3rd Nautical Information Provision (NIPWG) Meeting
5 – 9 December 2016 – Busan, Republic of Korea

Annex A: List of Action items
Annex B: Agenda
Annex C: List of Attendees
Annex D: Updated NIPWG Work Plan

1. Opening and administrative arrangements

1.1 Opening remarks

Jens SCHRÖDER-FÜRSTENBERG opened NIPWG3 by welcoming new and returning members. Logistics and building safety were also discussed.

1.2 Opening address on behalf of KHOA's Director General

Dr. LIM, Director of Nautical Chart Division (KHOA), welcomed the participants

1.3 Introductions

Due to large number of new members, no introductions were made. The composition of the group has changed slightly. New members have more technical background and the WG hopes that this will push the development of work plan components which are more technical.

2. Adoption of NIPWG3 Agenda

NIPWG agreed and adopted the NIPWG3 Agenda with slight modifications as circulated.

3. Adoption NIPWG2 Minutes

The meeting approved the Final Minutes of NIPWG2 with no modifications as circulated.

3.1 Corrections

None noted.

3.2 Review of Action Items from NIPWG2

Planned tasks for this Reporting Period						
Action Item	Actor	Task Description	Start Date	Target End Date	Percent Complete	Task Status
0/1	TP	Complete MPA Product Specification for circulation to HOs	04/2011		70	
0/2	NIPWG	Circulate the MPA Product Specification inside HOs and obtain comment				Depends on 1/1
0/3	TP+JR	Investigate the possibility of taking the MPA work completed to date and creating a web			100	Postponed until a product specification is established

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1

		service as an interim solution.				
0/4	TP	Create a word file concerning M-3 for the NP section to be placed on the Wiki for NIPWG updates if required by the NIPWG			100	If it becomes necessary
0/5	NIPWG	Revisit the test case paper SNPWG 18-8.1			??	Decide how to proceed.
1/10	NIPWG	First, NIPWG needs to advance the harmonization discussion between S-101 and S-122. After that, we need to update the MPA Application Schema (without context features) according to the harmonization process. Next we need to generate the Feature Catalog. The Application Schema and Feature Catalog will be sent to KHOA for testing. If the Portrayal portion is incomplete, we can use the KHOA portrayal catalog builder for testing.	07/2015	03/2017		Ongoing
1/15	YB	Monitor progress of the EAHC e-MIO project and provide an update at NIPWG2	07/2015	05/2017		Ongoing
2/01	WdT JS-F	Contribute to the next phase of the S-100 registry development.	04/2016		100	Depends on registry development progress
2/02	JS-F	Write a proposal on how to manage the issue of modelling fuzzy areas by providing defined areas	04/2016	08/2016	100	
2/03	JS-F	Address a request to HSSC 8 to create a common domain	04/2016	11/2016	100	
2/04	BvS, ML	Investigate the gaps of the NIPWG data model by investigating requests when approaching a harbor	04/2016	12/2017		Ongoing
2/05	JS-F, TL	Provide Yves a few discussion points for the upcoming NCWG meeting.	04/2016	04/2016	100	
2/06	JS-F	Provide a paper to HSSC8 on the continuing MPA portrayal efforts.	04/2016	11/2016	100	
2/07	NIPWG	Members review the MPA DCEG sections which will be provided by the Chair for comments and offer	04/2016	12/2016	100	Response of the review request according to the due date

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		comments back to the chair.				defined in the associated letter
2/08	JS-F	Draft a paper to HSSC8 providing some alternative solutions and recommendations on how to handle MARPOL.	04/2016	11/2016	100	
2/09	WdT, JS-F	Include relevant Mariners Handbook parts in the Physical Environment test data set and to initiate the first mapping	04/2016	08/2016	50	Ongoing
2/10	JS-F	Include other items such as AMVER, ISPS Reporting Requirements, etc. in the HSSC8 paper (see Action Item 2/08).	04/2016	11/2016	100	
2/11	MK, LS	Check how complete the Canadian, U.S. and other Arctic country navigation documents for ice related information is for the relevant test data sets.	04/2016	12/2016	100	
2/12	MK, LS	Complete a preliminary mapping as well as assign geometries to the features of the Traffic Management test data sample.	04/2016	12/2016	100	
2/13	LS	Provide Alain with some additional information about AIS stations along the coast of Italy including transmission content.	04/2016	06/2016	100	
2/14	DL, SE	Investigate the current content of the Navigation Services test data set and build a framework considering the next S-100 edition enables interoperability and employs Unique Identifiers.	04/2016	12/2016	100	
2/15	IP, JS-F	KHOA will collect test data Product Catalog from member states for testing purposes and Jens will prepare a NIPWG letter for the request to member states.	04/2016	07/2016	Open	Reconsider at NIPWG 3
2/16	JLE, DL, MB	Will report back on items 9 and 10 (ship reports), Dave can report back on item 13 and Michael Bergmann will report back on items 6 and 28.	04/2016	12/2016	Closed	

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2/17	JS-F	Send a NIPWG letter to the group asking for recommendations and ideas to help with the development of MSPs relevant to the IHO.	04/2016	07/2016	100	
2/18	EH	Attend and represent NIPWG at the IALA workshop in late May 2016. A draft paper will be circulated for review before the workshop.	04/2016	05/2016	100	Note: The paper will have a very short response time.
2/19	TL	Offer the CIRM service of mariners to review the AVPG posted on the internet.	04/2016	06/2016	100	
2/20	AR, LS & MK	Develop a text block for the protection of undersea cables to comply with the MOU with ICPC	04/2016	12/2016	100	

4   NIPWG status of work overview

The Meeting took note of the presentation on the status of the NIPWG work. This overview was initiated to familiarise new members and to refresh experienced members with the main objectives of the group and the current status.

5   HSSC related reports

5.1   Information on HSSC7 affecting NIPWG

The Meeting took note of the presentation of the HSSC8 outcome.

Discussion: None

5.2   Information on S100-WG activities

The Meeting took note of the presentation of the results of the S-100WG Test Strategy Meeting.

Discussion: None

Action Item 3/01 – Briana will develop a matrix which shows the interrelation of various ProdSpecs under HSSC responsibility (example – currents off the Dutch coast or the classification of winds and storms worldwide). She keeps a running list of examples of how product specifications interact with each other as well as examples of how they might be shown to support each other at the same time.

This will be an ongoing brief at the beginning of each meeting.

5.3   Information on DQWG activities

The Meeting took note of the presentation of the results of the DQWG.

Discussion: None

6   S-100 related information

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6.1 Data Classification and Encoding Guide (DCEG) builder

The Meeting took note of the presentation of the results of the recent developments.

Discussion: There was some discussion about if or when this work will be made available to other HO's. It should be noted that this is very preliminary work and NIPWG will be given updates periodically. It should also be noted that the work is dependent on KHOA funding. The Vice Chair suggested that this is fundamental to the progress of many WG's and the integrity of the data. The NIPWG report to the S-100 WG seeks support for further development of the KHOA DCEG builder.

Action Item 3/02 – Jens will incorporate the request for the completion of the DCEG builder development in the NIPWG report to S-100 WG.

6.2 Status of the S-100 Registry

The Meeting took note of the presentation of the recent S-100 Registry development.

Discussion: The meeting discussed the work completed to date and presented how to do a comparison between the UML diagrams and the Registry.

Action Item 3/03 – Wilfred and Mike will compare the current Register entries against the UML diagrams on the Wiki page.

6.3 Status of the S-100 extension proposed by NIPWG

The Meeting took note of the presentation of the status of the extensions provided to improve the S-100. All extensions which have been initiated by NIPWG are now incorporated into S-100 Edition 3.

Discussion: For version 3 of S-100, PDF is supported as a file format and the Unique Identifier were accepted with some exceptions. The approximate spatial area for NP's was not accepted.

6.4 Status of the development progress of the S-100 FC Builder

The Meeting took note of the presentation of the status of the S-100 Feature Catalog Builder.

Discussion: As part of the presentation, a demonstration of the Beta version of the Feature Catalog Builder (Ver. 2) was done for the meeting.

7 Update on S-124 development

7.1 Presentation of the current status of the S-124 (Navigational Warnings) development

The Meeting took note of the further development of the Navigational Warnings (S-124) Product Specification and the cooperation between NIPWG and the S-124 development Correspondence Group.

The Meeting took note and appreciated the KHOA initiative of integrating S-124 Nav Warnings into their S-100 test bed. Proposals to improve the presentation on the chart were provided.

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5

Discussion: The discussions included using AIS for message delivery but AIS can only accept about 100 characters. Another point of discussion was to make this a more comprehensive format to give the mariner as much information pushed to them as possible. The idea was that it was better to push a small message initially and develop the system later.

13 Review of IHO Publications/Standards and Specifications

13.1 M-3 (Resolutions of the IHO)

The Meeting took note and discussed the proposed amendments to IHO Publication M-3. For information, Yves GUILLAM made reference to current PROPOSAL#9 related to the revision of IHO Publication M-3, that will be considered at the 1st Session of the IHO Assembly in April 2017 (Assembly Circular Letter 10/2016 refers).

Discussion:
Following decisions were made:

IHO Resolution	Topic	Decision
7/2009	Time Reference	Replace the text by: Where an NP refers to time, the standard used must be stated e.g. UTC, LT (Local Time).
5/1937	Numbering of types of stations	Replace the title by "Recommended Set of Information"
		Replace Item e) by "Operational Hours"
4/1982 as amended	Arrangement of information	Remove item: Transport facilities from the port by sea, road, rail, canal and nearest main airport
		Remove item: Density or salinity of water if differing from normal seawater See 9/1962 (C3.14)
4/1937 as amended	Population of town	Remove the section
9/1962 as amended	Density and Salinity of Water	Remove the section

The Vice Chair proposed that in the NIPWG Chairman's letter to NIPWG members showing evidence of whether water density and salinity is included in any member's publication.

Action Item 3/04 – Jens will generate a NIPWG letter requesting members to investigate if any of this information is provided in any member state publications and if the proposals have an impact on the stakeholders.

13.2/13.3 S-12/S-49 Standard

The Meeting took note that no proposals to these standards have been made.

Discussion: None

37 S-1xx NUPB Product Specifications

37.1 Context of the S-1xx NPUB ProdSpec use

The Meeting took note of the presentation which briefly describes the intended use of each product specification which is under NIPWG development.

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6

Discussion: Due to the decisions made at HSSC the only product specification which might request a small amendment of a SOLAS V footnote is the S-101 (ENC). All other product specifications will be add-ons to ECDIS and currently have no impact on official carriage requirements or on amendments to standards related to SOLAS and IEC.

20   Marine Protected Area Product Specification (S-122)

20.1   Status of the work of the ProdSpec

The Meeting discussed and considered the development of the MPA ProdSpec. The Meeting took note of the work status.

20.3   Portrayal of the MPA feature (as a use case for a generic approach to the portrayal system)

The Meeting took note of the presentation and discussed the proposed portrayal solutions.

Discussion: The meeting discussed that portrayal issues should focus on navigation only but make the data model as comprehensive as possible to allow other developers display information to add and portray information for other user groups.

20.4   Discussion of the current status of the DCEG, excl. data model and the ProdSpec development work

The Meeting took note of the presentation and discussed how to continue with DCEG development.

Discussion: The Meeting investigated the most effective way to complete the DCEG parts 1-3. The Meeting agreed that distributing the DCEG for review would be most effective.

No HO offers the capacity to take the lead on the development of the ProdSpec core document. Since this is a high priority task as defined by HSSC-8, outsourcing the work was the best solution.

Action Item 3/05 – Jens will generate a NIPWG letter by the end of December requesting members to review and approve the MPA DCEG Part 1, 2, 3 by the end of March 2017.

Action Item 3/06 – Wilfred will check with his office to see if they can allocate time to finalize the DCEG. Initially, the current version of the DCEG will need to be edited. This includes combining comments from AI 3/05 submitted by NIPWG and to incorporate them into the DCEG draft if appropriate. A timeline will be delivered as part of the letter.

Action Item 3/07 – Jens will generate a request to contract out the Prod Spec development.

21   S-100 Sea trial

21.1   Activities of KHOA on creation of S-10X test data sets and S-100 sea trial

The Meeting took note of the presentation and discussed the possible support of the next trial which will introduce the interoperability function.

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7

22 Physical Environment Product Specification (S-126)

22.1 Presentation of extended content

The Meeting took note of the work status.

The Meeting discussed and considered the development of the Physical Environment ProdSpec test data sample.

Discussion: Due to the existing workload, the meeting decided it would be best to postpone any more efforts developing the S-126 Prod Spec.

Action Item 3/08 – Wilfred will create a short status report for HSSC-9's consideration benchmarking existing features of physical characteristics existing in S-101, S-411 and S-412, assessing the possible added values of S-126 items and collect any other use cases. This is to justify the reason why NIPWG is "putting on hold" the work.

24 Traffic Management Product Specification (S-127)

24.1 Presentation of the preliminary mapping and identification of possible gaps of the NIPWG data model

The Meeting took note of the work status, discussed and considered the ProdSpec status and discussed the preliminary mapping of the Traffic Management test sample data set.

Discussion: The meeting noted that good progress was made and that a UML diagram needs to be created for the Prod Spec.

Action Item 3/09 – Mike and Jens will provide Stefan with a schematic diagram of the Traffic Management Prod Spec to create a draft UML diagram.

26 Radio Services Product Specification (S-123)

26.1 Presentation of content (stable) and mapping

The Meeting took note of the work status, discussed and considered the development of the Radio Services ProdSpec.

Discussion: The Radio Service Prod Spec has the same level of priority as the Marine Protected Area Prod Spec.

Action Item 3/10 – Yves and Tom will investigate using a contract to complete the Prod Spec including items like the UML diagram and DCEG for S-123. Jens will circulate a requirements document to the group for feedback before final submission.

28 Navigational Services Product Specification (S-125)

28.1 Presentation of content

The Meeting took note, discussed and considered the development of the Navigational Services ProdSpec

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8

Discussion: The discussion started again with questions. Is there a need for the Prod Spec? Is there another Prod Spec like S-101 or S-201 that will cover this need?

Action Item 3/11 – Stefan will identify the gaps within S-101 and S-201 which S-125 aimed to address. Letters will be written to S-101 project Team and IALA (ENAV committee) requesting that identified gaps are addressed in their respective Prod Specs. This will allow consideration of the future need of S-125 Prod Spec.

28.2   Interoperability and Unique Identifier (UI) use for S-125 purpose

The Meeting <u>discussed</u> the results of the investigation to use UI and interoperability for S-125.

Discussion: The meeting decided that this should be included in S-101. Since the new version of S-100 will have the capability to accept Persistent UI's.

Action Item 3/12 – Stefan will draft a paper for S-100 WG to explain the need for the Marine Resource Name in the S-101 Prod Spec.

29   Catalog of Nautical Products Product Specification (S-128)

29.1   Presentation of content

The Meeting <u>took note</u> the development of the Catalog of Nautical Products ProdSpec.

Discussion: None

Action Item 3/13 – Inyoung and Anniken will consider developing a common approach for the new PRIMAR online catalog compliant with S-128 developments.

Action Item 3/14 – Jens will issue a NIPWG letter asking each member state to consider whether S-128 will support the definition of their products.

30   Data quality model for NPUB information

30.1   Presentation of the developed approach

The Meeting <u>discussed and considered</u> the development of a universal data quality model for nautical information as an extension to the current DQWG data model.

Discussion: The meeting discussed the usefulness of the value "unknown" for the level of uncertainty in a "fuzzy area". The outcome of the discussion was that the value "unknown" is meaningless in this specific situation. This outcome is supported by the fact that this attribute shouldn't be mandatory.

Another point of discussion was, are there any real-world use cases and the possibility of making the system overly complex for the mariner?

Action Item 3/15 – Briana will include the following examples (from Action Item 3/16 below) of uncertainty in the visualization workshop in May of 2017.

Action Item 3/16 – Anniken, Alain and Mike will provide examples of uncertainty. Anniken will provide examples from the Norwegian Pilot on dangerous wave areas, Alain will provide examples for radio service areas and Mike will include examples in Traffic Management. For MPA's, refer to NIPWG 1/21.3. All examples will be submitted by the end of January 2017.

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33 Completeness of ice information for test data sets

33.1 Presentation of the research and proposals

The Meeting <u>considered</u> the outcome of the research and discussed the effects on the test data sets for the various NPUB product specifications.

Discussion: None

Action Item 3/17 – Wilfred will implement the Ice Information compiled by Mike and Ludovico into the Physical Environment data set.

35 Status of solutions for global services or regulations

35.1 Outcome of the NIPWG request to HSSC to initiate a work package to find a solution

The Meeting <u>took note</u> of the HSSC8 decision.

Discussion: None

Action Item 3/18 – Jens will report back to TRANSAS on the outcome of the HSSC decision regarding their request for a ProdSpec on regulatory information (Decision HSSC8/30 refers).

39 Visualisation of Nautical Information

39.1 Collection of ideas who/what/how

The Meeting <u>discussed</u> how the workshop will be conducted. In particular, the content and the amount of information which should be provided beforehand were identified.

Discussion: The meeting discussed how to open the Visualization Workshop up for more participants and how to fit the workshop and the NIPWG meeting into the full 5-day workweek (through late Friday afternoon). The tentative agenda of the meeting and the first collection of items for the workshop are attached as Annex E. Considering the venue and dates of the 3rd meeting of the Nautical Cartography Working Group (NCWG-3), in Redlands, CA, USA, the week before NIPWG-4, invitation/information for some NCWG Members to attend and participate in the workshop will be made by Jens to NCWG Chair/Vice-Chair/Secretary, copy Yves.

Action Item 3/19 – The meeting must complete the "workshop template" and provide examples of what and how they would like to see presented and discussed by the end of March 2017.

39 Provision of Port and Harbor information

39.1 Presentation of International Harbor Masters Association (IHMA) activities related to AVANTI

The Meeting <u>took note, discussed and considered</u> the further development of AVANTI.

Discussion: The Vice Chair asked what does NIPWG wish to get from the AVANTI initiative? The Chair asked what are the gaps between AVANTI and our data model. This concept is something else that needs to be put "on-hold" until it is more mature.

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10

39.2 Data model gaps related to the approach of a harbor

The Meeting <u>discussed and considered</u> the data model gaps.

Discussion: The meeting asked and discussed how to handle gaps between national initiatives and the NIPWG data model in the future. Improvement of the data model should be done on a case-by-case basis.

9 Digital Application of "The Norwegian Pilot"

9.1 Presentation of the development status

The Meeting <u>took note</u> of the development made by Norway.

Discussion: The meeting appreciated the initiative by Norway and questioned how carriage requirements and data exchange issues will be handled. The meeting also discussed issues about updating the information in particular the icon overlays on the charts.

Action Item 3/20 – Anniken will update NIPWG on the Norwegian policy for meeting carriage requirements and data exchange during NIPWG4.

40 Outcome of Maritime Safety Committee (MSC) of the IMO

40.1 Presentation of the MSC 96 outcome related to NIPWG work plan

The Meeting <u>took note</u> of the outcome of MSC 96 and the impact on NIPWG work.

Discussion: Given the timing of (i) developments of MSPs within IMO (NCSR 2018-19), and that (ii) projects such as EfficienSea2, STM Validation, Smart Navigation, are exploring prototype implementation of e-navigation services, and (iii) that IALA is developing guidelines on MSP development, NIPWG considered that it is currently premature to invest time in the definition of the proposed Hydrographic Services MSP.

The meeting decided to seek endorsement from HSSC to convene a workshop in 2018 (in conjunction with NIPWG 5) to explore the practicalities of delivering MSPs.

Action Item 3/21 – Jens will report to HSSC-9 and seek endorsement to combine a possible workshop on the development of MSP with NIPWG-5.

43 IMO's e-Navigation Maritime Service Portfolio Discussion

43.1 Presentation of the status

The Meeting <u>took note</u> of the current status and discussed the options to invite other HSSC WG's to provide their input to the "Hydrographic Services" portfolio which the IHO intends to submit to the IMO.

Discussion: None

Action Item 3/22 – Jens will report to HSSC-9 the consolidated MSP Hydrographic Services and to the potential assignment of parts of this MSP to HSSC WG's.

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11

45   IMO's e-Navigation strategy

45.1   Summary of the recent IALA ENAV meeting(s)

The Meeting <u>took note</u> of the report.

Discussion: The meeting recognized that Edward is no longer the Chair of IALA ENAV WG1 and can no longer supply official reports to NIPWG.

45.2   Status of the e-Navigation services (MSPs) developments

The Meeting <u>took note</u> of the report.

Discussion: The existence of Harmonization Group on Data Modelling (HGDM) is considered important to have a harmonized approach between stakeholders for the provision of MSPs.

Action Item 3/23 – NIPWG members will contact their national IMO representatives to seek support for the establishment of the HGDM and report back the Chair that they have done so.

45.3   IALA/IHO Interaction on the IMO's MSP Program

The Meeting <u>took note</u> of the presentation and considers the concerns mentioned.

Discussion: The main source of confusion is the insufficient guidance of what an MSP is and what it means to the mariner and HO's.

45.4   Guidelines on harmonised display of navigation information received via communications equipment

The Meeting <u>took note</u> of the paper and the Chairman's response.

Discussion: The period of feedback justifies the immediate response of the Chairman without having consult with the group. The future handling of such IMO papers have been considered and a solution was developed. NIPWG letters will be produced in the future to seek group feedback.

47   Harmonised presentation of cable information in NPUBS

47.1   Text proposal on harmonised presentation of cable protection measures to be implemented in national NPUBS

The Meeting <u>took note</u> of the text developed by the small project team. The meeting appreciated the contributions of the ICPC which enhanced the text box content and to make it more robust.

Discussion: The decision was made to adopt a drafting group to submit a paper to the assembly amending the relevant M-3 resolution accordingly.

Action Item 3/24 – Mike will update the text box using the International Cable Protection Committee (ICPC) recommendations as well as the UKHO comments (done). On behalf of NIPWG, Germany will provide the proposal to the M-3 amendment to the IHO Secretariat by 15 December IAW ACL-10.

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12

48 Shore-Based UKC management system information in NPUB

48.1 AU input paper to initiate a harmonised presentation of the Shore-Based UKC management system information

The Meeting took note of the paper and discussed possible actions.

Discussion: NIPWG agrees in principle to items c and d in NIPWG3 48.1, but considered that the driver for including information in NPubs needs to come from the Maritime Authorities who implement such schemes. At present, it is inappropriate to recommend to member states what could be included.

Action Item 3/25 – NIPWG will monitor the work of the UKCM project team.

Action Item 3/26 – Mike will incorporate an example of UKCM in the Traffic Management test data set.

49 Total Maritime Safety Management System

49.1 Total Maritime Safety Management System utilizing Digital Communication systems

The Meeting took note of the paper.

Discussion: None

49.2 Future concept of Special Overlay for Navigational Information Provision.

Action Item 3/27 – Inyoung will send a note to NIPWG when the English language version of the Special Overlay is available.

42 EfficienSea2

The Meeting took note of the paper and will monitor future developments.

Discussion: The Meeting invites Sweden to report progress at NIPWG-4.

50 ToR review

The Meeting reviewed and discussed the current ToR.

Discussion: No amendments needed.

53 Work plan for the NIPWG

The Meeting reviewed and discussed the NIPWG work plan.

Discussion: See updated work plan according to HSSC-8 on the IHO website. The attached work plan will not be available on the website since it is a working document.

56 Any other business

The Meeting reviewed and adopted the draft Minutes of NIPWG3. The final Minutes will be prepared by the Secretary servicing this Meeting in close co-operation with all participants.

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- The meeting renewed the request to deliver the meeting papers at least 3 weeks before the meeting. Papers submitted after that deadline will be handled as Information (INF) papers. The meeting agreed that submitters of INF papers could not expect that the submitted topic will be discussed. Exceptions due to papers which are discussing urgent matters are on Chair group's decision.

- Concerning the storage of existing work on ProdSpecs, the Meeting discussed the option of making them available of the NIPWG page of the IHO website. Progress will be discussed during NIPWG-4.

- Anthropocene Ins. needs input from other HO's regarding national Point of Contact for MPA data so it can be made publically available in GIS environment.

Action Item 3/28 – Jens will generate and send a letter to members to be prospective candidates for NIPWG office bearers.

- The IHO requested feedback for the new online registration system used to register for NIPWG-3. Special thanks go to Korea which provided a great deal of developmental support for the system. The meeting agreed to continue with the online registration system for NIPWG-4.

59   Date and place of next meeting

The NIPWG4 meeting will be held in conjunction with the Visualisation of Nautical Information (VONI) Workshop at the University of New Hampshire, USA, 22 - 26 May 2017.

The next meetings are proposed to be held:
NIPWG5 in Italy (Genova) 12-16 March 2018
NIPWG6 in Rostock, Germany in January of 2019

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14

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1/10	NIPWG	First, NIPWG needs to advance the harmonization discussion between S-101 and S-122. After that, we need to update the MPA Application Schema (without context features) according to the harmonization process. Next we need to generate the Feature Catalog. The Application Schema and Feature Catalog will be sent to KHOA for testing. If the Portrayal portion is incomplete, we can use the KHOA portrayal catalog builder for testing.	07/2015	03/2017		Ongoing
1/15	YB	Monitor progress of the EAHC e-MIO project and provide an update at NIPWG2	07/2015	05/2017		Ongoing
2/04	BvS, ML	Investigate the gaps of the NIPWG data model by investigating requests when approaching a harbor	04/2016	12/2017		Ongoing
2/09	WdT, JS-F	Include relevant Mariners Handbook parts in the Physical Environment test data set and to initiate the first mapping	04/2016	08/2016	50	Ongoing
2/15	IP, JS-F	KHOA will collect test data Product Catalog from member states for testing purposes and Jens will prepare a NIPWG letter for the request to member states.	04/2016	07/2016	Open	Reconsider at NIPWG 4
3/01	BS	Develop a matrix which shows the interrelation of various	12/2016	05/2017		

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15

		ProdSpecs which are under the HSSC responsibility (example – currents off the Dutch coast or the classification of winds and storms worldwide). Develop a running list of examples of how product specifications interact with each other current as well as examples of how they might be shown to support each other at the same time. This will be an ongoing brief at the beginning of each meeting.				
3/02	JS-F	Incorporate the request of the completion of the DCEG builder development in the NIPWG report to S-100 WG.	12/2016	03/2017		
3/03	WdT, MK	Compare the current Register entries against the UML diagrams on the Wiki page.	12/2016	02/2017		
3/04	JS-F	Generate a NIPWG letter requesting members to investigate if any of this information is provided in any member state publications if the proposals have an impact on the stakeholders.	12/2016	03/2017		
3/05	JS-F	Generate a NIPWG letter by the end of December requesting members to review and approve the MPA DCEG Part 1, 2, 3 by the end of March 2017.	12/2016	12/2016		
3/06	WdT	Check with his office to see if they can allocate time to finalize the DCEG. Initially, the current version of the DCEG will need to be edited. This includes combining comments from AI 3/05 submitted by NIPWG and to incorporate them into the DCEG draft if appropriate. A timeline will be delivered as part of the letter.	01/2017	03/2017		
3/07	JS-F	Generate a request to contract out the Prod Spec development.	12/2016	01/2017		
3/08	WdT	Create a short status report for HSSC-9's consideration benchmarking existing	12/2016	05/2017		

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3/09	MK, JS-F	Provide Stefan with a schematic diagram of the Traffic Management Prod Spec	12/2016	03/2017		
		features of physical characteristics existing in S-101, S-411 and S-412, assessing the added values of S-126 items and collect any other use cases. This is to justify the reason NIPWG is "putting on hold" the work.				
3/09	MK, JS-F	Provide Stefan with a schematic diagram of the Traffic Management Prod Spec	12/2016	03/2017		
	SE	Create a draft UML diagram.	03/2017	05/2017		
3/10	YG, TL	Investigate using a contract to complete the Prod Spec including items like the UML diagram and DCEG for S-123.	12/2016	12/2016		
	JS-F	Circulate a requirements document to the group for feedback before final submission.	12/2016	01/2017		
3/11	SE	Identify the gaps within S-101 and S-201 which S-125 aimed to address. Letters will be written to S-101 project Team and IALA (ENAV committee) requesting that identified gaps are addressed in their respective Prod Specs. This will allow consideration of the future need of S-125 Prod Spec.	12/2016	03/2017		
3/12	SE	Draft a paper for S-100 WG to explain the need for the Marine Resource Name in the S-101 Prod Spec.	12/2016	03/2017		
3/13	IP, AK	Consider developing a common approach of the new PRIMAR online catalog and S-128.	12/2016	05/2017		
3/14	JS-F	Issue a NIPWG letter asking each member state to consider whether S-128 will support the definition of their products.	12/2016	04/2017		
3/15	BS	Include the following examples (from Action Item 3/16 below) of uncertainty in the visualization workshop in May of 2017.	12/2016	04/2017		
3/16	AK, AR, MK	Provide examples of uncertainty. AK will provide examples from the Norwegian Pilot on dangerous wave areas, AR will provide	12/2016	01/2017		

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		examples for radio service areas and MK will include examples in Traffic Management. For MPA's, refer to NIPWG 1/21.3. All examples will be submitted by the end of January 2017.				
3/17	WdT	Implement the Ice Information compiled by Mike and Ludovico into the Physical Environment data set.	12/2016	05/2017		
3/18	JS-F	Report back to TRANSAS on the outcome of the HSSC decision regarding their request for a ProdSpec on regulatory information.	12/2016	01/2017		
3/19	NIPWG	The meeting must complete the "workshop template" and provide examples of what and how they would like to see presented and discussed by the end of March 2017.	12/2016	03/2017		
3/20	AK	Update NIPWG on the Norwegian policy for meeting carriage requirements and data exchange during NIPWG4.	12/2016	05/2017		
3/21	JS-F	Report to HSSC-9 and seek endorsement to combine a workshop with NIPWG-5.	12/2016	08/2017		
3/22	JS-F	Report to HSSC-9 the consolidated MSP Hydrographic Services and to the potential assignment of parts of this MSP to HSSC WG's.	12/2016	08/2017		
3/23	NIPWG	NIPWG members will contact their national IMO representatives to seek support for the establishment of the HGDM and report back the Chair that they have done so.	12/2016	03/2017		
3/24	MK	Update the text box using the ICPC recommendations as well as the UKHO comments (done).	12/2016	12/2016		
	JS-F	On behalf of NIPWG, Germany will provide the proposal to the M-3 amendment to the IHO Secretariat by 15 December IAW ACL-10.	12/2016	12/2016		

3/25	NIPWG	NIPWG will monitor the work of the UKCM project team.	12/2016	05/2017		
3/26	MK	Incorporate an example of UKCM in the Traffic Management test data set.	12/2016	05/2017		
3/27	IP	Send a note to NIPWG when the English language version of the Special Overlay is available.	12/2016	02/2017		
3/28	NIPWG	Generate and send a letter to members to be prospective candidates for NIPWG office bearers.	12/2016	04/2017		

Variance Details:

Xxxxx

Corrective Actions:

Xxxxx

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19

Annex B: Agenda

Agenda (as conducted)

3rd Meeting of the Nautical Information Provision Working Group (NIPWG)
5–9 December 2016, Busan (KHOA), Republic of Korea

No.	Agenda Item	Lead	Documents
	Monday, 5 December		
1.	Opening and administrative arrangements		
	Opening address on behalf of the KHOA	IC	
2.	Adoption of the Agenda	JS-F	3-2
3.	Minutes of NIPWG2	TL	3-3
3.1	Amendments to the minutes	TL	
3.2	Review of Action Items from NIPWG2	TL	
4	NIPWG status of work (overview)	JS-F	
5.	HSSC related reports		
5.1	Information on HSSC8 affecting NIPWG	JS-F	3-5.1
5.2	Information on S-100WG activities	JS-F	3-5.2
5.3	Information on DQWG activities	EH	HSSC8-05.6A
6	S-100 related information		
6.1	Update on DCEG builder development	SO	
6.2	Status of the S-100 Registry	SO	
6.3	Status of the S-100 extension proposed by NIPWG	JS-F	3-6.3
6.4	Status of the development progress of the S-100 FC Builder	SO	
6.5	Discussion on the papers	JS-F	
7	Update on S-124 development		
7.1	Presentation of the current status of the S-124 (Navigational warnings) development	AR	3-7.1
7.2	Discussion of the development coordination	JS-F	
13	Review of IHO Publications/ Standards and Specifications		

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13.1	M-3 (Resolutions of the IHO)	JS-F	3-13.1
13.2	S-12 (Standardization of List of Lights and Fog Signals)		
13.3	S-49 (Standardization of Mariners' Routeing Guides)		
37	S-1xx "NUPB" Product Specifications		
37.1	Context of the S-1xx "NPUB" ProdSpec use	JS-F	3-37.1
37.2	Discussion of the paper	JS-F	
	Minutes notes of the day's items		

	Tuesday, 6 December (NPUB ProdSpec day)		
20	Marine Protected Area Product Specification (S-122)		
20.1	Status of work of the ProdSpec		
20.3	Portrayal of the MPA feature (as a use case for a generic approach to the portrayal issue)	VZ	3-20.3 Annex A
20.4	Discussion of the current status of the DCEG, excl. data model	JS-F	3-20.4 Annex A
20.5	Model harmonisation S-101 and S-122, Dialog with S-101 DCEG group (NIPWG wiki work)	JS-F	3-20.5
20.6	Discussion on how to proceed	JS-F	
21	S-100 Sea Trial		
21.1	Activities of KHOA on creation of S-10X test data sets and S-100 sea trial	SO	3-21.1
21.2	Discussion on the paper	JS-F	
22	ProdSpec Physical Environment (S-126)		
22.1	Presentation of extended content	WdT	3-22.1
22.2	Discussion on the paper	JS-F	
24	ProdSpec Traffic Management (S-127)		
24.1	Presentation of the preliminary mapping and identification of possible gaps of the NIPWG data model	MK	3-24.1 Annex A Annex B Presentation
24.2	Discussion on the draft paper	JS-F	
26.	ProdSpec Radio Services (S-123)		

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26.1	Presentation of extended content (stable +AIS information)	AR	3-26.1
26.2	Discussion on the content	JS-F	
28	ProdSpec Navigational Services (S-125)		
28.1	Presentation of the current work status	SE	3-28.1 Annex A
28.2	Interoperability and Unique Identifier use for S-125 purpose	SE	3-28.2
28.2	Discussion on the draft paper	JS-F	
29	ProdSpec Catalog of Nautical Products (S-128)		
29.1	Presentation of the current work status	IP	3-29.1
29.2	Discussion of the paper	JS-F	
	Minutes notes of the day's items		

	Wednesday, 7 December (NPUB ProdSpec day)		
30	Data quality model for NPUB information		
30.1	Presentation of the developed approach	JS-F	3-30.1 NIPWG letter 2016/02
30.2	Discussion of the paper	JS-F	
33	Completeness of ice information for test data sets		
33.1	Presentation of the research and proposals	MK+LS	3-33.1 Annex A Annex B
33.2	Discussion of the paper	JS-F	
35	Status of solutions for global services or regulations		
35.1	Outcome of the NIPWG request to HSSC to initiate a work package to find a solution	JS-F	3-35.1
35.2	Discussion of the paper	JS-F	
39	Visualisation of Nautical Information		
39.1	Collection of ideas who/what/how	BS	3-39.1 Annex A

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39.2	Discussion	JS-F	
11	Provision of Port and Harbor information		
11.1	Presentation of IHMA activities related to AVANTI	ML	Internet presentation
11.2	Discussion of data model gaps related to the approach of a harbor	ML	
11.3	Discussion of the paper	JS-F	
9	Digital Application of "The Norwegian Pilot"		
9.1	Presentation of the development status	AK	Internet presentation 3-9.1
9.2	Discussion of the paper		
7.1	Presentation of the current status of the Korean S-124 (Navigational warnings) developments	BP	
	Minutes notes of the day's items		

	Thursday, 8 December (IMO / e-Navigation day // NIPWG general issues day)		
40	Outcome of MSC		
40.1	Presentation of the MSC 96 outcome related to NIPWG work plan	JS-F	IHO CL 24/2016
40.2	Discussion of the NIPWG contributions	JS-F	
43	IMO's e-Navigation Maritime Service Portfolio Discussion		
43.1	Presentation of the status	JS-F	NIPWG letter 2016/01 HSSC8-07.2A
43.2	Discussion of the development coordination	JS-F	
45	IMO's e-Navigation strategy		
45.1	Summary of the recent IALA eNAV meeting(s)	EH	3-45.1 HSSC8-07.3A
45.2	Status of the e-Navigation services (MSPs) developments	JE	3-45.2 A 3-45.2 B

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45.3	IALA/IHO Interaction on the IMO's Maritime Service Portfolio Program	MK	3-45.3 Presentation
45.4	Guidelines on harmonised display of navigation information received via communications equipment	JE	3-45.4 A 3-45.4 B
45.5	Discussion and the NIPWG position	JS-F	
47	Harmonised presentation of cable information in NPUBS		
47.1	Text proposal on harmonised presentation of cable protection measures to be implemented in national NPUBS	LS+MK	3-47.1 Annex A Annex B Presentation
47.2	Discussion of the paper	JS-F	
48	Shore-Based UKC management system information in NPUB		
48.1	AU input paper to initiate a harmonised presentation of the Shore-Based UKC management system information	JS-F	3-48.1
48.2	Discussion of the paper	JS-F	
49	Total Maritime Safety Management System utilizing Digital Communication systems		
49.1	Total Maritime Safety Management System utilizing Digital Communication systems	SO	Presentation
49.2	Future concept of special overlay for navigational information provision	YK	3-49.2
49.3	Discussion of the paper	JS-F	
42	EU EfficienSea2 project		
42.1	Status Report on EU EfficienSea2 project	ML	
42.2	Discussion of the presentation	JS-F	
	Minutes notes of the day's items		

	Friday, 9 December (NIPWG administration day)		
50	ToR review	MK; J S-F	NIPWG Website
53	Work plan for the NIPWG (reflecting HSSC8 outcome)	JS-F	NIPWG Website
56	Any other business	JS-F	

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	(Review of draft minutes),		
	(Repository for the work done on S-125, S-126)		
	(Repository for S-127)		
	(Repository for S-128)		
	(Data provision to the Anthropocene Institute to extend the MPA coverage)		
	(feedback on the registration system)		
	(Election of the NIPWG office bearers)		
	(Note that the Workplan attached to the minutes reflects the HSSC8 advice and is slightly different to the work plan agreed at HSSC8 which is the official one on the NIPWG website)		
	(Status of HSSC8 action items assigned to NIPWG)		
59	Date and place of next meeting(s)	JS-F	
	NIPWG4 22–26 May 2017 US/New Hampshire		
	NIPWG5 12–16 March 2018 Italy/Genova/		
	NIPWG6 January 2019 Germany/Rostock		
	NIPWG7 November 2019 Russian Federation/Vladivostok or St. Petersburg		
	NIPWG8 September 2020 France/Brest (tbc)		
	Excursion		

AK	Anniken Kvernstrøm (NO)
AR	Alain Rouault (FR)
BP	Byung-mon Park (ROK/KHOA)
BS	Briana Sullivan (U.S./UNH)
EH	Edward Hosken (UK)
IP	Inyoung Park(ROK/KHOA)
IC	Dr. LIM Chae-Ho (ROK/KHOA)
JS-F	Jens Schröder-Fürstenberg (GE)
MK	Mike Kushla (U.S./NGA)
ML	Malin Liljenborg (SE)
SO	Sewoong Oh (ROK/ KRISO)
SE	Stefan Engström (FI)
TL	Tom Loeper (U.S./NOAA)
VZ	Virgil Zetterlind (U.S./ Anthropocene Institute)
WdT	Wilfred den Toom (NL)
YG	Yves Guillam (IHB)
YK	Yesol Kim (ROK/KHOA)

Work sessions:

Monday	Tuesday	Wednesday	Thursday	Friday
0900 – 1030	0900 – 1030	0900 – 1030	0900 – 1030	0900 – 1030
1045 – 1200	1045 – 1200	1045 – 1200	1045 – 1200	1045 – 1200
1330 – 1500	1330 – 1500	1330 – 1500	1330 – 1500	
1515 – 1700	1515 – 1700	1515 – 1700	1515 – 1700	

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Annex C: List of Attendees

NAUTICAL INFORMATION PROVISIONS WORKING GROUP (NIPWG)

[A Working Group of the Hydrographic Services and Standards Committee (HSSC)]
Busan, 5 – 9 December 2016

List of Confirmed Participants

IHO MS	Name	email
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Annex D: Updated NIPWG Work Plan

NIPWG WORK PLAN 2017-18 *(approved by HSSC8 and revised at NIPWG3)*

Tasks

D	Maintain Publication S-12 "Standardization of List of Lights and Fog Signals" (IHO Task 2.6.3.2)
E	Maintain Publication S-49 "Recommendations concerning Mariners' Routeing Guides" (IHO Task 2.6.3.3)
F	Establish and monitor, in liaison with the S-100WG, the project teams required to specify and develop nautical information layers for use in ECDIS (IHO Task 2.6.2)
G	Develop high level specifications for a combined Marine Service Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan
H	Develop a test and implementation plan for the development of the MSP "hydrographic services"
I	Maintain IHO Resolutions in M-3 relating to Nautical Publications as required (IHO Task 2.6.3.1)
J	Liaise with other HSSC WG's and other IHO and international bodies
K	Conduct the 2017 and 2018 meetings of the NIPWG and its sub-group(s) and project team(s) (IHO Task 2.6.1)

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27

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.4
F.1	Assess the progress and perspectives of developing specifications for NP data layers in ECDIS and propose the way forward for consideration by HSSC	H		2015	Permanent	P			To be considered in the context of the IMO e-navigation strategy implementation. NIPWG to consider establishing one or more project team(s) in liaison with S-100WG as required (see J.2), in particular to continue the development of Product Specifications currently assigned to the NIPWG.
F.2	Investigate the interaction between Marine Protected Area Product and ENC in ECDIS	M	Draft Product Specification for Marine Protected Areas (S-122) released in 2018	2015	Permanent	O	Chair/Sec		In close liaison with the S-100 WG. Awaiting portrayal specification from NCWG.
F.3	Model the NP data where required.	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related. To be included in NPUBS domain of the next version of the FCD Register.
F.4	Review of objects and attributes	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related.

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Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
F.5	Propose amendments to HYDRO domain of the FCD Register	H		2005	Permanent	O	Chair/Sec		S-100 related. To be included in the FCD register
F.6	Propose amendments to AtoN domain of the FCD Register	H	Next meeting	2014	2017	O	Chair/Sec	S-125	To improve the current definitions and attribute values at the FCD register
F.7	Populate the HYDRO domain of the FCD Register	H		2006	Permanent	O	Chair/Sec		S-100 related.
F.8.1	Develop S-12n - Nautical Information Product Specification								
F.8.1.1	For Radio Services	H	NIPWG 4	2012	2019	O	Chair/Sec	S-123	Liaise with WWNWS-Sub Committee
F.8.1.2	For Navigational services	L	NIPWG 4	2013		P	Chair/Sec	S-125	On Hold
F.8.1.3	For Traffic management	M	NIPWG 4	2013		O	Chair/Sec	S-127	
F.8.1.3.1	For Marine Protected Areas	H	NIPWG 4	2011	2018	O	Chair/Sec	S-122	Awaiting completion Feature Catalog Builder, data model harmonization between S-101 and S-122, portrayal parts
F.8.1.4	For Physical environment	L	NIPWG 4	2013		P	Chair/Sec	S-126	On Hold
F.8.1.5	Catalog of nautical products	H	NIPWG 4	2016	2019	O	Chair/Sec	S-128	

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Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
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.1.1	For Radio Services	H	NIPWG3	2012	2017	O	Chair/Sec	S-123	
G.1.2	For Navigational services	H	NIPWG3	2012	2017	O	Chair/Sec	S-125	
G.1.3	For Traffic management	H	NIPWG3	2012	2017	O	Chair/Sec	S-127	
G.1.4	For Physical environment	H	NIPWG3	2013	2017	O	Chair/Sec	S-126	
G.1.5	For Marine Protected Areas	H	NIPWG3	2013	2016	C	Chair/Sec	S-122	Action HSSC8/04
G.3	Rules and guidelines for displaying nautical information in ECDIS and in combined Marine Service Portfolios								
G.3.1	Develop basic display principles for NP data intended for use in ECDIS (NP3)	H	NIPWG4	2008	2017	O	Chair/Sec	S-52	Close co-operation with NCWG and S-100WG required
G.3.2	Monitor and contribute to the development of IMO	M		2015	2019	O		S-52	e-nav IMO Strategy Implementation Plan, Task T13

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Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
	guidelines showing how navigation information received by communications equipment can be displayed in a harmonized way and what equipment functionality is necessary.								(HSSC6-07.1A refers) Output number 5.2.6.2 of NCSR biennial agenda 2016-17
G.4	Initiate consideration of the architecture of the MSP "hydrographic services"	M		2013		C	Chair NIPWG		To be considered in the context of the IMO e-navigation strategy implementation plan e-nav IMO Strategy Implementation Plan, Task T17 (HSSC6-07.1A refers).
G.5	Contribute to considering the future of paper charts in the perspective of the establishment of MSPs	M		2014					Subject to request from NCWG
I.1	Maintain and extend resolutions in M-3 relating to Nautical Publications	M	Next meeting	2012	Permanent	O	Chair/Sec NIPWG	M-3	A review is required due for the harmonization of M3 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

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Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
									HSSC.
J.2.1	Draft Data Classification and Encoding Guides								Document for NPs similar to Use of the Object Catalog
J.2.1.1	For Marine Protected Areas	H	Next meeting	2011	2018	O	Chair/Sec	S-122	To be harmonized with S-101 DCEG
J.2.1.2	For Radio Services	H	Next meeting	2015	2019	P	Chair/Sec	S-123	Depends on modelling progress and contract award.
J.2.3	Draft Product Specification								
J.2.3.1	For Radio Services	H	NIPWG4	2014	2019	O	Chair/Sec	S-123	Depends on contract award.
J.2.3.2	For Navigational services	L		-		P	Chair/Sec	S-125	
J.2.3.3	For Traffic management	M		2011		O	Chair/Sec	S-127	The start date is in-line with the MPA ProdSpec development
J.2.3.4	For Marine Protected Areas	H	Next meeting	2011	2017	O	Chair/Sec	S-122	
J.2.3.5	For Physical environment	L		-	-	P	Chair/Sec	S-126	
J.2.3.6	For Digital Catalog of Nautical Products	H	Next meeting	2016	2019	P	Chair/Sec	S-128	
J.3	Liaise with other HSSC WG and the S-124 CG	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	H		2015	Permanent	O	Chair/Sec NIPWG		

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Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
	which contribute to nautical information								
J.5.1	Liaise with IALA e-Nav Committee	H		2013	Permanent	O	Chair/Sec NIPWG		As advised by HSSC4 (in liaison with S-100WG).
J.5.2	Liaise with International Harbor Masters' Association	L		2015	Permanent	O	Chair/Sec NIPWG		Considering AVANTI development
J.5.3	Liaise with International Cable Protection Committee (ICPC)	M	Dec. 2016	2016	2017	O	Chair/Sec NIPWG		MOU signed between IHO and ICPC. Action HSSC8/66&67

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33

Meetings (Task K)

Date	Location	Activity
22–26 May 2017	University of New Hampshire, USA	NIPWG4 and Vizualization of Nautical Information Workshop
12–16 March 2018	Genova, Italy	NIPWG5
Jan 2019	Rostock, Germany	NIPWG6
Nov 2019	Vladivostok or St. Petersburg, Russian Federation	NIPWG7
Sept 2020	Brest (tbc), France	NIPWG8

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Annex E Visualisation workshop (tentative agenda)

Agenda (draft)

4ᵗʰ Meeting of the Nautical Information Provision Working Group (NIPWG) **In conjunction with the visualisation of nautical information workshop** **22–26 May 2017, Durham (New Hampshire), USA**			

No.	Agenda Item	Lead	Documents
	Monday, 22 May Forenoon (Visualisation Workshop)		
	Focus on the use of product specifications "The first step toward creating an improved future is developing the ability to envision it." "set the scene"		
	Introduction Objectives - to share a vision of the uses of the nautical publication		
	Demos Brief demos or description and screenshots of current visualization systems Demo Outline S-122 related (MPA) Anthropocene Institute: test-bed for MPA S-122 visualizations (Navionics system) S-126 (physical environment), S-1xx mariner services, routing guide, harbor infrastructure related Rose Point (?) Sweden Pilot/Port viewer Norway Pilot/Port viewer iCPilot viewer (UNH) NTM Viewers (S-1xx?) KHOA NTM Viewer (Byung Moon Park) US Critical chart corrections viewer ChUM - Chart Updates Mashup (UNH critical chart corrections viewer) Multiple products viewed together S-101, S-102, S-111 WR Systems: standards viewer BaRoView (KHOA) multiple datasets in 3D. S-100 progress? (in the interest of time and focus of the meeting…maybe this one should be just for NIPWG meeting later in the week?)		

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	S-100 viewer (ROK)		
	DCEG view		
	Monday, 22 May Afternoon (Visualisation Workshop)		
	Introduction		
	Objectives – to discuss industry needs in PS, end user needs and what kind of data structure would help fulfil those needs.		
	Open Discussion		
	Talking points		
	- description of use cases of the data - what is needed, - what users require (want to see) (by OEM) (Whiteboard note taking) - develop basic display rules, guidelines: back bridge vs. bridge, text vs. points/polygons (G.3.1 NIPWG work plan) 5-10 principles for how best to display NP data on an ECDIS. - outstanding issues - Fuzzy areas (uncertainty) cases (examples sent in by HO's): - Norwegian Pilot dangerous waves - radio services - traffic mgmt. (?)		

No.	Agenda Item	Lead	Documents
	Tuesday, 23 May Forenoon (Visualisation Workshop)		
	Focus on how HO's get from current production systems to S-100 standard		
	Introduction		
	Organized Discussion		
	Background on the results of the questionnaire sent out at NIPWG3…all HO's should be prepared with sample data for each proposed product specification.		
	- Similarities - Where are there similarities between the HO's production systems? - Similarities between the current NIPWG data models and HO's data. - Needs - What are the specific data elements they KNOW they want the mariner to have?		

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	o If some of their data isn't represented in the outline, they should add it at the end to make sure we know what doesn't have a home. • Execution o How do HO's make it happen? Discussion on general ideas with moving from current system to one that will be able to create S-12x products.		
	Tuesday, 23 May Afternoon (Visualisation Workshop)		
	Introduction Open discussion of the planned end result of the product specifications (white board sketches are fine)...the day could be broken up into specifications (to focus on one at a time).		
	Technical Discussions • How do the attributes and features discussed in the meetings tie into the ultimate XML product that is expected from the product specifications developed? • Visual outputs in ECDIS, and for public discovery (i.e. websites - this would suggest a "universal" interface for display for countries who want guidance, but allow conversation to be had on ideas) • Discussion on other data structures in the pipeline and sketching them.		

No.	Agenda Item	Lead	Documents
	Wednesday, 24 May Forenoon (Visualisation Workshop)		
	Focus on technical details		
	Introduction Working example of mapping HO data to product specification.		
	Technical Workshop – for developers Objective: each HO leaves with their MPA data mapped to current S-122 data structure. • Introduce the NIPWG WIKI • Introduce the IHO registry and show how they work together. • Walk through the S-122 XSD file with developers to create S-122 XML (product) to open discussion about the mappings and questions about the data structure, verify that all needs are met		
	Wednesday, 24 May Afternoon (NIPWG general issues)		

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No.	Agenda Item	Lead	Documents
	Thursday, 25 May (NIPWG ProdSpecs)		

No.	Agenda Item	Lead	Documents
	Friday, 25 May (NIPWG e-nav and general issues)		

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