

**2nd IHO-HSSC Meeting
Rostock, Germany, 26-29 October 2010**

**CONSOLIDATED HSSC WORK PLAN
Draft WP 2010-2011**

Note: This draft WP has been compiled from the reports to HSSC2 which were submitted by the chairpersons of the 10 HSSC Working Groups, plus the ABLOS report.

Objective:

This work plan aims at ensuring efficient project resource management and alignment, progress monitoring and to provide a communication utility with internal and external parties.

Rationale:

The justification for the HSSC Work Plan is in conformance with the IHO Strategic Plan, and mainly related to the following elements of the IHO Work Programme – 2008-2012:

- 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 HSSC Chair, will meet prior to each HSSC meeting to review progress, and to harmonize the work plan.

Approval:

Once revised, the work plan will be approved by the HSSC plenary at each annual meeting. WG Chairmen will present an updated WP on the last day of HSSC 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 HSSC meeting. A revised consolidated HSSC 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. HSSC Chair could seek committee members' interim approval for emerging issues between meetings.

Communications:

The HSSC Work Plan 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 HSSC meeting that approved the inclusion of the task will be identified in the HSSC Work Plan summary. Each WG sub task will be numbered using an alphanumeric sequence, "An, Bn, Cn.."

Priorities:

Three Levels of Priorities (H, M, and L) will be assigned by HSSC using the "Guidelines for the Evaluation of Proposed New Work Items for HSSC and its Subordinate Bodies" (see section 1 hereafter).

1. GUIDELINES FOR THE EVALUATION OF PROPOSED NEW WORK ITEMS FOR HSSC AND ITS SUBSIDIARY BODIES

Introduction

- 1.1 In order to best use the limited resources available to HSSC 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 HSSC 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 HSSC and its subordinate bodies?
 - d. is the objective achievable in the existing HSSC 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 HSSC 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 Working Group Chairs. Final endorsement of work item priorities will rest with HSSC and be considered at the respective meeting.

2. HSSC RELEVANT ELEMENTS OF IHO WORK PROGRAMME 2008-2012

- Notes:
- 1) Each time CHRIS is mentioned in this section, it should be understood as HSSC, i.e. its successor. Similarly, CSMWG should be understood as DIPWG.
 - 2) HGMIO has been withdrawn as an HSSC WG in 2008 and Task 3.1.7 has therefore become inapplicable.
 - 3) Publications M-4 and M-11 (re: Task 3.3.1) have been renamed S-4 and S-11, respectively.
 - 4) Publication M-15 (re: Task 3.1.3) has been discontinued.
 - 5) All the above changes have been highlighted in red colour in the text below.

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 [now, HSSC])**
The CHRIS [now, HSSC] 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 [now, HSSC] 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-6562 and S-6463; this last one in coordination with CSMWG [now, DIPWG] and DPSWG. 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 [now, HSSC] 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 [now, DIPWG])

The Chairman of the CSMWG [now, DIPWG] under the guidance of CHRIS [now, HSSC] 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 and DPSWG.

Task 3.1.5 Standardization of Nautical Publications Working Group (SNPWG)

The Chairman of the SNPWG under the guidance of CHRIS [now, HSSC] 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 [now, HSSC] 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. To keep IHO publication S-63 updated.

~~**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) ~~S-4M-4~~ 2008-2012 ongoing
- b) ~~S-11M-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 2012
- h) INT 1, INT2 and INT3

Task 3.3.2 Digital Data Protection

CHRIS [now, HSSC] 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 [now, HSSC] 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 [now, HSSC] 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 [now, HSSC] 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)

3. TSMAD WORK PLAN

3.1 TSMAD Tasks

- A Maintain S-100 and Related projects
- B Keep S-58 Recommended ENC validation checks up to date (IHO O3.1.1 refers)
- C Support FAQ and encoding advice sections of IHO web site up to date (IHO O3.1.1 refers)
- D Develop Marine Environment Protection Programme based on S-100

Task	Work Item	Priority H-high M-medium L-low	Mile-stones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
A	S-100	H	S-100 Published Jan 2010	2001	2010	C	Barrie greenslade (UKHO)		
A.1	Develop a template Product Specification for Marine Information Overlays (MIO)	M		2010		O	Barrie greenslade (UKHO)		
A.2	Develop S-101 ENC product specification	M		2006	Jan 12	O	Julia Powell (NOAA)		
A.3	Investigate a suitable grid referencing system for S-100"	L		2010		O	Tony Pharaoh (IHB)		
A.7	Develop S-100 Bathymetric Content Specification.	H	1 st Draft 2010	2001		O	Wade Ladner (NAVO)		
A.8	Develop S-100 Portrayal Component	H		2006		O	CSMWG		
A.9	Develop an S-10X product specification for Auxiliary Informational Layer Integration.	M	1 st Draft 2010	2010		O	Lynn Patterson (CHS)		
A.10	Liaise with Non-IHO Constituents, e.g. Inland ECDIS, Marine Navigation Industry, DGIWG, AML, WMO Ice, and GIS	H		2004	-	O			

Task	Work Item	Priority H-high M-medium L-low	Mile-stones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
	Industry.								
A.11	Study the possibility to encode information features as New Objects (see S-57 supplement) to avoid caution area objects (CNTARE) in some cases, e.g. to encode T&Ps”	M				O			
B.1	Keep S-58 Recommended Validation Checks up to date	H		2003	-	O	Guy Uguen (SHOM)		
C.1	Support FAQ and Encoding Bulletins	H		2003	-	O	Jeff Wooton (AHS)		

3.2 TSMAD Meetings (IHO T3.1.2 refers)

TSMAD

Date	Location	Activity
29 Sep – 3 Oct 03	Wollongong, Australia	10th TSMAD Meeting
11-12 November 04	IHB, Monaco	11th TSMAD Meeting
10-11 November 05	Wollongong, Australia	12th TSMAD Meeting
18-22 September 06	Wellington, New Zealand	13th TSMAD Meeting
4-8 June 07	UKHO, Taunton	14th TSMAD Meeting
14-18 January 08	IHB, Monaco	15th TSMAD Meeting
5-9 May 08	Cape Town, South Africa	16th TSMAD Meeting
8-12 September 08	Seattle, USA	17th TSMAD Meeting
4-8 May 09	Ottawa, Canada	18th TSMAD Meeting
26-30 Oct 09	Sydney, Australia	19th TSMAD Meeting

3-7 May 10	Rostock, Germany	20 th TSMAD Meeting
29 Nov-3 Dec 10	Victoria, Canada	21 st TSMAD Meeting
April 2011	Inchon, Rep of Korea	22 nd TSMAD Meeting

TSMAD S-100 Sub-WG

Date	Location	Activity
25-29 April 05	Univ. of NH, USA	1 st Meeting
7-9 November 05	Wollongong, Australia	2 nd Meeting
15-19 May 06	Brest, France	3 rd Meeting
18-22 September 06	Wellington, New Zealand	4 th Meeting
27-1 December 06	Silver Spring, USA	5 th Meeting
23-27 April 07	Ottawa, Canada	6 th Meeting
17-21 September 07	Hamburg, Germany	7 th Meeting
2-4 September 10	Taunton, UK	8 th Meeting

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4. DIPWG WORK PLAN

The proposed work plan closes two work items (A.2 and C.2) that have been completed and recommends deleting one redundant work item (F.4). The work to be undertaken within each of the proposed work items is described in the remarks section.

4.1 DIPWG Tasks

- A Maintain S-52 and its associated "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 of other IHO standards on S-52 C&S regulations
- G Improving ENC Consistency/Loading strategies
- H Harmonisation of pick report presentation
- J Harmonisation with CSPCWG
- K Maintain the DIPWG bulletin and FAQ section on the IHO website
- L Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour.
- M Develop symbology for portrayal of nautical publications in ECDIS.

Task	Work Item	Priority H-high M-medium L-low	Mile- stones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
A.1	Resolve any problems or errors identified in S-52 and its Presentation Library as appropriate	H		2009	-	O	Colby Harmon Julia Powell	S-52	New Work Item This addresses the routine maintenance of S-52.
A.4	Issue Maintenance Document No. 8 of S-52.	M		2009	2010	P	Colby Harmon Mathias Jonas	S-52	New Work Item It is expected that MD8 will: - Clarify the portrayal of certain wrecks and obstructions - Resolve some issues with the ECDIS Chart 1 - Add "Unknown" as a valid enumerate value in the Presentation Library Look-up Tables to differentiate between unknown and unpopulated (null) attribute values. - Update Section 15 of the Presentation Library, which lists some older symbol names for symbols that had been replaced with newer versions and incremented symbol numbers in the current S-52, Annex A, Addendum.
F.2	In close liaison with TSMAD, set up a portrayal register within the S100	H		2005	2012	O	Colby Harmon Julia Powell	S-52 S-100 Portrayal	Continuing Work Item This work item will refine and expand the

Task	Work Item	Priority H-high M-medium L-low	Mile- stones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
	registry							Register	initial development of Portrayal and Symbol Models that will ultimately become part of the Geospatial Information Infrastructure Portrayal Register.
F.3	Assist TSMAD in identifying which aspects of S-52 should be incorporated into the S-100 Specification.	H		2009	2010	P	Colby Harmon Julia Powell	S-100	New Work Item This assists TSMAD in writing Section 9 of the S-100 standard, which describes portrayal.
J.1	Liaise with CSPCWG	M		2009	-	O	Colby Harmon Jeff Wootton	S-52 S-100 Portrayal Register	Continuing Work Item This work item will review and address, as appropriate, any changes in paper chart portrayal standards, in close coordination with TSMAD.
K.2	Maintain Chart Presentation Bulletins on the DIPWG page of IHO website	M		2008	-	O	Colby Harmon Michel Huet		New Work Item This work item addresses the routine posting of CPBs on the IHO website.
K.3	Review and revise other informational pages on the DIPWG section of IHO website	L		2008	-	O	Colby Harmon Michel Huet		New Work Item This work item addresses the continual improvement of the DIPWG page on the IHO website.
L.1	Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour.	L		2009		O	Colby Harmon		Continuing Work Item Enhancing existing S-52 symbology to take better advantage of modern ECDIS display capabilities.
M.1	Develop symbology for portrayal of nautical publications in ECDIS.	M		2009		O	Colby Harmon		Continuing Work Item Assist SNPWG in developing symbols and associated rules and tables to facilitate the portrayal of nautical information.

4.2 DIPWG Meetings (IHO T3.1.4 refers)

Date	Location	Activity
18-20 May 03	Ottawa, Canada	14 th CSMWG Meeting

2-4 May 05	Rostock, Germany	15 th CSMWG Meeting
29-31 May 06	IHB Monaco	16 th CSMWG Meeting
11-13 June 07	Stavanger, Norway	17 th CSMWG Meeting
7-9 May 08	Cape Town, South Africa	18 th CSMWG Meeting
4-8 May 09	Ottawa, Canada	1 st DIPWG Meeting
3-7 May 2010	Rostock, Germany	2 nd DIPWG Meeting
April 2011	Inchon, Rep of Korea	3 rd DIPWG Meeting

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5. DPSWG WORK PLAN

5.1 DPSWG Tasks

- A Provide technical and operational support to Data Servers and OEMs developing or operating systems or services compliant with S-63.
- B Produce new edition of S-63 to complement S-101

Task	Work Item	Priority H-high M-medium L-low	Mile-stones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard
A.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 more detailed work plan for future standards relating to Data Protection and Security of ENC data.	H	Ongoing	01.10.08		C	DPSWG members	S-63, S-101
B.1	Engage stakeholders in drafting of new edition of S-63 to support S-101 development	H	Ongoing	1.9.10		O	DPSWG members	S-63, S-101

5.2 DPSWG Meetings (IHO T3.1.6 refers)

Date	Location	Activity
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
31 Mar – 1 Apr 2009	IHB Monaco	DPSWG 7

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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 and protection of the marine environment, 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 S-4 'Chart Specifications of the IHO & Regulations of the IHO for INT Charts' (IHO T3.3.1 refers)
- B Revise, develop and maintain Publication S-11 'Catalogue of INT Charts' Part A (IHO T3.3.1 & T3.3.5 refer)
- D Development of new (and revised) symbology (IHO T3.3.1 refers)
- E Maintenance of S-4 supplementary publications INT 1, 2 & 3 (IHO T3.3.1 refers)
- F Revise, develop and maintain S-49 'Recommendations concerning Mariners' Routeing Guides' (IHO T3.3.1 refers)

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 S-4 Part B Section 400	H	S-4 Ed 3.007	2005	2009	C	Sec CSPCWG	S-4 / B-400	Included in S-4 Edition 3.007
A.5	Revise S-4 Part B Section 300	M	WG Letter	2010	2011	O	Sec CSPCWG	S-4 / B-300	Draft in preparation
A.6	Revise S-4 Part B Section 500	L	Completion of A.5	2011	2012	P	Sec CSPCWG	S-4 / B-500	Start after A.5
A.8	New specification for Chart Maintenance Section B-600	M		2006	2010	C	Sec CSPCWG	S-4 / B-600	Included in S-4 Edition 4.000
A.9	Revise S-4 Part A Section 400	H		2010	2011	P	Sec CSPCWG	S-4	Consequent on publication B-600
B.2	Develop ToR / RoP for INT Chart Coordinators	H		2009	2010	C	Chair CSPCWG	S-11 Part A	Edition 2.003 approved by MS - CL 23/2010 refers
B.3	Develop guidelines for preparation & maintenance of small / medium scale ENC schemes.	M		2009	2011	O	Chair CSPCWG	S-11 / S-65 ?	CHRIS Action 20/24
D.14	Bridges (especially supports)	H		2008	2009	C	Sec CSPCWG	S-4	Included in S-4 Edition 4.000
D.15	Pipeline tunnel entrance	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.16	Wave energy devices	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.17	Unsurveyed areas	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.18	Platform with superstructure removed	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.19	Shellfish beds	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.20	Virtual AIS	H	CL for MS	2009	2011	O	VC & Sec CSPCWG	S-4, INT 1	CSPCWG Letter 13/2010 refers
D.21	Oscillating directional lights	M	CL for MS	2009	2011	O	Sec CSPCWG	S-4	CSPCWG Letter 13/2010 refers
D.22	Floating wind turbines	M	CL for MS	2009	2011	O	Sec CSPCWG	S-4, INT 1	CSPCWG Letter 13/2010 refers
D.23	'Project' dredged depths	M	Further discussion required	2009	2011	O	Sec CSPCWG	S-4	CSPCWG Letter 13/2010 refers
D.24	Floating waste bin	M	CL for MS	2009	2011	O	Sec CSPCWG	S-4	CSPCWG Letter 13/2010 refers
D.25	Sub-surface obstructions (ODAS)	M	CL for MS	2009	2011	O	VC & Sec CSPCWG	S-4, INT 1?	CSPCWG Ltr 13/2010 refers
E.1	Maintain official INT 1s	n/a	Next round of revisions			O	FR: O Parvillers	INT 1	French version 2006

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 S-4 Part B Section 400	H	S-4 Ed 3.007	2005	2009	C	Sec CSPCWG	S-4 / B-400	Included in S-4 Edition 3.007
A.5	Revise S-4 Part B Section 300	M	WG Letter	2010	2011	O	Sec CSPCWG	S-4 / B-300	Draft in preparation
A.6	Revise S-4 Part B Section 500	L	Completion of A.5	2011	2012	P	Sec CSPCWG	S-4 / B-500	Start after A.5
A.8	New specification for Chart Maintenance Section B-600	M		2006	2010	C	Sec CSPCWG	S-4 / B-600	Included in S-4 Edition 4.000
A.9	Revise S-4 Part A Section 400	H		2010	2011	P	Sec CSPCWG	S-4	Consequent on publication B-600
B.2	Develop ToR / RoP for INT Chart Coordinators	H		2009	2010	C	Chair CSPCWG	S-11 Part A	Edition 2.003 approved by MS - CL 23/2010 refers
B.3	Develop guidelines for preparation & maintenance of small / medium scale ENC schemes.	M		2009	2011	O	Chair CSPCWG	S-11 / S-65 ?	CHRIS Action 20/24
D.14	Bridges (especially supports)	H		2008	2009	C	Sec CSPCWG	S-4	Included in S-4 Edition 4.000
D.15	Pipeline tunnel entrance	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.16	Wave energy devices	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.17	Unsurveyed areas	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
D.18	Platform with superstructure removed	M	Include in INT 1 (2011)	2008	2010	C	Sec CSPCWG	S-4, INT 1	Included in S-4 Edition 4.000
			(expected 2011)				ES: J Millan DE: S Spohn		Spanish version 2007 English version 2008
E.4	Symbols for vacant entries in INT 1	L	Review when revision of S-4 completed			P	Sec CSPCWG	INT 1, S-4 part B	
E.5	Small craft symbols	L	MS Responses to CL39/2010			O	Sec CSPCWG	INT 1, S-4 part B	
E.8	Move part of INT1 K into L	L	Rejected			C	INT1 subWG	INT1	Discussed at CSPCWG6: item 11.8
F.1	Review S-49	M		2008	2010	C	DE (J Schröder-Fürstenberg)	S-49	S-49 Edition 2 published April 2010

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 08	Sydney, Australia	CSPCWG 5
1-3 Dec 09	IHB, Monaco	CSPCWG 6
23-26 Nov 10	Simon's Town, S Africa	CSPCWG 7

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7. SNPWG WORK PLAN**7.1 SNPWG Tasks**

- A. Decide on the Data Structure of NPs-Data intended for use in ECDIS (NP3)
- B. Define the content requirements of NP data intended for use in ECDIS (NP3)
- C. Test data
- 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 HSSC 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	Open	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	2011	O	Chair/Sec SNPWG		
C2	Set up a test bed ECDIS	M	2009	2012	P	Chair/Sec SNPWG		
D1	Develop basic display rules for NP data intended for use in ECDIS (NP3)	M	2008	Open	O	Chair/Sec SNPWG	S-52	Close co-operation with DIPWG required
E1	Data Capture Guidance	H	2008	Open	O	Chair/Sec SNPWG		Document for NPs similar to Use of the Object Catalog
E2	Draft Sample Product Specification	H	2008	2009	C	Chair/Sec SNPWG	S-10X	Issues remain to be addressed
E3	Draft MPA Product Specification	H	2010	2011	O	Vice Chair SNPWG		Drafted in phases
G1	Liaise with the DIPWG for the development of the display rules	H	2005	Open	O	Chair/Sec SNPWG		
G2	Liaise with the TSMAD	H	2004	Open	O	Chair/Sec SNPWG		
G3	Liaise with other groups	H	2004	Open	O	Chair/Sec SNPWG		Including DPSWG, DQWG, TWLWG, MIO's, AML, ICE, Inland ECDIS

7.2 SNPWG Meetings (IHO T3.1.5 refers)

Date	Location	Activity
7-9 Jun 04	NOAA, Silver Spring, MD, USA	3 rd Meeting
1-3 Mar 05	IHB, Monaco	4 th Meeting
24-28 Oct 05	Copenhagen, Denmark	5 th Meeting
19-23 June 06	IHB, Monaco	6 th Meeting
12-16 Feb 07	Rostock, Germany	7 th Meeting
3-7 Sep 07	IHB, Monaco	8 th Meeting
21-25 Apr 08	Brest, France	9 th Meeting
23 -27 Feb 09	NOAA Norfolk, VA, USA	10 th Meeting
7-11 Sep 09	IHB, Monaco	11 th Meeting
21-25 June 10	Tokyo, Japan	12 th Meeting
4-8 April 11	Stavanger, Norway	13 th Meeting

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8. DQWG WORK PLAN

8.1 DQWG Tasks

- A. 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.
- B. Monitor and further develop quality indicators for hydrographic data.
- C. 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.
- D. Review and revise as needed the presentation of data quality, as provided in S-52 and its Presentation Library.

- E. 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.
- F. Propose new data quality topics and other applications for consideration by HSSC.

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	Review ISO documentation	L		2010	-	P	DQWG	S-100	Not yet started. Will start once resource become available.
B.1	Review what quality indicators are routinely populated in ENC's by HOs	H	Questionnaire published to HOs	2009	2010	C	DQWG	-	Obtain base line of what attributes are captured and why others are not Completed CL17/2010.
B.2	Review how CATZOCs are populated by HOs for legacy data	H	Questionnaire published to HOs	2009	2010	C	DQWG	-	Obtain base line of what criteria for historic and current surveys result in what CATZOC allocation Draft sent to IHB August 2010.
C.1	Revise CATZOC definitions	H		2008	2009	C	DQWG	S-57	Completed CL32/2009
C.2	Review Resolution B1.2 of M-3	H		2009	2009	C	DQWG	M-3	Completed CL43/2009
D.1	Identify mariners perception of quality and quality indicators	H		2010	2011	P	DQWG	-	Questionnaire to understand mariners perception of data quality and how they react to it. Suitable mariners being investigated. Draft to be prepared over next few months.
E.1	Investigate ways to portray data quality to the mariner	H	Requires B.1, B.2 and D.1 to be complete	2010	2011	O	DQWG	-	Possible subject for MSc thesis. MSc student has adopted this as his thesis.

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
E.2	Demonstrate methods to mariners	H	Follows from E.1	2010	2012	P	DQWG	S-57, S-100	Build possible methods into ENC and ECDIS to demonstrate effectiveness
F.1	Investigate areas of quality concern (other than survey / bathymetry)	M		2010	-	P	DQWG	-	Investigate the merit of supplying quality attributes to other elements of ENC and other publications e.g. sailing directions. Paper being presented to HSSC by Sweden.

8.2 DQWG Meetings

Date	Location	Activity
23 Sep 08	Bath, UK	Kick-off meeting
20 Oct 08	Portsmouth, NH, USA	1st Meeting
10- 11 May 09	Norfolk, VA, USA	2nd Meeting
5 Nov 10	Rostock, Germany	3 rd Meeting

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Secretary: Vacant Email:

9. MSDIWG WORK PLAN

9.1 MSDIWG Tasks

- A Prepare IHO Road Map to support MS' capability development in MSDI
- B Monitor national and international marine SDI activities and liaise to increase visibility

C Prepare detailed work plan based on new Terms of Reference

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	Maintain C-17 and its associated capacity-building documents	M	Review for updates	Feb 2010	Aug 2010	C	Chair/Vice Chair; MSDIWG	C-17, Spatial Data Infrastructures "The Marine Dimension" Guidance for Hydrographic Offices and associated supporting documents
A.2	Review of the MSDIWG page on the IHO Web site and recommend improvements/ revisions, if needed, to support capacity building and use of IHO standards in SDI activities.	H H	Review current presentation Prepare recommendations	Feb 2010 May 2010	Apr 2011 September 2010	O C	Chair/Vice Chair; MSDIWG	C-17, Spatial Data Infrastructures "The Marine Dimension" Guidance for Hydrographic Offices and associated supporting documents
B.1	Monitor national and international SDI activities, including the EU INSPIRE Directive, with a focus on the marine data and determine the appropriate frequency of monitoring	M	Investigate methods/ frequency to monitor and collate recommendations Initiate monitoring	May 2010 Aug 2010	Jan 2011 Ongoing	O O	Chair/Vice Chair; MSDIWG	
B.2	Liaise to discuss regional and national MSDI efforts, education, and outreach	M	Determine relevant technical bodies/IHO working groups	Sep 2010	Jan 2011	P	Chair/Vice Chair; MSDIWG	
B.3	Liaise with TSMAD about S-100 use in support of SDI activities including INSPIRE	M	Obtain feedback from TSMAD on MSDIWG group-established topics	Sep 2010	Jan 2011	P	Chair/Vice Chair; MSDIWG	
C.1	Discuss all procedures in the new terms of reference and identify actions for the working group resulting in a revised and more detailed work plan	H	Prepare detailed work plan	Oct 2010	Feb 2011	P	Chair/Vice Chair; MSDIWG	

9.2 MSDIWG Meetings

Date	Location	Activity
4-5 Feb 08	IHB, Monaco	1 st Meeting
10-11 Sep 08	IHB, Monaco	2 nd Meeting
2-3 Apr 09	IHB, Monaco	3 rd meeting

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10. TWLWG WORK PLAN

10.1 TWLWG Tasks

- A Maintain Standard Tidal Constituent List (IHO Work Programme 3.2.4 refers)
- B Prepare a Standard for Digital Tide Tables (IHOTC Report to the XVIIth IHC as adopted)
- C Liaise with TSMAD on tidal matters relevant to the Dynamic Application of Tides in ECDIS and develop a Standard of the transmission of real-time tidal data (Action HSSC1/18)
- D Monitor and assist in the preparation of English translation of the Tidal Manual prepared by the Institut Océanographique and SHOM (IHO funded the translation from French to English)
- E Review the various definitions of MSL and their relevance to Hydrographic Offices and review the IHO tidal resolutions to ensure that they are compatible with the requirements of non tidal areas such as the Baltic Sea.
- F Prepare and maintain an inventory of tide gauges used by Member States and to publish it on the IHO/TWLWG web site.
- G Prepare structure and contents for a short course (maximum 5 days) on "Tides for hydrography" for the Capacity Building Sub Committee

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) * indicates leader	Related Pubs/Standard
A.1	Maintain Standard Tidal Constituent List	H	No updates required in 2010	Continuous		O	Chris Jones* Lucia Pineau	

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) * indicates leader	Related Pubs/Standard
B.2	Prepare a Standard for Digital Tide Tables	H	Prepare draft Standard	2009	2012	O	Lucia Pineau* Stephen Gill Chris Jones Zarina Jayaswal Ian Halls	
C.1	Liaise with TSMAD on tidal matters relevant to the Dynamic Application of Tides in ECDIS	H	Review Objects and Attributes required for water levels and streams (Passed to TSMAD April 2010) Prepare draft pages for Objects and Attributes.	2009 2010	2011 2012	C O	Ian Halls* Zarina Jayaswal Steve Gill Lucia Pineau Chris Jones Juan Fierro Ruth Farre Dan Pillich	
C.2	Develop a Standard for the transmission of real-time tidal data	H		2009	2012	O	Steve Gill* Chris Jones Zarina Jayaswal Ian Halls Juan Fierro	
D.1	Provide advice to the translator preparing the English text of the Tidal Manual prepared by the Institut Océanographique and SHOM	H	Completion of translation into English. (April 2010 Work on Chapters 1 – 10 completed Annexes A to E remain)	2003	2011	O	Steve Shipman*	
D.2	Proof read the English translation of the Tidal Manual prepared by the Institut Océanographique and SHOM	H	Approval of the English text. (Chapters 1, 2, 3 and 4 complete)	2009	2011	O	Steve Shipman* Glen Rowe Ruth Farre Dan Pillich Zarina Jayaswal Juan Fierro Steve Gill Chris Jones	

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) * indicates leader	Related Pubs/Standard
							Bill Mitchell Chris Andreasen	
E.1	Review the various definitions of MSL and their relevance to Hydrographic Offices and review the IHO tidal resolutions to ensure that they are compatible with the requirements of non tidal areas such as the Baltic Sea.	H	Reviewed at TWLWG2- Further work being undertaken.	2009	2012	O	Jukka Varonen* Tor Tørresen Lucia Pineau Steve Shipman Juan Fierro Jose Quijano Chris Jones Kwan Chang Lim	
F.1	Prepare and maintain an inventory of tide gauges used by Member States and to publish it on the IHO/TWLWG web site.	H	Initial inventory from TWLWG members available on IHO web site. CL36/2010 sent to Member States seeking wider input.	Continuous		O	Steve Shipman* Steve Gill	
G.1	Prepare structure and contents for a short course (maximum 5 days) on "Tides for hydrography"	H	Delivery of course structure to CBSC. (Passed to CBSC8 – June 2010)	2009	2010	C	Steve Gill* Steve Shipman	

10.2 TWLWG Meetings (IHO Task 3.1.11 refers)

Date	Location	Activity
27 – 29 April 2010	Stavanger, Norway	2 nd Meeting
5 – 7 April 2011	Jeju Island, Rep of Korea	3 rd Meeting
March/April 2012	T o be decided	4 th Meeting

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Email: sshipman@ihb.mc**11. HDWG WORK PLAN****11.1 HDWG Tasks**

- A Review and update the definitions in the IHO Dictionary in French English and Spanish. (HDWG ToR 1)
- B Liaise with other IHO bodies preparing publications containing glossaries. (HDWG ToR 3c)
- C Liaise with other organizations developing dictionaries and/or glossaries. (HDWG ToR 3d)

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) * indicates leader	Related Pubs/Standard
A1	Consider proposals from Greece for inclusion of 3 new terms related to the Coast.	M	a. Terms 1 - 3	2010	2011	P	All	
A2	Consider UKHO proposal regarding "irregular" and "unreliable" with regard to the working of a navigational light. (See also B-5)	M	a. Terms 1—2 Following consultation with CSPCWG it was decided not to propose definitions for "irregular" or "unreliable" lights.	2010	2011	C	All	
B1	Review terms from former S-52 ECDIS Glossary which have not been included in the S-32 ECDIS Appendix for possible inclusion in S-32 (29 terms)	H	a. Terms 1 – 9 b. Terms 10 – 19 c. Terms 20 - 29	2010	2011	P	All	S-32 Appendix 1 (Formerly S-52 Appendix 3)

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) * indicates leader	Related Pubs/Standard
B2	Review proposals from CSPCWG	H	a. Ships' Routing b. "Soundings" and "Depths". c. "Inadequately surveyed areas" and "Unsurveyed Areas" d. Seabed / Sea Bottom / Sea Floor? e. ESSA; PSSA and wind turbine. f. "Phase" of a navigational light. g. Definition of "International Shipping"	2009	2010	C passed to HHSC2 for endorsement	All	IMO Ships' Routing Guide
B3	Review proposals from SCUEN for a harmonization of terms in B-6 (Undersea Feature Terminology) and S-32 (26 terms for consideration by HDWG)	H	a. Terms 1 – 11 b. Terms 12 – 26	2009	2010	C Passed to HSSC2 for endorsement	All	IHO Publication B-6 "Standardization of Undersea Feature Names", 4 th Ed, Nov 08
B4	Review of proposals from PRNW (Now WWNWS) (16 terms)	H	a. Terms 1 - 16	2010	2011	P	All	
B5	Review of proposal from TSMAD regarding alignment of definitions in S-57 Object Catalogue. 58 proposals.	H	a. Terms 1 – 9 b. Terms 10 -19 c. Terms 20 – 29 d. Terms 30 – 39 e. Terms 40 - 49 f. Terms 50 - 58	2009 2010	2010 2011	P	All	S-57 Appendix A Object Catalogue
B6	Aquaculture – proposal from CSPCWG	H	a. Aquaculture	2010	2011	P	All	

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) * indicates leader	Related Pubs/Standard
B7	Proposal from the Chair of the S-44 (5 th Edition) WG to revise definitions for Lidar, Swath(e), Swath(e) sounding system, Multi-beam Echo Sounder (MBES), and Interferometric	H	a. Terms 1-5	2010	2011	C Passed to HSSC2 for endorsement	All	

11.2 HDWG Meetings (IHO WP Task 3.1.8 refers)

Date	Location	Activity
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Only if necessary

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12. EUWG WORK PLAN

12.1 EUWG Tasks

- A Guidance for the production of ENC updated data
- B Description of the delivery process and associated requirements
- C Writing of a revised S-65
- D Writing of a revised appendix 1 of S-52
- E RNW on ECDIS

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	Guidance for the production of ENC updates	H	Ongoing	01-2010	2010	O	Yves Le Franc Jeff Wootton Richard Coombes	S-65; S-52	
B	Description of the distribution/delivery process and associated requirements	M		09-2010	2011	P	Yves Le Franc Richard Coombes	S-65; S-52	Approximated timetable
C	Writing of a revised S-65	M		2010	2011	P	Yves Le Franc Richard Coombes	S-65; S-52	Approximated timetable
D	Writing of a revised Appendix 1 of S-52	M		2011	2011	P	Yves Le Franc Richard Coombes	S-65; S-52	Approximated timetable
E	RNW on ECDIS	M		2010					Liaise with other WG and follow progress

12.2 EUWG Meetings

None. The WG works by correspondence unless a meeting is considered necessary to complete the assigned tasks

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Secretary: Vacant

13. ABLOS WORK PLAN

13.1 ABLOS Tasks

- A Organise the 6th ABLOS Conference in 2010 (IHO Task 3.6.1)
- B Maintain IHO Publication C-51 "Technical Aspects of the Law of the Sea (TALOS) Manual" (IHO Task 3.6.2)
- C Prepare a standard training program on the hydrographic aspects of maritime delimitation. (IHO Task 3.6.3)
- D Organise the 7th ABLOS Conference in 2012 (IHO Task 3.6.1)
- E Provide advice and guidance on the technical aspect of the Law of the Sea to relevant organizations, bodies and Member States. (IHO Task

3.1.16)

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) * indicates leader	Related Pubs/Standard
A1	Organise 6 th ABLOS Conference	H		2009	2010	O	Chris Rizos, Ron Macnab, Chris Carleton, John Brown, Sunil Bisnath, Steve Shipman	N/A
B1	Review C-51 4 th Edition for any necessary updating.	H		2009	2011	O	Chris Rizos, Shin Tani, Ron Macnab, Graeme Blick, Sunil Bisnath and Steve Shipman	IHO Publication C-51
C1	Prepare standard training programme for the CBSC	H	Outline programmes has been passed to the IHB Director responsible for CB activities.	2009	2010	C	Chris Carleton* John Brown Muhammad Bashir, Shin Tani, Ron Macnab, Steve Shipman	
D1	Organise the 7 th ABLOS Conference	H		2011	2012	P	Decision at ABLOS 18	
E1	Provide advice and guidance on the technical aspect of the Law of the Sea	H		Continuous		O	All members of ABLOS through the Chairman	

13.2 ABLOS Meetings (IHO Tasks 3.1.16 and 3.6.1 refer)

Date	Location	Activity
4-5 August 2009	Bali, Indonesia	16 th Meeting
25-28 October 2010	IHB, Monaco	17 th Business Meeting and 6 th ABLOS Conference
October 2011	Valparaiso, Chile	18 th Business Meeting

IHB, Monaco

19th Business Meeting and 7th ABLOS
Conference

October 2012

Chair: Chris RIZOS, Australia
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