

## HSSC WORK PLAN 2019-20

Version 17 May 2019

### Notes:

a/ This consolidated work plan (WP) has been compiled from the reports submitted to HSSC-11 and following exchanges with HSSC WGs Chairs.

b/ Quick links:

§3. <a href="#">S-100WG Work Plan</a>	§4. <a href="#">NIPWG Work Plan</a>	§5. <a href="#">ENCWG Work Plan</a>
§6. <i>Left blank intentionally</i>	§7. <a href="#">TWCWG Work Plan</a>	§8. <a href="#">NCWG Work Plan</a>
§9. <a href="#">DQWG Work Plan</a>	§10. <a href="#">HDWG Work Plan</a>	§11. <a href="#">ABLOS Work Plan</a>
§12. <a href="#">COORD Work Plan</a>	Annex A. <a href="#">HS 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.

### 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 Assemblies.

### Monitoring:

In accordance with Decision No. 1 of the 1st Session of the IHO Assembly, the Council evaluates by correspondence the accomplishment of the preceding year's work programme and report to MS through the IHO Annual Report.

### 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/Assembly 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 2019-2020**

See Programme 2 in the [IHO Work Programme 2019](#).

### 3. S-100WG WORK PLAN 2019-20

#### Tasks

A	Maintain and extend S-100 "IHO Universal Hydrographic Data Model" (IHO Task 2.3.2)
B	Maintain and extend S-99 "Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry" (IHO Task 2.3.3)
C	Maintain and extend the S-100 GI Registry (IHO Task 2.3.1)
D	Supervise/Advise and support the development and maintenance of S-100-based product specifications (IHO Task 2.3.5)
E	Monitor the development of other related international standards (IHO Task 2.1)
F	Provide outreach and technical assistance regarding the implementation of S-100 (IHO Task 2.3.5)
G	Maintain the S-100 section of the IHO website (IHO Task 2.3)
H	Conduct the 2019 and 2020 meetings of the S-100WG and its sub-group(s) and project team(s) (IHO Task 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 10	2010	Permanent	O	Julia Powell (NOAA)		Edition 5.0.0 at HSSC12
A.2	Develop and Extend of S-98 Interoperability Specification	H		2015	Permanent	O	Julia Powell (NOAA)		Draft Edition 1.0.0 submitted at HSSC-12 in May 2020
A.3	Monitor the protection scheme (S-63 equivalent component, S-100 Part 14) of S-100 based-products	M		2016	Permanent	P	Jonathan Pritchard (IIC) Robert Sandvik (Primar)		
A.4	Develop and Extend S-97 Guidebook for developing S-100 Product Specifications	M		2018	Permanent	O	Julia Powell		Draft Edition 1.0.0 submitted at HSSC-11 in May 2019
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		2015	2019	P	Jeff Wootton		

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.2	Establish and maintain and expert group for the hydro domain:  -	M		2016	Permanent	P	Julia Powell (US)		Action HSSC8/14 (membership and TORs)
C.1	Maintain and Extend the S-100 GI Register in alignment with S-100 (includes Portrayal)	H		2015	Permanent	O	Yong Baek (KHOA)		
C.2	Develop and Maintain the S-100 Feature Catalogue Builder	H		2015	Permanent	O	Yong Baek (KHOA)		
C.3	Develop and Maintain the S-100 Portrayal Catalogue Builder	H		2015	Permanent	O	Yong Baek (KHOA)		
D.1	Review the S-100 Master Plan annually	M		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.

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.2	Review the S-101 Value Added Roadmap annually	H		2013	Permanent	O	Al Armstrong (NGA)	S-101	
D.3	Develop Edition 2.0.0 of S-101	H		2015	2021	O	Al Armstrong (NGA)		Operational Edition of S-101 will be at 3.0.0
D.4	Monitor the implementation of the S-101 ENC product specification (post Edition 2.0.0)	H		2015		P	Julia Powell (NOAA)		Action HSSC8/19 (Impact on IMO Performance Standards ?)
D.5	Develop and Maintain an S-100/S-101 Test Strategy and Test Bed	H		2013	Permanent	O	Julia Powell (NOAA)		
D.6	Maintain S-102 Bathymetric Content Specification.	H		2014	2021	P	Dave Brazier (NAVO)		Submit Edition 2.0.0 to HSSC11
D.7	Develop and maintain S-129 Product Specification for Underkeel Clearance Management (UKCM) Information.	M		2016	2020	P	Nick Lemon (AMSA)		Decision HSSC8/17 Edition 1.0.0 submitted to HSSC11

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.8	Develop S-121 Product Specification for Maritime Limits and Boundaries	H		2016	2019 ?	O	Mark Alcock (Geoscience Australia)		Action HSSC8/16  Undergoing MS and WG review prior to release (ref HSSC10 report)
E.1	Monitor the development of other related international standards	M			Permanent	O	Julia Powell (NOAA)		
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)
E.3	Monitor the development of the IMO guidance on maritime cyber security and advice on possible future actions	L		2016	Permanent	P	Hannu Peipponen (IEC)		
F.1	Liaise with IHO subsidiary bodies and subordinate organs, e.g. WWNWS-SC, NIPWG, ENCWG, SCUFN, etc.	H			Permanent	O	Julia Powell (NOAA)		Establish joint project teams as required and support the UFN Project Team, see Doc. HSSC8-07.1C INF3

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.2	Liaise with non-IHO constituents, e.g. IALA E-nav Committee, IEHC, JCOMM Expert Teams, DGIWG, ISO, ICPC, 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)  Actions HSSC8/58, HSSC8/66
G.1	Maintain the S-100 section of the IHO website	H		2003	Permanent	O	Tony Pharaoh (IHO Sec.)		

### Meetings (Task H)

Date	Location	Activity
15-18 March 2017	Genoa, Italy	S-100WG-2
19-21 Sept 2017	Virginia, USA	S-100 TSM-5
10-13 April 2018	Singapore	S-100WG-3
18-20 Sept 2018	Busan, Korea	S-100 TSM-6
28 Feb – 1 Mar 2019	Aalborg, Denmark	S-100WG-4
23-26 Sept 2019	Monaco	S-100 TSM-7

Chair: Julia Powell, NOAA  
Vice Chair: Yong Baek, KHOA  
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#### 4. NIPWG WORK PLAN 2019-20

##### Tasks

D	Maintain Publication S-12 “Standardization of List of Lights and Fog Signals” (IHO Task 2.8.1)
E	Maintain Publication S-49 “Recommendations concerning Mariners’ Routeing Guides” (IHO Task 2.8.3)
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 2.3)
G	Develop high level specifications for <del>a combined Mmaritime Sservices</del> as defined by IMO in the context of e-navigation Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan (IHO Task 2.5.2)
H	Develop a test and implementation plan for the development of the maritime <del>services as defined by IMO MSP “hydrographic services”</del> (IHO Task 2.5.2)
I	Maintain IHO Resolutions in M-3 relating to Nautical Publications as required (IHO Task 2.1)
J	Liaise with other HSSC WGs and other IHO and international bodies (IHO Task 2.1.8)
K	Conduct the <del>20192017</del> and <del>20202018</del> meetings of the NIPWG and its sub-group(s) and project team(s) (IHO Task 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
D.1	Monitor and assess proposals for amending S-12	M	Next meeting	2014	Permanent	O		S-12	In close liaison with IALA; see J.5.1

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
E.1	Develop proposals for amending S-49	M	Next meeting	2019	Permanent	O		S-49	
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		2015	Permanent	O			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	H	<del>Draft Product Specification for Marine Protected Areas (S-122) released in 2018</del> Next meeting	2015	Permanent	O	Chair/Sec		In close liaison with the S-100 WG <del>On target for endorsement by Council—2.</del> See action NIPWG 6/XX
F.3	Model the NP data where required.	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related. To be included in Hydro domain of the FCD Register.

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.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.8.1	Develop S-12n - Nautical Information Product Specification								
F.8.1.1	For <b>Marine</b> Radio Services	H	next NIPWG meeting	2012	2019	<b>OC</b>	Chair/Sec	S-123	<b>Edition 1.0.0 endorsed by Member States 2018</b>
F.8.1.2	For <b>Marine</b> Navigational <b>s</b> Services	L	next NIPWG meeting	2013		P	Chair/Sec	S-125	On Hold <b>IALA offers to develop draft, NIPWG</b>
F.8.1.3	For <b>Marine</b> Traffic Management	H	<del>next NIPWG meeting</del>	2013	2021	O	Chair/Sec	S-127	<b>Edition 1.0.0 developed (is now under 2/2007 life cycle management)</b>
F.8.1.3.1	For Marine Protected Areas 1	H	next NIPWG meeting	2011	2019	<b>OC</b>	Chair/Sec	S-122	<b>Edition 1.0.0 endorsed by Member States 2018</b>
F.8.1.4	For <b>Marine</b> Physical <b>e</b> nvironment	L	next NIPWG meeting	2013		<b>PO</b>	Chair/Sec	S-126	On Hold <b>Investigatory work initiated, see action</b>
F.8.1.5	Catalog of nautical products	<b>M</b>	next NIPWG meeting	2016	2021	O	Chair/Sec	S-128	<b>Development continued by KHOA</b>
<b>F.8.2</b>	<b>Monitor and Maintain NIPWG Product Specification</b>	<b>H</b>	<b>Next meeting</b>	<b>2019</b>		<b>O</b>	<b>Chair/Sec</b>		<b>S-122, S-123 and S-127 under 2 year revision cycle</b>

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
G.1	Monitor the requirements for, and provision of, nautical information in e-navigation test-beds  Produce NP1 sample data sets								According to the tasks assigned by HSSC4. Collection of information to be modelled
G.1.3	For <del>Marine</del> Traffic Management	H	next meeting	2012	2018	C	Chair/Sec	S-127	
G.1.4	For <del>Marine</del> Physical environment	L	next meeting	2013		O	Chair/Sec	S-126	On Hold Investigatory work initiated, see action 6/07
G.3	Rules and guidelines for displaying nautical information in ECDIS and in maritime services as defined by IMO <del>combined Marine Service Portfolios</del>								
G.3.1	Develop basic display principles for NP data intended for use in ECDIS (NP3)	M		2008		O	Chair/Sec	<del>S-52</del>	Close co-operation with NCWG and S-100WG required. Interoperability Spec to be considered.
G.3.2	Monitor and contribute to the development of IMO guidelines showing how navigation information received by communications equipment can be displayed in a harmonized way and what equipment	M		2015	2019	O			e-nav IMO Strategy Implementation Plan, Task T13 (HSSC6-07.1A refers) Output number 5.2.6.2 of NCSR biennial agenda 2016-17 Completion date is unknown and dependent on the maturity of interoperability and portrayal

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
	functionality is necessary.								frameworks For HSSC consideration
G.5	Contribute to considering the future of paper charts in the perspective of the establishment of <del>MSP</del> maritime services as defined by IMO	M		2014		O			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 required due for the harmonization of M-3 information and potential ProdSpecs content
J.0	Liaise with the NCWG	M			Permanent	O	Chair/Sec NIPWG		Establish joint project teams as required and endorsed by HSSC.
J.1	Liaise with the ENCWG	M			Permanent	O	Chair/Sec NIPWG		
J.2	Liaise with the S-100WG	H			Permanent	O	Chair/Sec NIPWG		Establish joint project teams as required and endorsed by HSSC.
J.2.1	Draft Data Classification and Encoding Guides								Document for NPs similar to Use of the Object Catalog
J.2.3	Draft Product Specification								
J.2.3.2	For <del>Marine</del> Navigational Services	L		-		P	Chair/Sec	S-125	On hold
<del>J.2.3.3</del>	For <del>Marine</del> Traffic management	H		2011	2021	O	Chair/Sec	S-127	In progress
J.2.3.5	For Physical <del>e</del> Environment	L		-	-	P	Chair/Sec	S-126	On hold
J.2.3.6	For Digital Catalog of Nautical Product		Next meeting	2016	2021	O	Chair/Sec	S-128	In progress

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
J.3	Liaise with other HSSC WG	M		2004	Permanent	O	Chair/Sec NIPWG		
J.4	Liaise with IRCC								
J.4.1	Liaise with WWNWS Sub-Committee							S-124	Monitor developments of S-124 Correspondence Group
J.5	Liaise with other international bodies which contribute to nautical information	H		2015	Permanent	O	Chair/Sec NIPWG		
J.5.1	Liaise with IALA <del>e-Nav Committee</del>	H		2013	Permanent	O	Chair/Sec NIPWG		
J.5.2	Liaise with International Harbor Masters' Association (IHMA)	L		2015	Permanent	O	Chair/Sec NIPWG		<del>See outcome HSSC8 Section 7.10 of the minutes</del> IHMA attended the NIPWG Stakeholder forum 2019
J.5.3	Liaise with International Cable Protection Committee (ICPC)	<del>ML</del>		2016	Permanent	O	Chair/Sec NIPWG		<del>MOU signed between IHO and ICPC</del>

## Meetings (Task K)

Date	Location	Activity
25–29 Nov 2019	St. Petersburg, Russian Federation	NIPWG7
Sept 2020	Brest <del>(the)</del> , France	NIPWG8
June 2021	India (invitation expected)	NIPWG9
March 2022	Niteroi, Brazil	NIPWG10
Jan 2023	Tallinn, Estonia	NIPWG11

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Top three work items:

- Initiate prototype implementation of existing S-12x products in an S-100 based environment to explore governance architecture and service delivery mechanism
- Develop S-12x nautical information Product Specifications
- Coordinate the IHO contributions to the definition and harmonisation of maritime services as defined by IMO within the remit of IHO

## 5. ENCWG WORK PLAN 2019-20

### Tasks

A	Maintain S-52 “Specifications for Chart Content and Display Aspects of ECDIS” and its associated “Presentation Library” (IHO Task 2.4.1)
B	Maintain S-57 “IHO Transfer Standard for Digital Hydrographic Data”, including ENC Product Specification (IHO Task 2.4.2)
C	Maintain S-58 “Recommended ENC validation checks” (IHO Task 2.4.3)
D	Maintain S-61 “Product Specification for Raster Navigational Charts” (IHO Task 2.4.4)
E	Maintain S-64 “IHO Test Data Sets for ECDIS” (IHO Task 2.4.6)
F	Maintain S-65 “ENC Production, Maintenance and Distribution Guidance” (IHO Task 2.4.7)
G	Assess the impact of other IHO standards on S-52 display specifications (IHO Task 2.4.1)
H	Liaise with the NIPWG and the NCWG (IHO Task 2.1)
I	Maintain the ENC production and portrayal sections of the IHO website (IHO Task 2.4)
J	Conduct the 2019 and 2020 meetings of ENCWG and its sub-group(s) and project team(s) (IHO Task 2.1)
K	Maintain S-66 “Facts about electronic charts and carriage requirements – (IHO Task 2.4.8)
L	Consider the development of high density contour lines related to ENCs (IHO Task 2.4)
M	Maintain and monitor the existing S-63 standard (IHO Task 2.4.5)

## 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 S-52 - Specifications for Chart Content and Display Aspects of ECDIS	H	Next meeting		Permanent	O	Chair/Sec ENCWG (Tom Mellor)	S-57	
A.2	Resolve any problems or errors identified in the current editions of S-52 Presentation Library and S-64 ENC Test Datasets	H			Permanent	O	Chair/Sec ENCWG (Tom Mellor)	S-57, S-64	Generally OEMs going through type approval with ECDIS will identify areas for clarification or correction
A.3	Investigate ENC display issues in ECDIS	H		Mar-17	Mar-19	P	Christian Mouden	S-53, S-57 (UoC)	
A.4	With respect to the implementation of S-52 PL4.0; monitor the Paris and Tokyo MoU CIC on Safety of Navigation and take appropriate action where necessary	M	Next meeting		2019	O	Chair ENCWG		recommend close work item
A.5	Monitor and assist the ECDIS S-mode work which will be an agenda item at NCSR5				2019	O	Chair ENCWG		recommend close work item

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	Maintain S-57 "IHO Transfer Standard for Digital Hydrographic Data, including ENC Product Specification"	H			Permanent	O	Chair/Sec ENCWG	S-52, S-58	
B.2	Resolve any problems or errors identified in the current edition of S-57	H			Permanent	O	Chair ENCWG	S-57	
B.3	Produce T&P paper for PSC See K.2	M	2017	2018			Chair ENCWG		
B.4	Maintain the ENC portrayal sections of the IHO website.	M			Permanent	O	Chair/Sec ENCWG		
C.1	Resolve any problems or errors identified in the current edition of S-58	H			Permanent	O	Richard Fowle		
C.2	Monitor the implementation of the new edition of S-58 and keep the recommended checks up to date	H		Sept-2017	July-2018	O	Richard Fowle	S-57	

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
<del>C.3</del>	<del>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.</del>	H		<del>2012</del>	<del>2017</del>	<del>C</del>	<del>Richard Fowle</del>		<del>Task Completed</del>
E.1	Resolve any problems or errors identified in the current edition of S-64	H			Permanent	O	Chair/Sec ENCWG		
F.1	Monitor and assess proposals for amending S-65	L			Permanent	O	Chair/Sec ENCWG		
G.1	Liaise with IEC TC80 to ensure that future editions of IEC 61174 are compatible with standards maintained by ENCWG	M			Permanent	O	Chair/Sec ENCWG	S-52, IEC 61174	
H.1	Liaise with the NIPWG and the NCWG	H			Permanent	O			

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
I.1	Maintain the ENC production and portrayal sections of the IHO website, and support FAQ and Encoding Bulletins	H			Permanent	O	Chair / IHO Sec		
K.1	Maintain S-66 Publication				Permanent	O	Chair / IHO Sec		
K.2	Prepare a single educative IHO authoritative document addressing the issue of "equivalent" T&P NMs for ENCs, in view of its distribution to HOs, Port State Control authorities and mariners after approval. (See B.3)	M				P	Thomas Mellor (UKHO) and NCWG Chair		
M.1	Maintain and monitor the existing S-63 protection scheme	M		2016	Permanent	O	Thomas Mellor, RENC, Industry and IHO Sec.	S-63	

## Meetings (Task J)

Date	Location	Activity
14 – 18 March 2016	Tokyo, Japan	ENCWG-1
20-22 March 2017	Genoa, Italy	ENCWG-2
16-18 April 2018	Wollongong, Australia	ENCWG-3
10-12 June 2019	Monaco	ENCWG-4

Chair: Thomas Mellor, UK

Vice Chair: Mikko Hovi, FI

Secretary: AD Anthony Pharaoh, IHO Sec.

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Email: addt@iho.int

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**Tasks**

A	
B	
C	

**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									
B									
C									

**Meetings**

Date	Location	Activity

Chair:

Vice Chair:

Secretary:

## 7. TWCWG WORK PLAN 2019-20

### 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 2.8.4)
B	Compare the tidal predictions generated as a result of analysis of a common data set using different analysis software
<del>C</del>	<del>Develop, maintain and extend a Product Specification for digital tide and tidal current tables (IHO Task 2.3.4)</del>
D	Develop, maintain and extend a Product Specification for dynamic surface currents in ECDIS (S-111) (IHO Task 2.3.4)
E	Develop, maintain and extend a Product specification for dynamic water level in ECDIS (S-104) (IHO Task 2.3.4)
F	Liaise with S-100WG on water level and current matters relevant to ECDIS applications (IHO Task 2.3.5)
G	Liaise with industry experts on the development of product specifications for water level and currents
H	Prepare and maintain an inventory of water level gauges and current meters used by Member States and publish it on the IHO/TWCWG web site (IHO Task 2.8.5)
I	Review and maintain the Actual Tides and Currents On-Line links as published on the IHO TWCWG website
J	Maintain and extend the relevant IHO standards, specifications and publications as required (IHO Tasks 2.8.4 and 2.1.8)
K	Conduct the at least annual meetings of TWCWG and its sub-group(s) and project team(s) (IHO Tasks 2.1.2.7)
L	Develop and maintain material for course on Tides, Water Levels and Currents

## 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 the list of standard tidal constituents	M		-	Permanent	O	Chris Jones* All		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	Hilde Sande Borck * All		Select Common data set Analyse using different software Predict common set of tides Compare results
C.4	<del>Develop, maintain and extend the standard for digital tide and tidal current tables</del>	H	<del>Prepare final draft Standard</del>	2009	2016 2017 2018 2019	<del>O C</del>	<del>Peter Stone* Chris Jones Zarina Jayaswal</del>		

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	Develop and maintain a product specification for dynamic application of surface currents in ECDIS (S-111)	H		2013	<del>2017</del> <del>2018</del> 2019	O	Kurt Hess* + List of involved and active members : report TWCWG4 Erin Nagel Stephan D, Luis Becker, Gwenaële Jan, Japan, Ronald Kuilman		Joint project team is established as required. Liaise with S-100WG (see F.1) Liaise with industry experts (see G.1)
E.1	Develop and maintain a product specification for dynamic application of water levels in ECDIS	H	Develop draft Product Specifications (S-104) for water level information for surface navigation in S-100.	2009	<del>2017</del> <del>2018</del> <del>2019</del> 2020	O	Zarina Jayaswal* Glen Rowe Jimin Ko + Llist of MS involved : TWCWG4 report		Joint project team is established as required. Liaise with S-100WG (see F.1) Liaise with industry experts (see G.1)
F.1	Liaise with S-100WG on water level and current matters relevant to ECDIS applications	H		-	Permanent	O	Gwenaële Jan Kurt Hess Zarina Jayaswal		Joint project team is established as required.

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
G.1	Liaise with industry experts on the development of product specifications for water levels and currents	H		-	Permanent	O	All		
H.1	Maintain an inventory of water level 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.
I.1	Review and maintain the Actual Tides and Currents On-Line links as published on the IHO/TWCWG website	L		-	Permanent	O	David Wyatt* All		
J.1	Maintain and extend the relevant IHO standards, specifications and publications	M		-	Permanent	O	Gwenaële Jan* Peter Stone All	S-60 User's Handbook on Datum Transformations involving WGS 84	See IHO CL10/2017 dated 1/02/2017
J.2	Maintain IHO resolutions	H		2019	2020	O	Ruth Farre* All	IHO Resolutions in M-3	

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
L.1	Develop and maintain material for CB course on Tides and Tide gauges	H	Complete translate of course material into Spanish and Portuguese by 2018 in liaison with Regional CB Coordinator requirements	-	Permanent	O	Ruth Farre* Peter Stone Zarina Jayaswal Gwenaële Jan Cesar Borba José Ramón Torres García		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	Niterói, Brazil	TWCWG-1
8-12 May 2017	Victoria, Canada	TWCWG-2
16-20 April 2018	Viña del Mar, Chile	TWCWG-3
8-12 April 2019	Busan, Republic of Korea	TWCWG-4
25-28 May 2020	Stavanger, Norway	TWCWG-5
tbc 2021	Cape Town, South Arica (tbc)	TWCWG-6

Chair: Gwenaële Jan (France)  
Vice Chair: Peter Stone (USA)  
Secretary: David Wyatt (IHO Sec.)

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## 8. NCWG WORK PLAN 2019-2020

### Tasks

A	Maintain and extend Publication S-4 'Chart Specifications of the IHO & Regulations of the IHO for INT Charts' (IHO Task 2.2.1)
B	Maintain and extend Publication S-11 Part A 'Guidance for the Preparation and Maintenance of INT Chart schemes' (IHO Task 2.2.2)
D	Development of new (and revised) symbology (IHO Task 2.2.1)
E	Maintenance of S-4 supplementary publications INT 1, 2 & 3 (IHO Task 2.2.1)
G	Conduct meetings of NCWG (IHO Task 2.1)
H	Provide technical assistance to other IHO working groups and support regarding the implementation of S-100 (IHO Task 2.3)

### Work items

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

No	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
A16	Consideration of the 'future of the paper chart'	H	<a href="#">Distribute Preliminary Report MS and conduct survey. Final report to HSSC12.</a>	2014	2020	O	Colby Harmon		CSPCWG10 Action 36 NCWG1 Action 54 Meeting following NCWG2 NCWG3 Action 12 Report at HSSC9 Report at HSSC10 <a href="#">Report at HSSC11</a> <a href="#">NCWG4 Action 4/2</a>
A26	Portrayal subWG	H	Agree protocol for seeking advice from NCWG	2016		O	Chair NCWG		HSSC7 Action 18 NCWG2 Actions 5, 22, 30-32 Attendance at NIPWG Visualization workshop May 2017. NCWG3 Action 15
A28	Future of S-4		On hold, pending progress with A16			P	Chair NCWG	S-4	NCWG3 Agenda 7.4: waiting on progress with A16
A29	Consider ICPC submission on charting submarine cables taking into account deep sea mining	L	<a href="#">Amend S-4 B-443 and C-408.</a>			O	Chair NCWG	S-4	HSSC8/68 (pending submission from ICPC). ICPC unavailable for discussion at NCWG3. NCWG3 Action 19 completed: S-4 contains nothing contradictory to Res.4/1967 (as amended IHO-A1) <a href="#">NCWG4 – Action 4/17 in progress</a>

A30	Check the impact of the IHO-Resolution 3/1919 as amended on S-4 when it is approved	L	Include changes in S-4 4.8.0	2016	2018	G	Sec NCWG	S-4, INT1, S-32	Ref. IHO CL 27/2016 and CL-10/2017 Proposed changes for HSSC10 <a href="#">Published in S-4 4.8.0</a>
A31	Revise S-4 A-500 for digital-reproamat	M	Include changes in S-4 4.8.0	2017	2018	G	Sec NCWG	S-4	NCWG3 Action 31 Proposed changes for HSSC10 <a href="#">Published in S-4 4.8.0</a>
E1	Maintain official INT 1s		Publication next editions planned for 2018			O	DE: S Spohn FR: S Guillou ES: F. Yanguas	INT 1	In progress <a href="#">DE INT 1 edition 9 published August 2018</a> <a href="#">ES INT 1 edition 6 published April 2018</a> <a href="#">FR INT 1 edition 7 in progress</a>
E9	Develop new section V for INT1 for 'data quality'	M	Draft under consideration by INT1 subWG	2014	2020	O	Chair NCWG INT1 subWG	INT1	CSPCWG10 Action 35 NCWG3 Agenda 11.2: Transferred to UK <a href="#">NCWG4 – Action 4/18</a>
E10	Symbol library	L	UK to confirm freedom to use UK's symbol set	2016		O	UK (N Rodwell) US (C Harmon)	S-4, INT1	NCWG Actions 45, 46 NCWG3 Agenda 3: Not required to progress at this time.
H2	Prepare a single educative IHO authoritative document addressing the issue of "equivalent" T&Ps for ENCs, in view of its distribution to HOs, Port State Control authorities and mariners after approval.	M	Chair to circulate revised draft to WG members for comment	2016		O	NCWG Chair and ENCWG Chair	S-66 Stage 2?	HSSC8/28 NCWG3 Action 15

## Meetings (Task G)

Date	Location	Activity
16-19 May 2017	Redlands, CA, USA	NCWG3
6-9 November 2018	The Hague, Netherlands	NCWG4
5-8 November 2019	Stockholm, Sweden	NCWG5

Chairman: Mikko Hovi (FI)      Email: [mikko.hovi@liikennevirasto.fi](mailto:mikko.hovi@liikennevirasto.fi)

Vice Chairman: Jackie Barone (US) Email: [jacqueline.barone@nga.mil](mailto:jacqueline.barone@nga.mil)

Secretary: James Timmins (UK)      Email: [james.timmins@ukho.gov.uk](mailto:james.timmins@ukho.gov.uk)

## 9. DQWG WORK PLAN 2019-20

### Tasks

- A. Develop and maintain a data quality checklist for product specification developers (IHO Task 2.8)
- B. Periodically review S-100 based product specifications to ensure the data quality aspects have been taken into consideration and provide input papers for WGs and PTs consideration if deemed necessary (IHO Task 2.3)
- C. Monitor periodically developments of ISO and other international standards regarding quality information, and advise ~~the S-100WG~~ accordingly (IHO Task 2.8)
- D. Provide guidance on data quality aspects to hydrographic offices, in particular to ensure harmonized implementation (IHO Task 2.1 and 2.5.1)
- E. Provide data quality educational material for the use of mariners (IHO Task 2.4.9)
- F. Review appropriate methodology for the display of quality information to product specification developers (IHO Task 2.1)
- G. Propose new data quality topics for consideration by HSSC (IHO Task 2.8)

### Work Items

Task	Work Item	Priority H=High M=Medium L=Low	Milestones	Start Date	End Date	Status P=planned O=Ongoing C=completed	Contact Person	Affected Pubs/ Standards	Remarks
A.1	Develop checklist on data quality components	H	HSSC11	2018	2019	C	R.Broekman	S-97 Part C	None
A.2	Provide graphical examples of DQ measures	M	HSSC12	2019	2020	P	R.Broekman	S-97 Part C	None
B.2	Development of a minimum standard for Data Validation in S-1xx based products	H	S-101 Ed.2.0.0	2018	2020	O	R.Broekman	S-1xx	Start with S-101
C.1	Review S-100 Section 4C	L	DQWG15	2017	2020	O	R.Broekman	S-97 Part C	None
D.2	Provide guidance documentation how to populate CATZOC values	H	S101PT4	2018	2019	O	S.Leger	S-101 DCEG	None
D.3	Provide guidance documentation on the transition from S-57 CATZOC to S-101 QoBD	M	S-101 Ed.2.0.0	2019	2020	P	S.Leger	S-101 DCEG	None
D.4	Collect best practice on how to assign ZOC from survey	M	HSSC11	2019	2020	C	S.Leger	S-101 DCEG	Ref IHO CL50/2017

E.1	Submit edition 1.0.0 of S-67 for endorsement by HSSC	M	S-101 Ed.2.0.0	2018	2020	O	S.Legeer	S-4, S-101	After task D2 and D3
E.3	Consider a video version of S-67 when approved by MS	L	S-101 Ed.2.0.0	2020	2020	P	R.Broekman	S-4, S-101	After task E.1
F.1	Continue development of Portrayal of bathymetry quality in S-101	H	HSSC11	2017	2019	O	R.Broekman	S-101 DCEG	Autonomous shipping
F.2	Invite industry partners (ECDIS producers) and end users to get their input on methodology for the display of quality information	H	DQWG14	2018	2019	C	R.Broekman	S-101 DCEG	Overtaken by events

## Meetings

Date	Location	Activity
15-19 January 2018	IHO Secretariat, Monaco	DQWG13
5-8 February 2019	IHO Secretariat, Monaco	DQWG14
4-7 February 2020	IHO Secretariat, Monaco	DQWG15

Chair: Rogier BROEKMAN, NL  
Vice-Chair: Sean LEGEER, US  
Secretary: Vacant

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## 10. HDWG WORK PLAN 2019-20

### Tasks

A	Maintain and extend the definitions in the IHO S-32 Hydrographic Dictionary Registry (IHO Task 2.8.2 )
B	Liaise with other IHO bodies preparing publications containing glossaries (IHO Task 2.8.2)
C	Liaise with other organizations developing dictionaries and/or glossaries (IHO Task 2.8.2)
D	Develop a digital structure and database application to support the IHO S-32 Hydrographic Dictionary Registry on-line version(IHO Task 2.8.2)

### Work items

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
A	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	2018	2019	P	Laporte	S-32	
b. Terms e – l			2018	2019	P				
c. Terms m – r			2018	2020	P				
d. Terms s – z			2018	2020	P				
D	Develop structure and database application to support the on-line dictionary	H		2017	<del>2018</del> 2019	O	Armstrong	S-32	

### Meetings (IHO WP task 3.1.8)

Date	Location	Activity
25-26 July 2017	London, UK	HDWG1
27-28 November 2018	IHO, Monaco	HDWG2
tbc	tbc	HDWG3

Chair: Jean LAPORTE, France  
Vice-Chair: Vacant  
Secretary: David WYATT, IHO Sec.

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## 11. ABLOS WORK PLAN 2019-20

### Tasks

A	Organise the 10 <sup>th</sup> ABLOS Conference in 2019 (IHO Task 2.7.1)
B	Maintain IHO Publication C-51 “Technical Aspects of the Law of the Sea (TALOS) Manual” (IHO Task 2.7.2)
C	Deliver a standard training program on the hydrographic aspects of maritime delimitation (IHO Task 2.8)
D	Provide advice and guidance on the technical aspect of the Law of the Sea to relevant organizations, bodies and Member States (IHO Task 2.8)
E	Organize and prepare ABLOS business meetings in 2019 and 2020 (IHO Task 2.1.2.8)

### Work items

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 10 <sup>th</sup> ABLOS Conference	H	Begin advertising Identify key note speaker Attract presentation abstracts	2017 2017 2017	2019 2019 2019	O C O	All members of ABLOS through Clive Schofield*	N/A	

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
B1	Prepare draft 6 <sup>th</sup> Edition of C-51 (TALOS Manual) for adoption by Member States	M		2013	<del>2016</del> 2019	P	vacant*	IHO Publication C-51	
		H	Generate draft new structure for chapter 3	2014	<del>2016 2017</del> 2018	OC			
		H	Review contents of chapters and identify areas requiring revision	2014	<del>2016 2017</del> 20182019	OC			
		M	Review initial French translation and propose amendments	<del>2018</del>	2019	PC	Marie-Françoise Lequentrec-Lalancette*/Sunil Bisnath		
		M	Review French translations of animations	2018	2019	P	Clive Schofield*/ Marie-Françoise Lequentrec-Lalancette		
		M	Review initial Spanish translation and propose amendments	2018	2019	P	Juan Carlos Báez Soto		
		M	Review French translations of animations	2018	2019	P	Juan Carlos Báez Soto		
C1	Deliver standard training programmes for the CBSC	H		2011	Continuous	O	Vacant*		Workshops planned in 2019 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)

<b>Date</b>	<b>Location</b>	<b>Activity</b>
9 - 12 October 2017	IHO, Monaco	ABLOS 24 and 9 <sup>th</sup> ABLOS Conference
22 – 25 October 2018	Qatar	ABLOS 25
7 - 10 October 2019	IHO, Monaco	ABLOS 26 and 10 <sup>th</sup> ABLOS Conference

Chair: Niels Andersen      Email: na@space.dtu.dk  
Vice-Chair: Izabel King Jeck      Email: izabel@dhn.mar.mil.br  
Secretary: David Wyatt      Email: adso@iho.int

## 12. COORDINATION WORK PLAN 2019-20

### 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 IHO Secretariat to implement the planning mechanism annually and at the end of each 3-year cycle (including preparation of next session of the IHO Assembly)
C	Organize, prepare and report meetings of HSSC working groups (IHO Task 2.1.2)
D	Conduct the 2019 and 2020 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	Monitor and guide the work of the Standards for Hydrographic Surveys Project Team	H	HSSC-10	HSSC-8	2020	O		S-44	Draft 6th Edition of S-44 for endorsement in 2019-20.
B1	Prepare A-2 (3-year Programme 2)	H	C-3	2019	2020	P			In alignment by anticipation with Strategic Plan (SPI, etc.)
B2	Contribute to the development of the S-100 Implementation Strategy	H	C-3	2018	2020	O			
<del>C1</del>	<del>Consider the relevance of IHO Resolution 2/2007</del>	<del>M</del>		<del>HSSC-7</del>	<del>IHO-A2</del>	<del>C</del>		<del>All, S-4 in particular</del>	<del>To removed from the Work Plan</del>
A2	Amendment of HSSC TORs	H	HSSC-10		IHO-C2				

## Meetings (Task D)

Date	Location	Activity
Mar 2018	Monaco	HSSC Chair meeting
14-18 May 2018	Rostock, Germany	HSSC-10
May 2019	Cape Town, South Africa	HSSC-11
May 2020	Venue tbc, United Kingdom	HSSC-12

HSSC Chair: Luigi SINAPI, Italy

HSSC Vice Chair:

HSSC Secretary: Abri KAMPFER, IHO Sec.

HSSC Assistant Secretary: Yves GUILLAM, IHO Sec.

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**Annex A STANDARDS for HYDROGRAPHIC SURVEYS PROJECT TEAM (HS PT) WORK PLAN 2019-2020**

**Tasks**

A	Review the existing edition of S-44 (5 <sup>th</sup> edition) and identify any deficiencies in either the standards or explanatory content (IHO Task 2.6.1).
B	Identify Orders of Surveys (in terms of horizontal and vertical uncertainty requirements, feature detection requirements, and statistical confidence levels), which are required to meet certain user requirements, noting that user requirements include, but are not limited to, the differing levels of CATZOC (S-57) / Quality of Bathymetric Data (S-10X) (IHO Task 2.6.1).
C	Define, if and as appropriate, a relationship between survey orders in the IHO S-44 Publication and CATZOC used in S-57 ENC and Quality of Bathymetric Data in S-101 ENC (IHO Task 2.6.1).
D	Following review, update the content and structure of S-44 to the extent identified during the review, with the intention of publishing revisions as a sixth edition of S-44 (IHO Task 2.6.1).
E	Identify any other emergent requirements not addressed within the scope of tasks A to D, and develop a proposal and recommendations on whether the Hydrographic Survey Project Team should close, continue working on specific tasks, or be migrated to a standing Working Group with an expanded Work plan (IHO Task 2.1).
F	On completion of publication of a sixth edition of S-44, submit a proposal and recommendation to HSSC on whether the Project Team should continue as a standing Working Group and, if so, what tasks have been identified to justify transition to a standing Working Group (IHO Task 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	Review the existing edition of S-44 (5 <sup>th</sup> edition) and identify any deficiencies in either the standards or explanatory content.	H	HSSC 9	2016	2017	P O C	Chair	S-44 Edition 5	
B-1	Identify Orders of Surveys (in terms of horizontal and vertical uncertainty requirements, feature detection requirements, and statistical confidence levels), which are required to meet certain user requirements, noting that user requirements include, but are not limited to, the differing levels of CATZOC (S-57) / Quality of Bathymetric Data (S-10X).	H	HSSC 10 & 11	2017	2018 2019	P O O	Chair / MS	S-44 Edition 5 S-57	
C-1	Define, if and as appropriate, a relationship between survey orders in the IHO S-44 Publication and CATZOC used in S-57 ENC and Quality of Bathymetric Data in S-101 ENC.	M	HSSC 9, 10 & 11	2017 2018	2018 2019	P O C	MS / Experts	S-44 Edition 5 S-57 S-101	
C-2	Define, if and as appropriate, a relationship between survey orders in the IHO S-44 Publication and S-5 in order to mitigate the human element factor.	M	HSSC 9, 10 & 11	2017 2018	2018 2019	P O O	MS / Experts	S-44 Edition 5 S-5	

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	Following review, update the content and structure of S-44 to the extent identified during the review, with the intention of publishing revisions as a sixth edition of S-44.	H	HSSC <del>10</del> 11	2018	2019	P O	MS / Experts / IHO Bodies	S-44 Edition 5	
E-1	Identify any other emergent requirements not addressed within the scope of tasks A to D, and develop a proposal and recommendations on whether the Hydrographic Survey Project Team should close, continue working on specific tasks, or be migrated to a standing Working Group with an expanded Work plan.	H	HSSC <del>10</del> 11	2018	2019	P O C	Chair / MS	C-13	
F-1	On completion of publication of a sixth edition of S-44, submit a proposal and recommendation to HSSC on whether the Project Team should continue as a standing Working Group and, if so, what tasks have been identified to justify transition to a standing Working Group.	H	HSSC <del>9, 10</del> 11	2017	2019	P O C	MS/HSSC Bodies	C-13	
G-2	Start the discussion on the way forward. Presenting a TOR & ROC to HSSC	H	HSSC <del>10 &amp;</del> 11	2018	2019 2020	P O 0	MS/HSSC		

## Meetings

<b>Date</b>	<b>Location</b>	<b>Activity</b>
20-22 June 2017	Paris, France	HSPT1
3-6 July 2018	Niterói, Brazil	HSPT2
12-15 March 2019	Wollongong, Australia	HSPT3
Tbc Dec 2019	Silver Spring, USA	HSPT4

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