

**8TH MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE
IHB, Monaco, 15-18 November 2016**

Paper for Consideration by HSSC

Preparation of the HSSC Report to the Assembly

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|----------------------------------|---|
| <i>Submitted by:</i> | HSSC Chair and Secretary |
| <i>Executive Summary:</i> | This paper reports on the preparation of the HSSC Report to the 1 st session of the IHO Assembly (A-1 - 24-28 April 2017). |
| <i>Related Documents:</i> | IHB Letter dated 27 June 2016 - <i>Submission of Reports to the XIXth International Hydrographic Conference / 1st Session of the IHO Assembly</i> |
| <i>Related Projects:</i> | HSSC Work Plan. |

Background

1. In accordance with its terms of reference, the HSSC is expected to report to each ordinary session of the IHO Assembly and propose its work programme. A formal call for submission of reports was issued by the IHO Secretariat on 27 June 2016, providing a standard format for the reports and requesting submissions no later than 1 December 2016.
2. This document proposes the outline of the HSSC report and invites the Committee to consider arrangements for the oral presentation of the report to the Assembly.

Draft outline of the HSSC Report

3. A draft outline of the report is provided in Annex A, based on the template provided by the IHO Secretariat.

Oral presentation of the HSSC Report

4. It is proposed that the overview of the report be presented by the Chair and illustrated by focused presentations addressing significant developments (i.e. implementation of S-100-based product and services), specific issues and proposals to be considered by the Assembly (if any).

Action required of HSSC

5. The HSSC is invited to:
 - a. **note** this report,
 - b. **consider** the proposed outline of the HSSC Report to the IHO Assembly,
 - c. **decide** on arrangements for the completion of the report,
 - d. **decide** on arrangements for the oral presentation of the report,
 - e. **decide** on proposals to be considered by the Assembly, and
 - f. **take** any other actions considered necessary.

Annex A

Draft Outline of the HSSC Report for 2012-2016

REPORT ON THE EXECUTION OF PROGRAMME 2 HYDROGRAPHIC STANDARDS AND SERVICES

1. Introduction

The IHO Work Programme 2 “Hydrographic Services and Standards” 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. This Work Programme is under the principal responsibility of the Hydrographic Services and Standards Committee (HSSC).

2. Technical Programme Coordination

This element monitors technical developments and oversees the development of IHO technical standards, specifications and publications through the coordination and interaction of the relevant IHO working groups reporting to the HSSC.

At its 5th meeting in 2013, the Committee agreed the principles for re-structuring its working groups in order to reflect the changing focus from paper to digital data based products and services, ensure better use of limited resources, improve its efficiency and facilitate inputs from industry and other stakeholders. The new structure was further developed intersessionally and agreed at HSSC-6. The new structure includes four new working groups (WG) which replace previously existing working groups: the S-100WG, ENC Standards Maintenance WG, Nautical Information Provision WG and Tides, Water Level and Currents WG. The terms of reference of the new working groups and the arrangements for the transition from the current to the new structure were agreed. The Committee agreed to maintain the Chart Standardization and Paper Chart WG, renamed the Nautical Cartography WG, the Data Protection Scheme WG and the Data Quality WG, subject to annual review and further consideration of their interactions with the new working groups.

Annex A details the structure, membership, meetings and agenda items of the Committee and its subordinate bodies during the period 2012-2016.

At its 4th meeting in 2012, the Committee agreed to implement five working level performance indicators. Annex B provides the annual values for the period 2012-2016. *(insert comments, if any)*

3. Difficulties and challenges yet to be addressed

(Please list the significant difficulties encountered during the period, if any, and the challenges yet to be addressed)

3.1. Cross-committee difficulties and challenges

3.2. Difficulties and challenges specific to ...

...

4. Achievements/outputs/conclusions

(Please list the significant achievements/outputs/conclusions reached during the period)

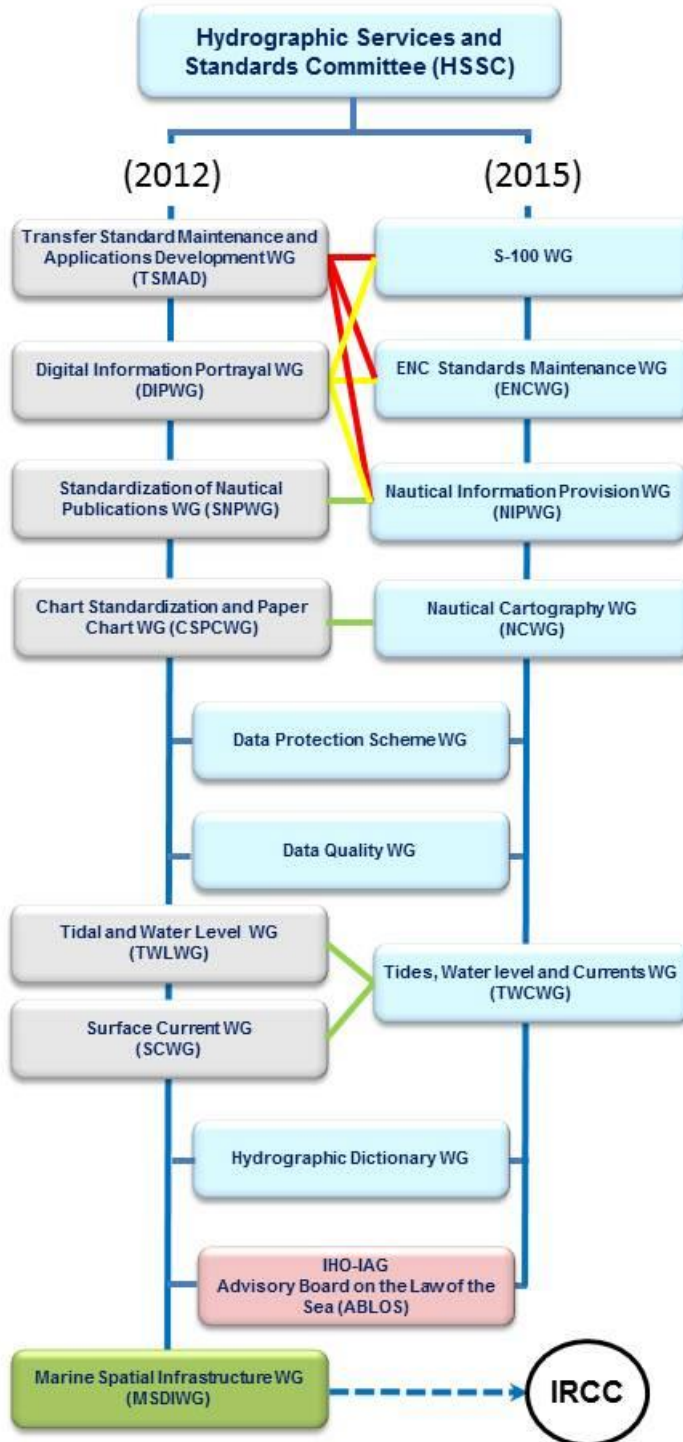
- 4.1. *Element 2.2 - Hydrographic Data Transfer Standards*
- 4.2. *Element 2.3 - Nautical Cartography*
- 4.3. *Element 2.4 - Digital Data Protection and Authentication*
- 4.4. *Element 2.5 - Data Quality*
- 4.5. *Element 2.6 - Nautical Publications*
- 4.6. *Element 2.7 - Tides and Water Levels*
- 4.7. *Element 2.8 - Digital Data Updating*
- 4.8. *Element 2.10 - Hydrographic Data Acquisition and Processing*
- 4.9. *Element 2.11 - Hydrographic Dictionary*
- 4.10. *Element 2.12 - ABLOS*
- 4.11. *Element 2.13 - Surface Currents*

5. Proposals for the consideration of the Assembly

(Please indicate any proposal for the consideration of the 1st Session of the IHO Assembly, including the adoption of the report)

Annex A to the HSSC Report

A.1. Structure of the HSSC and its subordinate bodies



A.2. Hydrographic Services and Standards Committee (HSSC)

1. Chairmanship

Chair Dr Mathias JONAS, Germany
Vice-Chair: Mr Mike PRINCE, Australia

2. Membership

(HSSC list of contacts as at [5 October 2016])

IHO Member States (34): Argentina, Australia, Brazil, Canada, Chile, China, Cuba, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, India, Indonesia, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Republic of Korea, Russian Federation, Singapore, South Africa, Spain, Sweden, Turkey, United Kingdom, USA

Observers (24): CIRM, CLIA, CNITA, DGIWG, FIG, GEBCO, IAG, IALA, IC-ENC, ICPC, ICS, IEC/TC80, IEHG, IMO, IMPA, IOC/IODE, ISO/TC211, INTERTANKO, OGC, OGP, PRIMAR, RTCA, RTCM, UN/DOALOS

3. Meetings

HSSC has met annually since IHC-18 as follows:

| | | |
|---------------------------|-----------------------------|----------------------|
| HSSC-4 | Taunton, United Kingdom | 25-28 September 2012 |
| HSSC-5 | Shanghai, China | 5-8 November 2013 |
| HSSC-6 | Viña del Mar, Chile | 11-14 November 2014 |
| HSSC-7 | Busan, Republic of Korea | 9-13 November 2015 |
| HSSC Chair Group Workshop | Paris / Saint-Mandé, France | 1-2 June 2016 |
| HSSC-8 | Monaco | 14-18 November 2016 |

4. Agenda Items

Standing items:

- HSSC administration (including preparation of inputs to IH Conference/Assembly sessions as appropriate)
- Reports by HSSC working groups
- Reports by inter-organizational bodies
- Decisions of other bodies affecting HSSC
- Review of new developments and other information papers
- Liaison with external stakeholders
- Review and endorsement of HSSC work plan and list of actions

Specific items:

- HSSC-4: IHO Stakeholders' Forum
- HSSC-7: IHO Stakeholders' Open Session
- HSSC Chair Group Workshop:
 - + review of the IHO Strategic Plan
 - + preparation of the HSSC Work Programme for 2018-2020
 - + review of IHO Resolution 2/2007 as amended - *Principles and procedures for making changes to IHO technical standards and specifications*

A.3. Transfer Standard Maintenance and Applications development WG (TSMAD)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

See paragraphs A-5 and A-6

A.4. Digital Information Portrayal WG (DIPWG)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

See paragraphs A-5 and A-6

A.5. S-100 WG

1. Chairmanship

Chair: Ms Julia POWELL, USA (NOAA)

Vice-Chair: Mr Yong BAEK, ROK (KHOA)

2. Membership

Member States: Argentina, Australia, Belgium, Brazil, Canada, China, Denmark, Ecuador, Egypt, Estonia, Finland, France, Germany, India, Italy, Indonesia, Japan, Republic of Korea, Netherlands, Norway, Poland, Portugal, Russian Federation, Singapore, South Africa, Sweden, United Kingdom, Ukraine, United States of America.

Expert Contributors: The International Centre for ENC's (IC-ENC), PRIMAR Stavanger, Caris, ESRI (USA), Furuno (Finland), Furuno Electric, KRISO, KHRA, GEOMOD (France, C-Map, IIC Technologies (Canada), NAVTOR AS (Norway), SevenCs (Germany), TKartor (Sweden), and Transas (Russia), Frank Hippmann (Australia), Wuhan University

3. Meetings:

- TSMAD-29/S-100WG-00: 2 February – 6 February, 2015, Ottawa, Canada (in conjunction with DIPWG7)
- S-100/S-101 Test Strategy Meeting TSM-3: 22-24 September 2015, Jeju Island, Republic of Korea
- S-100WG-01 - 14-18 March 2016, Tokyo, Japan
- S-100/S-101 Test Strategy Meeting TSM-4: 13-16 September 2016, Rostock, Germany

4. Agenda Items:

- Maintain and Extend S-100;
- Develop the S-100 Interoperability Product Specification;
- Update the S-100 GI Register and improve the web interfaces;
- Develop and connect the S-100 Feature Catalogue Builder to the S-100 GI Registry;
- Develop the S-101 ENC Specification;
- Develop an S-100/S-101 Test Strategy and Test Bed;
- Develop S-102 Edition 2.0.0;

A.6. ENC Standards Maintenance WG (ENCWG)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.7 Nautical Information Provision WG (NIPWG) (formerly Standardization of Nautical Publications WG (SNPWG))

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.8 Nautical Cartography WG (NCWG) (formerly Chart Standardization and Paper Chart WG (CSPCWG))

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.9 Data Protection Scheme WG (DPSWG)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.10 Data Quality WG (DQWG)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.11 Tides, Water level and Currents WG (TWCWG) (formerly Tidal and Water Level WG (TWLWG))

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.12 Surface Current WG (SCWG)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.13 Hydrographic Dictionary WG (HDWG)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.14 IHO-IAG Advisory Board on the Law of the Sea (ABLOS)

1. Chairmanship

Chair:

Vice-Chair:

2. Membership

(Please list Member States; organizations and expert contributors as appropriate)

3. Meetings:

(Please provide dates and places for meetings held during the period)

4. Agenda Items:

(Please list the principal agenda items or subjects dealt with during the period)

A.15 Attendance of IHO Member States at meetings

| Number of meetings Member State | HSSC | TSMAD | DIPWG | S-100WG | ENCWG | SNPWG NIPWG | CSPCWG NCWG | DPSWG | DQWG | TWLWG TWCWG | SCWG | HDWG | ABLOS |
|---|------|-------|-------|---------|-------|----------------|----------------|-------|------|----------------|------|------|-------|
| | 4* | | | | | | | | | | | | |
| Argentina | | | | | | | | | | | | | |
| Australia | 4 | | | | | | | | | | | | |
| Belgium | 1 | | | | | | | | | | | | |
| Brazil | 3 | | | | | | | | | | | | |
| Canada | 4 | | | | | | | | | | | | |
| Chile | 3 | | | | | | | | | | | | |
| China | 3 | | | | | | | | | | | | |
| Cuba | | | | | | | | | | | | | |
| Democratic People's Republic of Korea | 1 | | | | | | | | | | | | |
| Denmark | 2 | | | | | | | | | | | | |
| Ecuador | 2 | | | | | | | | | | | | |
| Estonia | | | | | | | | | | | | | |
| Finland | 4 | | | | | | | | | | | | |
| France | 4 | | | | | | | | | | | | |
| Germany | 4 | | | | | | | | | | | | |
| Greece | 2 | | | | | | | | | | | | |
| India | 1 | | | | | | | | | | | | |
| Indonesia | 1 | | | | | | | | | | | | |
| Italy | 1 | | | | | | | | | | | | |
| Japan | 3 | | | | | | | | | | | | |
| Malaysia | 1 | | | | | | | | | | | | |
| Mexico | 1 | | | | | | | | | | | | |
| Netherlands | 4 | | | | | | | | | | | | |
| New Zealand | | | | | | | | | | | | | |
| Norway | 4 | | | | | | | | | | | | |
| Peru | 2 | | | | | | | | | | | | |

| Member State | Number of meetings | HSSC | TSMAD | DIPWG | S-100WG | ENCWG | SNPWG NIPWG | CSPCWG NCWG | DPSWG | DQWG | TWLWG TWCWG | SCWG | HDWG | ABLOS |
|--------------------|--------------------|------|-------|-------|---------|-------|----------------|----------------|-------|------|----------------|------|------|-------|
| | 4* | | | | | | | | | | | | | |
| Poland | 4 | | | | | | | | | | | | | |
| Portugal | 1 | | | | | | | | | | | | | |
| Republic of Korea | 4 | | | | | | | | | | | | | |
| Russian Federation | | | | | | | | | | | | | | |
| Saudi Arabia | 1 | | | | | | | | | | | | | |
| Singapore | 3 | | | | | | | | | | | | | |
| South Africa | | | | | | | | | | | | | | |
| Spain | 1 | | | | | | | | | | | | | |
| Sweden | 3 | | | | | | | | | | | | | |
| Thailand | 1 | | | | | | | | | | | | | |
| Turkey | 4 | | | | | | | | | | | | | |
| United Kingdom | 4 | | | | | | | | | | | | | |
| USA | 4 | | | | | | | | | | | | | |

**To be completed after HSSC-8*

Annex B to the HSSC Report
HSSC Working Level Performance Indicators

| Metric | Source | Rationale | Status 31 Dec 2012 | Status 31 Dec 2013 | Status 31 Dec 2014 | Status 31 Dec. 2015 | Status 31 Dec. 2016¹ |
|---|------------------------|--|---|---|---|--|--|
| Number of S-100 based product specifications approved | IHO Secretariat | Relative indicator of uptake of IHO standards including for purposes other than SOLAS navigation | 1 | 0 | 0 | 0 | |
| Percentage of annual work programme achieved | HSSC WGs (all) | Progress against objectives in the strategic plan | 17% | 19% | 52% | 46% | |
| Total number of participants at meetings (Member States (MS) and Expert Contributors(EC)) | HSSC WGs (all) | Indicates participation of MS and wider community in execution of the plan | 168 <i>MS: 131</i> <i>EC: 37</i> | 258 <i>MS: 172</i> <i>EC: 86</i> | 171 <i>MS: 128</i> <i>EC: 43</i> | 158 <i>MS:130</i> <i>EC: 28</i> | |
| Number of technical revisions and clarifications approved | IHO Secretariat | Indicative of ability to provide comprehensive, safe and effective standards | 5 | 3 | 2 | 7 | |
| Number of ENC's distributed annually under license (equivalent annual licences) | WEND WG | Relative indicator of ENC usage throughout SOLAS market ² | 2,052,269 | 2,202,487 | 2,272,923 | 2,678,741 | |

¹ Estimates at xx November 2016

² Total of Primar and IC-ENC distribution only - does not include local distribution or other distribution mechanisms