

## **DRAFT CONSOLIDATED HSSC WORK PLAN 2016-17**

Current Draft Version **13** November 2015

### Notes:

a/ This draft consolidated work plan (WP) has been compiled from the reports submitted to HSSC-7.

b/ Quick links:

<a href="#">§3. S-100WG Work Plan</a>	<a href="#">§4. NIPWG Work Plan</a>	<a href="#">§5. ENCWG Work Plan</a>
<a href="#">§6. DPSWG Work Plan</a>	<a href="#">§7. TWCWG Work Plan</a>	<a href="#">§8. NCWG Work Plan</a>
<a href="#">§9. DQWG Work Plan</a>	<a href="#">§10. HDWG Work Plan</a>	<a href="#">§11. ABLOS Work Plan</a>
<a href="#">§12. COORD Work Plan</a>	Annex A. <a href="#">S-66 PT Work Plan</a>	Annex B. <a href="#">UKCM PT Work Plan</a>

### **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 – 2013-2017:

- Element 2.1 Technical Programme Coordination
- Element 2.2 Hydrographic Data Transfer Standards
- Element 2.3 Nautical Cartography
- Element 2.4 Digital Data Protection and Authentication
- Element 2.5 Data Quality
- Element 2.6 Nautical Publications
- Element 2.7 Tides and Datums
- Element 2.8 Digital Data Updating
- Element 2.9 Marine Spatial Data Infrastructures
- Element 2.10 Hydrographic Data Acquisition and Processing
- Element 2.11 Hydrographic Dictionary
- Element 2.12 Hydrographic Aspects of UNCLOS
- Element 2.13 Surface Current

### **Procedure:**

The HSSC work plan covers a rolling two year period and is revised annually. Each subordinate body proposes in its report to the annual meeting of HSSC a revised work plan for the next biennium. Completed work items should be removed from work plans after they have been reported at a subsequent HSSC meeting. The Chairs of the subordinate bodies, along with the HSSC Chair, will meet prior to each HSSC meeting to review progress, and to harmonize the proposed work plans. The proposed work plans for the next biennium will be considered by the plenary with the report of each subordinate body. The draft consolidated HSSC work plan for the next biennium will be reviewed on the last day of the HSSC meeting, incorporating the agreed changes discussed during that meeting. A revised consolidated HSSC work plan incorporating all approved additional work 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/Assemblies.

### **Monitoring:**

In accordance with Decision No. 3 of the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIH-5), the HSSC Chair and the Chairs of subordinate bodies will be invited "to report, twice annually at year-end and mid-year, on the overall status of their respective work programmes by completing a simple, two-part template that requests brief lists of a) current goals and priorities, and b) current or expected gaps and needs."

### **Project Numbering:**

Each task will be given a sequential number independent of related subordinate body. 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 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 plan 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 plan taking into account a realistic estimates of resources needed and available?
  - 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 1.4 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

plan 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 plans presented by Chairs of subordinate bodies 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 Chair, Vice-Chair, Secretary and all available Chairs of subordinate bodies. 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 2013-2017

All elements described below (taken from IHC XVIII document CONF.18/REP/01 and updated in accordance with EIHC-5 document CONF.EX5/REP.04 - Annex B - Appendix 1) and with the approved IHO Work Programme for 2015 relate to Programme 2 “Hydrographic Services and Standards”, which seeks to develop, maintain and extend technical standards, specifications and guidelines to enable the provision of standardised products and services that meet the requirements of mariners and other users of hydrographic information.

### Element 2.1 Technical Programme Coordination

**Objective:** To monitor technical developments, oversee the development of IHO technical standards, specifications and publications through the coordination and interaction of relevant IHO Working Groups, and to make recommendations to Member States.

Task 2.1.1	Conduct annual meetings of HSSC	2013-17	
Task 2.1.2	Support the IHB to implement the planning mechanism annually and at the end of each 5-year (3-year) cycle	2013-17	
Task 2.1.3	Provide technical advice and guidance on IHO technical standards, specification and publications	2013-17	

### Element 2.2 Hydrographic Data Transfer Standards

**Objective:** To monitor developments related to transfer standards for digital hydrographic data, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.2.1	Conduct annual and biennial meetings of S-100 and ENC Standards Maintenance WGs	2013-17	
Task 2.2.2	Maintain and extend the relevant IHO standards, specifications and publications, using contract support assistance as appropriate, including: <ul style="list-style-type: none"> <li>- S-57 IHO Transfer Standard for Digital Hydrographic Data</li> <li>- S-100 IHO Universal Hydrographic Data Model</li> <li>- S-100/S-101 Testbed</li> <li>- S-101 ENC Product Specification</li> <li>- S-102 Bathymetric Surface Product Specification</li> <li>- S-58 Recommended ENC Validation Checks</li> <li>- S-65 ENC Production Guidance</li> <li>- S-64 IHO Test Data Sets for ECDIS</li> <li>- S-61 Product Specification for Raster Navigational Charts</li> <li>- S-99 Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry</li> <li>- S-66 Facts about Electronic Charts and Carriage Requirements</li> <li>- RENC Joint Technical Experts WG</li> <li>- Appendix 1 to S-52 - Guidance on Updating the Electronic Navigational Chart</li> <li>- S-52 and its accompanying Presentation Library - Specifications for Chart Content and Display Aspects of ECDIS</li> </ul>	2013-17	Contract support: 30K€ each year
Task 2.2.3	Develop and maintain as-yet undefined S-100-based Product Specifications	2013-14	
Task 2.2.4	Maintain and extend S-100 registry	2013-17	no significant IHO expense anticipated

Task 2.2.5	Provide outreach and technical assistance regarding transfer standards	2013-17	
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### Element 2.3 Nautical Cartography

**Objective:** To monitor developments related to nautical cartography for paper nautical charts and the colours, symbols and display rules used to show SENC information on ECDIS, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.3.1	Conduct meetings of Nautical Cartography Working Group	2013-17	
Task 2.3.2	Maintain and extend the relevant IHO standards, specifications and publications, using contract support assistance as appropriate, including: - S-4 Chart Specifications of the IHO and Regulations for International (INT) Charts INT 1 - Symbols, Abbreviations and Terms used on Charts INT 2 - Borders, Graduations, Grids and Linear Scales INT 3 - Use of Symbols and Abbreviations - S-11 Part A - Guidance for the Preparation and Maintenance of INT Chart schemes - S-11 Part B - Catalogue of INT Charts	2013-17	

### Element 2.4 Digital Data Protection and Authentication

**Objective:** To monitor developments related to data protection and data authentication, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.4.1	Conduct meetings of Data Protection Scheme WG	2013-17	
Task 2.4.2	Maintain and extend the relevant IHO standards, specifications and publications, including: - S-63 IHO Data Protection Scheme - Data protection and authentication related elements of: - S-100 - IHO Universal Hydrographic Data Model and - S-101 - ENC Product Specification	2013-17	no significant IHO expense anticipated

### Element 2.5 Data Quality

**Objective:** To monitor developments related to methods of classifying and depicting the quality of hydrographic information, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.5.1	Conduct meetings of Data Quality WG	2013-17	
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Task 2.5.2	Maintain and extend the relevant IHO standards, specifications and publications, including: - Data quality related elements of S-57 - IHO Transfer Standard for Digital Hydrographic Data - Data quality related elements of S-52 - Specifications for Chart Content and Display Aspects of ECDIS - Data quality related elements of S-100 - IHO Universal Hydrographic Data Model and - S-101 - ENC Product Specification and other S-100-based Product Specifications	2013-17	no significant IHO expense anticipated
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### Element 2.6 Nautical Publications

**Objective:** To monitor developments related to the preparation of nautical publications, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.6.1	Conduct meetings of Nautical Information Provision WG	2013-17	
Task 2.6.2	Develop, maintain and extend S-10n - Nautical Information Product Specification	2013-17	no significant IHO expense anticipated
Task 2.6.3	Maintain and extend the relevant IHO standards, specifications and publications, including: - IHO Resolutions in M-3 relating to Nautical Publications - S-12 Standardization of List of Lights and Fog Signals - S-49 Standardization of Mariners' Routeing Guides	2013-17	no significant IHO expense anticipated

### Element 2.7 Tides and Water Levels

**Objective:** To monitor developments related to tidal and water level observation, analysis and prediction and other related information including vertical and horizontal datums, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.7.1	Conduct meetings of Tides, Water Levels and Currents WG	2013-17	
Task 2.7.2	Maintain and extend the relevant IHO standards, specifications and publications, including: - Relevant IHO Resolutions in M-3 - S-60 User's Handbook on Datum Transformations involving WGS 84 - Standard Tidal Constituent List - Inventory of Tide Gauges used by Member States	2013-17	no significant IHO expense anticipated
Task 2.7.3	Develop, maintain and extend a Product Specification for digital tide tables	2013-17	no significant IHO expense anticipated
Task 2.7.4	Develop, maintain and extend a Product Specification for the transmission of real-time tidal data	2013-17	no significant IHO expense anticipated
Task 2.7.5	Develop, maintain and extend a Product specification for dynamic tides in ECDIS	2013-17	no significant IHO expense anticipated

### Element 2.8 Digital Data Updating

**Objective:** To monitor developments in standardized processes for the updating of digital hydrographic data products, to develop and maintain the relevant IHO standards, specifications and publications, and to provide technical advice as appropriate.

Task 2.8.1	Maintain and extend the relevant IHO standards, specifications and publications, including: - Digital data updating related elements of S-65 - ENC Production Guidance - S-52 Appendix 1 - Guidance on Updating the Electronic Navigational Chart	2013-17	no significant IHO expense anticipated
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### Element 2.10 Hydrographic Data Acquisition and Processing

**Objective:** To monitor developments related to hydrographic data acquisition and processing, to develop and maintain the relevant IHO publications, and to provide technical advice as appropriate.

Task 2.10.1	Conduct annual meetings of S-44WG(if WG activated)	2013-17	no meetings planned at present (when WG required)
Task 2.10.2	Maintain and extend, when required, the relevant IHO standards, specifications and publications, including: S-44 - IHO Standards for Hydrographic Surveys	2013-17	no meetings planned at present

### Element 2.11 Hydrographic Dictionary

**Objective:** To develop, maintain and extend S-32 - Hydrographic Dictionary in English, French and Spanish and to provide technical advice as appropriate.

Task 2.11.1	Maintain and extend the IHO Hydrographic Dictionary in English, French and Spanish	2013-17	no significant IHO expense anticipated
Task 2.11.2	Develop the Spanish language Wiki version of S-32 with commercial contract support	2013-14	contract support: 20K€

### Element 2.12 Hydrographic Aspects of UNCLOS

**Objective:** To monitor developments related to the hydrographic aspects of the UN Convention on the Law of the Sea, to develop and maintain the relevant IHO publications, and to provide technical advice as appropriate.

Task 2.12.1	Organize and prepare ABLOS annual business meeting	2013-17	
Task 2.12.2	Organize and prepare the biennial ABLOS Conference	2014-16	self-funding
Task 2.12.3	Contribute to the revision of IHO publication C-51- TALOS Manual	2013-17	no significant IHO expense anticipated

### Element 2.13 Surface Current

**Objective:** To develop standards for the delivery and presentation of navigationally relevant current information.

2.13.2	Maintain and extend the relevant IHO standards, specifications and publications, including:	2013-17	
2.13.2.1	Relevant IHO Resolutions in M-3	2013-17	no significant IHO expense anticipated
2.13.3	Develop, maintain and extend a Product Specification for the transmission of real-time surface current data	2013-17	no significant IHO expense anticipated
2.13.4	Develop, maintain and extend a Product Specification for	2013-17	no significant IHO expense anticipated



	dynamic surface currents in ECDIS		
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### 3. S-100WG WORK PLAN 2016-17

#### Tasks

A	Maintain and extend S-100 "IHO Universal Hydrographic Data Model" (IHO Task 2.2.2.2)
B	Maintain and extend S-99 "Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry" (IHO Task 2.2.2.9)
C	Maintain and extend the S-100 GI Registry (IHO Task 2.2.4)
D	[Supervise/Advise] and support the development and maintenance of S-100-based product specifications
E	Monitor the development of other related international standards
F	Provide outreach and technical assistance regarding the implementation of S-100 (IHO Task 2.2.5)
G	Maintain the S-100 section of the IHO website (IHO Task 2.2.2)
H	Conduct the 2015 and 2016 meetings of the S-100WG and its sub-group(s) and project team(s) (IHO Task 2.2.1)

#### Work Items

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A.1	Maintain and Extend S-100	H	HSSC 8	2010	Permanent	O	Julia Powell (NOAA)		
A.2	Development of an S-100 Interoperability Specification	H	HSSC 8 & 9	2015	2017	O	Julia Powell (NOAA)		

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
B.1	Update S-99 and the S-100 Registry pages for the registration of S-100 product specifications in accordance with HSSC6-05B rev1	M	HSSC 8	2015	2016	P	Julia Powell (NOAA)		
C.1	Update S-100 GI Register to edition 2.0.0 and re-build the web-interfaces	H	HSSC 8	2015	2016	O	Yong Baek (KHOA)		
C.2	Connect the S-100 Feature Catalogue Builder to the S-100 GI Register	H	HSSC 8	2015	2016	O	Yong Baek (KHOA)		
C.3	Develop web-interfaces to propose new symbology to the S-100 Portrayal Register	H	HSSC 8	2015	2016	O	Julia Powell (NOAA)		
D.1	Review the S-100 Master Plan annually	M	HSSC-7 & 8	2014	Permanent	O	Julia Powell (NOAA)	S-100	Include monitoring the need to revise existing S-100-based PS (e.g. S-102) and or to develop new S-100-based PS.
D.2	Review the S-101 Value Added Roadmap annually	H	HSSC-7 & 8	2013	Permanent	O	Julia Powell (NOAA)	S-101	

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
D.3	Finalization of S-101 ENC Product Specification	H		2015	2018	O	Julia Powell (NOAA)		
D.4	Monitor the implementation of the 1 <sup>st</sup> draft of S-101 ENC product specification	H		2015		P			
D.5	Develop an S-100/S-101 Test Strategy and Test Bed	H		2013	2018	O	Julia Powell (NOAA)		
D.6	Develop Edition 2.0.0 of S-102 Bathymetric Content Specification.	H	HSSC 8	2014	2017	P	Wade Ladner (NAVO)		
D.7	Develop a Product Specification for Underkeel Clearance Management (UKCM) Information.	M		2016	2018	P	Nick Lemon (AMSA)		See <a href="#">Work Plan of the UKCM Project Team</a> in Annex B.
E.1	Monitor the development of other related international standards	M				P			

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
E.2	Monitor and coordinate interactions with OGC and IOGP, to ensure proper harmonization in the development of standards.	M		2016	Permanent	P			Standards such as IOGP SSDM SeabedML (Action HSSC6/37)
F.1	Liaise with IHO subsidiary bodies and subordinate organs, e.g. WWNWS-SC, NIPWG, ENCWG, etc.								Establish joint project teams as required
F.2	Liaise with non-IHO constituents, e.g. IALA E-nav Committee, IEHC, JCOMM Expert Teams, DGIWG, ISO, marine navigation and GIS industry, etc.	H		2004	Permanent	O	Julia Powell (NOAA)		Clarification of the relations between IALA and IHO product specifications (e.g. sector lights modelling, encoding and portrayal in S-101 and S-201)
G.1	Maintain the S-100 section of the IHO website	H		2003	Permanent	O	Tony Pharoah (IHB)		

#### Meetings (Task H)

Date	Location	Activity
14-18 March 2016	Tokyo, Japan	S-100WG-1

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Chair: Julia Powell, NOAA  
Vice Chair: Yong Baek, KHOA  
Secretary: Eivind Mong, Jeppesen

Email:  
Email: ybaek@korea.kr  
Email: Eivind.Mong@jeppesen.com

#### 4. NIPWG WORK PLAN 2016-17

##### Tasks

D	Maintain Publication S-12 “Standardization of List of Lights and Fog Signals” (IHO Task 2.6.3.2)
E	Maintain Publication S-49 “Recommendations concerning Mariners’ Routeing Guides” (IHO Task 2.6.3.3)
F	Establish and monitor, in liaison with the S-100WG, the project teams required to specify and develop nautical information layers for use in ECDIS (IHO Task 2.6.2)
G	Develop high level specifications for a combined Marine Service Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan
H	Develop a test and implementation plan for the development of the MSP “hydrographic services”
I	Maintain IHO Resolutions in M-3 relating to Nautical Publications as required (IHO Task 2.6.3.1)
J	Liaise with other HSSC WGs and other IHO and international bodies
K	Conduct the 2016 and 2017 meetings of the NIPWG and its sub-group(s) and project team(s) (IHO Task 2.6.1)

## Work items

Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
D.1	Monitor and assess proposals for amending S-12	M	Next meeting	2014	Permanent			S-12	In close liaison with IALA; see J.4
F.1	Assess the progress and perspectives of developing specifications for NP data layers in ECDIS and propose the way forward for consideration by HSSC	H							To be considered in the context of the IMO e-navigation strategy implementation.  NIPWG to consider establishing one or more project team(s) in liaison with S-100WG as required (see J.2), in particular to continue the development of Product Specifications currently assigned to the NIPWG.
F.2	Investigate the interaction between Marine Protected Area Product and ENC in ECDIS	M		2015	Permanent	O	Chair/Sec		In close liaison with the S-100 WG



F.3	Model the NP data where required.	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related. To be included in NPUBS domain of the FCD Register
F.4	Review of objects and attributes	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related.
F.5	Propose amendments to HYDRO domain of the FCD Register	H		2005	Permanent	O	Chair/Sec		S-100 related. To be included in the FCD register
F.6	Propose amendments to AtoN domain of the FCD Register	H	Next meeting	2014	2017	O	Chair/Sec	S-125	To improve the current definitions and attribute values at the FCD register
F.7	Populate the NPUBS domain of the FCD Register	H		2006	Permanent	O	Chair/Sec		S-100 related. Awaiting Registry improvements
F.8.1	Develop S-12n - Nautical Information Product Specification								Liaise with WWNWS-Sub committee
F.8.1.1	For Radio Services	H		2012		O	Chair/Sec	S-123	
F.8.1.2	For Navigational services	H		2013		O	Chair/Sec	S-125	
F.8.1.3	For Traffic management	H		2013		O	Chair/Sec	S-127	
F.8.1.3.1	For Marine Protected Areas	H		2011	2018	O	Chair/Sec	S-122	Awaiting completion Feature Catalogue Builder, data model harmonization between S-101 and S-122, portrayal and quality parts
F.8.1.4	For Physical environment	H	12/2014	2013	2016	O	Chair/Sec	S-126	

G.1	Monitor the requirements for and provision of nautical information in e-navigation test-beds  Produce NP1 sample data sets	M							According to the tasks assigned by HSSC4. Collection of information to be modelled
G.1.1	For Radio Services	H		2012	2016	C	Chair/Sec	S-123	
G.1.2	For Navigational services	H		2012	2017	O	Chair/Sec	S-125	
G.1.3	For Traffic management	H		2012	2016	C	Chair/Sec	S-127	
G.1.4	For Physical environment	H		2013	2016	C	Chair/Sec	S-126	
G.2	Set up a test bed ECDIS	M		-	-	P	Chair/Sec		To be considered in liaison with S-100WG
G.3	Rules and guidelines for displaying nautical information in ECDIS and in combined Marine Service Portfolios								
G.3.1	Develop basic display rules for NP data intended for use in ECDIS (NP3)	M		2008	2016*	O	Chair/Sec	S-52	Close co-operation with NCWG and S-100WG required  *end date depends on NCWG schedule

G.3.2	Develop guidelines showing how navigation information received by communications equipment can be displayed in a harmonized way and what equipment functionality is necessary.	M		2015	2019	P		S-52	e-nav IMO Strategy Implementation Plan, Task T13 (HSSC6-07.1A refers)
G.4	Initiate consideration of the architecture of the MSP "hydrographic services"	M		2013		O	Chair NIPWG		To be considered in the context of the IMO e-navigation strategy implementation plan e-nav IMO Strategy Implementation Plan, Task T17 (HSSC6-07.1A refers).
G.5	Contribute to considering the future of paper charts in the perspective of the establishment of MSPs	M		2014					Subject to request from NCWG
I.1	Maintain and extend resolutions in M-3 relating to Nautical Publications	M	Next meeting	2012	Permanent	O	Chair/Sec NIPWG	M-3	A review is scheduled due to harmonization of M3 information and potential ProdSpecs content
J.0	Liaise with the NCWG				Permanent	O	Chair/Sec NIPWG		Establish joint project teams as required
J.1	Liaise with the ENCWG	H			Permanent	O	Chair/Sec NIPWG		
J.2	Liaise with the S-100WG	H			Permanent	O	Chair/Sec NIPWG		Establish joint project teams as required

J.2.1	Draft Data Classification and Encoding Guides								Document for NPs similar to Use of the Object Catalogue
J.2.1.1	For Marine Protected Areas	H	Next meeting	2011	2016	O	Chair/Sec	S-122	To be harmonized with S-101 DCEG
J.2.1.2	For Radio Services	M		2015		P	Chair/Sec	S-123	Depends on modelling progress
J.2.3	Draft Product Specification								
J.2.3.1	For Radio Services	H		2014		O	Chair/Sec	S-123	
J.2.3.2	For Navigational services	H		-		P	Chair/Sec	S-125	
J.2.3.3	For Traffic management	H		2011		O	Chair/Sec	S-127	The start date is in-line with the MPA ProdSpec development
J.2.3.4	For Marine Protected Areas	H	Next meeting	2011	2017	O	Chair/Sec	S-122	
J.2.3.5	For Physical environment	H		-	-	P	Chair/Sec	S-126	
J.2.3.6	For Digital Catalogue of Nautical Publications	H		2016	2018	P	Chair/Sec	S-128	
J.3	Liaise with other HSSC WG	H		2004	Permanent	O	Chair/Sec NIPWG		Including DPSWG, DQWG, TWCWG, etc.
J.4	Liaise with IALA e-Nav Committee	H		2013	Permanent	O	Chair/Sec NIPWG		As advised by HSSC4 (in liaison with S-100WG).

J.5	Liaise with other international bodies which contributes to nautical information	H		2015	Permanent	O	Chair/Sec NIPWG		
J.5.1	International Harbour Masters' Association	H		2015	Permanent	O	Chair/Sec NIPWG		Considering AVANTI development

### Meetings (Task K)

Date	Location	Activity
29 June – 3 July 2015	IHB, Monaco	NIPWG-1
21-24 March 2016	IHB, Monaco	NIPWG-2
Dec. 2016	Busan, Republic of Korea (tbc)	NIPWG-3

Chair: Jens Schröder-Fürstenberg, BSH, GE

Vice Chair: Edward Hosken, UKHO, UK

Secretary: Thomas Loeper, NOAA, USA

Email: [jens.schroeder-fuerstenberg@bsh.de](mailto:jens.schroeder-fuerstenberg@bsh.de)

Email: [Edward.Hosken@UKHO.gov.uk](mailto:Edward.Hosken@UKHO.gov.uk)

Email: [Thomas.Loeper@noaa.gov](mailto:Thomas.Loeper@noaa.gov)

## 5. ENCWG WORK PLAN 2016-17

### Tasks

A	Maintain S-52 "Specifications for Chart Content and Display Aspects of ECDIS" and its associated "Presentation Library" (IHO Task 2.3.2)
B	Maintain S-57 "IHO Transfer Standard for Digital Hydrographic Data" (IHO Task 2.2.2)
C	Maintain S-58 "Recommended ENC validation checks" (IHO Task 2.2.2)
D	Maintain S-61 "Product Specification for Raster Navigational Charts" (IHO Task 2.2.2)
E	Maintain S-64 "IHO Test Data Sets for ECDIS" (IHO Task 2.2.2)
F	Maintain S-65 "ENC Production, Maintenance and Distribution Guidance" (IHO Task 2.2.2)
G	Assess the impact of other IHO standards on S-52 display specifications
H	Liaise with the NIPWG and the NCWG (IHO Task 2.3.2)
I	Maintain the ENC production and portrayal sections of the IHO website (IHO Task 2.2.2 & 2.3.2)
J	Conduct the 2015 and 2017 meetings of ENCWG and its sub-group(s) and project team(s) (IHO Task 2.2.1)
K	Maintain S-66 "Facts about electronic charts and carriage requirements – See Annex B – <a href="#">S-66 Project Team Work Plan</a> (IHO Task 2.2.2.10)

### Work items

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
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Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A.1	Resolve any problems or errors identified in the current editions of S-52 and its Presentation Library	H		2009	Permanent	O	Thomas Mellor	S-52	
B.1	Resolve any problems or errors identified in the current edition of S-57	H		2011	Permanent	O	Thomas Mellor	S-57	
C.1	Monitor the implementation of the new edition of S-58 and keep the recommended checks up to date	H		2003	Permanent	O	Richard Fowle (UKHO)		
C.2	Resolve any problems or errors identified in the current edition of S-58	H		2003	Permanent	O	Richard Fowle (UKHO)		
C.3	1. Restructure S-58 to provide a more logical means of data validation.  2. Investigate how the new version of S-58 can be used to implement a minimum validation standard for all ENCs.	H	Edition 5.0.0 June 2014	2012	2016	C	Richard Fowle (IC-ENC)		

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
E.1	Resolve any problems or errors identified in the current edition of S-64	H			2017				
E.2	Investigate expanding S-64 to improve its usefulness for both OEMs and type approval authorities	H	Edition 4.0.0	2012	2017	C	Thomas Mellor (UKHO)		
F.1	Monitor and assess proposals for amending S-65	L			Permanent	O			
G.1	Liaise with IEC TC80 to ensure that future changes to S-52 and to the Presentation Library are compatible with Ed. 4 of IEC 61174	H		2015	2016	P	Thomas Mellor (UKHO)	S-52, IEC 61174	
H.1	Liaise with the NIPWG and the NCWG	H							
I.1	Maintain the ENC production and portrayal sections of the IHO website, and support FAQ and Encoding Bulletins	H		2003	Permanent	O	Jeff Wootton (AHS) IHB (ADDT)		Include posting EBs and PBs



**Meetings (Task J)**

<b>Date</b>	<b>Location</b>	<b>Activity</b>
2-6 Feb 2015	Ottawa, Canada	ENCWG-1
14 – 18 March 2016	Tokyo, Japan	ENCWG-2

Chair: Thomas Mellor, UK

Email: tom.mellor@ukho.gov.uk

Vice Chair: Vacant

Email:

Secretary: AD Anthony Pharaoh, IHB

Email: addt@iho.int

## 6. DPSWG WORK PLAN 2016-17

### Tasks

A	Maintain and extend Publication S-63
B	Provide S-63 technical and operational support to Data Servers and OEMs
C	Develop a more detailed work plan for future standards relating to Data Protection and Security of ENC data
D	Engage stakeholders in drafting of new edition of S-63 to support S-101 development
E	Support transition to latest edition of S-63 (1.1)

### Work items

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A	Maintain and extend Publication S-63	M	-			C	Chair		Edition 1.1.2 completed and published
B	Provide S-63 technical and operational support to Data Servers and OEMs	M	-			O	Chair		

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
C	Develop a more detailed work plan for future standards relating to Data Protection and Security of ENC data	M	Completed Plan		March 2016	O		S-100/S-101	Plan to be submitted following meeting in March 2016
D	Engage stakeholders in drafting of new edition of S-63 to support S-101 development	H	First draft for WG meeting March 2016		November 2016	O			Ongoing with industry participants and working group members. Early draft with group members and being authored.
E	Support transition to latest edition of S-63 (1.1)	L			January 2015	O			Monitoring of compliance in progress. Otherwise no other input required.

## Meetings

Date	Location	Activity
2016 (TBD – Proposed March 2016)	TBD – Proposed co-located with S-100 WG	DPSWG-11

Chair: Jonathan PRITCHARD  
Vice Chair: Robert SANDVIK  
Secretary: Tony PHARAOH

Email: jonathan.pritchard@ukho.gov.uk  
Email: robert.sandvik@ecc.no  
Email: addt@iho.int

## 7. TWCWG WORK PLAN 2016-17

### Objective

- a) To monitor developments related to tidal and water level observation, analysis and prediction and other related information including vertical and horizontal datums;
- b) To develop and maintain the relevant IHO standards, specifications and publications for which it is responsible in liaison with the relevant IHO bodies and non-IHO entities;
- c) To develop standards for the delivery and presentation of navigationally relevant current information; and
- d) To provide technical advice and coordination on matters related to tides, water levels, currents and vertical datum.

### Tasks

A	Maintain the list of standard tidal constituents (IHO Task 2.7.2.3)
B	Compare the tidal predictions generated as a result of analysis of a common data set using different analysis software
C	Develop, maintain and extend a Product Specification for digital tide tables (IHO Task 2.7.3)
D	Develop, maintain and extend a Product Specification for the transmission of real-time tidal data (IHO Task 2.7.4)
E	Develop, maintain and extend a Product Specification for the transmission and portrayal of navigationally significant current surface data (S-111 - IHO Task 2.13.3)
F	Develop, maintain and extend a Product Specification for dynamic tides in ECDIS (IHO Task 2.7.5)
G	Liaise with S-100WG on tidal and current matters relevant to ECDIS applications
H	Liaise with industry experts on the development of product specifications for tides and currents
I	Prepare and maintain an inventory of tide gauges and current meters used by Member States and publish it on the IHO/TWLWG web site (IHO Task 2.7.2.4)
J	Review feedback of on-line real time water level observation document
K	Maintain and extend the relevant IHO standards, specifications and publications as required (IHO Tasks 2.7.2 and 2.13.2)
L	Conduct the 2016 and 2017 meetings of TWCWG and its sub-group(s) and project team(s) (IHO Tasks 2.7.1 and 2.13.1)
M	Develop and maintain material for course on Tides, Water Levels and Currents

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A.1	Maintain the list of standard tidal constituents	M		-	Permanent	O	Chris Jones*		Review current list of published tidal constituents
B.1	Compare the tidal predictions generated as a result of analysis of a common data set using different analysis software.	M		-	Permanent	O	Hilda Sande * All		Select Common data set Analyze using different software Predict common set of tides Compare results
C.1	Develop, maintain and extend the standard for digital tide and tidal current tables	H	Prepare draft Standard	2009	2016	O	Peter Stone* Chris Jones Zarina Jayaswal		
D.1	Develop and maintain a standard for the transmission of real-time tidal data (S-112)	H		2009	2017	O	Chris Jones* All		Establish joint project teams as required. Liaise with S-100WG (see H.1) Liaise with industry experts (see I.1)
E.1	Develop and maintain a product specification for the transmission of surface current data (S-111)	H		2013	2017	O	Kurt Hess* Louis Maltais Mark Opdyke		Establish joint project teams as required. Liaise with S-100WG (see H.1) Liaise with industry experts (see I.1)
E.2	Develop and maintain a product specification for the portrayal of navigationally significant surface currents	H		2013	2017	O	Louis Maltais* Kurt Hess Mark Opdyke		Establish joint project teams as required. Liaise with S-100WG (see H.1) Liaise with industry experts (see I.1)

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
F.1	Develop and maintain a product specification for dynamic application of tides in ECDIS	H	Prepare draft Product Specifications IHO S-104 <i>Tidal Information for Surface Navigation</i> .  Prepare draft Portrayal model for tidal data in S-100.	2009	2017	O	Zarina Jayaswal* Glen Rowe Jimin Ko  Peter Stone* Zarina Jayaswal	S-104	Establish joint project teams as required. Liaise with S-100WG (see H.1) Liaise with industry experts (see I.1)
G.1	Liaise with S-100WG on tidal and current matters relevant to ECDIS applications	H		-	Permanent	O	Gwenaële Jan Kurt Hess Louis Maltais		Establish joint project teams as required.
H.1	Liaise with industry experts on the development of product specifications for tides and currents	H		-	Permanent	O	All		Including consideration of the need to develop applications of water level and current products for non-navigation purposes (former Action HSSC6/32).
I.1	Maintain an inventory of tide gauges and current meters used by Member States and publish it on the IHO/TWCWG web site.	H		-	Permanent	O	David Wyatt* All		Initial inventory from TWCWG members available on IHO web site.
J.1	Review feedback of on-line real time water level observation document	L		-	Permanent	O	Zarina Jayaswal* All		

Work item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
K.1	Maintain and extend the relevant IHO standards, specifications and publications	M  M	Review wording of IHO Resolution 3/1919, as amended, in light of revised definitions for MSL and LAT	- 2014	Permanent 2015	O  O	Gwenaële Jan	IHO Resolutions in M-3 S-60 User's Handbook on Datum Transformations involving WGS 84	
M.1	Develop and maintain material for course on Tides and Currents	H	Delivery in 2015	-	Permanent	O	Ruth Farre* Louis Maltais Peter Stone Zarina Jayaswal		Adapt currently available course material to create a course suitable for delivery in support of CBSC requests

### Meetings (Task N)

Date	Location	Activity
25-29 April 2016	Tbc, Brazil	TWCWG-1

Chair: Gwénaële Jan, FR

Vice Chair: Christopher Jones, UK

Secretary: David Wyatt, IHB

Email: gwenaële.jan@shom.fr

Email: Christopher.jones@ukho.gov.uk

Email: adso@iho.int

## 8. NCWG WORK PLAN 2016-17

- **Objectives**, Tasks and Work Items are pursued in accordance with IHO Work Programme 2013-2017, Programme 2 (Services and Standards):
  - Element 2.3. Nautical Cartography:
    - Task 2.3.1 Conduct annual meetings of relevant HSSC WGs dealing with nautical cartography.
    - Task 2.3.2 Maintain and extend the relevant IHO standards, specifications and publications.
- The focus is on maintaining and enhancing cartographic standards and specifications for nautical charts to suit the needs of the modern mariner in support of safe navigation and protection of the marine environment.
- As a Plan it will and should evolve; accordingly, contributions from WG members and others are welcomed at any time.

### **NCWG Tasks**

A	Maintain and extend Publication S-4 'Chart Specifications of the IHO & Regulations of the IHO for INT Charts' (IHO Task 2.3.2)
B	Maintain and extend Publication S-11 Part A 'Guidance for the Preparation and Maintenance of INT Chart schemes' (IHO Task 2.3.2)
D	Development of new (and revised) symbology (IHO Task 2.3.2)
E	Maintenance of S-4 supplementary publications INT 1, 2 & 3 (IHO Task 2.3.2)
G	Conduct meetings of NCWG (IHO Task 2.3.1)

Tasks and numbers from IHC XVIII Conf.18/Rep/01 and updated in accordance with EIHC-5 document CONF.EX5/REP.04 - Annex B - Appendix 1.



Work item	Title	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.11	Clarify guidance on dredged/maintained areas	M	HSSC/MS approval & include in next revision S-4	2011	2016	O	Sec NCWG	S-4, INT1	CSPCWG9 Action 43 CSPCWG10 Action 10 WG Ltrs 09 & 13/14
A13	Provide guidance on charting maximum authorized draught	M	HSSC/MS approval & include in next revision S-4	2012	2016	O	Sec NCWG	S-4, INT1	Draft guidance approved by WG. CSPCWG10 Action 12. WG Ltrs 09 & 13/14 – see 09/14 for changes to specs; NCWG1 Agenda 08.3; NCWG1 Action 17; WG Ltrs 02 & 08/2015.
A16	Consideration of the future of the paper chart	H	Set up Correspondence Group	2014	2016	O	Chair NCWG	tbd	CSPCWG10 Action 36 NCWG1 Action 54
A17	Provide guidance on charting wind farms under construction at sea	M	HSSC/MS approval & include in next revision S-4	2014	2016	O	Sec NCWG	S-4 B-445	CSPCWG10 Action 20 WG Ltrs 10 & 14/2014
A18	Provide guidance on charting covered berths	M	WG letter for revised S-4 draft	2014	2016	O	Sec NCWG	S-4 B-300	CSPCWG10 Action 21 WG Ltrs 10 & 14/2014 NCWG1 Action 15; WG Ltr 04/2015
A19	Provide additional guidance on charting AIS where on most AtoN in region	M	HSSC/MS approval & include in next revision S-4	2014	2016	O	Sec NCWG	S-4 B-489	CSPCWG10 Action 28 WG Ltrs 10 & 14/2014
A20	Provide guidance on use of QR codes	M	HSSC/MS approval & include in next revision S-4	2014	2016	O	Sec NCWG	S-4 B-243	CSPCWG10 Action 38 WG Ltrs 11/2014 & 01/2015
A21	Provide guidance on adding reminder about T & P NMs on charts	M	HSSC/MS approval & include in next revision S-4	2014	2016	O	Sec NCWG	S-4 B-252	CSPCWG10 Action 41 WG Ltrs 11/2014 & 01/2015

Work item	Title	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
A22	Consider standardization issues related with additional information overlay services and provide recommendations as appropriate	H	Report on NCWG1 discussions to HSSC7	2014	2015	C	Chair NCWG/UK		HSSC6-05.5D rev1 refers NCWG1 Action 42
A23	Specify "consistency" of charted information between paper charts and corresponding ENCs	M	WG letter for S-4 draft	2015	2016	P	Sec NCWG	S-4 Part B Sections 100 and 600	NCWG1 Action 43 WG Ltrs 03 and 10/2015
A24	Provide guidance on the use of seals of non- IHO members on INT charts	M	WG letter for S-4draft	2014	2016	P	Sec NCWG	S-4	HSSC6-05.5C & F refer NCWG1 Action 46 WG Ltrs 02 & 08/2015
A25	Buildings above the water	M	WG letter for S-4draft	2015	2016	P	Sec NCWG	S-4	NCWG1 Action 29 WG Ltr 04/2015
B.3	Develop guidelines for preparation & maintenance of small / medium scale ENC schemes.	H	Review NSEHWG draft	2009	2017	O	Sec/Chair NCWG IHB	S-11A	Draft by NSEHWG; keep WENDWG engaged NCWG1 Agenda 10.1 and Action 47-49 IHO CL 51/2015 and email to ICCWG coordinators WG Ltr 06/2015
B.4	Prepare a "basic quality assurance check-list template" for use by INT Chart Coordinators/ICCWG in support of the review of new INT charts.	M		NCWG-2	2016	P	IHB Chair NCWG/Sec		IHO CL 64/2015
D32.4	Reinstate (simplified) symbol for light vessels	M	HSSC/MS approval & include in next revision S-4	2012	2016	O	Sec NCWG	S-4 / B-474, INT1	CSPCWG9 Action 18; CSPCWG10 Action 16 NCWG1 Action 34

Work item	Title	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
D35	Dangerous cargo berth	M	HSSC/MS approval & include in next revision S-4	2014	2016	O	Sec NCWG	S4 / B-300	CSPCWG10 Action 18 WG Ltrs 10 & 14/2014
E.1	Maintain official INT 1s		Planning for next editions by INT1 sub-WG (following Cadiz meeting July 2013)	2013	2016	O	DE: S Spohn FR: S Guillou ES: F. Yanguas	INT 1	English version 2011 (Ed 7) French version 2012 (Ed 5) Spanish version 2011 (Ed 4)
E.4	Symbols for vacant entries in INT 1	L	INT1subWG to supply list to Chair		2016	O	INT1subWG, Chair	INT 1, S-4 part B	NCWG1 Action 14
E8	Reorganize INT1 to exclude composite symbols	L				P	INT1 sub-WG	INT1	Not to be progressed at present; use CSPCWG10-11.2A when progressed.
E9	Develop new section V for INT1 for 'data quality'	M	Draft to WG	2014	2016	O	Chair NCWG	INT1	CSPCWG10 Action 35

\* Allowing for approval via HSSC (in accordance with Resolution 2/2007) before MS and publication.

### Meetings (Task G)

Date	Location	Activity
26-29 April 2016	IHB, Monaco	NCWG2

Chairman: Jeff Wootton (AU) from 01/04/14  
Vice Chairman: Nick Webb (UK) from 01/09/14  
Secretary: Andrew Heath-Coleman (UK)

Email: [jeff.wootton@defence.gov.au](mailto:jeff.wootton@defence.gov.au)  
Email: [nick.webb@ukho.gov.uk](mailto:nick.webb@ukho.gov.uk)  
Email: [andrew.coleman@ukho.gov.uk](mailto:andrew.coleman@ukho.gov.uk)

## 9. DQWG WORK PLAN 2016-17

### 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 "IHO Universal Hydrographic Data Model" (IHO Task 2.5.2)
B	Monitor and further develop quality indicators for hydrographic data (IHO Task 2.5.2)
C	Maintain and extend as needed existing quality indicators in S-57 "IHO Transfer Standard for Digital Hydrographic Data", including the education of both the mariner and the cartographer, and the development of documentation (IHO Task 2.5.2)
D	Maintain and extend as needed the presentation of data quality, as provided in S-52 "Specifications for Chart Content and Display Aspects of ECDIS" and its Presentation Library (IHO Task 2.5.2)
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 (IHO Task 2.5.2)
F	Propose new data quality topics and other applications for consideration by HSSC (IHO Task 2.5.2)
G	Maintain and extend data quality related elements of S-100 "IHO Universal Hydrographic Data Model" (IHO Task 2.5.2)
H	Maintain and extend data quality related elements of S-101 "ENC Product Specification" and other S-100-based Product Specifications (IHO Task 2.5.2)
I	Conduct the annual meetings of DQWG (IHO Task 2.5.1)

### Work items

Work Item	Title	Priority H-high M-medium L-low	Next Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
A.1	Review ISO 19113, 19114, 19115 and 19157 and make recommendations for inclusion in S-100	M		2010	Permanent	O	NCWG	S-100	Ongoing task to keep S-100 data quality in line with ISO standards.

Work Item	Title	Priority H-high M-medium L-low	Next Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
B.4	Develop the hierarchy approach by formalizing the hierarchy and the algorithm that drive the display	H	HSSC-7	2013	2016	C	Mike Prince	S-101	Hierarchy formalized, will be presented in HSSC7
C.4	Investigate possible methods for how to educate practicing mariners on data quality issues.	M	DQWG9		Permanent	O	DQWG		Investigate in liaison with training institutions the adequacy of existing HO documentation on the quality aspects of the practical use of ENC's. IHO CL 51/2013 issued on this topic. To include the recommendations of HSSC5-INF4, interface with IMO/HTW (Action HSSC5/45 refers).
E.2	Demonstrate methods to mariners.	M	Follows S-100 demonstrator	2012	2016	O	Antti Castrén	S-101	Build possible methods into ENC and ECDIS to demonstrate effectiveness.
E.3	Demonstrate methods to mariners	M	Follows E.1	2014	2017	P	Antti Castrén		Consider using the Singapore Strait Marine Electronic Highways (MEH) project as a test case (Action HSSC5/47 refers).

Work Item	Title	Priority H-high M-medium L-low	Next Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
F.1	Investigate areas of quality concern (other than survey / bathymetry)	M	DQWG9	2010	Permanent	C	Eivind Mong	-	SNPWG has responded, liaison is ongoing.Moved to H.1
F.2	Investigate data quality related topics concerning crowd sourced hydrographic information	M	DQWG11	2016	2017	P	Antti Castrén	S-44?	Liaison with IRCC's working group
F.3	Investigate data quality related topics concerning satellite derived bathymetry	M	DQWG11	2015	2017	P	Antti Castren	S-44?	The topic was introduced during DQWG10
G.1	Create and maintain general guidelines regarding data quality within IHO	H	DQWG11	2015	2016	O	Antti Castrén	S-100, S-10x	
H.1	Liaise with other working groups and create road map with timeline for data quality items within S-10x	H	DQWG11	2015	Permanent	P	Antti Castrén	S-10x	

Work Item	Title	Priority H-high M-medium L-low	Next Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
I.1	Conduct the annual meeting of DQWG	H	DQWGnn	2015	Permanent	O	Antti Castrén		Conduct annual meeting in late spring each year.

### Meetings (Task I)

Date	Location	Activity
7-9 July 2015	Brest, France	DQWG10
10-12 May 2016	Silver Spring, USA (tbc)	DQWG11

Chair: Antti CASTREN, FI  
Vice-Chair: Sean LEGEER, US  
Secretary: Eivind MONG, Jeppesen

Email: [antti.castren@fta.fi](mailto:antti.castren@fta.fi)  
Email: [sean.legeer@noaa.gov](mailto:sean.legeer@noaa.gov)  
Email: [Eivind.Mong@jeppesen.com](mailto:Eivind.Mong@jeppesen.com)



## 10. HDWG WORK PLAN 2016-17

### HDWG tasks

A	Maintain and extend the definitions in the IHO Dictionary in French, English and Spanish (IHO task 2.11.1 refers)
B	Liaise with other IHO bodies preparing publications containing glossaries (IHO task 2.11.1 refers)
C	Liaise with other organizations developing dictionaries and/or glossaries (IHO task 2.11.1 refers)
D	Develop the Spanish language Wiki version of S-32 with commercial contract support (IHO task 2.11.2 refers)

Work Item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s) * indicates leader	Related Pubs / Standard	Remarks
A1	Review all terms currently included in S-32 for their relevance in accordance with the S-32 Business Rules and propose which definitions should be removed from S-32	M	a. Terms a – d	2012	2016	P	All	S-32	Pending work item A3
b. Terms e – l			2012	2016	P				
c. Terms m – r			2013		P				
d. Terms s – z			2013		P				

Work Item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s) * indicates leader	Related Pubs / Standard	Remarks
A2	Review the approved definitions of Altitude, Elevation and Height	H		2012	2013 2014 2016	O		S-32	Alternative definitions to be submitted by HDWG to TSMAD27 (Dec 2013) and CSPCWG10 (Jan 2014) before endorsement
A3	To investigate options (scope, format / content management system, languages, cross-references, maintenance regime, ...) and associated resource requirements and timeline to produce [and maintain] a reference edition of S-32	H	September 2016	HSSC-7	HSSC-8	P	Chair	S-32	

### Meetings (IHO WP task 3.1.8)

No meetings have taken place.

Date	Location	Activity
September 2016	IHB, Monaco	A3

Chair: Jean LAPORTE, France  
Vice-Chair: Vacant  
Secretary: David WYATT, IHB

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## 11. ABLOS WORK PLAN 2016-17

### Tasks

A	Organise the 9 <sup>th</sup> ABLOS Conference in 2017 (IHO Task 2.12.2)
B	Maintain IHO Publication C-51 "Technical Aspects of the Law of the Sea (TALOS) Manual" (IHO Task 2.12.3)
C	Deliver a standard training program on the hydrographic aspects of maritime delimitation (IHO Task 3.5.2)
D	Provide advice and guidance on the technical aspect of the Law of the Sea to relevant organizations, bodies and Member States (IHO Task 2.12.3)
E	Organize and prepare ABLOS business meetings in 2016 and 2017 (IHO Task 2.12.1)

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) * indicates leader	Related Pubs / Standard	Remarks
A1	Organise 9 <sup>th</sup> ABLOS Conference	H	Begin advertising	2015	2017	O	All members of ABLOS through Niels Andersen*	N/A	
			Identify key note speaker	2015	2016	O			
			Attract presentation abstracts	2015	2017	O			
B1	Prepare draft 6 <sup>th</sup> Edition of C-51 (TALOS Manual) for adoption by Member States	M		2013	2016	P	Chris Carleton*	IHO Publication C-51	
		H	Generate draft new structure for chapter 3	2014	2016	O			
		H	Review contents of chapters and identify areas requiring revision	2014	2016	O			

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) * indicates leader	Related Pubs / Standard	Remarks
C1	Deliver standard training programmes for the CBSC	H		2011	Continuous	O	John Brown*		Workshops planned in 2017 in the CBSC Work Plan.
D1	Provide advice and guidance on the technical aspect of the Law of the Sea	H		Continuous		O	All members of ABLOS through the Chair		

#### Meetings (Tasks A & E)

Date	Location	Activity
19 - 23 October 2015	IHB, Monaco	ABLOS 22 and 8 <sup>th</sup> ABLOS Conference
Oct 2016	Seoul, Korea	ABLOS 23
9 - 12 October 2017	IHB, Monaco	ABLOS 24 and 9 <sup>th</sup> ABLOS Conference

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Vice-Chair: Niels ANDERSEN

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## 12. COORDINATION WORK PLAN 2016-17

### Tasks

A	As required, establish Working Groups to fulfil the Committee Work Plan, monitor their work and review annually the continuing need for each Working Group previously established by the Committee (HSSC TOR)
B	Support the IHB to implement the planning mechanism annually and at the end of each 5-year (3-year) cycle (including preparation of next IH Conference / Assembly)
C	Provide technical advice and guidance on IHO technical standards (IHO Task 2.1.2)
D	Conduct the 2015 and 2016 meetings of HSSC (IHO Task 2.1.1)

### Work items

Work item	Task	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A1	Facilitate and monitor the work of the Hydrographic Surveys Scoping Project Team	H		HSSC-7	HSSC-8	P	Nickolas Roscher	S-44, S-5, C-13	
B1	Preparation of the revision of the IHO Strategic Plan and 3-years Programme of Work	H	June 2016	HSSC-7	HSSC-8	P	Gilles Bessero		
C1	Consider the relevance of IHO Resolution 2/2007	M	June 2016	HSSC-7	HSSC-8	P	Gilles Bessero	All, S-4 in particular	

### Meetings (Task D)

Date	Location	Activity
Nov 2015	Busan, Republic of Korea	HSSC-7
June 2016	Paris (tbc), France	Inputs to Strategic Plan/ 3-years programme of work
Nov 2016	IHB, Monaco	HSSC-8
Nov 2017	TBD, Canada	HSSC-9

HSSC Chair: Mathias JONAS, Germany  
HSCC Vice Chair: Mike PRINCE, Australia  
HSSC Secretary: Gilles BESSERO, IHB  
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**Annex A S-66 PROJECT TEAM WORK PLAN 2016-17**

**Tasks**

A	Revise IHO Publication S-66 – “ <i>Facts about electronic charts and carriage requirements</i> ”. Stage 1
B	Stage 2 as defined

**Work items**

Work item	Task	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed S-Superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A	Stage 1								
A.1	Revise Work plan	H			End Nov 15	O	Richard Northover	S-66	
A.2	Re-engage existing revision team & replace as necessary	M			End Dec 2015	P	Richard Northover Yves Guillam	S-66	
A.3	Complete the remaining 7 sections of work (as per work plan – see timings)	M		Jan 2016	March/April 2016	To be planned following work items 1 & 2	Richard Northover Yves Guillam	S-66	Submission at ENCWG-1
B	Stage 2								
	TBA on Stage 1 Completion (see HSSC 6 presentation)?								

**Meetings**

Date	Location	Activity
None planned	All work by correspondence	



PT Chair: Richard Northover  
PT Vice Chair: Vacant (previous person has left)

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## Annex B - Product Specification for UKC Management Information Project Team (UKCM PT) Work Plan 2016-18

### UKC Project Team Tasks

A	Decide on the appropriateness of UKCM information as a S-10X product specification
B	Define the features and attributes needed for the display of UKCM information and determine if these should reside within the UKCM information product specification or reside within another product specification that can support the user's need for the display of UKCM information
C	Define the UKCM data model and assign an S-100 Product Specification number
D	Provide the UKCM data model to the S-100 WG for consideration

Work Item	Title	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-Superseded	Contact Person	Related Pubs / Standard	Remarks
A.1	Determine the requirements that are needed to display UKCM information and decide on the appropriateness of UKCM information as a S-10X Product Specification	H	A.2 B.1	2016	2017	P	PT Chair	S-99 S-100 S-102 S-112* ISO 19100	<ul style="list-style-type: none"> <li>In close liaison with, and guidance by, the S-100 WG</li> <li>Agree that the S-10X PS should be an IHO product specification</li> </ul>

A.2	Provide an initial draft of the UKCM Product Specification	H	B.1	2017	2017	P	PT Chair		<ul style="list-style-type: none"> <li>In close liaison with, and guidance by, the S-100 WG</li> </ul>
B.1	Define the features and attributes needed for the display of UKCM information and determine if these should reside within the UKCM product specification or reside within another product specification that can support the display of UKCM information	H	C.1	2017	2018	P	PT Chair	S-99 S-100 S-102 S-112* ISO 19100	<ul style="list-style-type: none"> <li>Dependent upon the results of A.1.</li> </ul>
C.1	Define the UKCM data model and assign an S-100 Product Specification number	H	D.1	2017	2018	P	PT Chair		
D.1	Finalise outputs and provide the UKCM data model to the S-100 WG for consideration			2018	2018	P	PT Chair		

\* Under development

### Meetings

Date	Location	Activity
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	Singapore	UKCM PT 1st meeting
		UKC PT 2nd meeting
		UKCM PT 3rd meeting

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Vice Chair: A Millett  
Secretary: TBD

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