CHRIS16-3A

15th CHRIS Meeting
IHB Monaco, 10-12 June 2003

FINAL MINUTES

Notes: 1) The paragraph numbering is the same as in the agenda (Annex D).
2) A list of acronyms used in these Minutes is at Annex A.
3) A list of all actions agreed at CHRIS15 is at Annex M
4) *Names of persons are written in full the first time they appear in the Minutes. Afterwards, only the surname is shown.*

1. OPENING AND ADMINISTRATIVE ARRANGEMENTS

Doc: CHRIS15-1A rev.5	*List of Documents (also Annex B)*
CHRIS15-1B rev.4	*List of Participants (also Annex C)*
CHRIS15-1C rev.1	*Membership of CHRIS-related WGs*
CHRIS15-1D rev.4	*CHRIS Membership*

The 15th CHRIS Meeting took place in the Conference Room of the International Hydrographic Bureau, Monaco. The Chair (Ole BERG, Denmark) opened the meeting. Attendees were welcomed by the IHB Director (Rear Admiral Kenneth BARBOR) and the IHB President (Vice Admiral Alexandros MARATOS).

The Chair outlined his intentions for the meeting and the general procedures to be followed. He noted that the focus and role of CHRIS is changing. He also emphasized that it is important that attendees express their views. In particular, he will assume that no intervention or comment indicates agreement with the mood of the meeting or the summary presented by the Chair as appropriate.

The Chair presented an outline timetable for the meeting and his intention to convene certain Task Groups (TG) to undertake drafting work and detailed considerations in support of particular agenda items.

The Secretary (Michel HUET, IHB) explained the provision of CHRIS/15 documents (Annex B), recalling that they were also available from the CHRIS page of the IHO website (www.iho.shom.fr). Lee ALEXANDER (HGMIO) was introduced and accepted as Rapporteur for the meeting. It was agreed that the Rapporteur and Vice Chair (Robert WARD, Australia) would produce a record of discussion for each day, which would be distributed the following day for comment and proposed amendment. This record would subsequently form the basis of the minutes of the meeting.

2. APPROVAL OF AGENDA

Doc: CHRIS15-2A rev.4 *Agenda (also Annex D)*

It was agreed that Agenda item 8 (*Liaison with Industry*) would be combined with Agenda item 4.2 (*Guidelines for Industry in Cooperating with IHO*). The amended agenda (Annex D) was then accepted by the meeting.

3. MATTERS ARISING FROM MINUTES OF 14TH CHRIS MEETING

Doc: CHRIS15-3A *Minutes of CHRIS/14*

The minutes of CHRIS/14 were accepted by the meeting without amendment or comment.

Doc: CHRIS15-3B *Status of Actions List from CHRIS/14*

The status of actions arising from CHRIS/14 was reviewed. Clarification on certain items was provided as follows:

Item #3 – Compilation scales for electronic chart databases (Canada)
Canada (Michel POULIN) reported that this issue would be discussed at the next meeting of the US-Canada Hydrographic Commission.

Item #4 – Enhancement of the use of data at small scales (USA-NIMA)
USA-NIMA (Rear Admiral Christian ANDREASEN) reported that NIMA would not be pursuing paper chart production further. As a consequence, no further action was intended.

Item #5 – Future work programme of CHRIS: Setting up a new sub-group of TAWG on Opportunities and Requirements
Canada (POULIN), representing the TAWG Chair, indicated that this had not occurred and was unlikely to be pursued since it was proposed that TAWG be disbanded (see Agenda item 6.3)

4. DECISIONS OF OTHER IHO BODIES AFFECTING CHRIS

4.1 WEND Committee

Doc: CHRIS15-4.1A *Decisions of the 7th WEND Meeting*

IHB (HUET) explained that the main outcome from the WEND/7 meeting was the establishment of a Task Group (chaired by Horst HECHT, Germany) to investigate how production and distribution of ENC data might be better effected. Hecht explained that this Task Group would actively follow-up the discussions made during the WEND meeting. Specifically to:

1. improve cooperation between data producers, concerning data consistency and uniformity;
2. increase interaction between data producers and users of ENC data; and
3. follow-up actions to achieve an integrated "one-stop service" (e.g., ENC and SENC).

Germany (HECHT) asked that CHRIS members encourage the involvement of IHO Member States and Regional Hydrographic Commissions in the work of the WEND Task Group.

USA-NIMA (ANDREASEN) commented that during a recent RTCM Conference, there was a proposal by an ECS chart manufacturer to try to standardize the 20 or so different ECS formats and distribution media. Harmonization of formats was most unlikely to be realized due to commercial considerations. At best, it was agreed to investigate the possibility of standardizing the distribution media. In this light, the standardization work of the IHO can be seen as highly successful.

In summary, the meeting took note of recent developments in WEND and, in particular, CHRIS supports the initiative to set up a WEND Task Group seeking to further develop ENC production and distribution.

4.2 SPWG - IHO / STAKEHOLDER LIAISON MECHANISMS

Note: this item was combined with agenda item 8 (see Section 2 above)

Doc: CHRIS15-4.2A	*Guidelines for Industry in Cooperating with IHO*
CHRIS15-4.2A Add	*IHO-Industry Liaison (Input to 3rd SPWG)*
CHRIS15-8A	*Report of Industry Workshops and Stakeholder Organizations*

Germany (HECHT) explained the background and basis for the establishment of Guidelines to be used and followed by Industry in co-operating with the IHO. HGMIO (ALEXANDER) asked if Maritime Administrations and Academia were included under the term "industry"? Germany (HECHT) expressed the view that Maritime Administrations are part of Government while Academia could be considered as invited experts. Canada (POULIN) felt that perhaps "stakeholders" would be a more all-inclusive term. He also felt that a "stakeholders" advisory board would benefit the IHO, adding that navigators and representatives of emerging clients in the ocean mapping and UNCLOS areas should also be considered.

UK (Christopher DRINKWATER) expressed some concerns that the term "industry" may be interpreted too narrowly. Any agreed term should include all interested parties. USA-USCG (Jim RADICE) wondered how would it be decided who could (or would be allowed to) participate? USA-NOAA (Dave ENABNIT) felt that academia should be considered separate from industry. USA (ANDREASEN) felt that a broad representation at the working level (not decision-making level) would be appropriate (e.g., like at IMO). Australia (WARD) believed that clarification was necessary on whether the proposed "Advisory Board" would be a single entity or a group of non-governmental organizations (NGOs)? He felt that obtaining a single view or position from a wide span of interests would be very unlikely.

Germany (HECHT) stressed that industry involvement should not be limited to ECDIS, but should include all aspects of hydrography. Currently, it is difficult for the IHO to obtain a common position from "industry". He expressed the view that the establishment of an advisory group would aid in the formulation of positions and facilitate more formal input/submission into IHO.

The Chair summarized and noted that it was preferable to work out firstly what the "Industry Advisory Board" concept is meant to achieve; rather than what might be the most appropriate organizational arrangement to achieve it.

It was agreed that a task group 1 (TG1) would be convened later in the meeting to determine the roles, functions and qualifications that IHO wishes the external liaison function to fulfil. These would be in the form of guidelines, expressing the roles, functions and eligibility criteria for participants.

Regarding the four items listed in Para. 7 of the tabled proposal (CHRIS15-4.2A Add), i.e. tasks for the "Industry Advisory Board", there were some additional suggestions for inclusion:

- capacity building; and
- new maritime/navigational practices.

Australia (WARD) suggested that the existing IMO arrangements for the recognition, roles and functions of NGO's might be a useful reference in determining what should be the roles, functions and qualifying criteria for those organisations that contribute to the "industry liaison" role in IHO.

CIRM (Michael RAMBAULT) stated that since there are significant differences of opinion within and between industry and users, that one NGO advisory group would not work. USA-NIMA (ANDREASEN) supported this view.

The Chair wondered if this was really a matter for CHRIS to attempt to resolve. Australia (WARD) suggested that a way forward could be for a sub-group to:

1. determine the roles and functions that the external liaison should fulfil;
2. avoid determining a specific organizational model.

He added that the agreed roles, functions and qualifications for the external liaison could then be presented to the IHO-Industry Days, on the following week, to seek opinions on a suitable organizational model (either a single entity "Industry Advisory Board" or a collection of accredited NGO's). Australia's proposal was agreed.

The discussion then turned to what might be an appropriate term to describe "Industry", that encompassed the wide range of potential non-MS inputs to the IHO. UK (DRINKWATER) reiterated that the "Advisory Group" should be broad to include all possible interests. Germany (HECHT) felt that "industry" is anything that is non-governmental. Australia (WARD) felt that "industry" is not the proper word and UK (DRINKWATER) suggested that "external" advisory board might be appropriate.

TG1 worked for the majority of the 3rd day in completing its assigned tasks. A draft report was circulated for consideration overnight. On the 4th day, Chairman TG1 (ENABNIT) presented a proposal / discussion document on liaison mechanisms and guidelines for accredited organisations, developed during the meeting, for consideration and further development by SPWG. IHB (MARATOS) commented that it is the intent of IHB to reach consensus on the appropriate role of NGOs within IHO. In this regard, the input of both SPWG and CHRIS is important. The paper / discussion document was reviewed, discussed and amended by CHRIS.

The respective merits of organisational models 1 (One single advisory board) and 2 (collection of NGOs) were discussed (see Section 6 of Annex E). The majority of CHRIS/15 attendees favoured model 2. However, Denmark (Arne NIELSEN) suggested that perhaps "industry" should indicate which model they prefer without being influenced by an IHO position. The Chair then proposed that both models be presented to the IHO-Industry Days without indicating a preferred CHRIS position. This was agreed.

Several members expressed concern over the term "Industry". It was determined that "Accredited Organisations" was more appropriate.

The Chair pointed out that the text under consideration was meant to be a guide, expressing the main principles to be followed in recognising and enabling participation by non-IHO organisations and bodies in IHO work, and would require further refinement by SPWG.

Outcome:

- CHRIS/15 finalised a proposal / discussion document on liaison mechanisms and guidelines for Accredited Organisations for consideration and further development by SPWG (see **Annex E**).

- The majority of CHRIS/15 attendees expressed preference for organisational model #2 depicted in the paper at Annex E, but agreed that this preference should not be reflected in the documentation presented to the "Industry Days", so as not to prejudice further discussion.

5. WORK OF CHRIS

Doc: CHRIS15-5A rev.1 *Consolidated CHRIS Work Plan*

The Chair asked for comments on the format and content of the proposed CHRIS Work Plan. Sweden (Göran NORDSTROM) felt that the proposed work plan is a useful document. Germany (Johannes MELLES) considered that the addition of Gantt charts would be helpful in illustrating and monitoring progress. Canada (POULIN) suggested there should be better linkages to the IHO Strategic Plan. This would also be helpful for prioritisation and workload, which affect HO's participation and identification of what can be realistically achieved. USA-NIMA (ANDREASEN) described a process used in FIG whereby Chairs of the various WGs meet once a year to coordinate activities and the work programme.

The Chair said that it was his intention that, after each CHRIS meeting, an updated work plan would be distributed. Over time, improved linkages will be established with the IHO Strategic Plan. It might be useful to have annual work plan coordination meeting between all CHRIS WG Chairmen.

It was agreed that a task group 2 (TG2) would be convened later in the meeting to review and further develop the proposed work plan format and mechanism, taking into account the discussions.

TG2 worked *inter alia* on this issue on the 3rd day and a draft report was circulated for consideration overnight. On the 4th day, the Chairman of TG2 (BARBOR) presented the results of the TG2 work on the matter.

Outcome:

- CHRIS/15 adopted a revised template for the CHRIS Work Plan (see **Annex F**).

- The Chair of CHRIS and Chairs of WGs to compile a CHRIS Work Plan using the approved templates for inclusion with the minutes of the meeting (see **Annex F**).

Doc: CHRIS15-5B Instructions for submission of Proposals to CHRIS

The Chair explained that the proposal was intended to provide better structure in support of the work of CHRIS. Canada (POULIN) suggested that "resource requirements" to accomplish the proposal should also be described. USA-NOAA (ENABNIT) suggested that the name of the proposer be included in the format, and he felt that a seven-week submission timetable may be unrealistic.

Germany (HECHT) felt that, if a proposal did not strictly follow the proposed format, it should not be rejected. The guidelines should therefore be considered as generic. He also felt that a submission deadline should be treated as a separate issue. UK (DRINKWATER) felt that strong guidelines were needed (and should be adhered to), but that common sense must prevail.

Doc: CHRIS15-5B (Annex A) "Guidelines on the establishment of priorities in the work of CHRIS and subsidiary bodies".

Germany (HECHT) felt that there should be a distinction between priorities and sequence. Also, that priorities should be either high or low. UK (DRINKWATER) stated that in addition to assigning a priority rating, there might also need for ranking. Canada (POULIN) mentioned that at least two criteria should be considered: cost efficiencies for MS and client demand. Australia (WARD) cautioned that a consequence of assigning priorities in a three-tier system (HP, MP and LP) is that LP items will never get done.

Outcome:

- CHRIS/15 agreed that submission deadlines must be observed. However, WG Chairmen may exercise discretion to waive deadlines in exceptional circumstances. Furthermore, the Chair / secretary must distribute submissions as soon after receipt as practicable.

It was also agreed that TG2 would review and develop the proposed guidelines for establishing priorities and report back later in the meeting. TG2 worked on this issue on the 3rd day and a draft report was circulated for consideration overnight. On the 4th day, the Chairman of TG2 (BARBOR) presented the results of the TG2 work on the matter.

Outcome:

- CHRIS/15 adopted the revised Instructions for Submission of Proposals to CHRIS and CHRIS Subsidiary Bodies, including guidelines for establishing priorities (see **Annex G**).

Doc: CHRIS15-5C Changes to IHO Standards – Summary of Responses to CL 54/2002

IHB (HUET) explained that although there were 31 MS in favour of the proposal, out of 34 responses received, the proposed technical resolution failed to gain the required 50% majority of all MS, i.e. 36, according to the current IHO rules and procedures, and therefore cannot be adopted.

The Chair declared that there were two options to resolve the situation:

1. CHRIS could adopt and follow the proposed procedures and "methods of work";
2. The proposed procedures could be resubmitted for a second round of voting.

Australia (WARD) and Canada (POULIN) supported option #1, but considered that dissenting comments received in response to CL54/2002 should be considered and accommodated where possible. Greece (Alexis HADJIANTONIOU) expressed concern that some MS may object if CHRIS adopted such a course of action.

It was agreed that TG2 would review and develop the proposed procedure taking into account the comments received from dissenting MS for subsequent consideration and adoption by CHRIS/15. TG2 worked on this issue on the 3rd day and a draft report was circulated for consideration overnight. On the 4th day, the Chairman of TG2 (BARBOR) presented the results of the TG2 work on the matter.

Outcome:

- CHRIS/15 adopted *"Principles and Procedures for Making Changes to IHO Technical Standards Administered by CHRIS"* (see **Annex H**). Canada (POULIN) to develop templates for a "progress report" and "change note" and develop the accompanying flow chart to reflect the adopted text.

5.1 Printed ENCs

Doc: CHRIS15-5.1A Printed ENCs

USA-NOAA (ENABNIT) gave an overhead slide presentation on the matter. It was proposed that a paper chart be defined that can be made directly from an ENC and, therefore, to develop an IHO standard for a "printed ENC" that meets chart carriage regulations.

Finland (TiinaTUURNALA) pointed out that there are major differences between an ENC and a paper chart. She also wondered whether this would require an entirely new IHO standard. HGMIO (ALEXANDER) pointed out that it is actually the SENC (not the ENC) that is displayed on ECDIS, and that it is the mariner who decides what information is displayed for the task at hand. Australia (WARD) expressed strong reservations over the practical issues related to this proposal and the amount of effort involved in developing or amending the standards appropriately. CIRM (RAMBAULT) inquired if this would enable an "ECDIS with Print on Demand capability"? Germany (MELLES) stated that he was not in favour of the proposal in terms of the differences between the display of digital data and cartographic printing / content needed for paper charts. Also, using a product as a database is, in his view, counter-productive. Most HOs are looking more to a central database for production of multiple products. Canada (POULIN) stated that CHS is implementing a central database, but likes the idea of a "printed ENC" as it could be considered as a back-up arrangement for ECDIS. However, eventually each ship would likely customize a "printed ENC" in term of what is shown.

USA-NIMA (ANDREASEN) described the experience of NIMA working to develop a method to print paper charts from DNCs. He indicated that in his view a central database with text and notes is probably the way forward. Greece (HADJIANTONIOU) said that new types of paper charts could be produced from ENCs. Australia (WARD) asked what would be the differences between what could be printed from an ENC and what is currently required by the IHO Chart Specifications M-4? USA-NOAA (ENABNIT) answered by describing in general terms the areas where differences might occur, such as the application of textual notes. Germany (HECHT) felt that there could be benefit of producing back-up paper charts directly from an ECDIS onboard a vessel. UK (DRINKWATER) mentioned that TSMAD had considered this issue unofficially already, and felt that there were not sufficient resources to deal with it at this time.

Australia (WARD) proposed that CHRIS recognize the potential of this concept, but that more details / examples need to be provided for CHRIS to consider. It was agreed that USA-NOAA be requested to further refine its proposal, in particular by illustrating the likely derived chart output by

way of samples and examples. In doing this, CHRIS encourages the USA to approach industry to gather information and clarification in support of its proposal.

In response, USA-NOAA (ENABNIT) agreed that during the next six months, they would:

1. poll industry on this matter;
2. provide the best sample of what can be produced; and
3. invite industry to describe what may be needed, such as changing the paper chart or the ENC Product Specification, to support the concept.

Outcome:

- USA-NOAA to subsequently submit a more mature proposal for consideration by CHRIS at, or before CHRIS/16.

- In addition, industry should be asked to comment during the forthcoming IHO Industry Days.

5.2 ENC Consistency

Doc: CHRIS15-5.2A *Improving ENC Consistency*

The Chair introduced the above paper from IC-ENC, describing a number of inconsistencies between ENCs issued by various HOs, in terms of compilation scale, usage band assignment, use of the SCAMIN S-57 attribute, etc., which were causing confusion and dissatisfaction among users thereby threatening the viability and take-up of official ENCs, and proposing recommendations to achieve greater ENC consistency worldwide.

Canada (POULIN) supported the guidance provided in the tabled document, but would not support reopening S-57 ed3.1 for further development or enhancement. In particular, introducing new SCAMIN requirements would, in his view, be counter-productive. Chair TSMAD (DRINKWATER) commented that there is a difference between the "technical" aspects of the ENC Product Specification and the cartographic aspects, for example, contour intervals, scale, etc. The problems described in the paper are valid and need to be considered by TSMAD. Chair C&SMWG (Mathias JONAS, Germany) believed that these matters should be brought to the attention of ENC producers, but the recommendations in the above paper should be considered as guidance. Canada (POULIN) offered to provide their approach to SCAMIN as a starting point. Japan (Toru KAJIMURA) commented that the document is useful, but would be difficult to implement without significant recompilation of existing ENCs. Japan's higher priority is to make new ENCs, rather than re-editing or re-compiling ENCs already produced. USA-NIMA (ANDREASEN) said that the issues raised are fundamental problems, and that improvements are needed. Chile (Gonzalo VALLEJOS) said that anything that can be done to improve ENC data should be followed. Germany (MELLES) stated that any perception by mariners that official ENC data is unsuitable or unusable in ECDIS is a serious issue that must be addressed. Whilst not in favour of revising S-57 ed3.1, strong guidance must be provided to achieve harmonization and consistency in ENC production. Chair TSMAD (DRINKWATER) added that unless the guidance is followed, ENCs are unlikely to achieve their full potential.

The Chair summarized by saying that this is an important issue, and some form of action is therefore needed. Chair TSMAD (DRINKWATER) felt that all of these are issues for TSMAD and C&SMWG to address. Germany (HECHT) felt that these issues are also matters that RENCs and Regional Hydrographic Commissions must address in terms of quality assurance and consistency. Canada (POULIN) stated that many of these issues relate to "best practices" and that the CHRIS WG Chairs should be given some guidance on how to deal with them. Chile (VALLEJOS) suggested that the recommendations in CHRIS15-5.2A be put on the Open ECDIS Forum (OEF). Chair TSMAD (DRINKWATER) said that these should first be refined and proposed solutions developed before they were published widely on the IHO website and/or the OEF, and by IHB Circular Letter.

USA-NOAA (ENABNIT) wondered what would be the likely willingness of MS to implement the recommendations contained in the proposed CL. Chair TSMAD (DRINKWATER) responded that it would be hoped that the importance of this matter would be emphasized in the CL. IHB (BARBOR) also added that it was in the interest of all to ensure that consistent ENCs were being produced. USA-NOAA (ENABNIT) also inquired if there would be any implications for the ENC test dataset being used along with the IEC testing standard for ECDIS (IEC 61174)? Chair TSMAD (DRINKWATER) indicated that there would be no implication.

Canada (POULIN) inquired if there would be any implementation guidelines that would be provided with the CL (for example, to identify the benefits and consequences). TSMAD (DRINKWATER) emphasized that the primary intent was to bring these matters to the attention of MS, and that decisions on implementation were up to MS.

Outcome:

-CHRIS/15 agreed that the *"Recommendations for improving ENC Consistency"*, as in CHRIS15-5.2A, required detailed technical consideration and clarification by TSMAD and C&SMWG as appropriate. CHRIS/15 further agreed that in the interests of achieving a timely result, TSMAD and C&SMWG were empowered to review the recommendations and formulate and adopt appropriate instructions to enable them to be implemented. In doing so, the proposals, developments and subsequent results should be widely promulgated within IHO to encourage the widest participation of MS.

-In particular, activities referred to in that paper intended to refine these recommendations should be completed to enable their review and adoption at the next TSMAD meeting. Following their adoption, the recommendations are to be made available on the IHO Encoding Bulletin web page. At the same time, a CL drawing attention to their existence and importance is to be issued. It was noted that a number of the recommendations related to colours and symbols activity have already been addressed by C&SMWG.

5.3 Harmonizing ENC/S-57 and DNC/DIGEST

Doc: CHRIS15-5.3A Interoperability through Hydrographic Standards Harmonization

IHB (BARBOR) introduced the above paper and provided a brief background on the effort to harmonize S-57 and DIGEST. USA-NIMA and UKHO commissioned the Canadian company IDON Technologies Inc. to provide a report on the main differences between S-57 and DIGEST and what could be accomplished – near and far term. USA-NIMA (ANDREASEN) stated that he had reviewed the report, and noted that some of the findings and conclusions were inaccurate or not based on current information; nevertheless UKHO and USA-NIMA were not likely to ask that the report be revised, particularly as NIMA was now beginning design of DNC2. He further explained that development of DNC2 is in progress. It is planned to employ SCAMIN, grids, geo-referenced NIMA information, weapons systems integration, etc. USA Department of Defence intends to utilize international standards and commonly adopted commercial standards where appropriate. He considers NATO standards, e.g. DIGEST, to be regional standards as opposed to international standards.

UK (DRINKWATER) mentioned that there is also an ongoing effort to align both DIGEST and S-57 with ISO/TC211 standards.

Germany (HECHT) inquired if there should be an overall objective to achieve harmonization and interoperability between ENC and DNC. USA-NIMA (ANDREASEN) noted that the IDON study purposes harmonisation at the data level rather than harmonising ENC and DNC. As IHO and NATO extend attribution to satisfy the requirements for military, navigation and environmental purposes (e.g., operational considerations), it is very important that coding be harmonised. NIMA is negotiating to acquire S-57 data (not just ENCs) for translation into DNC. As such, further

harmonization of data standards would be of benefit. Canada (POULIN) wondered if there would be a pilot project for this? USA-NIMA (ANDREASEN) responded that there are ongoing efforts on this.

Australia (WARD) considered that the IDON report need not be dealt with by CHRIS, and should not be added to the work program with TSMAD. However, continued liaison and efforts at harmonization of S-57 with DIGEST would be of benefit. IHB (BARBOR) and Germany (HECHT) agreed with Australia.

Germany (HECHT) suggested that a goal should be that S-57 ed4.0 be interoperable (in other words, translatable) with DNC. For instance, there should be compatible object catalogues. Chair TSMAD (DRINKWATER) responded that both S-57 and DIGEST are moving toward ISO/TC211 standards and that this is the common factor that will ensure a level of interoperability. However, this process will not be easy. USA-NIMA (ANDREASEN) pointed out that all organizations are resource constrained and are limited in terms of what can be accomplished; therefore to set a specific goal of complete interoperability was, in his view, unrealistic.

Outcome:

- CHRIS/15 decided that TSMAD evaluation of the IDON report was not warranted.

- CHRIS/15 encouraged the continued liaison and monitoring of IHO (S-57) / DGIWG (DIGEST) harmonisation as part of ongoing activities. The Meeting took note that this was being done as part of S-57 ed4.0 development activities and agreed that there was therefore no need for a specific TSMAD work item for S-57 / DIGEST harmonization.

5.4 Depiction of ESSA, PSSA and ATBA

Doc: CHRIS15-5.4A *Depiction of ESSA, PSSA and ATBA*

Australia (WARD) introduced the proposal for specific new work items covering the depiction of Environmentally Sensitive Sea Areas (ESSA), Particularly Sensitive Sea Areas (PSSA) and Areas To Be Avoided (ATBA) in paper charts and ECDIS, further highlighting the need for greater liaison between CSPCWG, C&SMWG and TSMAD to avoid the presentation inconsistencies and incompatibilities existing at present. Chair CSPCWG (Peter JONES, UK) explained that this matter was initially given to the former CSC, but although action was well advanced, it was incomplete. C&SMWG (JONAS) supported the Australian proposal and indicated that C&SMWG should be involved. France (Jean-Louis BOUET-LEBOEUF) also supported the Australian proposal. Chair TSMAD (DRINKWATER) agreed that the interim solution is not satisfactory but cautioned that, since S-57 is "frozen", a requirement to "do new things" is an issue that would require careful consideration.

Outcome:

- CHRIS/15 agreed to the proposed work items. TSMAD, C&SMWG and CSPCWG to undertake the tasks as proposed.

5.5. Print on Demand

Doc: CHRIS15-5.5A *Print on Demand Nautical Charts*

USA-NOAA (ENABNIT) provided a brief overview on this issue. It was proposed that a standard for the exchange of digital printing files be established to support such shared printing, and to support the exchange of digital repromats. he further noted that the proposal requested that in addition to TSMAD dealing with digital repromats, they also look at developing a digital standard for Print on Demand.

Outcome:

- There was no support for this proposal. It was not adopted.

5.6 New International Chart Symbols

Doc: CHRIS15-5.6A *Requirement for New International Chart Symbols*

Denmark (Jan WALSETH) introduced the proposal, highlighting the urgent need for symbology to depict offshore wind farms, and ATBAs where activities are "not advisable". Sweden (NORDSTROM) and Norway (Odd BREIVIK) supported the proposal. Chairs CSPCWG (JONES) and C&SMWG (JONAS) both agreed that this would need to be considered by their WGs.

Australia (Ward) then posed a philosophical question: Should the development of electronic chart symbology take priority over paper chart symbology development? Chair C&SMWG (JONAS) believed that increasingly close cooperation between the relevant WGs is necessary, further noting that the symbology on a computer screen may not be able to imitate what appears on a paper chart. France (BOUET-LEBOEUF) believed that both are important, and must be done concurrently. Chile (VALLEJOS) explained that, as most ENCs are based on paper charts, paper chart symbology should continue to take precedence.

Outcome:

- CHRIS/15 tasked CSPCWG to develop symbology based on the proposal, in consultation with C&SMWG and TSMAD.

- CHRIS/15 acknowledged that priorities must inevitably change in the future. However, current arrangements should reflect an equal consideration of impacts on both paper charts and ECDIS before new chart symbology is adopted. It was agreed that, if the Chairs of the relevant WGs are ever in doubt, then liaison must occur.

6. REPORTS BY CHRIS WORKING GROUPS

6.1 Transfer Standard Maintenance and Applications Development (TSMAD)

Doc: CHRIS15-6.1A *Report by TSMAD*

Chair TSMAD (DRINKWATER) highlighted the major points in his report. Two former sections of S-57 ed3.1, "IHO Codes for Producing Agencies" and "Recommended ENC Validation Checks" have been published as separate IHO Publications S-62 and S-58, respectively. Two new services on "Frequently Asked Questions" and "S-57 Encoding Bulletins" have been launched on the IHO web-site. It is proposed that MS' views be sought on agreeing a date beyond which ed3.0 ENCs would no longer be produced or used. S-57 ed4.0 is under development with the aim to increase the types of data which S-57 can handle (e.g. matrix data, raster data, 3D data and time varying data) and to harmonise S-57 with the ISO/TC211 geo-spatial standards. Ed4.0 development is progressed through specialized work items, e.g. Registry / Object Catalogue, ENC Product Specification, Raster and Matrix Data Model, etc. It is proposed to have an additional work item on Paper Chart Production.

France (BOUET-LEBOEUF), as Chair of MBSHC, read a statement requesting that no further changes to S-57 ed3.1 occur for at least 4-5years. Chair TSMAD (DRINKWATER) replied that ed3.1 would stay in effect for the foreseeable future for ENC purposes, even after ed4.0 is published, and that a CL advising MS that S-57 ed4.0 would not be introduce before 2006 at the earliest (2004 is

nominated in the existing IHO work programme) will be issued. IHB (MARATOS) suggested that a clear explanation of the status of ed3.0 / ed3.1 and the future e 4.0 be included in a CL so as to avoid further confusion.

USA-NAVO (Maxim Van NORDEN) inquired on the relationship between Work Item 2.7 "Bathymetric Data Product Specification" and the IHO standard S-44 "Specifications for Hydrographic Surveys"? Chair TSMAD (DRINKWATER) answered that the full scope of the term "Bathymetric Data Content" is not know in sufficient detail at this time. IHB (HUET) provided the history to this work item indicating that it emanated from a request from the S-44 WG. IHB (MARATOS) pointed out that the S-44 WG is now dormant.

Germany (HECHT) asked if it would be appropriate to comment on the draft CHRIS work plan related to TSMAD? The Chair responded that this would be premature as this work plan is only an example and is not yet finalized. Chair TSMAD (DRINKWATER) commented on the proposed work Items (2.1 to 2.8), noting that not all items are of equal priority. Canada (POULIN) observed that Canada already has a demand for 3-D charts and therefore there was justification for the relevant work item.

Outcome:

- CHRIS/15 agreed that Member States' views would be sought via IHB CL on agreeing a date beyond which ENCs conforming to the S-57 Edition 3.0 ENC Product Specification will no longer be produced or used. The CL should reiterate the status of S57 ed3.0, ed3.1 and ed4.0.

- CHRIS/15 tasked TSMAD with a new work item 2.9 *"Edition 4.0 - Paper Chart Production"*. Not a high priority item.

- CHRIS/15 agreed that a realistic introduction date for S-57 ed4.0 is now 2006 at the earliest (2004 is nominated in the IHO work programme).

- CHRIS/15 agreed that an IHB CL should inform MS that this delayed introduction of S-57 ed4.0 impacts on the approved IHO work programme. The CL should avoid the need to express a vote.

- CHRIS/15 agreed that Work Item 2.7 *"Bathymetric / Hydrographic Data Product / Content Specification"* should concentrate on defining the hydrographic survey content and a supporting content model.

- CHRIS/15 endorsed the TSMAD report.

It was agreed that TG2 would prepare appropriate drafts for the Circular Letters referred to in the 1st and 4th bullets above. TG2 worked on this issue on the 3rd day and a draft report was circulated for consideration overnight. On the 4th day, the Chairman of TG2 (BARBOR) presented the results of the TG2 work on the matter.

Outcome:

- CHRIS/15 agreed a text for an IHO CL concerning expiration of validity for S-57 ed3.0 ENCs (see **Annex I**).

- CHRIS/15 agreed a text for an IHO CL announcing a delayed introduction date for S-57 ed4.0 and consequent requirement to amend the IHO Work Programme (see **Annex I**).

Doc: CHRIS15-6.1B TSMAD Chairmanship

IHB (HUET) stated that only one person had been formally nominated for TSMAD Chairmanship: Mr. Michael BROWN (USA-NOAA).

Germany (HECHT), Sweden (NORDSTROM), France (BOUET-LEBOEUF) and the Chair all expressed thanks to Dr. Chris DRINKWATER for his outstanding contribution as Chair, TSMAD (and previous WGs) during the entire S-57 process (at least 14 years).

Outcome:

- CHRIS/15 endorsed the selection of Mr Michael BROWN (USA) as the Chair-elect of TSMAD.

- CHRIS/15 overwhelmingly thanked Dr. Chris DRINKWATER, as outgoing Chair of TSMAD, for his contribution to the development of electronic charting and associated data standards over at least the last 14 years.

6.2 Colours and Symbols Maintenance (C&SMWG)

Doc: CHRIS15-6.2A *Report of C&SMWG*

Chair C&SMWG (JONAS) provided a brief overview of his report. The final draft of the IHO Presentation Library ed.3.3 is near completion, and expected to be issued in October 2003. It is suggested that this could become mandatory for new equipment in 2005. He stated his intention to discuss this further at the IHO Industry Days. He also introduced options regarding how the affected parties should be informed of the changes. IHB (MARATOS) agreed to raise a CL to MS on this matter. Subsequently, the IHO should be informed of the changes. Chair C&SMWG (JONAS) reminded that there was also an issue related to Base and Standard display that should also be communicated to IMO at the same time.

Germany (Hecht) considered that SOLAS V assumes that the latest version of standards must be used. This can be confirmed by reference to IMO legal committee ruling of August 1999. As a result, it is not necessary for IMO to "approve" a revised version of the S-52 Presentation Library. USA-NIMA (ANDREASEN) agreed with Germany. CIRM (RAMBAULT) felt that the issue is more for existing equipment. Australia (WARD) suggested that the overriding issue is determining the mechanism for informing the maritime community that a change to IHO standards has been made. He also wondered what might happen if the required number of IHO MS responses prevented the new changes from taking effect. He suggested that the Chairs of the RHCs should be involved in any required follow-up voting action.

USA-NOAA (ENABNIT) asked that, once the PL ed3.3 is in effect, if the previous edition of the PL would be revoked? Chair C&SMWG (JONAS) replied that this is more a policy and regulatory matter. Canada (POULIN) suggested that promulgation of the benefits of the new PL ed3.3 might be useful. Chair C&SMWG (JONAS) commented that the PL 3.3 is a refinement of current specifications, but not a complete revision. To the ECDIS user, there will be limited impact of what is seen.

Outcome:

- CHRIS/15 endorsed the recommendation to declare the new edition of the S-52 Presentation Library valid as soon as possible (planned October 2003). This will mean that all new ECDIS type approved after that date should employ the revised PL, which will be mandatory for all ECDIS sold after 2005.

- IHB to inform MS of the proposed changes ; and to inform IMO of the changes to the supporting (footnote reference) standards to the ECDIS PS.

Chair C&SMWG (JONAS) explained the proposal to reduce and simplify S-52. USA-NIMA (ANDREASEN) considered that App. 3 "Glossary of ECDIS-related Terms" should be transferred to the IHO dictionary S-32. Meanwhile, App.1 "Guidelines on ENC Updating" could probably be considerably reduced in volume. Germany (HECHT) agreed with the USA-NIMA proposal, indicating that it was inappropriate to expect IMO to take charge of any parts of S-52. Relevant information in

the S-52 main document "Specifications for Chart Content and Display Aspects of ECDIS" should be moved to App. 2 "Colours and Symbols Specifications for ECDIS". Chair C&SMWG (JONAS) agreed with Germany, also pointing out that there are operational aspects in App. 1 that are no longer relevant. More important is to retain the display aspects in S-52 and data in S-57. Germany (HECHT) also pointed out that, if there are operational requirements that are regulatory, they should not be part of S-52 or IHO specifications in any case. UK (DRINKWATER) supported the views that App.1 and App. 3 should not be transferred to IMO.

USA-NIMA (ANDREASEN) offered to work on reducing App. 1 to retain only the relevant portions. Chair C&SMWG (JONAS) will work on re-shaping App. 2 to become the main document. UK (DRINKWATER) suggested that there might be a need to establish a small ad hoc WG to deal with this matter. ANDREASEN, HECHT, JONAS, DRINKWATER, POULIN, and ALEXANDER agreed to be part of this ad hoc WG.

Outcome:

- CHRIS/15 tasked the ad hoc WG to review S-52, i.e. the main part, App.1, App.2 and App.3, with a view to reducing its scope and volume, particularly by removing "operational" aspects for updating and by transferring the Glossary on ECDIS-related Terms (App.3) into the IHO Hydrographic Dictionary (S-32). USA-NIMA (ANDREASEN) and Chair C&SMWG (Jonas) to review specifically App.1 and App.2, respectively. The results will be presented to CHRIS/16 for consideration.

- CHRIS/15 tasked C&SMWG with a new work item to align the presentation library with ISO 19117.

Chair C&SMWG (JONAS) sought the Meeting's views on whether the display of 3-D bathymetry required work by IHO.

USA-USCG (RADICE) pointed out that considerable funding has already been spent on developing a grid structure. Canada (POULIN) suggested that it is the integrity of the data, not the display, that is the more important issue for IHO. There are also other uses in addition to navigation. USA-NOAA (ENABNIT) considered that some of the original concerns that pertained to ECDIS might apply to 3-D bathymetry as well. For instance, mariners could misunderstand 3-D depth exaggeration. Some form of guidance or specifications would be useful to "guide" both development and use of bathymetric data. UK (DRINKWATER) considered that IHO could look into what commercial applications are available, and then advise MS.

The Chair asked for comment on what level of CHRIS involvement is appropriate. Denmark (NIELSEN) pointed out that private companies are more interested in accessing standardised data, rather than having IHO specify how it should be used or displayed. As such, he would be reluctant to see CHRIS become actively involved. Any standardization work should be strictly limited to supporting navigation safety.

Outcome:

- CHRIS/15 agreed that IHO currently has neither the skills nor resources to deal with the display of 3-D bathymetry. In any event, the role of CHRIS is to contribute to ensuring the integrity and quality of contributing data rather than its presentation in 3-D or in other allied forms of presentation. No action is warranted at this time, given the limited amount of information available, but it may be necessary to define some minimum performance standards for 3-D visualisation for navigation in the future.

- CHRIS/15 endorsed the C&SMWG report.

6.3 Technology Assessment (TAWG)

Doc: CHRIS15-6.3A *Report of TAWG*
CHRIS15-6.3B *Proposal to Disband TAWG*

Canada (POULIN) briefly summarized the two reports. TAWG has been monitoring the development of Version 1 of the IHO ENC Security Scheme (to be published as S-63) through its Data Protection Scheme Advisory Group (DPSAG). A Print on Demand (PoD) interest group has been formed on the OEF. A discussion group is also being formed for e-Commerce. It was proposed to take the opportunity of the resignation of the current Chair, Mr. Michael CASEY (Canada), to disband the TAWG.

Germany (Hecht) and UK (DRINKWATER) commended Canada for its work, and in particular the efforts of Mike CASEY. However, there are some issues that require ongoing attention.

Outcome:

- CHRIS/15 agreed that Version 1 of the IHO security scheme shall be frozen for two years. IHB to inform MS by CL.

- CHRIS/15 agreed to disband TAWG and to relocate the Data Protection Scheme Advisory Group (DPSAG) as a WG reporting directly to CHRIS, i.e. Data Protection Scheme Working Group (DPSWG).

- CHRIS/15 agreed that e-Commerce and PoD interests groups should continue on the OEF as at present.

- CHRIS/15 endorsed the TAWG report.

It was also agreed that TG2 would review and amend the DPSAG Work Directive to form new ToRs for DPSWG. TG2 worked on this issue on the 3^{d} day and a draft report was circulated for consideration overnight. On the 4th day, the Chairman of TG2 (BARBOR) presented the results of the TG2 work on the matter.

Outcome:

- CHRIS/15 adopted revised Terms of Reference for the Data Protection Scheme Advisory Group, to be renamed Data Protection Working Group (DPSWG), appointing DPSWG as a subsidiary body to CHRIS rather than to TAWG (see **Annex J**).

6.4 Standardisation of Nautical Publications (SNPWG)

Doc: CHRIS15-6.4A *Report of SNPWG*

Chair SNPWG (MELLES) provided a brief overview. SNPWG met at the BSH, Hamburg, Germany, on 2-4 June 2003, under its new Terms of Reference whereby the WG is to develop guidelines for the preparation of nautical publications of type NP-3 (digital format compatible with ECDIS).

USA-NOAA (ENABNIT) inquired about the relationship between NP-2 (Digital Nautical Publications) and NP-3 (Nautical Publications for ECDIS), and whether there would have to be a need for two production lines. Chair SNPWG (MELLES) responded that ideally, only one database would be required to produce both NP-2 and NP-3. USA-NIMA (ANDREASEN) expressed some concern about over-specification. Sweden (NORDSTROM) expressed satisfaction with the initial work, and mentioned that there is an effort to put all information into ENCs.

Outcome:

- CHRIS/15 approved proposed amendments to SNPWG ToRs (see **Annex K**).

- CHRIS/15 agreed that there was no need to seek IMO clarification on the use of digital / ECDIS based publications since SOLAS V Regulations 2, 19 and 27 already covers this.

- CHRIS/15 agreed that MS be encouraged to participate in SNPWG.

- CHRIS/15 endorsed the SNPWG report.

Doc: CHRIS15-6.4B rev.1 *NP2 Publications - Summary of Responses to CL 54/2002 (Annex G)*

The meeting took note of this document. No further action is required.

6.5 Chart Standardization and Paper Chart WG (CSPCWG)

Doc: CHRIS15-6.5A *Report by CSPCWG*

Chair CSPCWG (Peter JONES) provided a brief overview. CSPCWG draft work plan includes revision of the IHO Chart Specifications M4, study for International Notices to Mariners, and developing new symbology for Archipelagic Sea Lanes (ASL), Vessel Traffic Services (VTS) and Environmentally Sensitive Sea Areas (ESSA). As this is in effect a resurrection of the former IHO Chart Standardization Committee (CSC) work, the WG work plan is tentative at this stage.

France (BOUET-LEBOEUF) expressed gratitude to Dr. Peter Cox (UK) for his previous work as Chair of CSC. Netherlands (Erwin WORMGOOR), referring to work item 3.2.2 "Study for International Notices to Mariners" of CHRIS15-6.5A, enquired whether SNPWG is still the most appropriate WG to address this item. France (BOUET-LEBOEUF) indicated that he was originally tasked to review the requirement as part of CSC. Chair CSPCWG (JONES) replied that, as this was previously CSC work, CSPCWG would take this item, thereby amending the statement made in the CSPCWG report. Germany (JONAS) expressed concern about the future of paper charts particularly in comparison to the growing importance of electronic charts.

Outcome:

- CHRIS/15 acknowledged the work of Dr Peter COX, Mrs Elizabeth DUNN and Ing en chef Jean-Louis BOUET LEBOEUF as respective Chair, Secretary and Vice-Chair of the former IHO Chart Standardization Committee (CSC).

- CHRIS/15 tasked CSPCWG to review the requirement for the standardisation of International Notices to Mariners (see work item 3.2.2 in CHRIS15-6.5A).

- CHRIS/15 endorsed the CSPCWG report.

In addition, the Chair of CHRIS thanked all those MS who provide WG Chairs and participants.

7. ENC SECURITY SCHEME

Doc: CHRIS15-7B *IHO ENC Security Scheme*

IHB (HUET) reported that paper CHRIS15-7A was not submitted. Referring to CHRIS15-7B, he provided a brief background and update on the IHO security scheme. At the end of 2002, MS approved that the Primar Security Scheme be made Version 1 of the IHO Recommended Security

Scheme for ENC (RSS) and that the role as Security Scheme Administrator be transferred to the IHB. Description of the IHO RSS will appear in IHO Publication S-63, to be issued within a few months. S-63 will include the documentation describing the Standard and two appendices containing associated test data sets and software kernel.

IEC (RAMBAULT) asked if it was intended that the ENC Test Dataset was to include an encrypted version. Germany (JONAS) responded that BSH is currently trying to obtain copies of the security schemes used by Primar-Stavanger and IC-ENC. IHB (HUET and PHARAOH) stated that S-63 will include a test dataset, for implementation. However, it is not certain whether this would be suitable for purposes of type approval. Australia (WARD) expressed concerns about testing the implementation of the security scheme. In particular, the primary concern is integrity of the implementation. It is not clear to Australia if this is to be performed by IHO or test houses. IEC (RAMBAULT) stated that suitable test procedures would be included in the next edition, ed3, of IEC 61174.

Outcome:

- CHRIS took note of the report and extended thanks to Primar-Stavanger, UKHO and CHS for their involvement in effecting the IHO ENC Security Scheme and the production of S-63.

8. LIAISON WITH INDUSTRY

See Section 4.2

9. VECTOR DATA DEVELOPMENT

9.1 RENCs

Doc: CHRIS15-9.1A PRIMAR-Stavanger Status Report
CHRIS15-9.1B IC-ENC Status Report

Canada (POULIN) clarified that contrary to what is said in the IC-ENC report, CHS is not distributing encrypted ENCs. Germany (JONAS) reported that India has recently become member of IC-ENC

Doc: CHRIS15-9.1C MBS Virtual RENC Status Report

Italy (Massimiliano NANNINI) provided a brief overview of progress with the Mediterranean and Black Seas virtual RENC. Implementation of the ENC's distribution network for the VRENC North Adriatic Pilot project (Italy, Slovenia and Croatia) is planned for October 2003. Also, the MEDCHARTNET project, funded by the European Union, aims at providing a Regional (Mediterranean) Network and policy infrastructure, interconnecting Mediterranean Hydrographic Offices and Distribution Outlets, for the exchange and dissemination of hydrographic information.

Outcome:

- CHRIS/15 took note of the reports from Primar-Stavanger, IC-ENC and Italy on behalf of the MBSHC, and congratulates MBSHC on the progress made in ENC production.

9.2. ENC Development and Coverage

Doc: CHRIS15-9.2A Report of WEND Study on ENC Coverage

IHB (HUET and PHARAOH) gave a brief overview and demonstration of the ENC coverage diagrams on the IHO website (www.iho.shom.fr) .

France (BOUET-LEBOEUF) stated that the ENC Coverage diagram does not indicate, in some places, e.g. Indian Ocean, and for a few charts, from which HOs or RENCs the ENC data was produced or can be obtained. IHB (HUET) answered that this anomaly was known to the IHB and would soon be corrected. He also explained the colour scheme used to indicate the status of what was produced, available, or validated. Chile (VALLEJOS) sought details of the format (graphic or textual) that HOs should use to submit their ENC production information to IHO. IHB (PHARAOH) replied that IHB would shortly issue a CL providing this information.

Outcome:

- CHRIS/15 took note of the report and encouraged MS to provide up to date ENC coverage information on the IHO website.

Doc: CHRIS15-9.2B Assistance in ENC Production

Outcome:

- CHRIS/15 took note of the results of the questionnaire on ENC assistance presented to WEND/7 and expressed support for the WEND/7 action for the IHB to issue a CL to match donors with requests for assistance in ENC production.

Doc: CHRIS15-9.2C National Reports on ENC Development

Finland (Juha KORHONEN) reported that from the beginning of 2003, Finland has been producing ENCs and paper charts from one common data base. Greece (HADJIANTONIOU) provided a Powerpoint presentation illustrating the planned ENC production for Greek waters, in partnership with the private sector. Netherlands (WORMGOOR) announced that Netherlands will produce additional ENCs in the MACHC (Caribbean) region. USA-NOAA (ENABNIT) provided additional information about the number and types of users of ENC data in USA.

Outcome:

- CHRIS/15 took note of the ENC production status reports and congratulated Greece on the significant progress made over the past two years.

9.3 DNC Development

Doc: CHRIS15-9.3A Report on DNC Development

Outcome:

- CHRIS/15 took note of the DNC production status report.

9.4 Inland ECDIS

Doc: CHRIS15-9.4A North American / European Inland ECDIS Workshop

Outcome:

- CHRIS/15 took note of the inland ECDIS reports and the planned harmonization workshop to be held shortly.

10. RASTER DATA DEVELOPMENT

10.1 RCDS Mode of ECDIS

Doc: CHRIS15-10.1A Legal Status of Raster Chart Display System Mode of ECDIS

USA-NOAA (ENABNIT) provided a brief introduction to this proposal. Use of ECDIS in the RCDS mode is subject to certain extra restrictions. Experience by mariners with raster charts show that these restrictions are unnecessary. It is proposed that IHO submit an item for the IMO's Maritime Safety Committee recommending amendments to the ECDIS Performance Standard to remove the extra requirements on the RCDS mode of operation.

Canada (POULIN) expressed in principle support for the proposals but only for certain types of coastal navigation. Sweden (NORDSTROM) stated that advice from the Swedish Maritime Agency did not support the proposals and would adversely affect the use of ENC data. Norway (BREIVIK) considered that opening up discussion on this topic would further slow the progress in ENC production. Australia (WARD) supported the logic and reasoning behind the proposal, but expressed concern over the effect of giving RNCs the same status as ENCs as it might be detrimental to ENC production. Of even greater concern was the prospect of reopening a particularly contentious issue at IMO, when MS remain as divided as ever. This would result in considerable acrimony and would inevitable reflect badly on IHO. UK (DRINKWATER) expressed similar views to Australia with respect to IMO involvement. Greece (HADJIANTONIOU) expressed similar views. Chile (VALLEJOS) agreed with arguments expressed by Australia and UK.

IHB (MARATOS) AND CIRM (RAMBAUT) explained the steps and timeframe (6 years) that would likely be involved if this process were initiated.

The Chair summarized by acknowledging the logic in the proposal, but considered that reopening debate at IMO would be detrimental to IHO and most likely would be inconclusive.

Outcome:

- CHRIS/15 did not support the proposal from USA-NOAA.

11. MARINE INFORMATION OBJECTS (MIO)

Doc: CHRIS15-11A Report of HGMIO

Outcome:

- CHRIS/15 took note of the report.

12. PROJECTS OF INTEREST TO CHRIS (SHARED OR MACHC)

Doc: CHRIS15-12A *SHARED Status Report*
CHRIS15-12B *MesoAmerican-Caribbean Sea Hydrographic Commission Electronic Chart Working Group – Status Report*

Outcome:

- CHRIS/15 took note of the reports and congratulated the relevant groups on their continued activities.

13. OPEN ECDIS FORUM

Doc: CHRIS15-13A *Report on OEF Activities.*

Outcome:

- CHRIS/15 took note of the report and extended thanks to the University of New Hampshire as host of the supporting website.

14. LIAISON WITH OTHER GROUPS

Doc: CHRIS15-14.1A *Report on ISO/TC211*

IHB (PHARAOH) provided a brief summary of the report, in particular noting the pending cooperative agreement between ISO and IHO on standard development.

Outcome:

- CHRIS/15 took note of the report.

15. OTHER BUSINESS

Doc: CHRIS15-15.1A *Electronic Charts – Legal Status*

Chairs of CHRIS and TSMAD (authors) gave a brief summary. This document is considered to be quite useful. After minor editing, it will be circulated by IHB.

Outcome:

- CHRIS/15 agreed that consequent to minor editorial amendments (see revised wording at **Annex L**), the text of the paper should be published on the IHO website in English, Spanish and French for public reference.

IHB (BARBOR) reported that IHB had received from Norway the SENC distribution specifications used by Primar-Stavanger which were now available for MS' reference.

Netherlands (WORMGOOR) suggested that USA and Canada, in the follow up on outstanding action from CHRIS14 on compilation scale for EC databases (see above Section 3, Item #3), take note of ENC consistency document CHRIS15-5.2A and the outcomes of the next TSMAD Meeting (October 2003).

Outcome:

- CHRIS/15 agreed that when Canada and the USA discuss compilation scale, it would be useful to consider also the ENC consistency principles (CHRIS15-5.2A) and the outcomes of the October 2003 TSMAD Meeting.

Australia (WARD) described the 3rd Shallow Water Survey Conference (www.dsto.defence.gov.au/corporate/conferences/swsurvey) planned for November 2003 and encouraged participation.

16. DATE AND LOCATION OF NEXT MEETING

Canada (POULIN) and Germany (JONAS) offered to host the next meeting. After discussion, it was considered beneficial to hold the next meeting in conjunction with the Canadian Hydrographic Conference in Ottawa in late May 2004. The subsequent meeting in 2005 would be held in Rostock, Germany in the third quarter of 2005, thereby returning to the traditional season for CHRIS meetings and avoiding the hiatus of the 3rd EIHC in April 2005.

Outcome:

- CHRIS/16 to be held in Ottawa, Canada 28–31 May 2004 (after Canadian Hydrographic Conference 24-27 May).

- CHRIS/17 to be held in Rostock, Germany, 3rd quarter 2005.

Annex A

LIST OF ACRONYMS

3-D	Three Dimensions
AIS	Automated Identification System
ASL	Archipelagic Sea Lane
ATBA	Area To Be Avoided
BSH	Bundesamt für Seeschiffahrt und Hydrographie (Germany)
CHS	Canadian Hydrographic Service
CHRIS	Committee on Hydrographic Requirements for Information Systems (IHO)
CIRM	Comité International Radio Maritime
CL	Circular Letter
CSC	Chart Standardisation Committee (IHO)
C&SMWG	Colour and Symbol Maintenance Working Group (IHO)
CSPCWG	Chart Specification and Paper Chart Working Group (IHO)
DGIWG	Digital Geographic Information Working Group (NATO)
DIGEST	Digital Geographic Information Exchange Standard (DGIWG)
DNC	Digital Nautical Chart (USA-NIMA)
DPSAG	Data Protection Scheme Advisory Group (IHO)
DPSWG	Data Protection Scheme Working Group (IHO)
ECDIS	Electronic Chart Display and Information System
ECS	Electronic Chart System
EIHC	Extraordinary International Hydrographic Conference (IHO)
ENC	Electronic Navigational Chart
ESSA	Environmentally Sensitive Sea Area
HGMIO	Harmonizing Group on Marine Information Objects (IHO-IEC)
HO	Hydrographic Office
HP	High Priority
IC-ENC	International Centre for Electronic Navigational Charts

IEC	International Electrotechnical Commission
IHB	International Hydrographic Bureau
IHO	International Hydrographic Organization
IMO	International Maritime Organization
ISO	International Organization for Standardization
LP	Low Priority
MACHC	Meso-American and Caribbean Sea Hydrographic Commission (IHO)
MBSHC	Mediterranean and Black Seas Hydrographic Commission (IHO)
MEDCHARTNET	Mediterranean Charting Network (EU)
MP	Medium Priority
MS	Member State
MSC	Maritime safety Committee (IMO)
NAV	Sub-committee on Navigation (IMO)
NATO	North Atlantic Treaty Organization
NAVO	Naval Oceanographic Office (USA)
NGO	Non-Governmental Organization
NIMA	National Imagery and Mapping Agency (USA)
NOAA	National Oceanic and Atmospheric Administration (USA)
NP	Nautical Publication
NP-2	Digital Nautical Publications (IHO)
NP-3	Nautical Publications for ECDIS (IHO)
OEF	Open ECDIS Forum
PL	Presentation Library (IHO)
PoD	Print-on-Demand
PS	Performance Standards for ECDIS (IMO)
PSSA	Particularly Sensitive Sea Area
RCDS	Raster Chart Display System (IHO-IMO)
RENC	Regional Electronic Navigational Chart Coordinating Centre (IHO)
RHC	Regional Hydrographic Commission (IHO)

RNC	Raster Navigational Chart
RSS	Recommended Security Scheme (IHO)
RTCM	Radio Technical Committee on Maritime Services (USA)
SCAMIN	Scale Minimum (IHO/S-57)
SENC	System Electronic Navigational Chart
SHARED	Singapore Hong Kong Admiralty Raster and ENC Demonstration
SPWG	Strategic Plan Working Group (IHO)
SNPWG	Standardization of Nautical Publications Working Group (IHO)
SOLAS	Safety of Life at Sea Convention (IMO)
TAWG	Technology Assessment Working Group (IHO)
TC211	Technical Committee 211 (ISO)
TG	Task Group
ToR	Terms of Reference
TSMAD	Transfer Standard Maintenance and Application Development Working Group (IHO)
UKHO	United Kingdom Hydrographic Office
UNCLOS	United Nations Convention on the Law Of the Sea
USCG	United States Coast Guard
VRENC	Virtual Regional ENC Co-ordinating Centre
VTS	Vessel Traffic Service
WEND	Worldwide Electronic Navigational Chart Data Base (IHO)
WG	Working Group

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Annex B

LIST OF DOCUMENTS

CHRIS15-1A rev.5	List of Documents
CHRIS15-1B rev.4	List of Participants
CHRIS15-1C rev.1	Membership of CHRIS related WGs
CHRIS15-1D rev.4	CHRIS Membership
CHRIS15-2A rev.4	Agenda
CHRIS15-3A	Minutes of CHRIS-14 *(by IHB)*
CHRIS15-3B	Status of Actions List from CHRIS-14 *(by IHB)*
CHRIS15-3C	Terms of Reference for CHRIS Committee and related Working Groups *(by IHB)*
CHRIS15-4.1A	Decisions of the 7th WEND Committee Meeting *(by IHB)*
CHRIS15-4.2A	Guidelines for Industry in Co-Operating with IHO *(by IHB)*
CHRIS15-5A rev.1	Consolidated CHRIS Work Plan
CHRIS15-5B	Instructions for submission of proposals to CHRIS and CHRIS subsidiary bodies, and Guidelines on the establishment of priorities in the work of CHRIS and subsidiary bodies *(by CHRIS Chair & Vice-Chair)*
CHRIS15-5C	Summary of responses to CL 54/2002 (Annex C) *(by IHB)*
CHRIS15-5.1A	Printed ENCs *(by USA-NOAA)*
CHRIS15-5.2A	Improving ENC Consistency *(by IC-ENC)*
CHRIS15-5.3A	Interoperability through Hydrographic Standards Harmonisation *(by UKHO from report by IDON Technologies)*
CHRIS15-5.4A	Depiction of ESSA, PSSA and ATBA *(by Australia)*
CHRIS15-5.5A	Print on Demand Nautical Charts *(by USA-NOAA)*
CHRIS15-5.6A	Requirement for New International Chart Symbols *(by Denmark)*
CHRIS15-6.1A	Report of TSMAD *(by C. Drinkwater, UK, Chair)*
CHRIS15-6.1B	TSMAD Chairmanship *(by IHB)*
CHRIS15-6.2A	Report of C&SMWG *(M. Jonas, Germany, Chair)*
CHRIS15-6.3A	Report of TAWG *(by M. Casey, Canada, Chair)*
CHRIS15-6.3B	Proposal to disband TAWG *(by M. Casey, Chair)*
CHRIS15-6.4A	Report of SNPWG *(by J. Melles, Germany, Chair)*
CHRIS15-6.4B rev.1	NP2 Publications – Summary of responses to CL 54/2002 (Annex G) *(by IHB)*
CHRIS15-6.5A	Report of CSPCWG *(by P. Jones, UK, Chair)*
~~CHRIS15-7A~~	~~Report of the CHRIS Data Protection Scheme Advisory Group (DPSAG) *(by R. Sandvik, Norway-ECC, Chair)*~~
CHRIS15-7B	IHO ENC Security Scheme *(by IHB)*
CHRIS15-8A	Report of Industry Workshops and Stakeholder Organizations *(by IHB)*
CHRIS15-9.1A	PRIMAR Stavanger Status Report *(by Primar Stavanger)*
CHRIS15-9.1B	IC-ENC Status Report *(by IC-ENC)*
CHRIS15-9.1C	MBS Virtual RENC Status Report *(by Italy)*

CHRIS15-9.2A	Report of WEND Study on ENC Coverage *(by IHB)*
CHRIS15-9.2B	Report on ENC Assistance Questionnaire *(by IHB)*
CHRIS15-9.2C rev.3	National Reports on ENC Development
CHRIS15-9.3A	Report on DNC Development *(by USA-NIMA)*
CHRIS15-9.4A	North American – European Inland ECDIS Workshop *(by USA-UNH)*
CHRIS15-10.1A	Legal Status of Raster Chart Display System Mode of ECDIS *(by USA-NOAA)*
CHRIS15-11A	Report of HGMIO *(by L. Alexander, USA-UNH, Chair)*
CHRIS15-12A	SHARED Status Report *(by Singapore)*
CHRIS15-12B	MesoAmerican – Caribbean Sea Hydrographic Commission, Electronic Chart Working Group – Status Report *(by USA-NOAA)*
CHRIS15-13A	Report on OEF Activities *(by USA-UNH)*
CHRIS15-14.1A	Report on ISO/TC 211 Activities in relation to CHRIS *(by IHB)*
CHRIS15-15.1A rev.1	Electronic Charts: What Can Be Used Under SOLAS? *(by CHRIS & TSMAD Chairs)*
CHRIS15-INF1	Status of IHO publications on ECDIS *(by IHB) (also WEND7-7A)*
CHRIS15-INF2	Report on ECS Database and Equipment Standards *(by IHB) (also WEND7-14A)*
CHRIS15-INF3	Regulatory Status of ECDIS in the USA *(by USA-NOAA)*
CHRIS15-INF4	Technical Note: Nautical related accidents. DNV ships with and without additional nautical class notation *(by DNV, Norway)*
CHRIS15-INF5	Maritime Administrations' implementation of SOLAS V Requirements *(by IHB)*
CHRIS15-INF6	Input Paper to IMO with Recommended Performance Standards for the Presentation of Navigation Related Information *(by IEC/TC 80/WG 13)*
CHRIS15-INF7	Draft Input Paper to NAV 49 accompanying the Draft IMO PS *(by IEC/TC 80/WG 13)*

Annex C

LIST OF PARTICIPANTS

Member State	Name	Email
Australia	Cdr. Robert E. WARD (**Vice-Chairman**)	Robert.Ward@hydro.gov.au
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IHB		
	Vadm. Alexandros MARATOS Radm. Kenneth BARBOR Mr. Michel HUET **(Secretary)** Mr. Anthony PHARAOH	amaratos@ihb.mc kbarbor@ihb.mc mhuet@ihb.mc apharaoh@ihb.mc
Observers		
IEC & CIRM	Mr. Michael RAMBAUT	mr@cirm.org
OEF & HGMIO	Dr. Lee ALEXANDER **(Rapporteur)**	lee.alexander@unh.edu

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Annex D

AGENDA

1. Opening and Administrative Arrangements
   Doc: *CHRIS15-1A* *List of Documents*
   CHRIS15-1B *List of participants*
   CHRIS15-1C *Membership of CHRIS related WGs*
   CHRIS15-1D *CHRIS Membership*

2. Approval of Agenda
   Doc: *CHRIS15-2A* *Agenda*

3. Matters arising from Minutes of 14th CHRIS Meeting
   Doc: *CHRIS15-3A* *Minutes of CHRIS-14*
   CHRIS15-3B *Status of Actions List from CHRIS-14*
   CHRIS15-3C *Terms of Reference for CHRIS Committee and related Working Groups*

4. Decisions of other IHO bodies affecting CHRIS
   4.1 WEND Committee
   Doc: *CHRIS15-4.1A* *Report and Decisions of the 7th WEND Committee Meeting (by IHB)*

   4.2 SPWG - IHO / Stakeholder Liaison Mechanisms (combined with agenda item 8)
   Doc: *CHRIS15-4.2A* *Guidelines for Industry in Co-Operating with IHO (by IHB)*

5. Work of CHRIS
   Doc: *CHRIS15-5A* *Consolidated CHRIS Work Plan*
   CHRIS15-5B *Instructions for submission of proposals to CHRIS and CHRIS subsidiary bodies, and Guidelines on the establishment of priorities in the work of CHRIS and subsidiary bodies (by CHRIS Chair & Vice-Chair)*
   CHRIS15-5C *Changes to IHO Standards - Summary of Responses to CL 54/2002 (Annex C) (by IHB)*

   5.1 Printed ENCs
   Doc: *CHRIS15-5.1A* *Printed ENCs (by USA-NOAA)*

   5.2 ENC Consistency
   Doc: *CHRIS15-5.2A* *Improving ENC Consistency (by IC-ENC)*

   5.3 Harmonising ENC/S-57 and DNC/DIGEST
   Doc: *CHRIS15-5.3A* *Interoperability through Hydrographic Standards Harmonisation (by UKHO from report by IDON Technologies)*

   5.4 Depiction of ESSA, PSSA and ATBA
   Doc: *CHRIS15-5.4A* *Depiction of ESSA, PSSA and ATBA (by Australia)*

   5.5 Print on Demand
   Doc: *CHRIS15-5.5A* *Print on Demand Nautical Charts (by USA-NOAA)*

   5.6 New International Chart Symbols
   Doc: *CHRIS15-5.6A* *Requirement for New International Chart Symbols (by Denmark)*

6. Reports by CHRIS Working Groups

6.1 Transfer Standard Maintenance and Application Development (TSMAD)

Doc: CHRIS15-6.1A *Report of TSMAD (by C. Drinkwater, UK, Chair)*
CHRIS15-6.1B *TSMAD Chairmanship (by IHB)*

6.2 Colour and Symbol Maintenance (C&SMWG)

Doc: CHRIS15-6.2A *Report of C&SMWG (by M. Jonas, Germany, Chair)*

6.3 Technology Assessment (TAWG)

Doc: CHRIS15-6.3A *Report of TAWG (by M. Casey, Canada, Chair)*
CHRIS15-6.3B *Proposal to disband TAWG (by M. Casey, Chair)*

6.4 Standardization of Nautical Publications (SNPWG)

Docs: CHRIS15-6.4A *Report of SNPWG (by J. Melles, Germany, Chair)*
CHRIS15-6.4B *NP-2 Publications - Summary of Responses to CL 54/2002 (Annex G) (by IHB)*

6.5 Chart Standardization and Paper Chart (CSPCWG)

Doc: CHRIS15-6.5A *Report of CSPCWG (by P. Jones, UK, Chair)*

7. ENC Security Scheme

~~*Doc: CHRIS15-7A* *Report of TAWG Data Protection Scheme Advisory Group (DPSAG) (by R. Sandvik, Norway-ECC)*~~
Doc: CHRIS15-7B *IHO ENC Security Scheme (by IHB)*

8. Liaison with Industry (combined with agenda item 4.2)

Doc: CHRIS15-8A *Report of Industry Workshops and Stakeholder Organizations (by IHB)*

9. Vector Data Development

9.1 RENCs

Doc: CHRIS15-9.1A *PRIMAR-Stavanger Status Report (by Primar Stavanger)*
CHRIS15-9.1B *IC-ENC Status Report (by IC-ENC)*
CHRIS15-9.1C *MBS Virtual RENC Status Report (by Italy)*

9.2 ENC Development and Coverage

Doc: CHRIS15-9.2A *Report of WEND Study on ENC Coverage (by IHB)*
CHRIS15-9.2B *Report on ENC Assistance Questionnaire(by IHB)*
CHRIS15-9.2C rev.1 *National Reports on ENC Development*

9.3 DNC Development

Doc: CHRIS15-9.3A *Report on DNC Development (by USA-NIMA)*

9.4 Inland ECDIS

Doc: CHRIS15-9.4A *North American – European Inland ECDIS Workshop (by USA-UNH)*

10. Raster Data Development

10.1 RCDS Mode of ECDIS

Doc: CHRIS15-10.1A *Legal Status of Raster Chart Display System Mode of ECDIS (by USA-NOAA)*

11. Marine Information Objects (MIO)

Doc: CHRIS15-11A *Report of HGMIO (by L. Alexander, USA-UNH, Chair)*

12. Projects of interest to CHRIS (e.g. SHARED or CGMECIP)

Doc: CHRIS15-12A *SHARED Status Report (by Singapore)*

CHRIS15-12B *MesoAmerican – Caribbean Sea Hydrographic Commission, Electronic Chart Working Group – Status Report (by USA-NOAA)*

13. Open ECDIS Forum
Doc: CHRIS15-13A *Report on OEF Activities (by USA-UNH)*

14. Liaison with other Groups
13.1 ISO-TC211 (Geographic Information-Geomatics)
Doc: CHRIS15-14.1A *Report on TC211 Activities in relation to CHRIS (by IHB)*

15. Any Other Business
15.1 Legal Status of Electronic Charts
Doc: CHRIS15-15.1A *Electronic Charts: Legal status (by CHRIS & TSMAD Chairs)*

16. Date and Location of Next Meeting.

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Annex E

A Chris Proposal/Discussion Document
on
LIAISON MECHANISMS AND GUIDELINES FOR ACCREDITED ORGANISATIONS

Structure:

1. Intro phrase

During the past years the need to co-operate more effectively with manufacturers, academia, mariners, professional societies and others has been recognised.

2. accredited organisations

- International (global and regional) non-governmental organisations affected by decisions of IHO and who can beneficially contribute to the work of IHO.
- Intergovernmental organisations.
- Universities/Academia organisations with relevant programs..
- etc.

3. Statement of purpose of interaction

- provide consolidated strategic advice on the technical work program of the IHO. Such advice includes but not limited to
  - the needs of the user community,
  - emerging technologies,
  - required standards,
  - data requirements,
  - future requirements.

- co-operate with the IHO on technical programs of mutual interest including the proposal of new programs that fall under the responsibility of IHO,

- advise on the effectiveness of the implementation of the technical activities of IHO such as standards and specifications, and capacity building,

- provide, on request, information or expert advice on issues relevant to the IHO,

- support the technical programs of IHO for capacity building,

- provide representatives with special knowledge to the working groups of the IHO.[1]
  Such representatives may be provided on the initiative of the accredited organisations.

- Request from IHO information of interest to be distributed to their members.

4. Rights and duties of accredited organisations

Rights:

The right to receive the provisional agenda for sessions of the Assembly, the Council, the Committees, working groups [IHO structure].
The right to submit written statements on agenda items of meetings of the appropriate organs of IHO concerned, provided that such submission does not impede the smooth functioning of the IHO organs

[1] Experts may be invited by IHO to participate in working groups.

concerned. The accreditaded organization shall give due consideration to any comment which the [S-G/Chairman] may make in the course of such consultations before transmitting the statement in final form.

The right to propose items to the agenda of meetings of the appropriate organs of IHO, which may be accepted at the discretion of the appropriate chairman.

The right to be represented by an observer at meetings of the appropriate organs of the IHO at which matters of special interest to the accredited organisations concerned are to be considered.

The right to receive official documents of the IHO on matters of interest to the accredited organisations concerned and the appropriate supporting documents.

Request from IHO information of interest to be distributed to their members.

Normally one observer from each accredited organisation shall be admitted to any session or meeting. Such observer shall have no voting rights but may, on the invitation of the Chairman, speak on any item of the agenda of special interest to the accredited organisation of which he is the representative.

Duties:

Any accredited organisation shall keep the [S-G] currently informed of those aspects of its own activities which are likely to be of interest to the IHO and accord to the IHO privileges corresponding to those which are granted to it by the IHO.

The responsibility to help advance the work of the IHO in harmony with the spirit, functions and principles of the IHO.

5. Qualification for accreditation

[The IMO Guidelines are good and appropriate and should be adapted to the IHO purpose. However, they should be made less restrictive in order to accommodate the small companies typical to the hydrographic community, including the possible use of an "exception" clause.]

- The activity of accredited organisation concerned is related directly to the purpose of the IHO.

- The objectives and functions of the accredited organisation are fully in harmony with the spirit, functions and principles of the IHO.

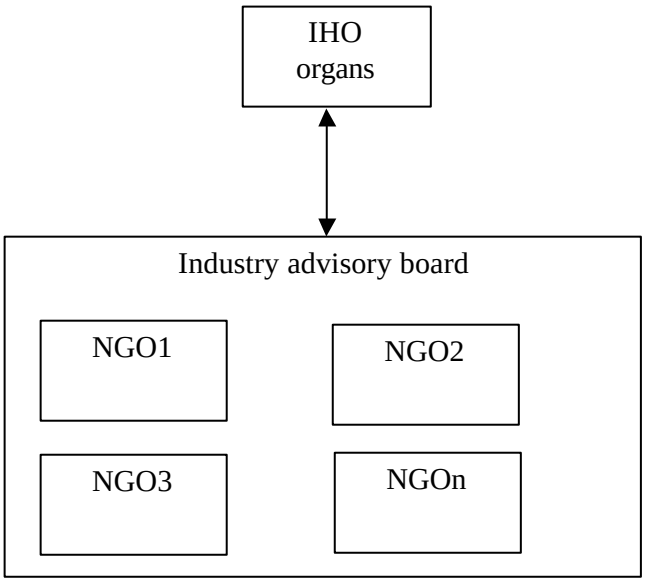
- Accredited organisation shall undertake to support the activities of the IHO and to promote the dissemination of its principles and work, bearing in mind the objectives and functions of the IHO on the one hand, and the competence and activities of the accredited organisation or the other.

- Accredited organisation shall have a permanent headquarters, a governing body and an executive officer. It must also be authorized under the constitution to speak for its members through accredited representatives.

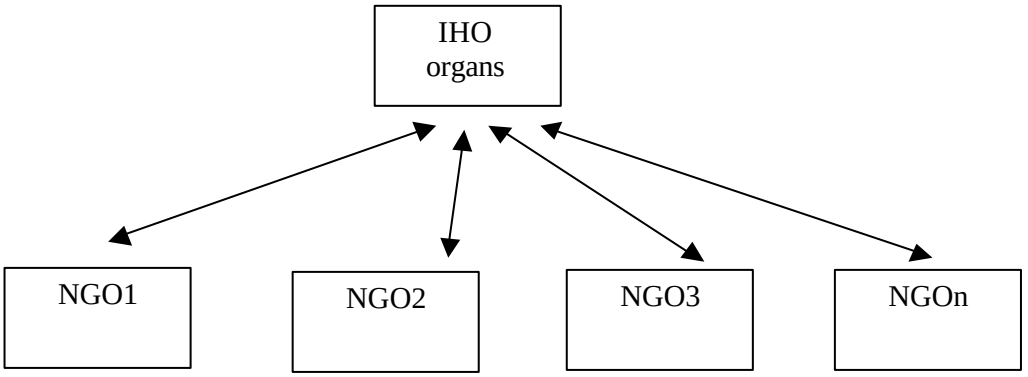
6. Structure

Two alternative structures are proposed:

1: accredited organisations establish a common chamber or advisory board producing consolidated input to IHO. The chamber / advisory board presents this consolidated contributions to the appropriate organs of the IHO.



2: Similar to the construction of the IMO accredited organisation liase directly with IHO organs.



[The majority of the group was of the opinion that the model 2 would be the most effective one and most likely to be acceptable by industry.]

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Annex F

CHRIS WORK PLAN
Version 1.3

Objective:
To ensure efficient project resource management and alignment, progress monitoring and to provide a communication utility with internal and external parties.

Rationale:
The justification for the CHRIS Workplan are in conformance with the IHO Strategic Plan, and mainly related to the following elements of the IHO Work Programme – 2003/07:

3.1. Nautical Cartography
3.4. Data for Geomatic Applications

Revisions:

Chairs of each Working Group, along with the CHRIS Chair, will meet prior to each CHRIS meeting to review progress, and to harmonize the Workplan.

Approval:
Once revised, the workplan will be approved by the CHRIS plenary at each annual meeting. CHRIS Chair could seek committee members interim approval for emerging issues between meetings.

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

Project Numbering:

Each task will be given a sequential number independent of related Working Group. The related IHO Work Programme Element number and the specific CHRIS meeting that approved the inclusion of the task will be identified in the CHRIS Work Plan summary. Each WG SubTasks will be numbered using an alphanumeric sequence, "A*n*, B*n*, C*n*.."

Priorities:

Three Levels of Priorities (H, M, and L) will be assigned by CHRIS using the Guidelines on the Evaluation of Proposals in the Work of CHRIS and Subsidiary Bodies where level 1 is considered as the highest.

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

1.1 IHO Programme 3. Element 3.1 Nautical Cartography

O 3. 1. 1 Continuation of the co-operative work on development of ECDIS services, particularly:
3.1.1.1 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]**

3.1.1.3 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]**

3.1.1.4 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 2004],** M-4, M-11, **[by 2003]**

1.2 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 2004]**

CHRIS Workplan - Summary Table

CHRIS WG	Task	IHO W.P.	CHRIS Meeting	Projects	Priority *	Start Date	End Date	Remarks
TSMAD	A	T3.4.2	14	Develop S-57 Ed. 4.0 based on ISO TC211 geo-spatial standards.	H	2001	2006	No product specifications shall be developed unless specifically directed
TSMAD	B	O3.1.1	14	Keep S-58 Recommended ENC validation checks up to date	H	2002	Cont	
TSMAD	C	O3.1.1	14	Support FAQ and encoding advice sections of IHO web site up to date	H	2002	Cont	
C&SMWG	A	T3.1.1	14	Develop S-52 App. 2 "Colours and Symbols Specifications for ECDIS", Edition 4.2 and its Annex A "Presentation Library", Edition 3.3	H		2003	
C&SMWG	B	O3.1.1	14	Contribute to IEC TC80/WG13 symbol harmonizing work	H		2004	
C&SMWG	C	T3.1.1	14	Examination of S-52 main documents and annexes for redundant operational aspects of ECDIS	M		2004	
C&SMWG	D	O3.1.1	14	Introduce new website based recommendation service for good application practice of S-52	M		na	
C&SMWG	E	O3.1.1	14	Contribute to harmonised rules for ENC loading strategy, use of SCAMIN and overscale indication	M		2003	
C&SMWG	F	T3.1.1	14	Assess the impact on S-52 C&S regulations of other IHO standards	M		2004	
DPSWG	A	O3.1.1		Complete IHO S-63 Data Protection Scheme documentation	H			
DPSWG	B	O3.1.1		Publish IHO S-63 and provide support	H			
DPSWG	C	O3.1.1		Monitor and support industry transition from Primar Security Scheme to IHO S-63	H			
CSPCWG	A	T3.1.1	14	Revise M-4	M	2001	2003	Being revised by Sections
CSPCWG	B	T3.1.1	14	Revise M-11	L		2004	Integrate S-48
CSPCWG	C	O3.1.3.2	15	Review requirement for standardization of International Notices to Mariners	M			
CSPCWG	D	O3.1.3.1	15	Development of new symbology (including depiction of ESSAs, ASLs, offshore wind farms & ATBAs, Fairways)	H		2003	
SNPWG	A	O3.1.1	15	Decide on the Data Formatof digital NPs intended for use in ECDIS.	H			
SNPWG	B	O3.1.1	15	Define the content requirements of digital NPs intended for use in ECDIS.	M			
SNPWG	C	O3.1.1	15	Develop display rules for digital NPs intended for use in ECDIS.	M			

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

CHRIS WG	Task	IHO W.P.	CHRIS Meeting	Projects	Priority *	Start Date	End Date	Remarks
SNPWG	D	O3.1.1	15	Draft guidance documents and revised technical resolutions.	M			
SNPWG	E	O3.1.1	15	Liaise with other CHRIS WG's and other IHO and international bodies.	M			
HGMIO	A	O3.1.1	15	For each MIO category, describe the current status of development efforts (e.g., data or display-related)	H			
HGMIO	B	O3.1.1	15	For each MIO category, assess level of completion and further development required	M			
HGMIO	C	O3.1.1	15	Recommend to TSMAD and C&SMWG MIO-related matters that warrant consideration for inclusion in next editions of S-57 and S-52	M			

2. TSMAD Work Plan

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

2.1 TSMAD Tasks

A Develop S-57 Ed. 4.0 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)

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.1	Develop S-57 Edition 4.0 Object Catalogue.	H		2001	05.05	O	Holger Bothien bo@sevencs.com		
A.2	Develop S-57 Edition 4.0 ENC product specification	L		2001	06.06	O	Chris Roberts Chris.Roberts@defence.gov.au		
A.3	Develop S57 Edition 4.0 Raster and Matrix data models.	H		2001	11.05	O	Don Vachon VachonDon@dfo.mpo.gc.ca		

* 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.4	Develop S-57 Edition 4.0 Time varying and 3-D data.	H		2001	10.04	O	Jim Radice JRadice@navcen.uscg.mil		
A.5	Develop S-57 Edition 4.0 Expansion of meta data contents.	H		2001	10.04	O	Tony Pharaoh apharaoh@ihb.mc		
A.6	Develop S-57 Edition 4.0 Review of S-57 base documents.	H		2001	10.04	O	Barrie Greenslade Barrie.Greenslade@ukho.gov.uk		
A.7	Develop S-57 Edition 4.0 Bathymetric Content Specification.	H		2001	12.05	O	Lee Alexander Lee.Alexander@unh.edu		Target 2004
A.8	Develop S-57 Edition 4.0 Portrayals (Data Depiction).	H		2001	10.04	O	Tony Pharaoh apharaoh@ihb.mc		Not Activated
A.9	Develop S-57 to paper chart functionality	L		2003	10.05	P	Peter Schwarzberg pschwarzberg@caris.nl		Not Activated
B.1	Keep S-58 Recommended Validation Checks up to date	H		2003	-	O	Guy Uguen Guy.uguen@shom.fr		
C.1	Support FAQ and Encoding Bulletins	H		2003	-	O	Chair, TSMAD		

Date	Location	Activity
29 Sep – 3 Oct 03	Wollongong, Australia	10th Meeting

3. C&SMWG Work Plan

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

3.1 C&SMWG 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).

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.1	Incorporate earlier deferred amendments	H		2002	2003	C	Mike Eaton	S-52, App. 2	
A.2	Incorporate LCD calibration amendments	H		2002	2003	O	Hannu Peiponen	S-52, App. 2	
A.3	Refine Conditional Symbology Procedures (CSP)	H		2002	2003	O	Mike Eaton	S-52, App. 2	
A.4	Test refined CSP	H		2002	2003	O	Paul Lebehain	S-52, App. 2	
A.5	Produce refined .DAI files (digital Version of Ed. 3.3)	H				C	Hannu Peiponen	S-52, App. 2	

* 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.6	Produce Test Data Set Plots for Edition 3.3	H				C	Hannu Peiponen	S-52, App. 2	
A.7	Develop a paper based description of Presentation Library Symbols Edition .3.3	M				C	Sven Herberg	S-52, App. 2	
A.8	Develop / adapt colour calibration routines for flat panel displays	M				O	Hannu Peiponen Falk Bethke	S-52, App. 2 IEC 61174, Ed 3	The technical progress of flat panel displays is unpredictable; calibration routines have to be reconsidered due to this progress
A.9	Set Ed. 4.2 of S-52 App.2 in force with one year grace period	H				P	Mathias Jonas Michel Huet Chris Roberts	S-52, App. 2	MS approval required
A.10	Set Ed. 3.3 of ECDIS PL (S-52 App.2, Annex A) in force with one year grace period	H				P	Mathias Jonas Michel Huet Chris Roberts	S-52, App. 2	MS approval required
A.11	Investigate the feasibility of, and develop a reduced set of colour tables	M				C	Mike Eaton Sven Herberg	S-52, App. 2	
B.1	Provide guidance to IEC TC 80 WG 13 on preferable colours and line styles	H				C	Mathias Jonas	IEC 62288	
B.2	Contribute to AIS Testbed of FGAN	H				C	Mathias Jonas Florian Motz	S-52, App. 2 IEC 62288	
C.1	Examination of S-52 main documents and annexes for redundant operational aspects of ECDIS	M				P	Mathias Jonas	S-52, Main Doc.	
D.1	Introduce new website based recommendation service for good application practice of S-52	M				P	Chris Roberts Michel Huet	S-52, App.2	
E.1	Contribution to harmonised rules for ENC loading strategy, use of SCAMIN and overscale indication	M		2003	2004	O	Mathias Jonas	S-57, S-52, App. 2	

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
F.1	Consideration of future M-4 revision for S-52 C&S regulations	M		2003		P	Mathias Jonas Chris Roberts Peter Jones	M-4, S-52, App.2	
F.2	Consideration of the implications of future S57 Version 4.0 on S-52 C&S regulations	M		2003		O	Mathias Jonas Sven Herberg	S-52, App.2 S-57, Vers. 4.0	

Date	Location	Activity
some time 2005	Rostock, Germany	15th Meeting

4. DPSWG Work Plan

4.1 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).

C Monitor and support industry transition from Primar Security Scheme to IHO S-63 (IHO O3.1.1 refers).

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard
A.1	Complete S-63 Test Data	H			31.07.03	O	Jonathan Pritchard, UKHO	S-63
A.2	Review S-63 Confidentiality Agreement	H			31.07.03	O	Tony Pharaoh, IHB	
A.3	Handover of S-63 to IHB	H			31.07.03	O	Robert Sandvik, Primar Stav.	S-63
B.1	Publish S-63	H		01.08.03	01.09.03	O	Tony Pharaoh, IHB	
B.2	Provide S-63 technical support	H		01.08.03		O	Robert Sandvik, Primar Stav.	

* 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
C.1	OEM S-63 transition guidelines and support	H		01.08.03		O	Robert Sandvik, Primar Stav.	

Date	Location	Activity
16-17 Oct 03	IHB, Monaco	Meeting scheduled to discuss status among OEMs in transition and uptake of IHO S-63, and initial discussions on a possible S-63 v.2

5. CSPCWG Work Plan

- *Tasks and Work Items are pursued in accordance with IHO Work Programme 2003-2007, Programme 3 (Techniques and Standards Support), Element 3.1 Nautical Cartography. In particular, the objectives: 3.1.1.1 the refinement and expansion of specifications and standards; 3.1.2 the development of standards for cartography and geographic information; 3.1.3 the development of the international [paper] chart series, including development of new symbology (3.1.3.1) and the extension of the INT chart scheme (3.1.3.3). And the task 3.1.1 the revision, development and maintenance of publications, including M-4 (Chart Specifications of the IHO) and M-11.*

- *This WG Plan carries forward the work of the IHO's former Chart Standardization Committee (CSC), which closed in 2002.*

- *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/digital charting.*

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

5.1 CSPCWG Tasks

A Revise, develop and maintain Publication M-4 "Chart Specs and Regulations for INT Charts", including creation of digital Version (IHO T3.1.1 refers).

B Revise, develop and maintain Publication M-11 "Catalogue of INT Charts" (IHO T3.1.1 refers).

C Review requirement for standardization of International Notices to Mariners (IHO O3.1.3.2 refers).

D Development of new symbology (IHO O3.1.3.1 refers).

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
A.1	Revise M-4 Part C	M	Final draft by CSC	2001	2003	O	Sec CSPCWG	M-4 / C	CSC provided to IHB for issue
A.2	Revise M-4 Part B Section 100	M	1st draft by CSC	2001	2003	O	Sec CSPCWG	M-4 / B / 100	
A.3	Revise M-4 Part B Section 200	M	1st draft by CSC	2001	2003	O	Sec CSPCWG	M-4 / B / 200	
A.4	Revise M-4 Part B Section 400	M	1st draft by CSC	2001	2003	O	Sec CSPCWG	M-4 / B / 400	
A.5	Revise M-4 Part B Section 300	M			2004	P	Sec CSPCWG	M-4 / B / 300	After A.1-A.3
A.6	Revise M-4 Part B Section 500	M			2004	P	Sec CSPCWG	M-4 / B / 500	After A.1-A.3
A.7	Revise M-4 Part B Section 600	M			2004	P	Sec CSPCWG	M-4 / B / 600	After A.1-A.3
B.1	Review S-48 and amalgamate within M-11	L			2004	P	Sec CSPCWG	M-11 (& S-48)	Integration of S-48 (Guidelines for Regional Coordinators of INT Schemes) into M-11
C.1	Review requirement for the standardization of International Notices to Mariners	M	Initial work by CSC Vice-Chair	2002		O	Chair CSPCWG		Liaise with SNPWG for IHO WP O3.1.3.2 CHRIS15 Action 13
D.1	Review and develop depiction of ESSAs (including PSSAs & ATBAs)	H	Draft M-4 /B-437 by CSC	2001	2003	O	Sec CSPCWG	M-4 /B-437, INT 1	Liaise with C&SMWG and TSMAD for ENC & ECDIS issues. Linked to IMO PSSA routeing measures CHRIS15 Action 7 & doc 15-5.4A
D.2	Develop new symbology: ASLs	H	Draft M-4 /B432-436 by CSC	1998	2003	O	Sec CSPCWG	M-4 /B-432, 434-436, INT 1	Symbology included in IMO Ship's Routeing Implemented by Indonesia Dec 02
D.3	Vessel Traffic Services guidance	M	Draft M-4 /B435 & 488 by CSC		2003	O	Sec CSPCWG	M-4 /B-435 & 488	

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

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard	Remarks
D.4	Review and develop depiction of offshore wind farms & ATBAs	M			2004	P	Sec CSPCWG	M-4, INT 1	Liaise with C&SMWG and TSMAD for ENC & ECDIS issues CHRIS15 Action 8 & doc 15-5.6A
D.5	Review requirement for Fairway symbology	M			2004	P	Sec CSPCWG	M-4, INT 1	Liaise with FI (WG Vice-Chair)
D.6	Review Wreck depth definitions	L				P	Sec CSPCWG	M-4, INT 1	Variations in national standards apparent

Date	Location	Activity
Tbd	tbd	1st WG Meeting*

* CSC met twice, the latest in 2000. The WG's membership will be polled to determine the level of support for the convening of meetings and the balance to be achieved between meetings and correspondence to progress the WG's business.

6. SNPWG Work Plan

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

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

D Draft guidance documents

E Revise technical resolutions as required

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

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard
A.1	Look at existing systems on the market	H		2003	2003	O	Chair/Sec SNPWG	
A.2	Evaluate the pros and cons	H	Decision for a Data Format	2003	9/2003	O	Chair/Sec SNPWG	
B.1	Examine the content of traditional NPs	M		2003/4	2004	O	Chair/Sec SNPWG	
B.2	Proposal discovery and distribution (BSH etc.)	M		2003/4	2004	O	Chair/Sec SNPWG	
B.3	Draft Content Specs	M	Content Specs	2003/4	6/2004	P	Chair/Sec SNPWG	
C.1	Develop basic display rules for NP-data	M	Display rules	2004	2004/5	P	Chair/Sec SNPWG	S52
D.1	Extension to ENC Product Specifications	M	Guidance Docs	2004/5	2005	P	Chair/Sec SNPWG	S57
D.2	Coding Guide for NP-data for ENC	M	Guidance Docs	2004/5	2005	P	Chair/Sec SNPWG	
D.3	Draft S?? (if necessary)	M	S??	2004/5	2005	P	Chair/Sec SNPWG	
E.1	Draft revised Technical Resolutions	M	Revised TRs (Dec 04)	2004/5	2005	P	Chair/Sec SNPWG	Technical Resolutions
F.1	Prepare a proposal for TSMAD	M	TSMAD-Proposal	2004	6/2004	P	Chair/Sec SNPWG	S57
F.2	Liaise with CSMWG for the development of the display rules	M		2004	2005	P	Chair/Sec SNPWG	S52
F.3	Liaise with other relevant WGs	L		2004	2005	P		

Date	Location	Activity
7-11 June 04	NOAA, Silver Spring, MD, USA	3rd Meeting

7. DQWG Work Plan

This WG is currently dormant

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

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

8. 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; - Tides and Water levels; - Oceanographic; - Meteorological

Other potential topics for future investigation could include:

- Current Flow ; - Marine Environmental Protection ; - Marine Habitats ;

8.1 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 C&SMWG MIO-related matters that warrant consideration for inclusion in next editions of S-57 and S-52.

Task	Work item	Priority *	Milestones	Start Date	End Date	Status **	Contact Person(s)	Affected Pubs/Standard
A	**Describe current status of development efforts**							
A.1	Ice Information	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Canadian Hydrographic Service (Ottawa) and Baltic Ice Centre (BSH)	S-57 & S-52
A.2	Meteorological	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Michel Huet (IHB) and Jana Schulze (SevenCs)	S-57 & S-52
A.3	Tides/Water Levels	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Lee Alexander (Univ. of NH)	S-57 & S-52

* 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
A.4	Oceanographic	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Max van Norden (US Naval Oceanographic Office)	S-57 & S-52
A.5	Current Flow	L	No tasking or volunteer	-	-	-	TBD	-
A.6	Marine Habitats	L	No tasking or volunteer	-	-	-	TBD	-
A.7	Environmental Protection	L	No tasking or volunteer	-	-	-	TBD	-
B	**Assess level of completion and further development required**							
B.1	Ice Information	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Canadian Hydrographic Service (Ottawa) and Baltic Ice Centre (BSH)	S-57 & S-52
B.2	Meteorological	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Michel Huet (IHB) and Jana Schulze (SevenCs)	S-57 & S-52
B.3	Tides/Water Levels	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Lee Alexander (Univ. of NH)	S-57 & S-52
B.4	Oceanographic	M	Work Item agreed at HGMIO 2	Fall 03	Mar 04	P	Max van Norden (US Naval Oceanographic Office)	S-57 & S-52
B.5	Current Flow	L	No tasking or volunteer	-	-	-	TBD	-
B.6	Marine Habitats	L	No tasking or volunteer	-	-	-	TBD	-
B.7	Environmental Protection	L	No tasking or volunteer	-	-	-	TBD	-
C.1	Recommend to TSMAD MIO-related matters that warrant consideration for inclusion in next edition of S-57	M	Work Item agreed at HGMIO 2	Jan 04	Mar 04	P	Lee Alexander (Univ. of NH)	S-57 Ed. 4.
C.2	Recommend to C&SMWG MIO-related matters that warrant consideration for inclusion in next edition of S-52	M	Work Item agreed at HGMIO 2	Jan 04	Mar 04	P	Lee Alexander (Univ. of NH)	S-52 App.2, Ed. 4

Date	**Location**	**Activity**
14 June 03	IHB, Monaco	2nd Meeting

Annex G

INSTRUCTIONS FOR SUBMISSION OF PROPOSALS TO CHRIS AND CHRIS SUBSIDIARY BODIES

Introduction

1 In the past, guidance for the submission of proposals to CHRIS has been lacking. This has sometimes resulted in inefficiencies and greater difficulty in reaching informed decisions. To address this, the following guidelines are to be followed for all submissions.

Format

2 Proposals should comprise the following sections as applicable:

.1 Summary. The text of all documents containing proposals for consideration by CHRIS should begin with a brief summary prepared in the form, and containing the information, as set out below.

Submitted by:	
Executive summary:	Description outlining the proposal including information on whether the proposal will have financial implications for the shipping industry or for the IHO budget.
Actions to be taken:	A reference should be made to the paragraph of the document, which states the action to be taken by CHRIS.
Related documents:	Other key documents should be listed to the extent they are known to the originator of the document.
Related Projects:	

.2 Introduction / Scope. An introduction, background and an indication of the scope of the proposal.

.3 Analysis/Discussion. An analysis and/or discussion of the issues involved including any potential cost impacts on the maritime industry or Member States. In analysing the issues, the following should be addressed:

.1 is the subject addressed by the proposal considered to be within the scope of IHO objectives?

.2 is the subject of the proposal within the scope of an item of the current IHO work programme?

.3 do adequate industry standards exist? and

.4 do the benefits justify the proposed action?

.4 Resource implication This would identify such matters as number of working group sessions, expertise, need for expert consultants, funding, etc.

.5 Benefits. Identify the benefits, which would accrue from the proposal.

.6 Working Groups. Identify which CHRIS working group(s) are essential to completing the work.

.7 Any other relevant information not covered elsewhere.

.8 Justification. See Annex A.

.9 Target completion date.

.10 Related activities and dependencies

.11 Action Required. Specific indication of the action required.

Submission Timetables

3 Documents for consideration at meetings should be received by the Chairman and secretary of CHRIS as follows:

.1 documents containing proposals for new work programme items and documents requiring consideration and a decision from the relevant meeting; not later than 7 weeks before the commencement of the meeting.

.2 documents, containing 4 pages or less, for those MS who wish to raise alternative proposals or make substantial amendments to a proposal or who wish to make comments in absentia on those referred to in subparagraphs (.1) above; not later than 3 weeks before the commencement of the meeting.

4 In order that meeting delegates and other M/S may consider and prepare for each meeting, chairman and secretary should strictly enforce the deadlines in paragraph 3 above. Only in the most exceptional circumstances should new items be introduced after the deadlines.

5. To facilitate the processing of documents, digital versions, preferably in Microsoft Word, should be sent via the Internet to the e-mail address of the secretary and chairman.

6. The IHB will place the submitted proposal on the IHO website as soon as possible in order to facilitate comments and approval.

[Note: Information documents should reach the IHB three weeks before the commencement of the meeting.]

Appendix A to Annex G

Guidelines on the Evaluation of Proposals in the work of CHRIS and subsidiary bodies

Introduction

1 In order to best use the limited resources available to CHRIS and its subsidiary bodies it is necessary to evaluate the work programme. The purpose of these guidelines is to provide a uniform basis for the evaluation of such projects. The final decision on priorities rests with CHRIS.

2 The evaluation should be done in a two-stage process

.1 general acceptance; and

.2 establishment of priorities

General acceptance

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

.1 is the subject addressed by the proposal considered to be within:
a. the scope of IHO objectives?

b. the current IHO work programme?

.2 has a need for the measure proposed been identified (e.g., client demand, internal improvements)

.3 do adequate industry standards or solutions exist or are they being developed thereby reducing the need for action through CHRIS?

.4 is the objective achievable in the existing CHRIS work program?

Establishment of priorities

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

.1 measures aimed at substantially preventing maritime casualties or marine pollution incidents;

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

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

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

.5 measures required to take into account new measuring, surveying and production techniques in hydrography;

.6 increased hydrographic office efficiency

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

General remarks

6 When setting priorities, a certain flexibility should be allowed for initiatives that could not be foreseen.

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 or a CHRIS subsidiary body, an appropriate target completion date for the completion of the item should be established, taking into account the urgency of the matter concerned.

Annex H

PRINCIPLES AND PROCEDURES FOR MAKING CHANGES TO IHO TECHNICAL STANDARDS ADMINISTERED BY CHRIS

(as approved by the 13th CHRIS Meeting, Athens, Greece, 17-19 September 2001 and amended at the 15th CHRIS Meeting, IHB, Monaco 10-13 June 2003)

Principles

Improvements to standards and systems can only occur by change. However, change can lead to problems such as incompatibility between systems, high updating costs, market monopoly, dissatisfied users, or increased risk to safety of navigation. These principles have been developed to avoid these circumstances.

A. Any proposed changes to existing standards should be technically assessed and commercially evaluated before approval.

B. Assessment should involve all relevant parties including IMO, maritime administrations, manufacturers, distributors, users, etc.

C. Changes should be "backwards compatible", or the existing version must be supported for a specified time.

D. If changes are required for the basis of product enhancement rather than for safety of navigation, then the previously approved system must be allowed to continue to be used at sea for a sufficient time to allow changes to be implemented on board.

E. If not already specified by IMO, the timeline for making changes should be defined.

F. In exceptional cases (e.g., is dangerous for safety of navigation), it may be necessary to make immediate changes to shipborne systems.

G. All interested parties should be encouraged to "continuously improve" IHO technical standards. All rejected proposals should therefore have a proper explanation.

H. Principles of a quality management system should be followed.

Procedures

These procedures are recommended to ensure that any proposed changes are properly assessed and implemented. The procedures should be simple to encourage their use.

1. All parties may submit a "change proposal" to IHB for logging and processing.

2. The "change proposal" must contain a justification for the change, a recommended action list and a proposed time frame for implementation. This should adhere to the “Instructions for Submission of Proposals to CHRIS and CHRIS subsidiary bodies”.

3. The IHB forwards the "change proposal" to CHRIS for evaluation and decision.

4. CHRIS will either reject or accept the proposal. If accepted, CHRIS will involve all the relevant bodies in assessing the proposal and planning any subsequent work. If rejected, it will be returned to the originator with the reasons.

5. Accepted proposals will be assigned to the CHRIS work program. Depending on the urgency, it may be for immediate action or deferred until a later date.

6. Following approval, a “progress report” should be issued after each milestone. At the end of the process" a change note" should be issued to relevant bodies providing a summary of changes, documents affected, a recommended action list, and the timetable for implementation.

7. Relevant bodies include representation from maritime administrations, or manufacturers, distributors and users. In particular, liaison with professional organizations (e.g., CIRM, IALA, ICS, etc.) is encouraged.

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Annex I

DRAFT CIRCULAR LETTERS
(prepared at CHRIS/15)

1. S-57 EDITION 3.0 ENC PRODUCT SPECIFICATION - TERMINATION OF VALIDITY

Circular Letter 52/2000, dated 14 December 2000, announced the release of S-57 Edition 3,1. It explained that the differences between S-57 Edition 3.0 and Edition 3.1 only involved additional attributes that were relatively minor. However, it was recognized that, because of the need to amend their production software, certain hydrographic offices would continue to produce ENCs conforming to Edition 3.0 for some time. As a consequence, it was agreed that both Edition 3.0 and Edition 3.1 ENCs would be valid until further notice.

Circular Letter 60/2002, dated 4 December 2002, announced that:

a) S-57 Edition 3.1 (and Edition 3.0) had been frozen

b) S-57 Edition 3.0 would cease to be valid from December 2004

c) In order that S-57 can support all types of hydrographic data, work had commenced on developing S-57 Edition 4.0. The target date for completion was 2004. This has since been amended to 2006.

d) Even after Edition 4.0 is published, Edition 3.1 will remain valid for as long as required, for the benefit of MSs who wish to continue to produce and use ENCs conforming to Edition 3.1.

The purpose of this CL is to seek MSs confirmation that Edition 3.0 ENCs and ENC updates should cease to be valid after December 2004. MSs are requested to inform the IHB accordingly using Annex A.

It is believed that all ECDIS currently available can now read Edition 3.1 ENCs. However, there may be ECDIS at sea which have not yet been upgraded to read Edition 3.1 ENCs. We therefore request hydrographic offices which have close contacts with ECDIS manufacturers to ask them if the disappearance of Edition 3.0 ENCs would create a problem. If it would create a problem, could they please indicate on Annex A the date by which they believe all such ECDIS will have received the necessary upgrade to use Edition 3.1 ENCs and updates.

2. S-57 EDITION 4.0

CL60/2002 announced that, in order that S-57 can support all types of hydrographic data, work had commenced on the development of S-57 Edition 4.0. The relevant references in the IHO Work Programme are:

Task 3.1.1. (Completion 2004)
Objective 3.4.2.

Experience to date has shown that this development work is more difficult than was anticipated. MSs are therefore informed that the current best estimate for the completion of the work is now 2006.

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Annex J

DATA PROTECTION SCHEME WORKING GROUP (DPSWG)

Terms of Reference

1. Objective

To develop and maintain an IHO ENC data protection scheme.

2. Authority

This Working Group (WG) is a subsidiary of the IHO CHRIS. Its membership and decisions are subject to IHO CHRIS approval.

3. Procedures

a) The WG should:

(i) Enable immediate preparation of an IHO ENC Data Protection Scheme v.1 with documentation, software kernel and test data modelled on the Primar Security Scheme.

(ii) Review international developments in security services to amend and prepare IHO ENC Data Protection Scheme v.2 with industry representatives and other ECDIS standardisation bodies, and allow for a structured transition of the standard into the market.

(iii) Develop procedures and information to enable IHO to assume responsibility of the documentation and supporting information and operate as the Security Scheme Administrator. Identify how technical support will be made available to IHO.

b) The WG will liaise and harmonise with other international ECDIS-related bodies as appropriate;

c) The WG should work by correspondence, and use group meetings, workshops or symposia only when required.

d) The WG should identify a work programme for each year, including expected time frame.

4. Composition and Chairmanship

a) The WG shall comprise representatives of IHO Member States (M/S) and Expert Contributors.

b) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only M/S may cast a vote. Votes shall be on the basis of one vote per M/S represented.

c) Expert Contributor membership is open to entities and organisations that can provide a relevant and constructive contribution to the work of the WG.

d) The WG shall be chaired by a representative of a M/S. The Chairman and the Vice-Chairman shall be chosen by the M/S represented in the WG, for a period of tree years.

e) Expert Contributors shall seek approval of membership from the Chairman.

f) Expert Contributor membership may be withdrawn in the event that a majority of the M/S represented in the WG agree that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.

g) All members shall inform the Chairman in advance of their intention to attend meetings of the WG.

h) In the event that a large number of Expert Contributor members seek to attend a meeting, the Chairman may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.

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Reference: 15h CHRIS Meeting, 10-13 June 2003, IHB, Monaco

Annex K

STANDARDIZATION OF NAUTICAL PUBLICATIONS WORKING GROUP (SNPWG)

Revised Terms of Reference

1. Objective

To develop guidelines for the preparation of nautical publications, in a digital format compatible with ECDIS.

2. Definition

A Nautical Publication is a special-purpose book, or a specially compiled database, that is issued officially by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution and is designed to meet the requirements of marine navigation. Nautical publications include but are not limited to:

Distance Tables,
List of Buoys and Beacons,
List of Lights,
List of Radio Signals,
List of Symbols, Abbreviations and Terms used on Charts,
Mariners' Handbooks,
Notices to Mariners,
Routeing Guides,
Sailing Directions,
Tidal Stream Atlases,
Tide Tables.

Nautical publications can be made available in a paper or a digital format.

3. Authority

This Working Group (WG) is a subsidiary of the Committee on Hydrographic Requirements for Information Systems (CHRIS) and its membership and decisions are subject to CHRIS approval.

4. Execution

a) The WG should:

(i) Investigate the data format specifications, content and display requirements of digital nautical publications intended for use in ECDIS.

(ii) Draft guidance document(s) and/or revised technical resolutions, as appropriate.

(iii) Liaise with relevant IHO Technical WG's to ensure, technical feasibility and compatibility of any developed proposals.

(iv) Investigate restructuring the format and content of nautical publications in order to optimize their reproduction in digital and paper formats, and to facilitate their integration with information systems such as ECDIS. Initial focus should be given to Sailing Directions, to define: 1) the minimum content of digital Sailing Directions compatible with ECDIS, and 2) the minimum common content of both digital and paper Sailing Directions, as stand alone documents.

(v) Draft guidance document(s) and/or revised technical resolutions, as instructed by CHRIS.

(vi) Investigate the production of specifications for International (INT) nautical publications (e.g. Sailing Directions, List of Lights and Radio Signals).

b) The WG should liaise with other CHRIS WG's and other IHO and international bodies as appropriate and as instructed by CHRIS.

5. Chairmanship and Procedures

a) The WG shall comprise representatives of IHO Member States (M/S) and Expert Contributors.

b) The WG should work primarily by correspondence. The WG should attempt to meet at least once every two years, normally in connection with another convenient IHO forum.

c) Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only M/S may cast a vote. Votes shall be on the basis of one vote per M/S represented.

d) Expert Contributor membership is open to entities and organisations that can provide a relevant and constructive contribution to the work of the WG.

e) The WG shall be chaired by a representative of a M/S. The Chairman and the Vice-Chairman shall be chosen by the M/S represented in the WG, for a period of three years.

f) Expert Contributors shall seek approval of membership from the Chairman.

g) Expert Contributor membership may be withdrawn in the event that a majority of the M/S represented in the WG agree that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.

h) All members shall inform the Chairman in advance of their intention to attend meetings of the WG.

i) In the event that a large number of Expert Contributor members seek to attend a meeting, the Chairman may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.

Reference: *15h CHRIS Meeting, 10-13 June 2003, IHB, Monaco*

Annex L

ELECTRONIC CHARTS
What Can Be Used Under SOLAS?

The last few years have seen a steady increase in the use at sea of electronic chart systems and the associated electronic chart data. Unfortunately, this increased use appears to have been accompanied by growing confusion regarding the "electronic chart" solution and what is, and what is not, legitimate for vessels subject to the requirements of SOLAS chapter V (SOLAS V). The purpose of this paper is to explain the various contributing elements of the "electronic chart" solution, their interrelationship, and their status under SOLAS V.

Chart carriage requirement

The requirement for a vessel to carry charts derives from Chapter V of the SOLAS Convention. This was previously contained in Regulation V20 but, since the coming into force of the revised Chapter V in July 2002, it is now contained in Regulation V19, supported by Regulations V2, V9 and V27.

Regulation V19 defines a vessel's chart carriage requirements. It also states that these may be met by the use of an Electronic Chart Display and Information System (ECDIS) supported by back-up arrangements. It is only ECDIS that is capable of meeting the minimum performance standards set by the IMO and referenced in Regulation V19.

Regulation V2 specifies that the charts, whether paper or electronic, must be "issued by or on the authority of a Government, authorized hydrographic office or other relevant government institution". These are often referred to in the literature as "official charts".

Regulation V27 states that the charts used by the mariner must be "up-to-date"; that is, they must be kept corrected for notices to mariners.

Regulation V9 states that contracting governments must provide hydrographic services, one component of which is the provision of notices to mariners to keep their charts up-to-date.

Three key components

Derived from the above, we have three key components if a vessel is to satisfy the chart carriage requirement in SOLAS V by electronic means. These are:

(i) ECDIS equipment as specified in the IMO ECDIS Performance Standards (IMO Resolutions A.817 (19), MSC.64 (67) and MSC.86 (70)). To meet the carriage requirements, the ECDIS must be "type approved".

(ii) A back-up arrangement for the ECDIS. The ECDIS Performance Standards specify the requirements, which the back-up must meet but does not specify which solutions meet those requirements. However, Regulation V19 states that an "appropriate folio of paper charts" may be used. The suitability of other, by implication non-paper, back-up solutions must be decided by the relevant maritime administration.

(iii) Charts, to be used by the ECDIS. These are Electronic Navigational Charts (ENCs), which conform to standards defined by the International Hydrographic Organization (IHO). These are often referred to as "official" ENCs.

In 1998 the ECDIS Performance Standard was amended to permit ECDIS to operate optionally in the Raster Chart Display System (RCDS) mode of operation using Raster Navigational Charts (RNC). The RCDS mode of operation is only to be used for those areas where ENCs have not been published. An additional condition is that when operating in RCDS mode, ECDIS must be "used together with an

appropriate folio of up-to date-paper charts". The interpretation of "appropriate folio" is a matter for maritime administrations to decide. As is the case with ENCs, RNCs must conform to standards defined by the IHO. These are often referred to as "official" raster charts.

As explained above, ENCs conform to the ENC Product Specification contained in IHOS-57 Edition 3.1. When used in an ECDIS, the ENC contents are translated from the S-57 ENC format into the internal data format used by that ECDIS. This internal format is referred to as the System Electronic Navigational Chart (SENC). There are currently more than a dozen different SENC formats used by different ECDIS manufacturers.

It was recently agreed by the IHO (IHO Technical Resolution A3.11) that the ENC distributor could perform this translation on shore. However, this is an optional practice and subject to the approval of the hydrographic office producing the ENC. In these circumstances, the ECDIS receives ENC data in an internal, SENC, format. This is often referred to as "SENC delivery". However, all ECDIS are still required to be able to read ENCs in the IHO S-57 format.

Non-SOLAS V Electronic Charting Options

The development of the relevant IMO and IHO standards took place over the last 15 years. During this time some equipment manufacturers started to produce display systems able to superimpose vessel position on an "electronic chart". These systems were referred to generically as Electronic Chart Systems (ECS) and normally used "electronic charts" produced by commercial companies. This use continues today.

Electronic Chart Systems are defined in IHO publication S-52 Appendix 3 as a "Generic term for equipment which displays chart data but which is not intended to comply with the IMO Performance Standard for ECDIS, and is not intended to satisfy the SOLAS Chapter V requirement to carry a navigational chart".

Because ECS do not meet SOLAS requirements, there is no IMO ECS standard. However, the US-based Radio Technical Commission for Maritime Services (RTCM) has produced Recommended Minimum Standards for Electronic Chart Systems. For the same reason, there are no IHO standards for ECS charts. However, the International Organization for Standardization (ISO) is currently developing a standard for ECS charts (ISO 19379).

Although both standards are extremely useful, it should be stressed that they relate to a solution that is not SOLAS compliant. An ECS cannot meet a vessel's SOLAS chart carriage requirements, even if the charts used in an ECS are ENCs or RNCs. Similarly, commercial "electronic charts" whether used in an ECS or an ECDIS do not meet a vessel's chart carriage requirements. In all these circumstances, a vessel's SOLAS V chart carriage requirements can only be met by the use of a normal folio of paper charts.

Annex M

ACTIONS LIST FROM CHRIS-15

ACTION	AGENDA ITEM	SUBJECT	ACTION(S)
1	3 & 15	Compilation Scales for Electronic Chart data bases	**Canada** to take the proposal to the next US-Canada Hydrographic Commission meeting for investigation and provide a recommendation at a future date. In this exercise, consideration will be given to the ENC consistency principles (Doc. CHRIS15-5.2A) and the outcomes of the October 2003 TSMAD Meeting (follow up from CHRIS14, Agenda Item 4).
2	4.2 & 8	IHO/Stakeholder Liaison Mechanisms	**CHRIS Chair** to forward the document "*A CHRIS proposal/discussion document on liaison mechanisms and guidelines for accredited organisations*" (developed by CHRIS15) for consideration and further development by SPWG and to present it to the 2003 IHO Partnership Days.
3	5	CHRIS Work Plan	.1 **Chair of CHRIS and Chairs of WGs** to compile a CHRIS Work Plan using the approved templates (*CHRIS Work Plan - Version 1.2*), for inclusion with the minutes of the meeting. .2 **Canada** to develop templates for a "progress report" and "change note" and develop the accompanying flow chart to reflect the adopted text.
4	5.1	Printed ENCs	**USA** to 1) poll industry on this matter; 2) provide the best sample of what can be produced; and 3) invite industry to describe what may be needed (in addition to current ENC Product Spec) to support the concept, then submit a more mature proposal for consideration by CHRIS at or before CHRIS/16.
5	5.2	ENC Consistency	.1 **TSMAD and C&SMWG** to review the recommendations contained in Doc. CHRIS15-5.2A and formulate and adopt appropriate instructions to enable them to be implemented (see details in Section 5.2). .2 **IHB** to then 1) make those instructions available on the IHO Encoding Bulletin web page; and 2) draw attention of IHO Member States to their existence and importance by CL.
6	5.3	Harmonizing ENC/S-57 and DNC/DIGEST	**TSMAD** to continue the liaison and monitoring of IHO/DGIWG harmonization as part of S-57 e4.0 development activities.
7	5.4	Depiction of ESSA, PSSA and ATBA	.1 **CSPCWG** (in consultation with TSMAD and C&SMWG) to review the work already undertaken by the former CSC with the aim of providing a depiction of ESSAs, PSSAs and ATBAs on paper charts that can be consistent with ENC and ECDIS. Then: .2 **C&SMWG** (in consultation with CSPCWG and TSMAD) to consider the requirements for consistent ECDIS symbology and propose appropriate solutions. .3 **TSMAD** (in consultation with CSPCWG and C&SMWG) to determine the requirements for S-57 to encode ESSAs and PSSAs and propose appropriate solutions.
8	5.6	New International Chart Symbols	**CSPCWG** (in consultation with C&SMWG and TSMAD) to develop symbology that can be consistent with ENC and ECDIS, to depict offshore wind farms, and ATBAs where activities are "not advisable", based on the proposal contained in Doc. CHRIS15-5.6A.

9	6.1	TSMAD Work Plan, S-57 Status, and TSMAD Chair	.1 **IHB** to issue a CL seeking MS' views on agreeing a date beyond which ENCs conforming to the S-57 Edition 3.0 ENC Product Specification will no longer be produced or used. The CL will reiterate the status of S-57 e3.0, e3.1 and e4.0. .2 **TSMAD** to include in its Work Plan a new Work Item 2.9: *Edition 4.0 - Paper Chart Production*, with "medium" priority (M). .3 **IHB** to issue a CL to inform MS of the delayed introduction of S-57 e4.0 and that this will impact on the approved IHO Work Programme. .4 **TSMAD** to take note that Work Item 2.7 *Bathymetric/Hydrographic Data Content Specification* should concentrate on defining the hydrographic survey content and a supporting content model. .5 **IHB,** when forwarding CHRIS15 Minutes to MS, to announce the selection of Mr Mike Brown (USA) as the Chair-elect of TSMAD and to thank Dr Christopher, as outgoing Chair, for his contribution to the development of electronic charting and associated data standards over at least the last 14 years.
10	6.2	New editions of the C&S Specs. and PL, Review of S-52, and C&SMWG Work Plan	.1 **IHB** to inform MS by CL of the proposed C&S changes, i.e. the planned publication (October 2003) of Ed. 4.2 of S-52 App.2 and Ed. 3.3 of the IHO PL. .2 **IHB** to inform IMO of the changes to the supporting IHO standards to the IMO Performance Standards for ECDIS (footnote reference). .3 **CHRIS ad hoc WG** (C. Andreasen, H. Hecht, M. Jonas, C. Drinkwater, M. Poulin, and L. Alexander) to review S-52, i.e. the main part, App.1, App.2 and App.3, to reduce its scope and volume, particularly by removing "operational" aspects for updating and by transferring the glossary on ECDIS related terms (App.3) into the Hydrographic Dictionary (S-32). USA (NIMA) and C&SMWG to review specifically App.1 and App.2, respectively. .4 **C&SMWG** to include a new Work Item in its Work Plan to align the presentation library with ISO/TC211 Standard 19117 "Portrayal", with "medium" priority (M).
11	6.3	IHO Security Scheme and DPSAG Status	.1 **IHB** to inform MS by CL that v1 of the IHO security scheme will be frozen for two years. .2 **IHB**, when forwarding CHRIS15 Minutes to MS, to announce that TAWG has been disbanded and that the Data Protection Scheme Advisory Group has been relocated as a WG reporting directly to CHRIS (the Data Protection Scheme Working Group - DPSWG), with revised TOR.
12	6.4	SNPWG's TOR	**IHB**, when forwarding CHRIS15 Minutes to MS, to inform them of the amendment in the SNPWG TOR and to encourage MS' participation in SNPWG.
13	6.5	Standard for INT NtM	**CSPCWG** to include a new Work Item in its Work Plan to review the requirement for the standardisation of International Notices to Mariners, with a "medium" priority (M).
14	15	Legal Status of Electronic Charts	**IHB** to produce French and Spanish versions of Doc. CHRIS15-15.1A (as edited by CHRIS and TSMAD Chairs at CHRIS15) and to publish it on the IHO website in English, Spanish and French for public reference.