

1st IHO-HSSC Meeting
The Regent Hotel, Singapore, 22-24 October 2009

TERMS OF REFERENCE FOR HSSC
and Related Working Groups
(September 2009)

Contents:

- I. Hydrographic Services and Standards Committee (HSSC)
- II. Transfer Standard Maintenance and Applications Development W.G. (TSMAD)
- III. Data Protection Scheme W.G. (DPSWG)
- IV. Digital Information Portrayal W.G. (DIPWG)
- V. Standardization of Nautical Publications W.G. (SNPWG)
- VI. Chart Standardization and Paper Chart W.G. (CSPCWG)
- VII. Data Quality W.G. (DQWG)
- VIII. Marine Spatial Data Infrastructure W.G. (MSDIWG)
- IX. Tidal and Water Level W.G. (TWLWG)
- X. Hydrographic Dictionary W.G. (HDWG)
- XI. ENC Updating W.G. (EUWG)
- XII. IHO-IAG Advisory Board on the Law Of the Sea (ABLOS)

I. **HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE (HSSC) –**
M-3 TR K2.13

Considering the need to promote and coordinate the development of standards, specifications and guidelines for official products and services to meet the requirements of mariners and other users of hydrographic information, the International Hydrographic Organization establishes a Hydrographic Services and Standards Committee (HSSC) with the following Terms of Reference and Rules of Procedure. The HSSC shall be the IHO Technical Steering Group acting on behalf of all Member States and shall report to each ordinary session of the International Hydrographic Conference (*"each ordinary session of the International Hydrographic Conference"* to be replaced by *"each ordinary session of the Assembly through the Council"* when the Council and Assembly are established).

1. **Terms of Reference**

- 1.1 Monitor the requirements of mariners and other users of hydrographic information concerning the use of hydrographic products and information systems that may require data and information provided by national hydrographic authorities, and to identify those technical matters that may affect the activities and products of those authorities.
- 1.2 Monitor the work of specified IHO Inter-Organizational Bodies engaged in hydrographic services, standards and related technical activities as directed by the International Hydrographic Conference (*"International Hydrographic Conference"* to be replaced by *"the Assembly"* when the Assembly is established) and provide advice and guidance to the IHO representatives as required.
- 1.3 Study and propose methods and standards for the acquisition, assessment and provision of official hydrographic data, nautical products and other related services.
- 1.4 Maintain technical liaison with other relevant stakeholders, such as type-approval authorities, navigation equipment manufacturers, and the hydrographic data user-community.

- 1.5 Prepare and maintain publications related to the objectives of the Committee.
- 1.6 Prepare a Committee Work Program and propose it to each ordinary session of the International Hydrographic Conference (*"each ordinary session of the International Hydrographic Conference"* to be replaced by *"the Assembly"* via the Council when the Assembly and the Council are established). Consider and decide upon proposals for new work items under the Committee Work Program, taking into account the financial, administrative and wider stakeholder consequences and the IHO Strategic Plan and Work Program.
- 1.7 Monitor the execution of the Committee Work Program and report to each ordinary session of the International Hydrographic Conference (*"ordinary session of the International Hydrographic Conference"* to be replaced by *"meeting of the Council"* when the Council and Assembly are established), including an evaluation of the performance achieved.
- 1.8 Propose to the International Hydrographic Conference (*" the International Hydrographic Conference"* to be replaced by *"the Assembly through the Council"* when the Council and Assembly are established), the establishment of new Sub-Committees, when needed, supported by a comprehensive cost-benefit analysis.
- 1.9 As required, establish Working Groups to fulfil the Committee Work Program, in conformance with IHO Technical Resolution T1.1 (*IHO Technical Resolution T1.1* to be replaced by *Article 6 of the General Regulations* when the revised IHO Convention enters force) and approve their Terms of Reference and Rules of Procedure.
- 1.10 Monitor the work of its Sub-committees, Working Groups and other bodies directly subordinate to the Committee.
- 1.11 Review annually the continuing need for each Working Group previously established by the Committee.
- 1.12 Liaise and maintain contact with relevant IHO and other bodies to ensure that IHO work activities are coordinated.
- 1.13 Liaise with other relevant international organizations and Non-Government International Organizations (NGIOs).
- 1.14 These Terms of Reference can be amended in accordance with Technical Resolution T1.1 (to be replaced by Article 6 of the General Regulations when the revised text of the IHO Convention enters into force).

2. Rules of Procedure

- 2.1 The Committee shall be composed of representatives of Member States. The Chairs of the relevant subordinate bodies of the Committee shall attend and report at all Committee Meetings. International Organizations and accredited Non-Government International Organizations (NGIOs) may attend Committee Meetings.
- 2.2 A Director of the International Hydrographic Bureau (*"the International Hydrographic Bureau"* to be replaced by *"the Secretariat"* when the Secretariat is established) shall act as Secretary to the Committee. The Secretary shall prepare the reports required for submission to each ordinary session of the Conference (*the Conference* to be replaced by *Assembly* and *Council* when the Council and Assembly are established).
- 2.3 The Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (*Conference* to

be replaced by *Assembly* when the Council and Assembly are established) and shall be determined by vote of the Member States present and voting. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.

- 2.4 The Committee shall meet once a year, unless decided otherwise by the Committee, whenever possible in conjunction with another relevant conference or meeting. The venue and date of the meeting shall be decided at the previous meeting, in order to facilitate participants' travel arrangements. Meetings should normally be scheduled to precede a session of the International Hydrographic Conference ("*International Hydrographic Conference*" to be replaced by "*Council or Assembly*" when the Council and Assembly are established) by approximately four months. The Chair or any member of the committee, with the agreement of the simple majority of all members of the Committee, can call extraordinary meetings. Confirmation of the venue and date shall normally be announced at least six months in advance. All intending participants shall inform the Chair and Secretary ideally at least one month in advance of their intention to attend meetings of the Committee.
- 2.5 Decisions shall generally be made by consensus. If votes are required on issues or to endorse proposals presented to the Committee, decisions shall be taken by a simple majority of Committee Members present and voting. When dealing with inter-sessional matters by correspondence, a simple majority of all Committee Members shall be required.
- 2.6 The draft record of meetings shall be distributed by the Secretary within six weeks of the end of meetings and participants' comments should be returned within three weeks of the date of despatch. Final minutes of meetings should be distributed to all IHO Member States and posted on the IHO website within three months after a meeting.
- 2.7 The working language of the Committee shall be English.
- 2.8 The Committee shall progress its work primarily through Working Groups, each of which shall address specific tasks. If required, a coordinating Sub-committee on Data Acquisition & Transfer Standards and a coordinating Sub-committee on Symbology & Data Presentation Standards shall coordinate the work of those working groups dealing with data and presentation standards respectively. Sub-committees and Working Groups shall operate by correspondence to the maximum extent practicable.
- 2.9 Recommendations of the Committee shall be submitted to IHO Member States for adoption through the IHB or International Hydrographic Conference as appropriate. ("*IHB or International Hydrographic Conference*" to be replaced by "*through the Council to the Assembly*" when the Council and Assembly are established).
- 2.10 These Rules of Procedure can be amended in accordance with Technical Resolution T1.1 (to be replaced by Article 6 of the General Regulations when the revised text of the IHO Convention enters into force).

II. TRANSFER STANDARD MAINTENANCE AND APPLICATIONS DEVELOPMENT W.G. (TSMAD) – M-3 TR K2.21

1. Objective

- a) To maintain, develop and extend the IHO transfer standard for digital hydrographic data (currently Special Publication S-57), including development and maintenance of relevant application profiles;
- b) To monitor the development of other related international standards.

2. Authority

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

3. Procedures

- a) The WG should:
 - (i) maintain the IHO transfer standard for digital hydrographic data by preparing and promulgating maintenance documents containing clarifications, corrections and extensions when required;
 - (ii) review relevant international standards and specifications and advise HSSC accordingly;
 - (iii) consider new topics as instructed by HSSC and advise HSSC accordingly and/or draft the relevant extension documents;
 - (iv) draft new editions of the IHO transfer standard for digital hydrographic data as instructed by HSSC.
- b) The WG should work by correspondence, group meetings, workshops or symposia. Permanent or temporary sub-working groups may be created by the WG to undertake detailed work on specific topics such as: maintenance of the IHO transfer standard for digital hydrographic data, product specifications, tidal information, survey information, etc. The WG should meet at least once a year.
- c) The WG should liaise with other HSSC WG's and other IHO and international bodies as appropriate and as instructed by HSSC.
- 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), Expert Contributors and Accredited NGO Observers.
- 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 Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.
- e) If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- f) 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.

III. DATA PROTECTION SCHEME W.G. (DPSWG) – M-3 TR K2.27

1. Objective

To develop and maintain an IHO ENC data protection scheme.

2. Authority

This WG is a subsidiary of the Hydrographic Service and Standards Committee (HSSC). Its work is subject to HSSC 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), Expert Contributors and Accredited NGO Observers.
- 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 Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.
- e) If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- f) 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.

IV. DIGITAL INFORMATION PORTRAYAL W.G. (DIPWG) – M-3 TR K2. 26

1. Objective

To maintain IHO specifications for colours, symbols and display rules used to show SENC information on ECDIS in a safe and ergonomic manner.

2. Authority

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

3. Procedures

- a) The WG should:
 - (i) Maintain IHO Special Publication S-52 and its accompanying Presentation Library, by preparing and promulgating maintenance documents when required.
 - (ii) Perform maintenance of S-52 by immediate amendments for safety related matters and long-term revisions by deferred amendments.
 - (iii) Draft new editions of S-52 as instructed by HSSC.
 - (iv) Identify basic scientific fundamentals and provide guidance to ECDIS manufacturers related to colours and symbolization of hydrographic information.

- (v) Provide and maintain a framework for display of SENC information that is feasible and practicable within available technology.
 - (vi) Coordinate technical exchange between DIPWG, type-approval authorities, ECDIS manufacturers and ECDIS user community, including the conduction of comprehensive testing and validation of colours and symbolization by manufacturers, and at-sea trials with mariners.
 - (vii) Monitor the operational performance and development of IHO specifications, progress in display technology, and human perception analysis.
 - (viii) Consider new topics and other applications affecting electronic chart display, and/or draft the relevant extension documents.
- b) The WG should work by correspondence, group meetings, workshops or symposia. The WG should meet at least once every two years.
 - c) The WG should liaise and harmonize with other ECDIS-related bodies as appropriate (e.g., TSMAD, CSPCWG, IEC, IMO/IHO HGE, IALA, WMO, IACS, NATO, etc.).
 - 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), Expert Contributors and Accredited NGIO Observers.
- 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 Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.
- e) If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- f) 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.

V. **ANDARDISATION OF NAUTICAL PUBLICATIONS W.G. (SNPWG) –**
M-3 TR K2.34

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

4. **Procedures**

- 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.
- b) The WG should liaise with other HSSC WG's and other IHO and international bodies as appropriate and as instructed by HSSC.
- c) 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.
- d) The WG should identify a work programme for each year, including expected time frame.

5. Composition and Chairmanship

- a) The WG shall comprise representatives of IHO Member States (M/S), Expert Contributors and Accredited NGO Observers.
- 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 Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.
- e) If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- f) 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.

VI. CHART STANDARDIZATION AND PAPER CHART W.G. (CSPCWG) – M-3 TR K2.39

1. Objectives

- a. To provide a core of expertise on the concepts of charting, noting that whatever physical form the chart may take the fundamental concepts and elements of marine cartography remain the same.
- b. To develop and maintain the IHO publications for which it is responsible.

2. Authority

This WG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC). Its work is subject to HSSC approval. In the interests of procedural efficiency the WG has authority to reach decisions on the maintenance and updating of the documents for which it is responsible and seek direct endorsement of its proposals by IHO Member States via the IHB. This does not include matters that may have a strategic or financial implication for Member States or other interested stakeholders.

3. Procedures

- a. The WG's main tasks are to:
 - i. Keep under continuous review the IHO publication M-4 'Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO', in order to advise the IHO on their updating, design and format and the portrayal of symbols. Note: M-4 is supplemented by:
 - INT 1 'Symbols, Abbreviations and Terms used on Charts'
 - INT 2 'Borders, Graduation, Grids and Linear Scales'
 - INT 3 'Use of Symbols and Abbreviations, as recommended by the IHO'
 - ii. Advise the IHO on suggestions put forward by Member States to update M-4, in accordance with IHO Specification B-160, with the goal of achieving the maximum possible adherence by Member States to the Regulations and Specifications.
 - iii. Keep under continuous review the following IHO publications in order to advise the IHO on their updating:
 - M-11 Part A 'Guidance for the Preparation and Maintenance of International Chart Schemes'
 - M-15 'List of Booklets on Chart Symbols & Abbreviations'
 - S-49 'Recommendations concerning Mariners' Routeing Guides'
 - iv. Advise the IHB and Regional Hydrographic Commissions, as appropriate, on the work of Regional Charting Groups (RCG) in order to promote the production of international (INT) charts. The role of the WG is purely consultative.
 - v. Offer advice based on its experience to RCG and individual Member States, on chart schemes and cartographic work, in order to strongly encourage adherence to IHO charting specifications. The role of the WG is purely consultative.
- b. The WG conducts its business mainly by correspondence. It will also plan to hold meetings at least once every two years, dependant on membership support and business needs.
- c. All members shall inform the Chairman in advance of their intention to attend meetings of the WG.
- d. Decisions shall generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, votes shall be taken by a simple majority of the Member States present and voting. When dealing with inter-sessional matters by correspondence, a simple majority of responding WG members shall be required.
- e. The WG should identify a work programme for each year, including expected time frame for progressing tasks.
- f. The WG will maintain close liaison with other HSSC WGs, particularly DIPWG and TSMAD, and other international and IHO bodies, as appropriate and as instructed by HSSC.
- g. The WG will report progress to meetings of HSSC and to Member States through the HSSC report in the Annual Report of the IHB

4. Composition and Chairmanship

- a. Membership of the CSPCWG is open to all Member States wishing to be represented. Normally there should be not more than one representative from each Member State.

- b. Accredited Non-Governmental International Organizations observers may participate in CSPCWG activities.
- c. The Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.
- d. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- e. The Chairman and Vice-Chairman will decide between themselves the organization of the work entailed in these posts.
- f. The Chairman will monitor membership to ensure that each regional hydrographic commission is invited to be represented on the WG.
- g. A Secretary will be appointed, normally from within the organization of the Chairman of the WG, to ensure the smooth running of business, and to administer consultation and collation of members' views. The Secretary is a member of the WG.

5. **Guiding principles**

- a. M-4 Part B provides an internationally-agreed product specification for both national and international (INT) charts at medium- and large-scale. The role of M-4 Part B is twofold, in that it provides:
 - i. an explanation of the general concepts and rationale behind the portrayal of features on charts, much of which is relevant to both electronic and paper charts.
 - ii. specific guidance for paper charts, including their content and the use of text and symbology.

VII. **DATA QUALITY W.G. (DQWG)**
M-3 TR K2.37

1. **Objective**

To develop appropriate methods of classifying and depicting the quality of digital hydrographic data.

2. **Authority**

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

3. **Procedures**

- a) The WG should:
 - i. Review ISO 19113 *Geographic Information-Quality Principles*, ISO 19114 *Geographic Information-Quality Evaluation Procedures*, and ISO 19115 *Geographic Information -*

Metadata and propose relevant enhancements and amendments for incorporation in S-100;

- ii. Monitor and further develop quality indicators for hydrographic data;
 - iii. Review and revise as needed existing S-57 quality indicators, including the education of both the mariner and the cartographer, and the development of documentation;
 - iv. Review and revise as needed the presentation of data quality, as provided in S-52 and its Presentation Library;
 - v. Investigate ways of ensuring that ECDIS displays provide a clear warning or indication to the mariner on the quality of the underlying survey data, through appropriate use of the attribute CATZOC and/or improvement of the existing display capabilities, and;
 - vi. Propose new data quality topics and other applications for consideration by HSSC.
- b) The WG should work by correspondence, group meetings, workshops or symposia. Permanent or temporary sub-working groups may be created by the WG to undertake detailed work on specific topics such as: quality indicators for hydrographic data, tidal information, etc. The WG should meet as necessary.
- c) The WG should liaise with other relevant HSSC WG's and other IHO bodies, such as S-44 WG, and international bodies as appropriate and as instructed by HSSC.

4. Composition and Chairmanship

- a) The WG shall comprise representatives of IHO Member States (M/S), Expert Contributors and Accredited NGO Observers.
- 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 Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.
- e) If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- f) 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.

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

1. Objective

Identify the Hydrographic Community inputs to National Spatial Data Infrastructures (NSDI).

2. Authority

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

3. Procedures

The WG should:

- a) Identify, in line with the objectives, mission and vision of the IHO, the level and nature of the IHO's role in assisting Member States (M/S) in their support of NSDI.
- b) Liaise, as appropriate, with other relevant technical bodies such as the IOC, and the World Data Centers in Oceanography, Bathymetry and Marine Geophysics.
- c) Propose any Technical and/or Administrative Resolutions that may be required to reflect IHO involvement in the support of NSDI.
- d) Identify actions and procedures that the IHO might take to contribute to the development of National Spatial Data Infrastructure (NSDI) and / or MSDI in support of Member States.
- e) Determine any actions that the IHO and individual M/S might take to forge links with other bodies (e.g. OGC, ISO TC211, IOC) to ensure M/S are best placed to meet the developing challenges associated with data management and governance.
- f) Identify and recommend possible solutions to any significant technical issues related to interoperability between maritime and land based inputs to NSDI, and in particular:
 - 1) Datum issues.
 - 2) S-100 interoperability with NSDI.
 - 3) S-100 interoperability with oceanographic, marine biological, geological and geophysical data structures.
- g) Identify any IHO capacity building requirements.
- h) The WG should work by correspondence, and use group meetings, workshops or symposia only if required.
- i) Submit a report and recommendations to CHRIS/20 in 2008 for subsequent consideration at the 4th

Extraordinary International Hydrographic Conference in 2009.

4. Composition and Chairmanship

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

IX. TIDAL AND WATER LEVEL W.G. (TWLWG) – M-3 TR K2.24

1. Objective

To provide technical advice and coordination on tidal, water level and vertical datum matters.

2. Authority

The Working Group (WG) is a subsidiary of the Hydrographic Services and Standards Committee (HSSC)

and its work is subject to HSSC approval.

3. Procedures

- a. The WG should:
 - (i) monitor and develop the use of tidal and water level information;
 - (ii) advise on the use of vertical datums;
 - (iii) advise on tidal and water level observation, analysis and prediction;
 - (iv) advise on matters concerning the exchange, distribution and use of tidal and water level related data;
 - (v) propose relevant amendments and improvements to IHO Technical Resolutions (M-3) relating to tidal, water level and vertical datums;
 - (vi) propose new tidal, water level and vertical datum topics and other applications for consideration by HSSC; and
 - (vii) study principles and methods for conveying tidal and water level information to mariners.
- b. The WG should work primarily by correspondence.
- c. The WG should attempt to meet annually, normally in connection with another convenient IHO forum.
- d. The WG should liaise with other WG's; other IHO and international bodies as appropriate; and as instructed by HSSC.

4. Composition and Chairmanship

- a. The WG shall comprise representatives of IHO Member States (MS), Expert Contributors and accredited NGO Observers, all of whom have expressed their willingness to participate, and a representative of the IHB.
- b. Member States, Expert Contributors and accredited NGO Observers may indicate their willingness to participate at any time. A membership list shall be maintained and confirmed annually.
- c. Expert Contributor membership is open to entities and organisations that can provide a relevant and constructive contribution to the work of the WG.
- d. The Chair and Vice Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair should normally be decided at the first meeting following each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and, in such case, shall be determined by vote of the Member States present and voting.
- e. Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only MS may cast a vote. Votes shall be on the basis of one vote per MS represented. In the event that votes are required between meetings or in the absence of meetings, including for elections of the Chair and Vice-Chair, this shall be achieved through a postal ballot of those MS on the current membership list.

- f. If a secretary is required it should normally be drawn from a member of the WG.
- g. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- h. Expert Contributors shall seek approval of membership from the Chair.
- i. Expert Contributor membership may be withdrawn in the event that a majority of the MS represented in the WG agree that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.
- j. All members shall inform the Chair in advance of their intention to attend meetings of the WG.
- k. In the event that a large number of Expert Contributor members seek to attend a meeting, the Chair may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.

**X. HYDROGRAPHIC DICTIONARY W.G. (HDWG) –
M-3 TR K2.32**

Proposed Terms of Reference (see Annex C of HSSC1-06.9A)

1. Objective

To systematically review and update the definitions in the IHO Hydrographic Dictionary in English, French and Spanish.

2. Authority

The HDWG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC) and its work is subject to HSSC approval.

3. Procedures

- a. The HDWG should conduct its business mainly by correspondence. Meetings will be held, if necessary, at intervals of about 2-3 years.
- b. The HDWG may establish individual language sub-groups as necessary. These sub-groups should work by correspondence only and their work will be coordinated by a leader appointed by the HDWG.
- c. The HDWG should liaise with other IHO bodies developing publications containing glossaries to ensure consistency.
- d. The WG should liaise as appropriate with other organisations developing dictionaries and/or glossaries.
- e. The WG should develop a work programme for each year that includes target completion dates where appropriate.

4. Composition and Chairmanship

- a. Membership of the HDWG is open to all Member States wishing to participate. The International Hydrographic Bureau (IHB) ("the International Hydrographic Bureau (IHB)" to be replaced by "the IHO Secretariat" when the Secretariat is established) will maintain a list of nominated members,
- b. The HDWG may invite expert contributors to participate in its deliberations during and between meetings. Accredited Non-Governmental International Organizations (NGIO) may also participate as observers in the work and meetings of the HDWG.
- c. Expert Contributor membership is open to entities and organisations that can provide a relevant and constructive contribution to the work of the WG.
- d. The Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair should normally be decided at the first meeting following each ordinary session of the Conference ("Conference" to be replaced by "Assembly" when the revised IHO Convention enters force) and, in such case, shall be determined by vote of the Member States present and voting.
- e. Decisions should generally be made by consensus. If a vote is required only Member States may cast a vote. Votes shall be on the basis of one vote per Member State represented.
- f. If a secretary is required it should normally be drawn from a member of the HDWG.
- g. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- h. Expert Contributors shall seek approval of membership from the Chairman.
- i. Expert Contributor membership may be withdrawn in the event that a majority of the M/S represented in the WG agree that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.
- j. All members shall inform the Chairman in advance of their intention to attend meetings of the WG.
- k. In the event that a large number of Expert Contributor members seek to attend a meeting, the Chairman may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.

XI. ENC UPDATING W.G. (EUWG) - M-3 TR K2.47

1. Objective

To develop contemporary guidance on standardized processes for the delivery and implementation of updates to ENCs.

2. Authority

The ENC Updating Working Group (EUWG) is a subsidiary of the Hydrographic Services and Standards Committee (HSSC) and its work is subject to HSSC approval.

3. Procedures

- a. The EUWG shall:
 - i. develop and propose a pragmatic approach to overcome any current shortcomings in the updating mechanisms for T&P notices in ENCs,
 - ii. review and revise the updating mechanisms as contained in S-52 Appendix 1,
 - iii. report to the HSSC in 2009 with recommendations as appropriate.
- b. The EUWG shall take into account the CHRIS submission from France concerning Temporary and Preliminary Notices to Mariners used with ENCs (CHRIS20-06.1C).
- c. The WG should work by correspondence unless a meeting is considered necessary to complete the assigned tasks.
- d. The WG should liaise with the RENC Joint Technical Experts Working Group (JTEWG) and CSPCWG.

4. Composition and Chairmanship

- a. The WG shall comprise representatives of IHO Member States (MS), the RENC JTEWG, Expert Contributors and Accredited NGIO Observers, all of whom have expressed their willingness to participate.
- b. Member States, RENC JTEWG, Expert Contributors and Accredited NGIO Observers may indicate their willingness to participate at any time. A membership list shall be maintained.
- c. Expert Contributor membership is open to entities and organisations that can provide a relevant and constructive contribution to the work of the WG.
- d. The Chair of the WG shall be a representative from France. The vice-Chair shall be a representative from UK.
- e. Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the WG, only MS may cast a vote. Votes shall be on the basis of one vote per MS represented. In the event that votes are required between meetings or in the absence of meetings, including for elections of a Chair or Vice-Chair, this shall be achieved through a postal ballot of those MS on the current membership list.
- f. If a secretary is required it should be a member of the WG
- g. If the Chair is unable to carry out the duties of the office, a Vice-Chair shall act as the Chair with the same powers and duties.
- h. Expert Contributors shall seek approval of membership from the Chair.
- i. Expert Contributor membership may be withdrawn in the event that a majority of the MS represented in the WG agree that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.
- j. All members shall inform the Chair in advance of their intention to attend any meetings of the WG.
- k. In the event that a large number of Expert Contributor members seek to attend a meeting, the Chair may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.

**XII. ADVISORY BOARD ON THE LAW OF THE SEA (ABLOS) –
M-3 TR K2.20**

Note: ABLOS is a joint board established by the IHO and the International Association of Geodesy (IAG)

Proposed Terms of Reference (see Annex C of HSSC1-07.3A)

OBJECTIVE:

To provide advice on technical aspects of the Law of the Sea.

1. Terms of Reference

- 1.1. To provide advice, guidance and, where applicable, offer expert interpretation of the technical aspects of the Law of the Sea to the parent Organizations, their Member States or to other organizations on request.
- 1.2. To review State practice and jurisprudence on Law of the Sea matters which are relevant to the work of ABLOS so as to be in a position to provide expert advice when needed.
- 1.3. To study, promote and encourage the development of appropriate techniques in the application of the technical provisions contained within the UN Convention on the Law of the Sea.
- 1.4. To review and update IHO Special Publication C-51 "A Manual on Technical Aspects of the United Nations' Convention on the Law of the Sea - 1982" (TALOS Manual).
- 1.5. To prepare, review and update other ABLOS publications as required by the parent organizations.

2. Rules of Procedure

- 2.1. ABLOS shall be composed of eight full members, preferably chosen with wide geographic representation. Each parent Organization shall appoint four members. The Division for Ocean Affairs and the Law of the Sea of the UN Office of Legal Affairs (DOALOS), and the International Hydrographic Bureau (IHB) (*"the International Hydrographic Bureau (IHB)"* to be replaced by *"the IHO Secretariat"* when the Secretariat is established) shall have representatives in an ex-officio capacity without voting rights.
- 2.2. ABLOS should normally take decisions by consensus. Should a vote be necessary then a simple majority of those present and voting is required, subject to a minimum of 4 voting members being present. In the case of a tied vote the Chairman shall have a casting vote.
- 2.3. The Member States of the IHO, the IAG and ABLOS through its Chairman may nominate additional observers to ABLOS. Observers may participate in correspondence and attend meetings but may not vote.
- 2.4. The term of office of a full member is four years, after which he/she may be re-appointed or replaced by his/her parent organization. Members are expected to attend every meeting of ABLOS. Where a member fails to attend two consecutive meetings the Chairman should raise the matter with the Parent Organization with a view to rectifying the situation.
- 2.5. Whilst members of ABLOS are appointed by their parent Organizations, to whom they are accountable, members are expected to serve as individual experts in their own right. No statements or publications may be issued in the name of ABLOS without ABLOS's prior approval.

- 2.6. The Chairman and Vice-Chairman shall be elected by ABLOS and should normally come from different parent Organizations on a rotational basis. They will serve for a two-year period, after which the Vice-Chairman becomes Chairman and a new Vice-Chairman is elected. If the Chairman is not present or available, the Vice-Chairman shall act in this capacity until the next meeting. Should the Vice-Chairman not be available to take office as Chairman when required, a new Chairman and Vice-Chairman should be elected.
- 2.7. ABLOS may establish Working Groups to carry out specific tasks.
- 2.8. ABLOS will have its permanent Secretariat at the IHB (*"the IHB"* to be replaced by *"the IHO Secretariat"* when the Secretariat is established), Monaco. The Secretariat will publish the documents and publications produced by the Board as required.
- 2.9. Members of ABLOS are expected to be supported by their own organizations for travel expenses and work.
- 2.10. ABLOS will normally meet once a year at a venue and time that minimizes cost and conduct business by correspondence between meetings.
- 2.11. ABLOS may organise conferences and seminars. A biennial technical conference will normally be held in Monaco in conjunction with an ABLOS Meeting. ABLOS may operate a fund to cover the receipts and expenses of running such a conference. Guidelines for the operation of this fund are appended to these terms of reference.
- 2.12. The Chair shall report on the activities of the Board to the annual meeting of the IHO Hydrographic Services and Standards Committee (HSSC) and to each ordinary session of the International Hydrographic Conference (*"each ordinary session of the International Hydrographic Conference"* to be replaced by *"each ordinary session of the Assembly through the Council"* when the Council and Assembly are established). The Chairman shall also provide an annual report on ABLOS's activities to the IAG and a report covering the inter-sessional period to the General Assembly of the IAG.
- 2.13. These TOR should be reviewed by ABLOS as required and not less frequently than every 4 years. Amendments, recommended by ABLOS, are to be submitted to the parent Organizations for approval.

