



# 13<sup>th</sup> Meeting of the Hydrographic Services and Standards Committee

## Report of the NIPWG

### Agenda Item 5.3

HSSC-13, VTC Event, 3 – 7 May 2021



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# **MEMBERSHIP**

International  
Hydrographic  
Organization

<b><i>Chair:</i></b>	Eivind Mong, Canadian Coast Guard, CA
<b><i>Vice-Chair:</i></b>	Stefan Engström, TRAFICOM, FI
<b><i>Secretary (acting):</i></b>	Tom LOEPER, NOAA, U.S.
<b><i>Member States:</i></b>	Argentina, Brazil, Canada, Denmark, Estonia, Finland, France, Germany, Japan, India, Italy, Republic of Korea, Netherlands, Norway, Poland, Russian Federation, South Africa, Spain, Sweden, UK, USA, (and IHB),
<b><i>Expert Contributor Organisations:</i></b>	Anthropocene Institute, CARIS, CIRM, EEC, IHMA; IIC, KRISO, NV Chats Germany, NOVACO, NTOU, University of New Hampshire, Portolan Sciences

## **Meetings Held During Reporting Period**

NIPWG VTC, held as multi-sessional virtual meetings in July, August and September 2020

NIPWG VTC, as multi-sessional virtual meetings in December 2020, January, February and March 2021

NIPWG8 VTC, March 2021

## **Next Planned Meeting**

NIPWG VTC, multi-sessional virtual meetings in July, August and September 2021



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## PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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1. Current work is on track against the HSSC Work Plan. Expect Action Item HSSC 12/32, which is a permanent action item;
2. All HSSC action items assigned to NIPWG are completed.
3. Action items assigned to multiple HSSC WGs with NIPWG involvement (HSSC 12/41) are in progress.



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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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1. S-122 - Marine Protected Area
2. S-123 - Marine Radio Services
3. S-125 - Navigational Services
4. S-126 - Physical Environment
5. S-127 - Marine Traffic Management
6. S-128 - Catalogue of nautical products
7. S-131 - Marine Harbour Infrastructure
8. S-12 - Standardization of List of Lights and Fog Signals
9. S-49 - Recommendations concerning Mariners' Routeing Guides (MRG)
10. M-3 - Resolutions of the IHO



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# S-122 - MARINE PROTECTED AREA

## S-123 - MARINE RADIO SERVICES

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- The first member states initiated and partly completed the production of S-122 and S-123 data sets. S-122 datasets are available for US and DE waters for testing purposes.
- Feedback from testing has been provided, including requests for product specification improvements.
- Findings underline that updates of S-100 may have effects on production software. Challenges arise when a product specification based on earlier S-100 versions and the production software is current with the latest S-100 version. It seems that there is an urgent need to consider upgrading product specifications every time a new S-100 Edition is released.



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# S-122 - MARINE PROTECTED AREA S-123 - MARINE RADIO SERVICES

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- S-122 and S-123 products specifications urgently need portrayal instructions for testing in real S-100 based test environment.
- Both Product Specifications need revision in 2021.
- HSSC is invited to confirm budget to contract the S-122 and S-123 product specifications improvement (8,000.00 € each).



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## S-125 - NAVIGATIONAL SERVICES

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Organization

- The working group assessed an IALA outline paper describing how S-201, S-125 and S-124 may work together.
  - Data model aspects were not questioned, rather, the WG discussed operational aspects. The outline paper with NIPWG responses incorporated is provided in Annex C to the NIPWG report.
- Impacts and relationship with S-124 need considerations and IALA has been invited to comment.
- Discussions around the IALA paper highlighted the necessity to resume the Scale Dependent/Scale Independent (SD/SI) discussion within the IHO community that SNPWG initiated about 10 years ago.
- **HSSC13 is invited to confirm that NIPWG provides a paper discussing SD/SI data handling aspects to HSSC14.**



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## S-126 - PHYSICAL ENVIRONMENT

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- The S-126 product specification is progressing with low priority.
- The work is mainly on the data model side and portrayal side.
- No additional funds for contracting out the development of the necessary product specification parts will be requested until 2024.



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# S-127 - MARINE TRAFFIC MANAGEMENT

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- Version 1.0.0 of the product specification has been endorsed by HSSC and is under the new Resolution 2/2007 life cycle regime.
- Several tests have been conducted to assess the appropriateness of the specification for real data.
  - The tests showed good results, but also highlighted needs for further product specification improvement. 2022/2023 is the new intended release timeframe for version 2.x.x.
- Data model harmonisation discussion between S-101 and S-127 has taken place.



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# S-128 - CATALOGUE OF NAUTICAL PRODUCTS

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- The work on S-128 is making good progress.
  - The development is led by KHOA
  - more than 200 comments submitted by NIPWG members.
  - developer checked the S-128 appropriateness for use in e-navigation and ECDIS environments.
  - The work is ongoing with review and comment adjudication, with a VTC planned for later in 2021 to finalize things.
- Plan is for an updated version to be released later in 2021 and be submitted to HSSC for approval as a version 1.0.0 of S-128.
- NIPWG8 concluded that a scope expansion is needed to account for INTToGIS and that such work should be targeted for the version after 1.0.0. These modifications can be done when incorporating S-100 Edition 5.0.0 impacts.



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# S-131 - MARINE HARBOUR INFRASTRUCTURE

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- The Marine Harbour Infrastructure product specification development is progressing. Work is led by IIC and UNH. The scope has been defined in close liaison with the International Harbour Master Association and with the International PortCDM Council.
- Several VTC have taken place to advance the data model and more are scheduled over the summer.
- The IHO contracted out the development of the product specification.
  - The expected delivery time is spring 2022, depending on the development status of S-100 edition 5.0.0.



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# S-131 - MARINE HARBOUR INFRASTRUCTURE

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- HSSC should consider the development of a digital infrastructure to enable ports to contribute their information to an single database.
- NIPWG stands ready to provide the necessary data element information.
- Information need to be IMO BLU CODE compliant and needed for berth-to-berth planning.
- Better enables HOs to provide information needed to fulfil the obligations in IMO Resolution A.893(21).



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## S-131 - MARINE HARBOUR INFRASTRUCTURE

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An S-131 digital infrastructure has several benefits:

- One access point for both data originators and data consumers.
- Ports define which information they would like to share.
- HOs can harvest and process further the data.
- Appropriate API definition would be helpful to support the electronic data exchange.
- Very transparent who contributes data and who doesn't.
- The single access point and database, should be an interim solution and it should stay in operational mode until Coastal States or HOs are able to host and operate their own systems, which collect marine harbour infrastructure information on national basis.



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# S-131 - MARINE HARBOUR INFRASTRUCTURE

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- Hosting and operating such a database by the IHO Secretariat, could help to build up a trusted environment;
  - Ports would know where their data is.
  - The data entered would be S-100/S-131 compliant and ports would not need to become familiar with the S-131.
  - HOs can use the extracted S-131 compliant data and implement them easily in their S-100 based production platforms.
- IMO could have an overview on which ports contribute to the database and could be more specific in the submission request.
- Considering the S-131 product specification contract timeline, an early 2022 start seems appropriate for such a project.
- **HSSC is invited to start consideration of a set up a digital infrastructure to collect S-131 compliant Harbour Information and NIPWG to provide the necessary data elements description.**



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**S-12 - STANDARDIZATION OF LIST OF LIGHTS AND FOG SIGNALS**  
**S-49 - RECOMMENDATIONS CONCERNING MARINERS' ROUTEING**  
**GUIDES (MRG)**  
**M-3 - RESOLUTIONS OF THE IHO**

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- No requests to amend S-12 were raised in 2020.
  - The content provided in S-12 is considered as appropriate and as fit for purpose.
- 
- A revision of S-49 was done and has successfully passed the Member State Approval process (see CL33-2020).
  - The current version is considered as appropriate and as fit for purpose.
- 
- The NIPWG did not receive requests on M-3 amendments in 2020.



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# NTM XML DEVELOPMENT

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- The current version of XML structure for exchange of NtM information appears stable.
- NIPWG did not receive requests to enhance the structure during the reporting period.
  - It seems the 1.5-day's workshop is no longer necessary.
  - NIPWG will approach HSSC for endorsement to conduct the said workshop if need changes in the future.
- **HSSC is invited to confirm the intention to close the NtM XML workshop topic and to recommence the work as deemed necessary.**



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# PROVISION OF S-100 ARCHITECTURE

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- The S-100 Architecture presents all Product Specifications under the remit of the IHO.
  - The approach is to have all Product Specifications displayed on one ECDIS screen.
  - Different interoperability levels apply.
- NIPWG updated the list of product specifications based on HSSC decision to add S-131 (Marine Harbour Infrastructure) and S-126 (Marine Physical Environment).
- The latest version of the Architecture is provided under HSSC 13-05.3C.
- HSSC is invited to ensure that the Architectural Display of Prod Specs becomes an Annex of the S-100 roadmap together with the S-1xx development Gantt-type diagram.
- HSSC is invited to ensure confirm NIPWG responsibility to maintain the Architectural Display of Product Specifications under the remit of the IHO.



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# STRATEGIC PERFORMANCE INDICATOR (SPI) PRIORITISATION OF PRODUCT SPECIFICATION AND EFFECTS ON NIPWG WORK

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Already  
discussed  
under  
agenda  
item 4

- The forthcoming IHO SPI revision should consider prioritising the NIPWG Product Specifications higher.
- The recent downgrade to second priority may be considered an invitation to member states to reduce their investment in NIPWG related activities.
- NIPWG products will add value to S-100 based ECDIS systems
- Considering the IMO request to provide berth-to-berth route planning, downgrading the importance of product specifications under the remit of NIPWG is wrong message to member states, IMO and other Stakeholders.



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# STRATEGIC PERFORMANCE INDICATOR (SPI) PRIORITISATION OF PRODUCT SPECIFICATION AND EFFECTS ON NIPWG WORK

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- The following IHO standards under the remit of NIPWG are relevant for berth-to-berth planning as requested by IMO and may have an immediate effect to improve the safety of navigation:
  - S-122 (Marine Protected Areas);
  - S-127 (Marine Traffic Management);
  - S-131 (Marine Harbour Infrastructure);
  - S-128 (Catalogue of Nautical Products).
- **HSSC is invited to ensure the appropriate reflection of the NIPWG product specifications S-122, S-127, S-131 and S-128 in the next version of the SPI and S-100 Implementation Strategy; noting that an update of the S-100 Gantt-type diagram for S-1xx Products is needed.**

**Already  
discussed  
under  
agenda  
item 4**



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## IMO RELATED WORK

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- NIPWG continued the monitoring of the development of the IMO e-Navigation strategy and coordinates the IHO submission of the Maritime Services in context of e-navigation description under IHO to the IMO.
- The IHO contribution to the IMO Expert Group on Data Harmonization (EGDH) needs to be harmonised.
- Technical services as part of the Maritime Services in context of e-navigation can benefit from the work done by IALA in Guideline G1128 & Guideline G1157 (references IEC 63173-2 SECOM).
- Considering that IMO defined S-100 as one of the key pillars in their e-navigation implementation strategy, IHO should reflect this importance in the forthcoming S-100 roadmap update.
- HSSC is invited to ensure that the description and maintenance of Maritime Services in context of e-navigation become part of the S-100 roadmap.
- HSSC is invited to confirm that responsible WGs should review the initial descriptions of “Maritime Services in context of e-navigation” under their remit if appropriate and to provide them to NIPWG for further action.
- HSSC is invited to assign the permanent work item on maintaining Maritime Service in context of e-navigation description to their responsible subsidiaries.
- HSSC is invited to confirm that NIPWG should coordinate IHO input to IMO’s EGDH.



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# DEVELOPMENT OF AN OUTLINE PAPER PROVIDING THE WHOLE PICTURE OF FUTURE S-100 COMPLIANT PRODUCTS USE

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- NIPWG considers it necessary to develop a paper discussing operational aspects of the future S-100 environment
  - IALA S-201/S-125 outline paper
  - WENDWG discussions which data or products are official according to SOLAS Chapter V Reg 9
- There is a lack of understanding / different expectations on how the different products under the remit of IHO should work together in a future S-100 based ECDIS machine.
- The requested description of IMO's Maritime Services in context of e-navigation put an obligation on IHO to provide information on what/how/when. Descriptions should the interaction with stakeholders, e.g. IALA.



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# DEVELOPMENT OF AN OUTLINE PAPER PROVIDING THE WHOLE PICTURE OF FUTURE S-100 COMPLIANT PRODUCTS USE

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- The focus of the paper is the description of how products work together in an S-100 based environment.
  - environment envisaged complexity
  - interoperability
  - use beyond navigational purposes.
  - internal and external data contributions
  - data stream aspects
  - legal questions
- **HSSC is invited to confirm that NIPWG is responsible to develop an outline paper describing the whole S-100 picture in close cooperation with stakeholders, inside and outside the IHO community**



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# DEVELOPMENT OF AN OUTLINE PAPER PROVIDING THE WHOLE PICTURE OF FUTURE S-100 COMPLIANT PRODUCTS USE

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- The focus of the paper is the description of how products work together in an S-100 based environment.
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# CONCLUSIONS

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- The NIPWG activities are focussed
  - on making progress with the S-100 compliant NPUB Product Specifications development,
  - the development of test data sets for S-100 compliant NPUB Product Specifications,
  - on assessing the appropriateness of IHO Standards that NIPWG is responsible for maintaining,
  - on the coordination of the IHO contributions to the IMO e-nav strategy,
  - on the assessment of proportionate S-100 based products management.



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# ACTIONS REQUESTED FROM HSSC

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## **HSSC13 is invited to note this report and to endorse:**

1. the activity of NIPWG;
2. the continuance of the revised 2021-22 Work Plan as annexed to the report.

## **HSSC13 is further invited to ensure:**

1. the appropriate reflection of the NIPWG product specifications S-122, S-127, S-131 and S-128 in the next version of the SPI and S-100 Implementation Strategy; noting that an update of the S-100 Gantt-type diagram for S-1xx Products is needed.
2. that the description and maintenance of Maritime Services in context of e-navigation become part of the S-100 roadmap.
3. That the Architectural Display of Prod Specs becomes an Annex of the S-100 roadmap together with the S-1xx development Gantt-type diagram.



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# **ACTIONS REQUESTED FROM HSSC**

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## **HSSC13 is further invited to start:**

1. consideration of a set up a digital infrastructure to collect S-131 compliant Harbour Information and NIPWG to provide the necessary data elements description.

## **HSSC13 is further invited to confirm:**

1. budget to contract the S-122 and S-123 product specifications improvement (8,000.00 € each).
2. the NIPWG responsibility to maintain the Architectural Display of Product Specifications under the remit of the IHO.
3. that responsible WGs should review the initial descriptions of “Maritime Services in context of e-navigation” under their remit if appropriate and to provide them to NIPWG for further action.
4. that NIPWG should coordinate IHO input to IMO’s EGDH.
5. the intention to close the NtM XML workshop topic and to recommence the work is deemed necessary.



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## ACTIONS REQUESTED FROM HSSC

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### **HSSC13 is further invited to confirm:**

6. that NIPWG is responsible to develop an outline paper describing the whole S-100 picture in close cooperation with stakeholders, inside and outside the IHO community
7. that NIPWG provides a paper discussing SD/SI data handling aspects to HSSC14.
8. Confirm NIPWG plans to investigate options for develop an IHO operated database to collect harbour information and report these to HSSC14.

### **HSSC13 is further invited to assign:**

1. the permanent work item on maintaining Maritime Service in context of e-navigation description to their responsible subsidiaries.



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# PROVISION OF ACKNOWLEDGMENTS IN IHO PUBLICATIONS

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## Background

- TWCWG requested HSSC to allow an acknowledgment page for a recently deceased member. Taking into account that no formal rules in this regard exist, NIPWG objected to the request as inappropriate. Consequently, HSSC granted permission with the caveat a process be developed to apply to all WGs to allow placement of acknowledgments in all product specifications/standards.
- NIPWG was tasked with developing a common approach to provide acknowledgments in IHO publications and to provide a submission to HSSC 13 in May 2021.



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# PROVISION OF ACKNOWLEDGMENTS IN IHO PUBLICATIONS

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- Investigation revealed that acknowledgements in IHO publications already exist. Some examples are:
  - C-13 (1<sup>st</sup> Edition) (Preface—Page ii) contains a list thanking the 13 principal authors of this publication.
  - S-67 (Preface—Page 1); “The IHO acknowledges the valuable contribution to the development of this document by various stakeholders, in particular Intertanko and CSmart/Carnival.”
  - S-44 (Edition 6.0.0) (End of document) contains an alphabetical list thanking 37 individuals for their efforts and contributions.
  - B-11 (2019 edition) contains two sets of acknowledgements; (Contributors) Recognized 19 governmental/academia organizations for their contributions. (Preface) Recognized the Chief Editor for the preparation of the initial text.



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# PROVISION OF ACKNOWLEDGMENTS IN IHO PUBLICATIONS

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- With the aim of defining guidance on the acknowledgment placement, NIPWG discussed different aspects: Those were:
  - Criteria for Inclusion (Who):
  - Significant Event (What):
  - Placement of Acknowledgment (Where):
  - Time of Placement (When):
  - Duration of Placement (How long):
  - Dissemination of Acknowledgement Process (How to):
- Furthermore, NIPWG discussed other key aspects, as follows:
  - the estimated time needed to develop commonly agreed criteria among all affected IHO bodies,
  - the negligible impact this has on IHO publications, and
  - the necessity of other work on IHO publications as more important.



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# PROVISION OF ACKNOWLEDGMENTS IN IHO PUBLICATIONS

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- The discussion concluded with the decision to propose to HSSC that the provision of acknowledgments should be under the responsibility of the affected IHO bodies/WGs. No formal rules need to be developed and provided.
- HSSC is invited to note the paper (HSSC13 5.3B) and confirm that the provision of acknowledgments is on editing IHO bodies' discretion.