Report from HSSC11 to SAIHC

Cape Town, South Africa (6-9 May 2019)

International Hydrographic Organization
Organisation Hydrographique Internationale

Southern African and Islands Hydrographic Commission

Introduction

HSSC work is guided by the IHO Work Programme 2 "Hydrographic Services and Standards" and by the Council key priorities

- **Meetings since SAIHC-16:**
  - Cape Town, South Africa (6-10 May 2019)

- **Next Meeting:**
  - HSSC-12 Bristol, UK (11-15 May 2020)

HSSC-11 Key Priorities

- **<u>Operational/strategic level</u>**
  - Resolution 2/2007 as amended
  - S-100 Implementation Strategy
  - Future of Paper charts

- **<u>Technical level</u>**
  - Demonstration showcase of S-100 based products
  - Development of the S-1xx Product Specifications and operationalization of S-1xx framework
  - Priorities of IHO 2019 Work Plan 2
  - Hydrographic Dictionary S-32

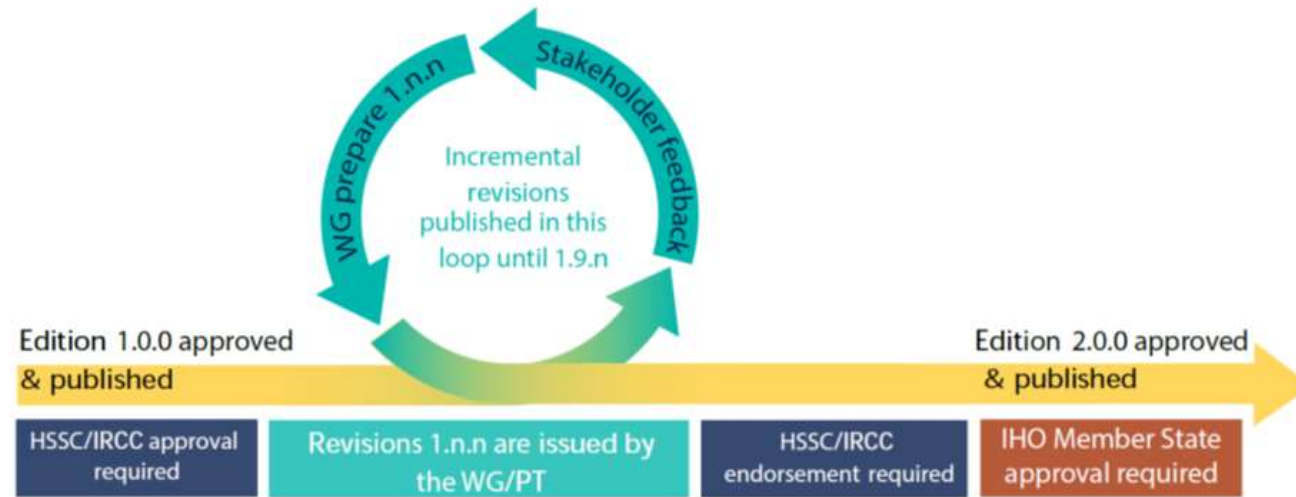# Discussion – Resolution 2/2007

- HSSC endorsed IHO Resolution 2/2007 as amended

- Resolution 2/2007 applicable also to IRCC publications

- IRCC endorsed - at IRCC11 - the Resolution 2/2007 as amended

- IHO Secretariat sent out CL 32/2019 to the MSs seeking for the approval (15 September)

Analysis/Discussion – Resolution 2/2007

The Resolution 2/2007 as amended is structured as follows:

1. Main doc: updated review cycle for WGs/PTs for the development of PSs and standards
2. Appendix 1 and 2: lists of IHO standards that must be maintained in conformance with the IHO Resolution 2/2007 as amended
3. Appendix 3: guidance for conducting stakeholders impact study

Analysis/Discussion – **Future of Paper Charts**

- Sales and use of paper nautical charts is declining
- NCWG drafted a document about PC's Future
- Preliminary comments received from HOs
- CL 29/2019 issued seeking for MS contribution (31 August 2019)
- Document to be approved in 2020

- Common needs:
  - Reallocate the resources currently dedicated to traditional paper
  - Ultimate goal is to fully automate the creation of paper products from fully populated ENC vector databases

Analysis/Discussion – Showcase of S-100 based products

- C-2 tasked the HSSC (see action C2/29) :

  "Consider the possibility to organize a demonstration showcase of S-100 based products and test beds as an embedded session at C-3 in October 2019"

- HSSC-11 discussed showcase structure

- MSs/WGs volunteered to provide expertise, test data and examples

- S-100 WG Chair coordination

- Showcase characteristics:
  - "Educational narrative"
  - Help the HOs to support and follow S-1xx framework concept development towards its operational phase
  - Highlighting front-of-bridge/back-of-bridge requirements

    (topic to be reported to C-3 for IHO Secretariat involvement with IMO)

- General need to work in connection with IRCC, especially concerning the <u>dissemination</u> of S-1xx PS and the role of <u>RENCs</u>

- HSSC intention to reach a larger audience at the Assembly

  (topic to be addressed to C-3)

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Analysis/Discussion – HSSC Actions of interest

- MSs approved S-122 Ed. 1.0.0 – *Marine Protected Areas*

- MSs approved S-123 Ed. 1.0.0 – Marine *Radio Services*

- HSSC approved S-101 Ed. 1.0.0 – *ENC*

- HSSC approved S-111 Ed. 1.0.0 – *Surface Currents*

- HSSC endorsed S-102 Ed. 2.0.0 – *Bathymetric Surface*

- HSSC approved Ed. 1.0.0 of S-97 – *Guidance for PS developers*

- HSSC approved Ed.1.0.0 of S-127 – *Marine Traffic Management*

- HSSC approved Edition 1.0.0 of S-129 – *Under Keel Clearance Management Information*

- S-100 Ed. 5.0.0 shifted to 2021

- S-98 to be submitted for endorsement in 2020/2021

Analysis/Discussion – Priorities of IHO 2019 Work Plan 2

- **Develop an S-100 interoperability specification**
  - Ed. 1.0.0. of S-98 final approval is part of S-100 Implementation Strategy
  - Ed. 1.0.0 of S-98 to be submitted for endorsement in 2020/2021

- **Develop S-121 Product Spec for Maritime Limits and Boundaries**
  - HSSC encouraged the S-121PT to pursue the development of Ed. 1.0.0
  - HSSC encouraged the IHO Member States to participate in the S-100 WG review process of S-121

Analysis/Discussion – Priorities of IHO 2019 Work Plan 2

- **Develop all the components needed to make S-101 a reality**:

  - Ed. 2.0.0 to be expected in December 2022
  - S-101 components for Encryption, Alerts and Indications to be fully developed

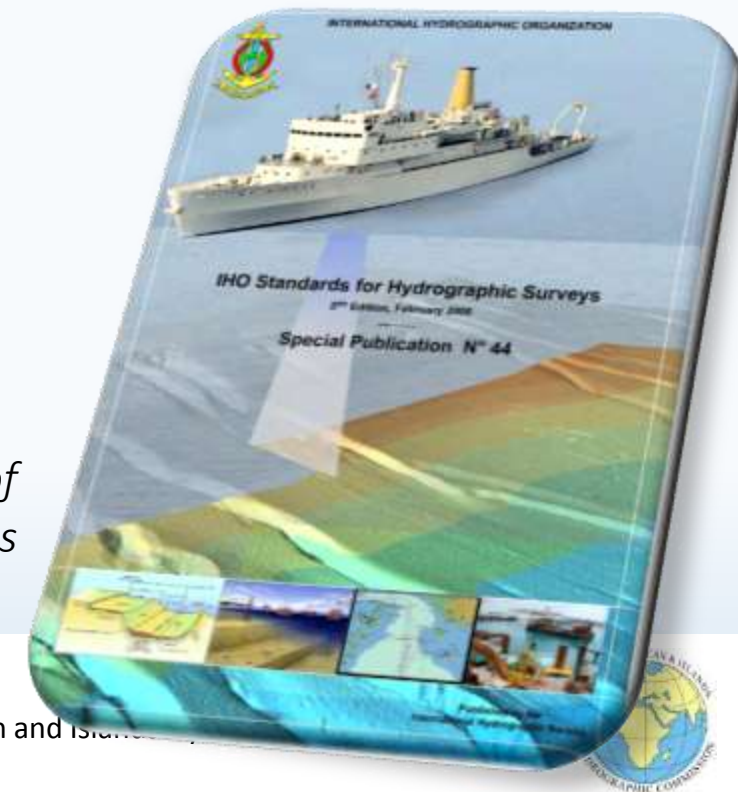| Components	Edition 1.0.0 (2018)	Edition 1.X.X(2019)	Edition 2.0.0 (2022)
Main Documentation	✓	✓	✓
Feature Catalogue	✓	✓	✓
Portrayal Catalogue	Partial	✓	✓
Validation	Partial	✓	✓
Data Classification and Encoding Guide	✓	✓	✓
Encoding Format	✓	✓	✓
Encryption		✓	✓
Alerts and Indications		✓	✓
Full Test Data Sets for Type approval		Partial	✓
Notes	Portrayal will be limited to S-52 rules translated to LUA (SRL =1)	Edition 1.X.X refines all the additional rules (SRL =2-3)	Operational Edition (SRL =4)

Analysis/Discussion – Priorities of IHO 2019 Work Plan 2

- **Consolidation and clarification of standards in relation to ECDIS/ENC**:
    - ENCWG liaised with CIRM and IEC for updating S-63 for improved security for investigations and risk assessment
    - HSSC tasked ENCWG to develop a draft proposal for mitigation measures for cyber security and to make an impact assessment
    - HOs to review the current ENC production process and make changes where necessary to encode meaningful values of CATZOC

Analysis/Discussion – Priorities of IHO 2019 Work Plan 2

- **Prepare Ed. 6.0.0 of S-44:**

- May/June 2019 - HSPT: draft of the <u>6th Edition (v1.7.0) for review</u> and comments by MSs and stakeholders

- March 2020: <u>S-44 6th Edition (v2.0.0)</u> delivered to HSSC for endorsement

- End 2020: <u>Approval of the S-44 6th Edition</u>

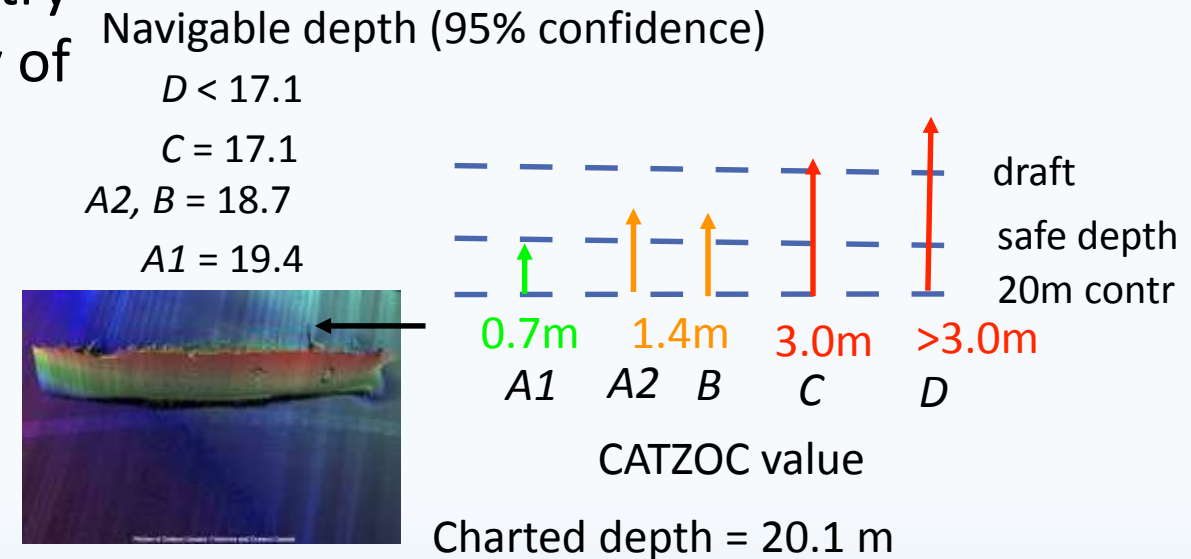*Contest for designing the cover page of Edition 6 of S-44 to be advertised among MSs*

- **Consider data quality aspects in harmonized way for all S-100 based PSs:**

Visualization methodology of Quality of Bathymetric Data

- Method to depict the quality of the bathymetry and isolated features hazardous to the safety of navigation (wrecks, rocks, obstructions)

- Also supportive for decision making and autonomous shipping

- SAIHC be aware of importance of QoBD

Navigable depth (95% confidence)

$D < 17.1$

$C = 17.1$

$A2, B = 18.7$

$A1 = 19.4$

draft

safe depth

20m contr

0.7m   1.4m   3.0m   >3.0m

A1   A2   B   C   D

CATZOC value

Charted depth = 20.1 m

Analysis/Discussion – Priorities of IHO 2019 Work Plan 2

- HSSC supported "conditional visualization methodology" concept to be further developed
- HSSC encourage DQWG to involve other WGs and stakeholders

- Raise SAIHC awareness about:
  - Existence of the methodology of visualization of the QoBD
  - Correct compilation of S-101 QoBD
  - Correct CATZOC attribution

  ❑HSSC amended DQWG ToRs → DQWG to support IRCC WGs and sub-commitees on request (MSDI, CSBWG, S-124 PT)

Analysis/Discussion – Priorities of IHO 2019 Work Plan 2

- An **Initial Guidance** on definition and harmonization of "*Maritime Services in context of e-navigation*" was produced and the following Descriptions was created:
    - WWNWS-SC → No. 5 - Maritime Safety Information Service (MSI);
    - NCWG, ENCWG → No. 11 - Nautical Chart Service;
    - NIPWG → No. 12 - Nautical Publications Service;
    - TWCWG →No. 15 - Real-time hydrographic and environmental information Service.

- Need to maintain the Descriptions under the IMO indications

Analysis/Discussion – Hydrographic Dictionary (HD)

- HSSC11 noted the work done in the development of S-32 IHO HD

- <u>Achievements</u>:
    - The HD and the IHO GI Registry will share the same management system, use the same metadata and will be enriched and maintained by using the same procedure
    - Language improvements (New HDs)

- HDWG template to be used by WGs when submitting new terms

Analysis/Discussion – Hydrographic Dictionary (HD)

- MS are invited to develop their National variants that will be made available on the IHO Website

- HD members have been invited to act as HDWG (and GI Registry) <u>ambassadors in RHCs</u>

  →SAIHC to support the HD

- HDWG Spanish and Russian representatives needed

Language branch	Speakers
English	371 to 1.39 bn
Chinese 中文	900 to 1.16 bn
Spanish	477 to 661 m
Arabic العربية	290 to 442 m
Russian ру́сский язы́к	171 to 267 m
Indonesian	204 to 281 m
French	80 to 285 m
Portuguese	218 to 240 m

Action requested of SAIHC

The SAIHC is invited to:

- Note the report

- Encourage the encoding of meaningful values of CATZOC

- Note the existence of the "conditional visualization methodology" of QoBD

- Encourage MSs to support HDs development

- Take any other action deemed necessary