

3RD MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE  
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(Chair Group Meeting on 7 November p.m.)

**Paper for Consideration by HSSC**  
**The Restructure of HSSC WGs**

<b>Submitted by:</b>	Chairs of TSMAD, DPSWG, DQWG
<b>Executive Summary:</b>	This paper outlines a proposal to restructure certain technical working groups whose main interest is the digital domain and how this with the introduction of the concept of an annual combined meeting will increase the effectiveness of the working groups in the S-100 era.
<b>Related Documents:</b>	
<b>Related Projects:</b>	

## Introduction/Background

In addition to carrying out the maintenance and continuing development of S-57 and its suite of associated guidelines, the TSMAD WG has increasingly been involved in tasks related to S-100. This now includes the development and maintenance of the GI registry, the development of an S-100 based ENC Product Specification (S-101), the further development and revision of S-100, and the provision of technical advice and assistance to other HSSC WGs and other international organisations that are using S-100 as the basis for their own developments.

As a result of the increasing scope and volume of work, TSMAD has established a number of sub-WGs or Task Groups. TSMAD has also conducted some of its meetings in combination with other HSSC WGs, especially DIPWG. Liaison meetings between key TSMAD officers and other international organisations have also been undertaken. This increasing level of activity by TSMAD and its officers is unsustainable in its current form. A revision of the organisational arrangements for TSMAD and other related WGs is now warranted.

This paper proposes some adjustments to the practical working and administrative arrangements for those HSSC groups dealing with S-100 related developments to facilitate better coordination, liaison and outreach.

## Analysis/Discussion

### Amalgamation of TSMAD and DIPWG

During the last four years TSMAD and DIPWG have held annual joint meetings to better coordinate and mutually support the development of S-100 and S-101. This has recently included the ongoing development of the S-100 concept of overlays applicable to the ECDIS environment. Much of the required experience and expertise in ECDIS related matters is common to both of these WGs.

Extensive experience with S-57 and S-52 over the years has shown that to develop effective digital data and digital portrayal standards for ECDIS they must be developed together. Joint meetings between TSMAD, DIPWG and others, have been a way of ensuring that the development of standards (S-101) for the next-generation ENC and ECDIS are in harmony as much as possible. For this reason, it is proposed that the maintenance of S-52 and S-57 and the S-101 development task of the current DIPWG and TSMAD WG be amalgamated under a new WG to be known as the Digital Chart Data Working Group (DCDWG).

In summary, the roles of the DCDWG would be:

- responsible for the on-going maintenance of S-57 and its related guidelines
- responsible for the ongoing maintenance of S-52 and its related guidelines
- to develop the S-101 ENC Product Specification
- to develop the portrayal aspects of S-101

Proposed Terms of Reference for the DCDWG are set out in Annex A.

#### New Digital Data Technical Support Working Group

TSMAD has been receiving an increasing number of requests from other WGs to organise back-to-back meetings or for other WG representatives to be included at TSMAD meetings. More recently TSMAD has also been receiving requests from other organizations, for example IALA, to provide liaison and advice in using S-100 and the S-100 registry. The situation is unlikely to change in the near future because more groups are beginning to use S-100.

Providing the essential liaison and technical advice for S-100 is becoming an increasingly important role now that the standard is being used more widely. However, as was generally the case when S-57 was developed and more recently with the implementation of S-100, there is only a small core of TSMAD and members of other related WGs with the required knowledge and experience of S-100 to provide the assistance sought by other groups.

Unfortunately, because of restrictions of time and travel budgets, it is not possible for the TSMAD or DIPWG “expert” members to attend all the meetings where S-100 is being discussed or where assistance has been requested. This is why there have been combined meetings or, in the case of external organisations, liaison meetings. Even so, not all S-100 stakeholders are obtaining the necessary access, coordination and liaison from the core group of S-100 experts. A new WG, the S-100 Support WG (DDTSWG) is therefore proposed to help overcome this.

**DPSWG role moved to DDTSWG.** In order to minimise the number of HSSC WGs and meetings, it is proposed that the work of the Data Protection Scheme WG (DPSWG) be taken on by the new DDTSWG. The membership of the DPSWG includes a number of S-100 experts from IHO and from industry. They would be expected to participate in the DDTSWG in any case. These same members would be ideally placed to support many of the outreach functions of the DDTSWG.

Terms of Reference and Rules of Procedure for the DDTSWG are set out in Annex B.

**Membership of the S-100 Support WG.** While the DDTSWG will be open to all MS, observer organisations and expert contributors, it is expected that the WG will consist

predominantly of experts capable of fulfilling the requirements of maintaining and developing S-100 and provide advice, outreach and assistance to other groups.

The DDTSWG would take on the present TSMAD roles of maintaining and extending S-100, either developing changes or scrutinizing and approving proposed changes developed by other WGs or organizations. The DDTSWG would maintain the S-100 GI Registry. The DDTSWG would also take on the role of providing a first point of contact for technical advice and liaison with other IHO WGs and external organizations regarding the use and extension of S-100. This would include technical support/advice for any aspect of a S-100 based product specification when required. This could include for example, data modelling, encoding, portrayal requirements etc.

During the technical working week (see below) DDTSWG members would be available, by invitation, to attend a particular session of a WG agenda to provide technical support where required.

In summary, the DDTSWG would:

- Maintain and extend S-100
- Maintain and extend the functions of the GI registry
- Maintain and extend the S-63 Data Protection Scheme and any successor standards
- Provide outreach and assistance for the use of S-100 to other IHO bodies and external organisations

#### HSSC Technical Working Week Concept

Notwithstanding the amalgamation of TSMAD and DIPWG, and the establishment of the DCDWG, there is also an overarching need for wider coordination and liaison between the various HSSC WGs using S-100. Three principal topics requiring continuing liaison are:

- Developing and evaluating the need for extensions to, or maintenance of S-100
- The development of S-100 based product specifications
- Providing assistance to other WGs and organizations developing applications based on S-100

In order to enable a closer and more efficient interaction between the various WGs and external organisations working on S-100 related matters, it is proposed to follow the working arrangements adopted by other technical organizations such as ISO, IMO, DGIWG and IALA by introducing an option for an annual “HSSC Technical Working Week”.

An HSSC Technical Working Week should not normally comprise more than four WGs meeting concurrently.

#### New Digital Data Coordination Sub Committee

Under such an arrangement, it would be possible for S-100-related technical WGs to meet at the same place and at the same time. To foster the liaison required during an HSSC Technical Working Week, a plenary meeting comprising the members of the various WGs is required. This plenary session would be, in effect, a coordinating Sub Committee for the duration of the Working Week. It would convene only when a “technical working week” was in session and would have no purpose other than to function as the overarching coordination and information exchange forum during the “technical working week”.

It is proposed that this ad hoc coordinating Sub Committee be called the Digital Data Coordination Sub Committee (DDCSC).

Because of the key role that S-100 will play in the work programmes during an HSSC Technical Working Week and in order to provide continuity and promote efficiency, it is proposed that the office bearers (Chair, Vice Chair and Secretary) of the DDTSWG will serve as the Chair, Vice Chair and Secretary of the DDCSC when it meets at HSSC Technical Working Weeks.

Proposed Terms of Reference and Rules of Procedure for the DDCSC are set out in Annex C.

Organisational Structure

The organisational concept is illustrated below. Moving to such a structure would be beneficial and more efficient by making much needed technical advice available across the span of relevant HSSC WGs and by assisting in the coordination and harmonisation of the various strands of the HSSC technical program that will increasingly depend on the use of S-100.

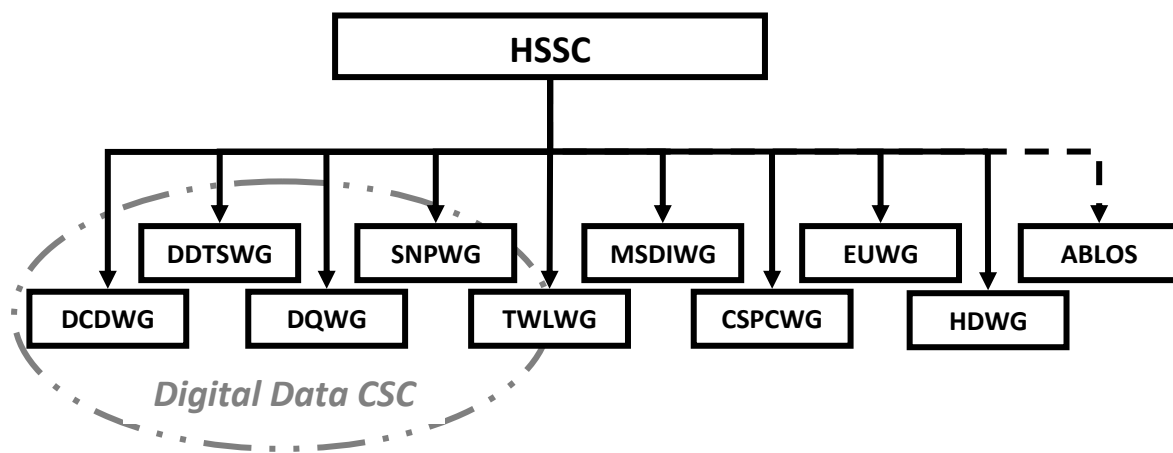


Diagram illustrating the coordinating role of DDCSC

WGs meeting under the auspices of the DDCSC will change each year depending on the priorities and progress of individual work items

DDCSC Working Timetable

The working agendas for each of the WGs meeting during the HSSC Technical Working Week would be discussed and coordinated in plenary. The meeting would then break into individual WG sessions, and return to a formal summary plenary session at the end of the week.

The following outline timetable is proposed.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Morning Session 0900-1200		DDCSC meet in plenary	WGs meet	Progress review in plenary	WGs meet	DDCSC meet in plenary

				(if required)		
Afternoon Session 1330-1600	Chair group meeting	WGs meet	WGs meet	WGs meet	Preparation of draft WG reports	DDCSC meet in plenary
Late Afternoon Session 1630-1800			WGs meet	WGs meet		

The proposed timetable is for a full five days, plus an informal meeting of the Chairs of the relevant WGs prior to the commencement of the main meeting.

The timetable allows time for plenary discussion and the exchange of information before at least seven working sessions in WGs. If plenary discussions of the DDCSC are shorter than timetabled, then this provides further additional working time for individual WGs.

WG Chairs will present an initial timetable for their individual meetings indicating in which session key agenda items for their WG will be discussed. These timetables will be coordinated, in the first instance, during the Chair Group meeting that precedes the first plenary session of the DDCSC.

In the opening plenary session, participating WG Chairs should outline the key points of their proposed working agendas and timetables and seek relevant technical feedback on the topics being covered, particularly in terms of the impact or input from other WGs. This will then inform each WG in preparation for the more detailed work that will take place in each WG during the week. The opening plenary session will also provide an opportunity for DDCSC participants to determine which WGs they need to join at certain times during discussions and if there are any clashes. If there are clashes, there will then be an opportunity for WG Chairs to consider adjusting their individual WG timetables if possible. There is even the opportunity to combine WGs for some sessions if this is more appropriate.

A mid-week plenary session will be available at which WG Chairs can provide an update on progress made so far, thereby keeping all DDCSC participants informed of progress in other WGs.

One working session has been allocated for WGs to conclude their work and to begin preparing reports. The draft versions of these reports can then be discussed in the closing plenary session of the DDCSC.

The closing plenary session of the DDCSC will enable a review of the work of individual WGs, thereby allowing participants to identify any areas that require further coordination between WGs and provide WGs with relevant information for future and ongoing work. The closing plenary session should also consider whether an HSSC Technical Working Week is warranted in the following year – and which WGs should attend.

#### Periodicity of HSSC Technical Working Weeks

An HSSC Technical Working Week should not occur more frequently than annually. The default location would be the IHB because it has the infrastructure in place to cater for multiple and concurrent meetings. However, in order to encourage a diverse attendance,

Member States or other organizations will be encouraged to host meetings provided that they can support and provide the multi-meeting facilities that will be needed. Minimum logistic requirements will be a plenary meeting room for about 50-60 people and up to 4 smaller meeting rooms for individual WGs of between 15-20 people.

Working Groups may still hold individual meetings at other times of the year if required and endorsed by the HSSC.

In order to allow sufficient time prior to HSSC meetings, HSSC Technical Working Weeks should take place between June and early September each year.

## **Implementation**

The XVIII<sup>th</sup> International Hydrographic Conference (IHC) will be held in April 2012. All HSSC Working Groups are required under their Terms of Reference to elect officer bearers at the first meeting after an IHC. It is therefore proposed that the DDTSWG and the DDCSC be established at the first meeting after the XVIII<sup>th</sup> IHC.

## **Justification and Impacts**

### **Benefits**

The proposals offer a more coordinated approach to the long-term use of S-100 as a fundamental IHO digital standard and the development of product specifications derived from it.

Working Groups associated with S-100 will benefit from a readily available pool of advice during their meetings.

Participants at Technical Working Weeks can participate in more than one meeting.

Travel expenses will be reduced for those MS and organizations wishing to participate in more than one WG.

### **Disadvantages**

The requirement for more sophisticated meeting facilities may reduce the number of prospective host nations, and therefore the opportunity to hold meetings in different regions of the world.

Some attendees may not be able to attend all parts of relevant WG meetings during concurrent or overlapping WG sessions.

## **Recommendations**

It is recommended that HSSC approve the procedural and organisational changes proposed in this paper.

## **Action Required of HSSC**

The HSSC is requested to:

- a. **Agree** to amalgamate TSMSADWG and DIPWG as the Digital Chart Data Working Group (DCDWG) under new Terms of Reference as set out in Annex A.

- b. **Establish** a Digital Data Technical Support Working Group (DDTSWG), under the Terms of Reference set out in Annex B.
- c. **Agree** to transfer the role of the Data Protection Scheme WG to the S-100 Support WG (DDTSWG).
- d. **Agree** the concept of an HSSC Technical Working Week comprising concurrent meetings of certain Working Groups under the coordination of a Digital Data Coordination Sub Committee
- e. **Establish** a Digital Data Coordination Sub Committee (DDCSC) under the terms of Reference and Rules of Procedure as set out in Annex C.
- f. **Agree** that the new arrangements take effect on completion of the XVIII<sup>th</sup> International Hydrographic Conference.

**Proposed Terms of Reference**  
**Digital Chart Data Working Group (DCDWG)**

**1. Objective**

- a) To maintain, develop and extend:
  - (i) the S-57 transfer standard for digital hydrographic data, and the associated standards, guidelines and documentation;
  - (ii) the S-57 ENC Product Specification;
  - (iii) the S-52 specifications for chart content and display aspects of ECDIS, and the associated standards and guidelines;
  - (iv) the S-101 IHO ENC Product Specification.
- b) To monitor the development of other related international standards.

**2. Authority**

The 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 S-57 IHO transfer standard for digital hydrographic data by preparing and promulgating maintenance documents containing clarifications, corrections and extensions, in accordance with the approved IHO procedures;
  - (ii) maintain the S-52 specifications for chart content and display aspects of ECDIS by preparing and promulgating maintenance documents containing clarifications, corrections and extensions, in accordance with the approved IHO procedures;
  - (iii) develop the S-101 IHO ENC Product Specification;
  - (iv) review relevant international standards and specifications and advise HSSC accordingly;
  - (v) propose amendments, revisions and new requirements for S-100 to the relevant WG;
  - (vi) consider new topics as instructed by HSSC and advise HSSC accordingly and/or draft the relevant extension documents.
- 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, portrayal, etc. The WG should meet at least once a year. When meetings are scheduled, and in order to allow any WG submissions and reports to be submitted to HSSC on time, WG meetings should not normally occur later than nine weeks before a meeting of the HSSC.



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

#### **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 Chair.

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 Chair 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 Chair may restrict attendance by inviting Expert Contributors to act through one or more collective representatives.

**Proposed Terms of Reference**  
**Digitat Data Technical Support Working Group (DDTSWG)**

**1. Objective**

- a) To maintain, develop and extend:
  - (i) S-100.
  - (ii) the functions of the GI registry.
  - (iii) S-63 Data Protection Scheme and any successor standards.
- b) Provide outreach and assistance for the use of S-100, the GI Registry and S-63 to other IHO bodies and external organisations.
- c) To monitor the development of other international standards related to S-100.

**2. Authority**

The S-100WG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC). Its work is subject to HSSC approval.

**3. Procedures**

- a) The S-100WG should:
  - (i) maintain and develop the S-100 IHO Geospatial Standard for Hydrographic Data in accordance with established IHO procedures, raising proposals for consideration by Member States through the HSSC;
  - (ii) maintain and develop the functions of the S-100 GI Registry, as approved by HSSC, to meet the requirements of relevant IHO bodies and other organizations, raising proposals, as appropriate, for consideration by Member States through the HSSC;
  - (iii) consider requests for changes from HSSC WGs and the wider S-100 user community;
  - (iv) consider proposals for changes to S-100 and the GI Registry to ensure they are within the scope of S-100;
  - (v) maintain, develop and extend the S-63 Data Protection Scheme, as necessary;
  - (vi) review relevant international standards and specifications and advise HSSC accordingly;
  - (vii) provide outreach and assistance for the use of S-100 to other IHO bodies and external organisations.
- b) The S-100WG should work by correspondence, group meetings, workshops or symposia. If meetings are held separately from an HSSC Technical Working Week, and in order to allow any WG submissions and reports to be submitted to HSSC on time, WG meetings should not normally occur later than nine weeks before a meeting of the HSSC.

- c) The S-100WG should liaise with other HSSC WG's, international organizations and industry to educate and encourage the application of IHO S-100 to the work of those organizations.
- d) The S-100WG should identify and promote the availability of other navigation-related data in ECDIS and in IHO geospatial standard-compliant format.
- e) The S-100WG should identify a work programme for each year, including expected time frames.

#### **4. Composition and Chairmanship**

- a) The S-100WG 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 S-100WG.
- 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) The Chair and Vice-Chair shall also take on the duties of the Chair and Vice-Chair of the Digital Data Coordination Sub Committee when that Sub Committee meets in conjunction with an HSSC Technical working Week.
- g) Expert Contributors shall seek approval of membership from the Chair.
- h) Expert Contributor membership may be withdrawn in the event that a majority of the M/S represented in the S-100WG agree that an Expert Contributor's continued participation is irrelevant or unconstructive to the work of the WG.
- h) All members shall inform the Chair in advance of their intention to attend meetings of the S-100WG.
- j) 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.

## **Proposed Terms of Reference**

### **Digital Data Coordination Sub Committee (DDCSC)**

Considering the need to promote and coordinate the use of S-100 for the development of IHO standards, specifications and guidelines and the potential use of S-100 to meet wider requirements of mariners and other users of hydrographic information, the Hydrographic Services and Standards Committee (HSSC) establishes a Digital Data Coordination Sub committee with the following Terms of Reference and Rules of Procedure. The DDCSC shall be the Coordination Group acting on behalf of the HSSC to coordinate and harmonize aspects of the IHO work Programme during parallel meetings of relevant Working Groups.

#### **1. Objective**

- a) To facilitate the coordination and harmonisation of the working agendas of HSSC Working Groups during an HSSC Technical Working Week.
- b) To encourage close cooperation between all HSSC Working Groups participating in an HSSC Technical Working Week.
- c) To consider the need for subsequent HSSC Technical Working Weeks and which WGs should attend.

#### **2. Authority**

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

#### **3. Procedures**

- a) The DDCSC will only meet during a designated HSSC Technical Working Week when various HSSC Working Groups intend to meet in parallel sessions at the same venue.
- b) There will be no work by correspondence, other than any necessary administrative and coordination work by the DDCSC officers (Chair, Vice-Chair and Secretary), to prepare for the next Technical Working Week.
- c) HSSC Technical Working Weeks should not normally comprise more than four WGs meeting concurrently.
- (d) During the Technical Working Week, the DDCSC should:
  - (i) At the initial plenary session, review the working agendas of HSSC Working Groups participating in a Technical Working Week, seeking input from all participants, especially regarding the impact of or input to work items in other WGs;
  - (ii) At the final plenary session, review the draft reports and action items from each WG; and
  - (iii) consider the need for the next HSSC Technical Working Week and which WGs should attend.

(e) HSSC Technical Working Weeks should take place between June and early September each year.

#### **4. Composition and Chairmanship**

a) The DDCSC shall comprise representatives of IHO Member States (M/S), Expert Contributors and Accredited NGIO Observers attending an HSSC Technical Working Week.

b) All decisions should be made by consensus.

c) The Chair, Vice-Chair and Secretary shall be the current Chair, Vice-Chair and Secretary of the S-100 Support Working Group.

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.