own practices. After adoption as a Draft International Standard (DIS, FDIS), or an International Standard (IS), the corresponding IHO version of the ISO International Standard will be published as an IHO specification and will be published and circulated according to their normal practices.

MAINTENANCE OF STANDARDS

Both organizations acknowledge that a Registration Authority will be required for the successful implementation of certain provisions in ISO Standards resulting from this MOU. It is recognized that both IHO and ISO may develop registries independent of each other, even based on jointly developed standards: however, both IHO and ISO will inform each other of such developments and co-operate where appropriate.

ENTRY INTO FORCE, TEMINATION AND AMENDMENT

This Memorandum of Understanding shall enter into force upon signature and shall remain in force unless terminated by either party upon three month written notice. Changes may be proposed by a resolution from one party and agreed by resolution from the other.

INTERNATIONAL HYDROGRAPHIC BUREAU

BUREAU HYDROGRAPHIQUE INTERNATIONAL

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Letter distributed to RHC Chairpersons and INT Chart Coordinators

(Distribution list attached)

IHB File N° S3/8152/CHRIS 21 November 2007

Dear Colleagues,

The most recent extraordinary meeting of the WEND[6] (X-WEND) and the 19th meeting of CHRIS[7] which followed shortly afterwards, considered a paper by the IHB drawing attention to the inconsistent allocation of Navigation Purpose (NavPurpose) codes to so-called "small scale ENCs". In particular, there are significant conflicts in certain areas of the World, where NavPurpose 2 ENCs have been produced using smaller compilation scale values than NavPurpose code 1 ENCs of the same area. This is illustrated and explained in the accompanying CHRIS paper at Annex A to this letter.

Both the X-WEND and CHRIS/19 considered that this situation needs to be addressed and that would be best coordinated on a regional basis. Furthermore, the committees agreed that such coordination would be best managed through either the INT Chart Coordinators and/or through the Regional Hydrographic Commissions.

As a result, CHRIS/19 invited the IHB to seek the cooperation of the chairs of RHCs and the INT chart coordinators. You are therefore asked to consider this matter and to take appropriate action, keeping the IHB informed, so that the CHRIS and WEND are able to monitor the situation.

On behalf of the Directing Committee
Yours sincerely,

Captain Robert WARD
Director

Annex A: CHRIS paper[8]
Annex B: Distribution List

[6] IHO Committee on the Worldwide ENC Database
[7] IHO Committee on Hydrographic Requirements for Information Systems
[8] Doc. CHRIS19-06.1E, not reproduced here.

Annex B

Distribution List

LIST OF IHO COMMISSIONS, COMMITTEES AND WORKING GROUPS

RHC	CHAIRMAN	COUNTRY
Nordic Hydrographic Commission (NHC)	Mr. Jesper JARMBAEK	DEN
North Sea Hydrographic Commission (NSHC)	Prof. Dr. Peter EHLERS	GER
East Asia Hydrographic Commission (EAHC)	Mr Parry OEI	SIN
US/Canada Hydrographic Commission (USCHC)	Captain Steven BARNUM / NARAYANAN	USA/CA
Mediterranean and Black Seas Hydrographic Commission (MBSHC)	Captain Rachid ESSOUSSI	TUN
Baltic Sea Hydrographic Commission (BSHC)	Mr. Janis KRASTINŠ	LAT
Eastern Atlantic Hydrographic Commission (EAtHC)	Capt. Francisco PEREZ-CARRILLO DE ALBORNOZ	ESP
South-East Pacific Hydrographic Commission (SEPHC)	Radm. Jairo Javier PENA GOMEZ	COL
South-West Pacific Hydrographic Commission (SWPHC)	Mr. J. SPITTAL	NZ
MESO American Caribbean Hydrographic Commission (MACHC	RAdm. Javier DEL ANGEL RIVAS	MEX
Southern Africa and Islands Hydrographic Commission (SAIHC)	Mr. Augusto BATA	MZB
ROPME Sea Area Hydrographic Commission (RSAHC)	Captain TIPU	PAK
IHO Hydrographic Committee on Antarctica (HCA)	Capt. H. GORZIGLIA	IHB
North Indian Ocean Hydrographic Commission (NIOHC)	Rear Admiral Ian MONCRIEFF	UK
South West Atlantic Hydrographic Commission (SWAtHC)	Vice-Admiral Edison Lawrence Mariath DANTAS	BRA

INT CHART REGIONS
(January 2007)

Region	Coordinator	Commission Committee	Contact Person
A (NW Atl. & NE Pac. Oceans)	USA/NOS	USCHC	*To be nominated* meg.danley@noaa.gov
B (Meso-America & Caribb. Sea)	Mexico	MACHC	Cdr. Fernando A. ANGLI Rodriguez digadhicar@semar.gob.mx
C1 (SW Atl. Ocean)	Brazil	SWAtHC	Mr. Wesley CAVALHEIRO wesley.cavalheiro@dhn.mar.mil.br
C2 (SE Pac. Ocean)	Chile	SEPHC	*To be nominated* shoa@shoa.cl
D (North Sea)	United Kingdom	NSHC & NHC	Mr. Tim WELLINGTON Tim.Wellington@UKHO.gov.uk
E (Baltic Sea)	Denmark	BSHC BSICC	Ms. Hanne BERG hnb@kms.dk
F (Med. & Black Seas)	France	MBSHC MEDINCHART	Ing. en Chef Yves GUILLAM yves.guillam@shom.fr
G (East Atl. Ocean)	France	EAtHC CHATINTCHART	Ing. en Chef Yves GUILLAM yves.guillam@shom.fr
H (SE Atl. & SW Ind. Oceans)	South Africa	SAIHC	Mr. Malcom N. NELSON hydrosan@iafrica.com
I (NW Ind. Ocean)	Iran	RSAHC	Mr. Mohammad REZA GHADERI ghaderi@ir-pso.com
J (North Ind. Ocean)	India	NIOHC	Capt. SS KARNIK inho@dataone.in
K (E. Asia & NW Pac. Ocean)	Japan	EAHC	*To be nominated* ico@jodc.go.jp
L (SE Ind. & SW Pac. Oceans)	Australia	SWPHC	Mr. Jasbir RANDHAWA Jasbir.Randhawa@defence.gov.au
M (Southern Ocean)	IHB	HCA	Ing. en Chef Michel HUET mhuet@ihb.mc

Annex L to CHRIS-19 Minutes

Letter from IALA Secretariat to IALA Members

Re: IALA Maritime Buoyage System

Dear IALA Member

I am writing to request your comments on and suggestions for improvements (if any) to the IALA Maritime Buoyage System.

Please find attached to this letter, a brief rationale for reviewing the MBS and the preliminary findings made by the IALA Aids to Navigation Management (ANM) Committee.

I will be grateful if you can respond to the IALA Secretariat by no later than 31 December 2007.

I look forward to hearing from you.

Thanking you

Yours truly

Mahesh Alimchandani
Technical Coordination Manager IALA

12 November 2007

Review of the IALA Maritime Buoyage System

Background

IALA developed the Maritime Buoyage System (MBS) over 25 years ago. When it came into force, it was a big achievement for the world wide maritime community, which had been dealing with a number of systems, some of which were completely contrary to one another.

IALA is now reviewing the MBS and is seeking input from a broad group of users. Since the last review, there have been many technological developments. These include new light sources, Automatic Identification System (AIS), Electronic Chart Display and Information System (ECDIS) and integrated bridge management systems. Positioning information is much improved. In addition there are larger, faster ships and significant growth in the recreational craft sector. There are also many competing user groups with differing navigational requirements. Today's mariner has new tools and navigates in a different way to that even ten years ago.

IALA is of the opinion that it is impractical to combine the two existing regions (A & B) into a single worldwide system.

However, the suite of tools within the MBS could benefit from extending, updating or simplification. To that end, and in order to further assess the situation we would like your views on the MBS.

IALA has had some input on this subject which is summarised below

Analysis of the responses received so far

Most responses have been from UK. The general consensus appears to be that the MBS is adequate for the time being. However, most responses indicate that one all encompassing system would be preferable. Also, better definition of performance (colour, range and character of lights) and integration of this information with emerging electronic technology (such as AIS, ECDIS and radar) would benefit the safety of navigation by improving the interface between aids to navigation and navigational equipment.

Key Findings:

Special Marks

- Too many in service
- Lack of explanation of purpose

Isolated Danger Marks

- Difficult to lay and maintain
- Safe distance to pass is not indicated

Cardinal Marks

- Many in a small area can be confusing

IALA Comments

Special Marks

- "are not primarily intended to assist navigation" as per MBS
- administrations are be reminded that special marks should not be over used, so as to confuse the mariner
- the use of symbols used in official nautical documents (charts and publications) e.g. IHO on the body of the special mark, indicating the nature of the special area could be encouraged.

Isolated Danger Marks

- "is placed on a danger of small area which has navigable water all around it" MBS

Cardinal Marks

- the comments above are referenced to new danger marking; with the advent and success of the Emergency Wreck Marking Buoy (EWMB), this circumstance has been mitigated.

Proposals for options

- EWMB to be included in the revised MBS
- EWMB to be used for marking any new danger (until permanent marking is in place)
- Synchronised and sequenced lights to be utilised
- Flickering lights to be used
- Combination of colours of lights/buoys should be explored
- Update the text, cover page, pictures and graphics of the MBS booklet

Please note that a request for comment does not imply that IALA is planning a major change to the MBS. However, there may be an opportunity for improvement to the system and the views of your users are essential in this regard.

Please feel free to pass this letter to any other interested organizations, bodies or individuals.
This letter is also posted at www.iala-aism.org

Replies are requested by **31 December 2007, to:**

1. E-mail: iala-aism@wanadoo.fr
or
2. Fax: + 33 1 34 51 82 05
or
3. Post to IALA-AISM, 20 ter rue Schnapper, 78100 St Germain en Laye, FRANCE