

**20<sup>th</sup> CHRIS MEETING**  
**Niterói, RJ, Brazil, 3-7 November 2008**

**CONSOLIDATED CHRIS WORK PLAN**  
October 2008

**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 – 2008/12:

- Element 3.1 Meetings of Committees and Working Groups
- Element 3.3 Nautical Cartography and Marine Data Management
- Element 3.5 Data for Geomatics Application

**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. WG Chairmen will present an updated WP on the last day of CHRIS meetings, incorporating the agreed changes discussed during that meeting. Completed Work Items should be removed from WPs after they have been reported at a subsequent CHRIS meeting. A revised consolidated CHRIS Work Plan (WP) incorporating all approved additional WP items will be circulated to participants of the meeting for final comment at the same time as the draft minutes of the 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, "An,Bn,Cn.."

**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.

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

### Introduction

- 1.1 In order to best use the limited resources available to CHRIS and its subordinate bodies, it is necessary to evaluate and prioritise proposed new work items. These guidelines are based on the principles originally agreed at CHRIS/13 and CHRIS/15 and revised and enhanced at CHRIS/18. They are intended to provide a uniform basis for evaluation and prioritisation.
- 1.2 Evaluation should be done as a two-stage process:
- a. general consideration leading to acceptance or rejection; and if accepted,
  - b. establishment of priorities.

### General acceptance

- 1.3 Before deciding to include a new item in the work programme of CHRIS and its subordinate bodies, the following factors should be taken into account:
- a. is the subject addressed by a proposal considered to be within:
    - (1) the scope of IHO objectives?
    - (2) the current IHO work programme?
  - b. has a need for the measure proposed been identified (for example, client demand, internal improvements)?
  - c. do adequate industry standards or solutions exist or are they being developed thereby reducing the need for action through CHRIS and its subordinate bodies?
  - d. is the objective achievable in the existing CHRIS and its subordinate bodies' work program?
  - e. What are the envisaged deliverables ?

### Establishment of priorities

- 1.4 Priorities for accepted work items should normally be assigned based on consideration of the following factors:
- a. measures aimed at substantially preventing maritime casualties, marine pollution incidents or enhancing maritime security
  - b. measures to overcome identified deficiencies in existing IHO standards and technical resolutions;
  - c. measures needed to align IHO standards and resolutions with those of other relevant international standards and recommendations;
  - d. measures required to take into account the introduction of new technologies and methods in maritime operations;
  - e. measures required to take into account new techniques in data acquisition, processing and management, and production techniques in hydrography;
  - f. measures leading to increased Hydrographic Office efficiency.
- 1.5 Follow up actions in response to specific requests from the International Hydrographic Conference or other international and intergovernmental organisations should be evaluated in light of paragraph 4 above unless specifically identified as urgent matters.

### General remarks

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

- 1.7 Once a decision has been made on the basis of the above for a new work item to be included in the work programme of CHRIS and its subordinate bodies, an appropriate target completion date should be established, taking into account the urgency of the matter concerned.
- 1.8 In general, proposals for new work items as well as the revised work programs raised by WG Chairs as part of their annual reports should include a proposed priority for each work item, based on the guidelines above.
- 1.9 Wherever possible, proposed priorities for work items will be considered ahead of a meeting by a "Chair Group" comprising Chairman, Vice chairman, Secretary and all available Work Group Chairs. Final endorsement of work item priorities will rest with CHRIS and be considered at the respective meeting.

## **2. CHRIS relevant elements of IHO Work Programme 2008-2012**

### **2.1 IHO Programme 3. Element 3.1 - Meetings of Committees and Working Groups**

#### **Objective**

Achieve the requirements of the IHO Work Program through the coordination and interaction of the relevant Committees and Working Groups.

#### **Task 3.1.1 Committee on Hydrographic Requirements for Information Systems (CHRIS)**

The CHRIS Chairman, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS.

#### **Task 3.1.2 Transfer Standard Maintenance and Application Development Working Group (TSMAD)**

The Chairman of the TSMAD WG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings scheduled each six months during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep the following IHO publications updated: S-58, S-61, S-62 and S-63; this last one in coordination with CSMWG. TSMAD Sub WGs, to meet as required.

#### **Task 3.1.3 Chart Standardization and Paper Chart Working Group (CSPCWG)**

The Chairman of the CSPCWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep IHO publication M-15 - List of Booklets on Chart Symbols updated. CSPCWG Sub WGs to meet as required.

#### **Task 3.1.4 Colours and Symbols Maintenance Working Group (CSMWG)**

The Chairman of the CSMWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep IHO publication S-64 updated, in coordination with TSMAD.

#### **Task 3.1.5 Standardization of Nautical Publications Working Group (SNPWG)**

The Chairman of the SNPWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide

guidance and advice to relevant organizations, bodies and MS. SNPWG Sub-WGs to meet as required.

**Task 3.1.6 Data Protection Scheme Working Group (DPSWG)**

The Chairman of the DPSWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS.

**Task 3.1.7 IHO-IEC Harmonizing Group on Marine Information Objects (HGMIO)**

The Chairman of the HGMIO under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS.

**2.2 IHO Programme 3. Element 3.3 - Nautical Cartography and Marine Data Management**

**Objective**

Facilitate worldwide quality nautical charting coverage to suit the needs of the mariner in support of safe and efficient navigation through the development of specifications and standards for the production, distribution and updating of cartographic products and supporting publications.

**Task 3.3.1 Nautical Publications**

Revise, develop and maintain the following IHO publications, with the support of consultants as required (2008-2012 ongoing):

- a) M-4 2008-2012 ongoing
- b) M-11 2008-2012 ongoing
- c) S-52 2008-2012 ongoing
- d) S-57 2008
- e) S-100 2008
- f) S-101 2012
- g) S-10X 2008
- h) INT 1, INT2 and INT3

**Task 3.3.2 Digital Data Protection**

CHRIS to provide support to users on the implementation and operation of the IHO data protection scheme S-63 (2008-2012). To develop and maintain S-63 with support for S-101 and other relevant specifications based on S-100 (2012). To provide IHB with support to operate the scheme as scheme administrator (2008-2012).

**Task 3.3.3 Liaison and cooperation with other organizations.**

CHRIS to develop and maintain contact with relevant organizations to harmonize standards, to avoid potential conflicts, to anticipate development and to maximise the quality and availability of adequate nautical products and services. To invite participants to attend appropriate IHO forums (eg. Open ECDIS Forum) and to participate in governmental and non governmental groups such as: IEC/TC80, ISO TC211, DGIWG, GSDI, ICA Commission on Spatial Data Standards, GNSS-ICG. (2008-2012)

## **2.3 IHO Programme 3. Element 3.5 - Data for Geomatics Application**

### **Objective**

Facilitate the optimal use of hydrographic data for purposes other than navigation.

#### **Task 3.5.1 Development of Standards**

CHRIS to develop processes under which Hydrographic Data and Exchange Products Specifications may be created under S-100. (2008-2009) To develop standards for coastal zone hydrographic surveys in support of coastal zone management, protection of the environment and natural hazards (e.g. tsunamis). (2008-2012)

#### **Task 3.5.2 Maritime Spatial Data Infrastructure**

CHRIS to monitor global geomatics development, especially those connected with coastal zone data management and the development of national, regional and global spatial data infrastructure and to provide guidance to MS as appropriate.(2008-2012)

CHRIS Workplan - Summary Table

CHRIS WG	Task	IHO W.P.	CHRIS Meeting	Projects	Priority H-high M-medium L-low	Start Date	End Date	Remarks
TSMAD	A	T3.3.1	17	Develop S-100 based on ISO TC211 geo-spatial standards	H	2001	2007	No product specifications shall be developed unless specifically directed
TSMAD	B	T3.1.2	14	Keep S-58 Recommended ENC validation checks up to date	H	2002	Cont	
TSMAD	C		14	Support FAQ and encoding advice sections of IHO web site up to date	H	2002	Cont	
TSMAD	D	T3.5.1	19	Develop Marine Environment Protection Programme based on S-100	H	2005	2006	
CSMWG	A	T3.3.1	14	Maintain S-52 App. 2 "Colours and Symbols Specifications for ECDIS" and its Annex A "Presentation Library"	H		2004	
CSMWG	B	T3.3.3	14	Contribute to IEC TC80/WG13 symbol harmonizing work	H		2004	
CSMWG	C	T3.3.1	14	Examination of S-52 main documents and annexes for redundant operational aspects of ECDIS	M		2004	
CSMWG	D		14	Introduce new website based recommendation service for good application practice of S-52	M		na	
CSMWG	E		14	Contribute to harmonised rules for ENC loading strategy, use of SCAMIN and overscale indication.	M		2004	
CSMWG	F		14	Assess the impact on S-52 C&S regulations of other IHO standards.	M		2004	
CSMWG	G		18	Improving ENC Consistency/loading strategies.	M	2005		
CSMWG	H		17	Harmonisation of pick report presentation	M	2006		
CSMWG	I	T3.3.1	18	Develop Symbols for object and attribute enhancements of S-57 Edition 3.1.1	M	2007	2007	
CSMWG	J		17	Harmonisation with CSPCWG.	M	2005		
CSMWG	K		16	Maintain the CSMWG bulletin and FAQ section on the IHO website.	M	2005		
DPSWG	A	T3.3.2	18	Prepare S-63 edition 1.1 to provide a more precise description for a compliant implementation of the data protection scheme.	H	2006	2008	Edition 1.1 published March 2008 (CL36/2008 refers)
DPSWG	B	T3.3.2	18	Provide technical and operational support to Data Servers and OEMs developing or operating systems or services compliant with S-63.	H	2003		

CHRIS WG	Task	IHO W.P.	CHRIS Meeting	Projects	Priority H-high M-medium L-low	Start Date	End Date	Remarks
CSPCWG	A	T3.3.1	14	Revise, develop and maintain Publication M-4 'Chart Specifications of the IHO & Regulations of the IHO for INT Charts'	M	2003	2010	Being revised by Sections
CSPCWG	B	T3.3.1	14	Revise, develop and maintain Publication M-11 'Catalogue of INT Charts' Part A maintained by CSPCWG	M		2005	
CSPCWG	D		15	Development of new (and revised) symbology	M	2004	2009	Undertaken as they emerge
CSPCWG	E	T3.3.1	14	Maintenance of M-4 supplementary publications INT 1, 2 & 3	M	2003	2008	
CSPCWG	F	T3.3.1	19	Revise, develop and maintain S-49 'Recommendations concerning Mariners' Routeing Guides'	M	2008	2009	Sub-WG led by DE
CSPCWG	G	T3.1.3		Revise, develop and maintain Publication M-15 'List of Booklets on Chart Symbols & Abbreviations'				
CSPCWG	H		19	Review selected Technical Resolutions from Publication M3 'Technical and Administrative Resolutions'	H	2007	2008	Recommendations provided to IHB Jun 08
SNPWG	A		15	Decide on the Data Format of NP-data intended for use in ECDIS (NP3)	H	2003	2004	
SNPWG	B		15	Define the content requirements of NP-data intended for use in ECDIS (NP3).	M	2004	2009	
SNPWG	C		15	Develop test data sets	H	2008	2009	
SNPWG	D		15	Develop basic display rules for NP-data intended for use in ECDIS (NP3)	M	2008	2009	
SNPWG	E		15	Draft guidance documents.	H	2008	2009	
SNPWG	F		15	Revise technical resolutions as required.	H	2007	2008	
SNPWG	G		15	Liaise with other CHRIS WG's and other IHO and international bodies.	H	2004		
DQWG	A		19	Review ISO 19113, 19114, and 19115 and make recommendations for inclusion in S-100	M			
DQWG	B		19	Monitor and further develop quality indicators for hydrographic data	M			
DQWG	C		19	Review and revise as needed existing S-57 quality indicators	H			
DQWG	D		19	Review and revise presentation in S-52	M			
DQWG	E		19	Investigate ways of ensuring that ECDIS displays provide a clear warning or indication of the quality of the underlying survey data				

CHRIS WG	Task	IHO W.P.	CHRIS Meeting	Projects	Priority H-high M-medium L-low	Start Date	End Date	Remarks
DQWG	F		19	Propose new data quality topics and other applications for consideration by CHRIS				
HGMIO	A		15	For each MIO category, describe the current status of development efforts (e.g., data or display-related).	M	2003	2008	
HGMIO	B		15	For each MIO category, assess level of completion and further development required.	L	2003		
HGMIO	C		15	Recommend to TSMAD and CSMWG on MIO development-related matters.	L	2007	2008	
HCIWWG	A		19	Initiate the work of the HCIWWG	H	15 Nov 2007	03 Dec 2007	
HCIWWG	B		19	Identify waters / countries / areas / regions, organisations concerned, and other relevant facts	H	04 Dec 2007	26 Jun 2008	
HCIWWG	C		19	Analyse possible IHO role on these areas	H	27 Jun 2008	09 Sep 2008	
HCIWWG	D		19	Make proposals to CHRIS-20 and 4th EIHC	H	10 Sep 2008	01 Apr 2009	
MSDIWG	A	T3.5.2	19	Prepare, undertake and complete an audit of IHO Member States to establish their level of knowledge and understanding of the benefit of supporting National SDI initiatives and their capability in supporting the development of Marine SDI.				
MSDIWG	B	T3.5.2	19	Analyse the results of the research audit and establish the benchmark for future IHO support and / or capacity building required ,and assist in the development of an IHO SDI Guide.				
MSDIWG	C	T3.5.2	19	Provide the preliminary IHO SDI Guide framework for Member States incorporating necessary step by step approach to SDI.				
MSDIWG	D	T3.5.2	19	Provide, to CHRIS Meeting 20, a report of WG activities to date and to recommend (if necessary) an extension to the life of the WG in the light of results and / or progress achieved in the 2008 work programme.				



### 3. TSMAD Work Plan

#### 3.1 TSMAD Tasks

- A Develop S-100 based on ISO TC211 geo-spatial standards (IHO T3.3.1 refers)
- B Keep S-58 Recommended ENC validation checks up to date (IHO T3.1.2 refers)
- C Support FAQ and encoding advice sections of IHO web site up to date
- D Develop Marine Environment Protection Programme based on S-100 (IHO T3.5.1 refers)

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person(s)	Affected Pubs/Standard	Remarks
A	S-100	H	Draft Version published March 2008, S-100 Editing Committee Meeting Sept 2008	2001	2009	O	Barrie greenslade		
A.1a	Develop S-100 Feature Dictionary component	H		2001	Feb 06	C	Holger Bothien		
A.1b	Develop S-100 Feature Catalogue component	H		2007	Dec 07	C	Holger Bothien		
A.2	Develop S-101 ENC product specification	M		2006	Jan 12	O	Julia Powell, Richard Fowle		
A.3	Develop S-100 Imagery and Gridded Data component	H		2001	Feb.06	C	Don Vachon		
A.4	Develop S-100 Time varying and 3-D data. component	H		2001	Oct.04		Jim Radice		Deleted, absorbed into other work items.
A.5a	Develop S-100 metadata component	H		2001	Dec 07	C	Tony Pharaoh		
A.5b	Develop S-100 quality metadata component	H		2007	Jan 08	C	Dion Gaulton		

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

### 3.2 TSMAD Meetings (IHO T3.1.2 refers)

#### TSMAD

Date	Location	Activity
29 Sep – 3 Oct 03	Wollongong, Australia	10th Meeting
11-12 November 04	IHB, Monaco	11 <sup>th</sup> Meeting
10-11 November 05	Wollongong, Australia	12 <sup>th</sup> Meeting
18-22 September 06	Wellington, New Zealand	13 <sup>th</sup> Meeting
4-8 June 07	UKHO, Taunton	14 <sup>th</sup> Meeting
14-18 January 08	IHB, Monaco	15 <sup>th</sup> Meeting
5-9 May 08	Cape Town, South Africa	16 <sup>th</sup> Meeting
8-12 September 08	Seattle, USA	17 <sup>th</sup> Meeting

#### TSMAD S-100 Sub-WG

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

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 Secretary: Anthony PHARAOH      Email: [apharaoh@ihb.mc](mailto:apharaoh@ihb.mc)

#### 4. CSMWG Work Plan (2007)

##### 4.1 CSMWG Tasks

- A Maintain S-52 App. 2 "Colours and Symbols Specifications for ECDIS" and its Annex A "Presentation Library" (IHO T3.3.1 refers)
- B Contribute to IEC TC80/WG13 symbol harmonizing work (IHO T3.3.3 refers)
- C Examination of S-52 main documents and annexes for redundant operational aspects of ECDIS (IHO T3.3.1 refers)
- D Introduce new website based recommendation service for good application practice of S-52 (IHO T3.3.1 refers)
- E Contribute to harmonised rules for ENC loading strategy, use of SCAMIN and overscale indication
- F Assess the impact on S-52 C&S regulations of other IHO standards
- G Improving ENC Consistency/loading strategies
- H Harmonisation of pick report presentation
- I Develop Symbols for object and attribute enhancements of S-57 Edition 3.1.1(IHO T3.3.1 refers)
- J Harmonisation with CSPCWG
- K Maintain the CSMWG bulletin and FAQ section on the IHO website

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person(s)	Affected Pubs/Standard	Remarks
A.1	Issue S-52, App.2, Edition 4.3; Annex A, Edition 3.4 and Addendum by application of Maintenance Document No. 5	M		2007	2008	P	Mathias Jonas Chris Roberts Julia Powell	S-52, App. 2, Annex A, Addendum	
A.2	Implementation of changed requirements of revised IMO ECDIS PS into S-52 C&S regulations	H		2006	2008	P	Mathias Jonas Chris Roberts Julia Powell	S-52, App. 2, Annex A,	
F.1	Consideration of the implications of future S100/S101 on S-52 C&S regulations	M		2003		O	Mathias Jonas Julia Powell	S-52, App.2 S100	

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person(s)	Affected Pubs/Standard	Remarks
F.2	In close liaison with TSMAD, set up a portrayal register within the S100 registry	M		2005		O	Mathias Jonas Pol Lebihan Julia Powell	S-52, App. 2 S100	
G.1	Contribute and attend to a loading strategy workshop organized by ECDIS industry	M		2005		P	Mathias Jonas	S-52, App.2	
H.1	Contribute to common work of SNPWG and other relevant organizations, for NP3 presentation.	M		2006		P	Mathias Jonas	S-52, App.2	
I.1	Adapt ECDIS chart 1 to PL Edition 3.4 by means of SYMINS mechanism	M		2007	2007	P	Mathias Jonas Olaf Wentzel	S-52, App. A	
J.1	Liase with CSPCWG	M		2005		O	Mathias Jonas	S-52, App.2 Annex A	
K.1	Establish links at IHB server	M		2005		P	Michel Huet	S-52, App.2 Annex A	

#### 4.2 CSMWG Meetings (IHO T3.1.4 refers)

Date	Location	Activity
18-20 May 03	Ottawa, Canada	14 <sup>th</sup> Meeting
2-4 May 05	Rostock, Germany	15 <sup>th</sup> Meeting
29-31 May 06	IHB Monaco	16 <sup>th</sup> Meeting
11-13 June 07	Stavanger, Norway	17 <sup>th</sup> Meeting
7-9 May 08	Cape Town, South Africa	18 <sup>th</sup> Meeting

Chairman: Mathias JONAS      Email: [mathias.jonas@bsh.de](mailto:mathias.jonas@bsh.de)  
Vice Chairman: Julia POWELL      Email: [Julia.Powell@noaa.gov](mailto:Julia.Powell@noaa.gov)  
Secretary: Vacant      Email:

## 5. DPSWG Work Plan

### 5.1 DPSWG Tasks

- A Prepare S-63 edition 1.1 to provide a more precise description for a compliant implementation of the data protection scheme (IHO T3.3.2 refers)  
 B Provide technical and operational support to Data Servers and OEMs developing or operating systems or services compliant with S-63 (IHO T3.3.2 refers)

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person(s)	Affected Pubs/Standard
A.1	Prepare S-63 edition 1.1	H	Complete	01.09.06	01.11.07	C	Richard Coombes / Jonathan Pritchard, UKHO	S-63 edition 1.0
A.2	Prepare a comprehensive test data set for edition 1.1 .including full support for a multi supplier environment.	H	Ongoing. S64 complete lec61174 input ongoing	01.09.06	15.12.07	O	Robert Sandvik, Primar	S-63 edition 1.0
A.3	Provision of S-63 edition 1.1 to IHB for publication.	H	Completed	15.12.07	01.01.08	C	Robert Sandvik, Primar	S-63 edition 1.0
B.1	Provide S-63 technical and operational support to Data Servers and OEMs	H	Ongoing	01.08.03		O	DPSWG members	S-63 edition 1.0/1.1
B.2	Develop a work plan for future standards relating to Data Protection and Security of ENC data.	H	Planned	01.10.08		P	Jonathan Pritchard, UKHO	S-63, S101

**5.2 DPSWG Meetings** (IHO T3.1.6 refers)

<b>Date</b>	<b>Location</b>	<b>Activity</b>
24-25 Nov. 2003	IHB, Monaco	DPSWG 3
22-23 June 2004	IHB, Monaco	DPSWG 4
31 Aug - 1 Sept 2006	IHB, Monaco	DPSWG 5
28-30 May 2007	IHB, Monaco	DPSWG 6

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## 6. CSPCWG Work Plan

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

### 6.1 CSPCWG Tasks

- A Revise, develop and maintain Publication M-4 'Chart Specifications of the IHO & Regulations of the IHO for INT Charts' (IHO T3.3.1 refers)
- B Revise, develop and maintain Publication M-11 'Catalogue of INT Charts' Part A maintained by CSPCWG (IHO T3.3.1 refers)
- D Development of new (and revised) symbology
- E Maintenance of M-4 supplementary publications INT 1, 2 & 3 (IHO T3.3.1 refers)
- F Revise, develop and maintain S-49 'Recommendations concerning Mariners' Routing Guides'
- G Revise, develop and maintain Publication M-15 'List of Booklets on Chart Symbols & Abbreviations' (IHO T3.1.3 refers)
- H Review selected Technical Resolutions from Publication M3 'Technical and Administrative Resolutions'

Task	Work item	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person(s)	Affected Pubs/Standard	Remarks
A.4	Revise M-4 Part B Section 400	H	Revise and publish	2005	2009	O	Sec CSPCWG	M-4 / B-400	B-400 divided into sub-sections for manageability.
A.4.3	Sub-section B-440 to B-449	H	Include in M-4	2006	2008	C	Sec CSPCWG	M-4 / B-400	New edition M-4 v3.005



A.4.4.1	Sub-section B-450 to B-479	H	Approval of MS	2007	2008	O	Sec CSPCWG	M-4 / B-400	PDF version prepared, CL71/2008 refers
A.4.4.2	Sub-section B-480 to B-499	H	WG Ltr for round 1	2008	2009	O	Sec CSPCWG	M-4 / B-400	Draft in prep
A.5	Revise M-4 Part B Section 300	L	Completion of A.8			P	Sec CSPCWG	M-4 / B-300	Start after A.8 completed
A.6	Revise M-4 Part B Section 500	L	Completion of A.5			P	Sec CSPCWG	M-4 / B-500	Start after A.5
A.8	New specification for Chart Maintenance Section B-600	M	WG Ltr for round 1	2006	2009	O	Sec CSPCWG	M-4 / B-600	1 <sup>st</sup> draft with WG
A.9	Additional paragraph in B-100 re colour examples	L		2006	2008	C	IHB, Sec CSPCWG	M-4 / B-100	New edition M-4 v3.005 B-147
A.10	Use of English on charts	H		2006	2008	C	Sec/Chairman CSPCWG	M-4	New edition M-4 v3.005 B-510.4
D.9	Develop new symbol for synchronized and sequential lights	M	Approval of MS	2005	2008	O	Sec CSPCWG	M-4, INT 1	Included in A.4.4.1
D.13	Mangroves	M	Approval of MS	2006	2008	O	Sec CSPCWG	M-4, INT 1	CL71/2008 refers
D.14	Bridges (especially supports)		CSPCWG5	2008	2009	P	Sec CSPCWG	M-4	CSPCWG5 agenda discussion
E.1	Maintain official INT 1s	n/a	Next round of revisions to be considered after pub of B450-479			P	FR: Y Le Franc ES: J Millan DE: S Spohn	INT 1	French version 2006. Spanish version 2007. English version 2008 (by DE).
E.4	Symbols for vacant entries in INT 1	L	Review when revision of M-4 completed			P	Sec CSPCWG	INT 1, M-4 part B	CSPCWG4 Action 32. See WG Ltr 10/08 – propose nfa.
E.5	Small craft symbols	L				P	Sec CSPCWG	INT 1, M-4 part B	
E.6	INT abbreviations	M	Include in M-4	2006	2008	C	Sec CSPCWG	INT1, M-4 part B	New edition M-4 v3.005 B-122
E.7	Review terms in INT1 for consistency with M4	L	Review at next revision of INT1 (see E.1)			P	Sec CSPCWG & INT1 subWG		Selected review conducted, concluding no significant issue.
E.8	Move part of INT1 K into L	L	When next round of revisions of INT1 is planned (see E.1)			P	INT1 subWG		CSPCWG4 Action 33
F.1	Review S-49	M	Discussion at CSPCWG5	2008	2009	P	Chairman & DE (J Schröder-Fürstenberg)	S-49	CSPCWG4 Action 38. Germany volunteered to lead

H.1	Review allocated Technical Resolutions (as listed in IHB Ltr 7/09/07 to Committee Chairman)	H	CHRIS20	2007	2008	C	Chairman	M-3	Recommendations sent to IHB 11/06/08
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## 6.2 CSPCWG Meetings (IHO T3.1.3 refers)

Date	Location	Activity
03-05 Nov 04	IHB, Monaco	CSPCWG 1
19-21 Oct 05	IHB, Monaco	CSPCWG 2
22-24 Nov 06	IHB, Monaco	CSPCWG 3
13-15 Nov 07	IHB, Monaco	CSPCWG 4
18-21 Nov 2008	Sydney, Australia	CSPCWG 5

Chairman: Peter JONES  
 Vice Chairman: Jeff WOOTTON  
 Secretary: Andrew HEATH-COLEMAN

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 Email: [andrew.coleman@ukho.gov.uk](mailto:andrew.coleman@ukho.gov.uk)

## 7. SNPWG Work Plan

### 7.1 SNPWG Tasks

- A Decide on the Data Format of NP-data intended for use in ECDIS (NP3)
- B Define the content requirements of NP-data intended for use in ECDIS (NP3)
- C Develop test data sets
- D Develop basic display rules for NP-data intended for use in ECDIS (NP3)
- E Draft guidance documents
- F Revise technical resolutions as required
- G Liaise with other CHRIS WG's and other IHO and international bodies

Task	Work Item	Priority H-high M-medium L-low	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person	Affected Pubs /Standard	Remarks
B2	Model the data where required.	H	2004	Open	O	Chair/Sec SNPWG	S-100	To be included in NPUBS register
B3	Review of objects and attributes	H	2004	2008	O	Chair/Sec SNPWG	S-100	
B4	Propose amendments for Hydro register to TSMAD	H	2005	Open	O	Chair/Sec SNPWG	S-100	To be included in S-100 registry
B6	Populate the NPUBS Register	H	2006	Open	O	Chair/Sec SNPWG	S-100	
C1	Produce test data set	H	2009	2010	P	Chair/Sec SNPWG		
C2	Set up a test bed ECDIS	M	2009	2010	P	Chair/Sec SNPWG		
D1	Develop basic display rules for NP data intended for use in ECDIS (NP3)	M	2008	2009	O	Chair/Sec SNPWG	S-52	Close Co-operation with CSMWG required
E1	Data Capture Guidance	H	2008	2009	O	Chair/Sec SNPWG		Document for NPs similar to Use of the Object Catalog

Task	Work Item	Priority H-high M-medium L-low	Start Date	End Date	Status P-Planned O-Ongoing C-Completed	Contact Person	Affected Pubs /Standard	Remarks
E2	Draft Product Specification Guidance and Example	H	2008	2009	O	Chair/Sec SNPWG	S-10X	
F1	Revise technical resolutions	H	2007	2008	O	Chair/Sec SNPWG	M3	
G1	Liaise with the CSMWG for the development of the display rules	H	2005	Open	O	Chair/Sec SNPWG		
G2	Liaise with the TSMADWG	H	2004	Open	O	Chair/Sec SNPWG		
G3	Liaise with other groups	H	2004	Open	O	Chair/Sec SNPWG		Tides, MIO's, AML, ICE, Inland ECDIS

## 7.2 SNPWG Meetings (IHO T3.1.5 refers)

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

Chairman: David ACLAND      Email: [David.Acland@UKHO.gov.uk](mailto:David.Acland@UKHO.gov.uk)  
Vice-chairman: John NYBERG      Email: [John.Nyberg@noaa.gov](mailto:John.Nyberg@noaa.gov)  
Secretary: Pelle AGAARD      Email: [petar@kms.dk](mailto:petar@kms.dk)

## 8. DQWG Work Plan

### 8.1 DQWG Tasks

- A Review ISO 19113, 19114, and 19115 and make recommendations for inclusion in S-100
- B Monitor and further develop quality indicators for hydrographic data
- C Review and revise as needed existing S-57 quality indicators
- D Review and revise presentation in S-52
- E Investigate ways of ensuring that ECDIS displays provide a clear warning or indication of the quality of the underlying survey data
- F Propose new data quality topics and other applications for consideration by CHRIS

Task	Work Item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
A1	Review ISO standards	M		Dec 2008	April 2009	P	TBD		
A2	Make recommendations For inclusion in S-100				Nov. 2010	P	TBD	S-100	
B1	Re-evaluate customer requirements for data Quality indicators	M		Sept. 2008	Sept. 2009	O	DQWG		Recruit subject matter expert(s) to discuss at Norfolk meeting. Literature search.
B2	Brainstorm alternate approaches to data quality	M		Sept. 2008	Sept. 2009	O	DQWG		Open meetings at Caris and Shallow Survey
B3	Choose one approach	M			Sept 2009	P	DQWG		
C1	Recommend changes to S-57 CATZOC	H			Sept 08	C	DQWG		Contained in this report
D1	Review current functionality in ECDIS with current products	M		Dec 2008	May 2009	P	DQWG		Live and static displays, Potentially demo at May meeting
D2/E1	Develop logic tree for alarms in current and proposed approaches			May 2009	Sept 2009	P	DQWG		
E2	Find ECDIS or ECS partner for demos and experiments			July 2009	Dec 2009	P	DQWG		

Task	Work Item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
E3	Develop a demonstration project			Dec 2009	Apr 2010	P	DQWG		

## 8.2 DQWG Meetings

Date	Location	Activity
23 Sep 08	Bath, UK	Kick-off meeting
20 Oct 08	Portsmouth, NH, USA	1st Meeting
During week 11-15 May 09	Norfolk, Virginia, USA	2nd Meeting

Chairman: Shepard SMITH      Email: [shep.smith@noaa.gov](mailto:shep.smith@noaa.gov)  
Vice-chairman: Chris HOWLETT      Email: [Chris.Howlett@ukho.gov.uk](mailto:Chris.Howlett@ukho.gov.uk)  
Secretary: Vacant      Email:

## 9. HGMIO Work Plan (2007)

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

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

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

Other potential topics for future investigation could include:

- Current Flow, Meteorological, & Oceanographic

### 9.1 HGMIO Tasks

- A For each MIO category, describe the current status of development efforts (e.g., data or display-related).
- B For each MIO category, assess level of completion and further development required.
- C Recommend to TSMAD and CSMWG on MIO development-related matters

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s)	Related Pubs/Standard
A.1	Ice Information	M	Work Item agreed at HGMIO 2	Fall 03	2008	C	John Falkingham, Canadian Ice Services (Ottawa)	S-57 & S-52
A.2	Meteorological	L	Work Item agreed at HGMIO 2	Fall 03	unknown	-	Michel Huet (IHB) and Dan Pillich	S-57 & S-52
A.3	Tides/Water Levels	L	Work Item agreed at HGMIO 2	-	unknown	-	[vacant]	-
A.4	Oceanographic	L	Work Item agreed at HGMIO 2	-	-	-	[vacant]	-
A.5	Current Flow	L	No tasking or volunteer	-	-	-	[vacant]	-

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s)	Related Pubs/Standard
A.6	Aids to Navigation Status (e-ANSI)	M	Developed e-ANSI objects/attributes	Jun 05	Jun 07	C	Michel Huet (IHB) & Lee Alexander (UNH)	S-57
A.7	Marine Environmental Protection	H	Developed Prototype Product Spec	Nov 07	Dec 07	C	Lee Alexander (UNH) & Cameron McLeay (CARIS)	S-57
C.1	Recommend to TSMAD MIO-related matters that warrant consideration related to product specifications	M	Proposed at CHRIS 19	Dec 07	ongoing	O	Lee Alexander (Univ. of NH)	S-57, S-100
C.2	Recommend to CSMWG MIO-related matters related to portrayal	M	Proposed at CHRIS 19	Dec 07	ongoing	O	Lee Alexander (Univ. of NH)	S-52, IEC 62288
C.3	Develop General Content Specification for MIOs	H	Agreed to at HGMIO 4 <sup>th</sup> Mtg	Jan 07	Jun 07	C	Lee Alexander (UNH) & Cameron McLeay (CARIS)	S-57
C.4	Establish MIO Register for Product Specs and Portrayal	M	Proposed at CHRIS19	Dec 07	unknown	P	Lee Alexander (Univ. of NH)	S-57, S-52, S-100

## 9.2 HGMIO Meetings (IHO T3.1.7 refers)

Date	Location	Activity
14 June 03	IHB, Monaco	2 <sup>nd</sup> Meeting
27 June 05	IHB, Monaco	3 <sup>rd</sup> Meeting
28 June 05	IHB, Monaco	e-ANSI (IALA) – MIO Workshop
22-23 May 07	Durham, NH, USA	4 <sup>th</sup> Meeting
25-26 Sept 08	Bath, UK	5 <sup>th</sup> Meeting

Chairman: Lee ALEXANDER      Email: [lee.alexander@unh.edu](mailto:lee.alexander@unh.edu)  
Vice-chairman: Cameron MCLEAY      Email: [cameron.mcleay@caris.com](mailto:cameron.mcleay@caris.com)  
Secretary: Michel HUET      Email: [mhuet@ihb.mc](mailto:mhuet@ihb.mc)



**10. HCIWWG Work Plan****10.1 HCIWWG Tasks**

- A Initiate the work of the HCIWWG  
 B Identify waters / countries / areas / regions, organisations concerned, and other relevant facts  
 C Analyse possible IHO role on these areas  
 D Make proposals to CHRIS-20 and 4th EIHC

<b>Task</b>	<b>Work item</b>	<b>Priority</b> H-high M-medium L-low	<b>Milestones</b>	<b>Start Date</b>	<b>End Date</b>	<b>Status</b> P-planned O-ongoing C-completed	<b>Contact Person(s)</b>	<b>Related Pubs/Standard</b>
A.1	HCIWWG Letter 1 – Initiate the work	H		Nov 07	17 Nov 07	c	Chair HCIWWG	
A.2	HCIWWG Letter 1 – Response	H		17 Nov 07	3 Dec 07	C	HCIWWG Members	
B.1	Questionnaire to RHCs, etc.	H		Dec 07	15 Feb 08	C	Chairs HCIWWG, RHCs, IEHG, etc.	
B.2	Analysis of questionnaire replies	H		16 Feb 08	30 Mar 08	C	Chair HCIWWG	
B.3	HCIWWG Letter 2 – comments to the list of waters and waterways concerned	H		24 Mar 08	25 Mar 08	C	Chair HCIWWG	
C.1	Draft analysis of the IHO role on identified waters / waterways	H		16 Feb 08	24 Mar 08	C	Chair HCIWWG	
C.2	HCIWWG Letter 3 – definition of “inland waters”	H		28 Mar 08	16 May 08	C	Chair HCIWWG	
C.3	Comments to the analysis of questionnaire replies questionnaire replies	H		27 Jun 08	30 Jul 08	C		
C.4	Liaise with IEHG	H		15 Nov 07	09 Sep 08	C	Chairs HCIWWG and IEHG	
C.5	Liaise with ISPWG	H		02 Nov 07	01 Sep 08	C	Chairs HCIWWG and ISPWG	

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s)	Related Pubs/Standard
C.6	Meeting	L		TBD	TBD	Not necessary	Chair HCIWWG	
D.1	Draft proposals to CHRIS-20	H		01 Aug 08	26 Aug 08	C	Chair HCIWWG	
D.2	Draft report of HCIWWG	H		01 Aug 08	01 Aug 08	C	Chair HCIWWG	
D.3	HCIWWG Letter 4 – comments to the draft proposals and draft report	H		27 Jun 08	26 Aug 08	C (e-mail)	Chair HCIWWG	
D.4	Report and proposals to CHRIS-20	H		-	10 Sep 08	C	Chairs HCIWWG and CHRIS	
D.5	Final report and proposals to 4th EHC	H		-	01 Apr 09	P	Chair CHRIS / IHB	

## 10.2 HCIWWG Meetings

Two Chair Group Meetings: Nov 6<sup>th</sup>, 2007, Rotterdam; and Sep 3<sup>rd</sup>, 2008, Tokyo

Chairman: Wesley CAVALHEIRO      Email: [wesley.cavalheiro@yahoo.com](mailto:wesley.cavalheiro@yahoo.com)  
Vice-chairman: Juha KORHONEN      Email: [Juha.Korhonen@fma.fi](mailto:Juha.Korhonen@fma.fi)  
Secretary: Denise LADUE              Email: [Denise.R.LaDue@usace.army.mil](mailto:Denise.R.LaDue@usace.army.mil)

## 11. MSDIWG Work Plan

### 11.1 MSDIWG Tasks

- A Prepare, undertake and complete an audit of IHO Member States to establish their level of knowledge and understanding of the benefit of supporting National SDI initiatives and their capability in supporting the development of Marine SDI. (IHO T3.5.2 refers)
- B Analyse the results of the research audit and establish the benchmark for future IHO support and / or capacity building required ,and assist in the development of an IHO SDI Guide. (IHO T3.5.2 refers)
- C Provide the preliminary IHO SDI Guide framework for Member States incorporating necessary step by step approach to SDI. (IHO T3.5.2 refers)
- D Provide, to CHRIS Meeting 20, a report of WG activities to date and to recommend (if necessary) an extension to the life of the WG in the light of results and / or progress achieved in the 2008 work programme. (IHO T3.5.2 refers)

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s)	Related Pubs/Standard
A.1	Prepare consultation documentation for distribution to MS's	H	Development of questionnaire	Mar 2008	Apr 2008	C	Chair & Vice Chair: MSDIWG	
A.2	Distribute Maturity matrix plus qualitative questionnaire to all MS's	H	Completed responses to IHB	Apr 2008	Jun 2008	C	Michel Huet [IHB]	
B.1	Analysis of all MS responses to determine 2008 position in respect of MSDI and determine progress to 2011	H	Completed matrix of capability by MS. Present research findings to MSDIWG Meeting No2	Jul 2008 Aug 2008	Aug 2008 Sep 2008	C C	Chair: MSDIWG Chair; MSDIWG	
B.2	Identify actions /procedures IHO might take to assist development of NSDI / MSDI in support of MS's	H	Provide preliminary framework for future IHO support	Sep 2008	Dec 2008	O	Chair: MSDIWG	

Task	Work item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s)	Related Pubs/Standard
C.1	Preparation of MSDI "Guide" for IHO MS's	M	Completion of Guide to IHO	Sep 2008	May 2009	O	Chair; MSDIWG	Building EU Spatial Data Infrastructures: [Jan Masser 2006]. EU INSPIRE Directive [2007/2/EC] Geoconnections Canada
C.2	Preparation of IHO Road Map to support MS's capability development in MSDI	M	Build Training and knowledge transfer and capacity building activity matrix	Dec 2008	Apr 2009	P	Chair/Vice Chair; MSDIWG	
D1	Provide report to EIHC on completion of agreed tasks	H	Completed report submitted	Sep 2008	May 2009	O	Chair: MSDIWG	

## 11.2 MSDIWG Meetings

Date	Location	Activity
4-5 Feb 08	IHB, Monaco	1 <sup>st</sup> Meeting
10-11 Sep 08	IHB, Monaco	2nd Meeting

Chairman: John PEPPER      Email: [John.Pepper@UKHO.gov.uk](mailto:John.Pepper@UKHO.gov.uk)  
Vice-chairman: Maureen KENNY      Email: [Maureen.Kenny@noaa.gov](mailto:Maureen.Kenny@noaa.gov)  
Secretary: Vacant      Email: