5th Nautical Information Provision Working Group (NIPWG) Meeting
12 – 16 March 2018 – Genova, Italy

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 NIPWG5 by welcoming new and returning members.
Logistics and building safety were also discussed.

The NIPWG Chair welcomed the participants and thanked the Italian Hydrographic Office for organizing the meeting.

1.3 Introductions

Due to the large number of new members, no introductions were made. Members were encouraged to make introductions and network during breaks and social events.

2. Adoption of NIPWG5 Agenda

NIPWG agreed and adopted the NIPWG5 Agenda with slight modifications as circulated.

3. Adoption NIPWG4 Minutes

The meeting approved the Final Minutes of NIPWG4 with no modifications as circulated.

3.1 Corrections

None noted.

3.2 Review of Action Items from NIPWG4

Planned tasks for this Reporting Period						
Action Item	Actor	Task Description	Start Date	Target End Date	Percent Complete	Task Status
4/WP1	JS-F	Approach the IHO for continuous maintenance of the wiki	05/2017	07/2017	100	
4/WP2	JS-F	Agenda item for the NIPWG5 – Develop a roadmap on how to assist HOs to convert their current data into products	05/2017	03/2018	100	
4/01	SE	Investigate the reference in IHO	05/2017	09/2017	100	

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		resolution 7/2009 concerning time and make a recommendation to the S-100WG if needed.				
4/02	EH	Review IHO resolution 5/1937 to consider references to numbering of radio stations to make a proposal which may include deletion of the resolution.	05/2017	09/2017	100	
4/03	JS-F DL	Consider the NtM entry to propose amendments to HSSC to reflect the digital provision of data updates.	05/2017	09/2017	30	In progress To resume as another NIPWG5 task
4/04	EM, RM	Deliver a paper to the S-100 WG about how to effectively handle incremental changes and new versions.	05/2017	08/2017	100	
4/05	NIPWG	Will need to provide comments (by 30 June 2017 to Chair) to complete the contract (by 18 August 2017), set the version number and send it forward to HSSC. Members must use the template as discussed.	05/2017	Ongoing	100	
4/06	CM	Will be the point of contact for the group to collect comments for S-122 & S-123 for anything after the contract is completed (end of June). This is an ongoing item.	05/2017	Ongoing	100	To be shifted to another NIPWG5 task (New PoC)
4/07	Mrs. JP	Will initiate a proposal to extend S-100 to include additional metadata to support S-122 and S-123. October 2017.	05/2017	10/2017	100	
4/08	NIPWG	Will check Category of MPA and provide additional suggestions for their nations.	05/2017	06/2017	100	
4/09	ML	Provide a request to the IHMA to provide references to the sources of the definitions where possible.	05/2017	06/2017	100	
4/10	ML	Cross check the IHMA paper with the NPUB data model and provide the gap analysis.	05/2017	12/2017	100	

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4/11	SE	Will continue to monitor progress of IALA S-201and S-101 and report back to the NIPWG.	05/2017	Ongoing	100	
4/12	WdT, BS	Will create a listing of what has been defined and what items still need to be completed in S-126. This is to be added as a separate tab to Annex A of NIPWG 4.15.1.	05/2017	11/2017	100	
4/13	JS-F	Will check with UKCMPT chair regarding reporting existence of UKCM information in NPUBS.	05/2017	07/2017	100	
4/14	MK	will check other Under Keel Clearance system for differences from the Torres Strait and update TDS as needed.	05/2017	08/2017	100	
4/15	JS-F	Will check at HSSC9 to see if this is still part of NIPWG's bailiwick.	05/2017	11/2017	100	
4/16	JS-F	To seek endorsement of HSSC9 to outsource the completion of S-127. Nov. 2017.	05/2017	11/2017	100	
4/17	IP	Will provide an updated data model to NGA	05/2017	09/2017	100	
4/18	JC	Will a conduct the UML check and forward it to the chair.	05/2017	11/2017	100	
4/19	JS-F	Will distribute a letter to the NIPWG to check if all the comments have been incorporated in the updated model	05/2017	12/2017	100	
4/20	NIPWG	Will continue to monitor the developments of S-124 and will consider the outcome of MSC 98 and the outcome of the meeting of Harmonization Group on Data Modelling (HGDM).	05/2017	ongoing	100	
4/21	DL	Will attend the initial HGDM meeting as a NIPWG observer and report back to the NIPWG5	05/2017	03/2018	100	
4/22	JS-F	Will update the NIPWG 43.1 paper and circulate for review prior to posting on the NIPWG website in the misc. section.	05/2017	08/2017	100	

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4/23	YG	Will make editorial changes to the TOR to remove references to IHB, etc	05/2017	07/2017	100	
4/24	IP	Monitor progress of the EAHC e-MIO project and provide an update at NIPWG if appropriate	07/2015		100	Project closed
4/25	WdT	Include relevant Mariners Handbook parts in the Physical Environment test data set and to initiate the first mapping	04/2016		50	ex 2/09 On hold
4/26	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	100	ex 3/22

4   NIPWG status of work overview

The Meeting <u>took note</u> 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 work status.

6   S-100 related information

6.1   Presentation of the outcome of the recent S-100 meeting

The Meeting <u>took note</u> of the presentation of the results of the recent developments, and of the Test Strategy Meeting in particular.

The group has provided the required feedback on S-100 interoperability.   The group provided the needed datasets for testing.

7   Council and HSSC related information

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

Discussion: NIPWG needs to make a proposal for the use of the special project fund for the IHO 2019 budget. The NIPWG progress report and recommendations should conclude with top three priorities for IHO Work Program 2019.

5   EAHC e-MIO project update/ e-nav project EfficienSea 2/ SMART Project update

5.1 Results of the recent e-MIO developments

Action Item 5/01 – IP to consider any lessons learned and recommendations from the e-MIO project relevant to NIPWG Prod Specs for the next meeting. Jan 19.

5.2 Information on the outcome of the EfficienSea 2 project.

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The meeting took note of the presentation and that NIPWG has continued interest in the development of the Maritime Connectivity Platform (MCP) as used within the SMART Navigation Project.

5.3 Information on SMART project progress

The meeting took note of the project and there was a lively discussion concerning who is responsible for portrayal – the IHO working group or the system developer.

Action Item 5/02 – HC to report to NIPWG6 on the use of MCP in SMART. Jan 19.

8   Proposed M-3 amendments

The meeting took note of the summary of investigations on the impact of proposed M-3 amendments discussed at previous NIPWG meetings.

8.1 Submission on 7/2009 (time reference)
The meeting took note of the paper. NIPWG recommended that one item be amended in the paper – see below.

Time in nautical publications should be expressed as Universal Time Co-ordinated (UTC):
Example 13:21 (UTC).
Alternative time references may be used, as follows:
1. Local time with offset: Example 13:21 (UTC + 3)
2. Unspecified local time: Example 13:21 (Local Time) if time zone reference is
   provided within the publication.

8.2 Submission on 5/1937 (numbering of types of station)

The meeting took note of the paper and confirmed that no amendment is required.

8.3 Submission on 9/1932, 4/1982, 4/1937, 9/1962 (diverse)

The meeting took note of the paper and confirmed that amendments are required and should be proposed to HSSC.

Action Item 5/03 – JS-F to prepare the paper on M-3 amendment proposals for HSSC10 including a note to the S-100WG to consider the amendments to 7/2009. March 2018

8.4 Submission on 2/2007 (Principles and Procedures for Making Changes to IHO Technical Standards and Specifications)

The meeting took note of the paper. (Discussions continued throughout the week)

Action Item 5/04 – JS-F to prepare the paper on 2/2007 revision for HSSC. March 2018.

8.5 Outcome of investigations on the presentation of NtM related information.

The meeting took note of the paper. The Chair noted that this is possibly a future work item. The discussion was revisited during the strategic discussions later in the meeting.

Action Item 5/05 – DL to draft M-3 amendments based on the matrix provided as Annex (Doc NIPWG5-08.5 Comment Matrix (CC)). July 2018.

8.6 Provision of Under Keel Clearance information (draft discussion paper for UKCMPT consideration)

The meeting took note of the paper.

8.7 Provision of Under Keel Clearance information in S-49 (draft discussion paper for UKCMPT consideration)

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The meeting took note of the paper and the decision was made that an amendment of M-3 is not appropriate.

Action Item 5/06 – JS to add definitions on Dynamic and Static UKCM systems to the Hydrographic Dictionary. August 2018.

Action Item 5/07 – MK to update S-49 to reflect the existence of UKCM systems. September 2018

9   (S-122) MPA and (S-123) Radio Services

The meeting took note of the paper and presentation.

Action Item 5/08 – Elena Armanino will be the new point of contact for collecting amendments to NIPWG Product Specifications.

10   (S-128) Catalogue of Nautical Products

The meeting took note of the presentations and it was agreed that information provided will be feature types and not information types.

Discussion: The continuing development of S-128 was discussed during the strategic discussions later in the meeting.

11   (S-127) Traffic Management

11.1   Presentation of the development of the S-127 product specification

The meeting took note of the paper and the presentation. NIPWG endorsed the draft document.

Discussion: NIPWG agreed that the routeing model should be the simple model. The meeting endorsed the availability of line geometries as a fall-back. NIPWG also endorsed that Pilot Services should remain as a separate feature as it provides additional information to the existing S-101 based-related features. The UKCM features can overlap each other.

Action Item 5/09 – NIPWG will review UKCM aspects and report back to Mike Kushla. 16 April 2018.

Action Item 5/10 – MK will send a compiled list of comments back to Raphael to incorporate into the standard. 30 April 2018.

13   (S-125) Navigational Services

The meeting took note of the paper.

Discussion: NIPWG will continue the harmonization discussion around S-125. NIPWG recognises that S-125 will potentially replace and enhance the current List of Lights. NIPWG does not expect that S-125 will be interoperable with S-101. It was noted that S-201 is an IALA standard and NIPWG understands that S-201 contains more useful information for AtoN authorities. The work is not urgent at this stage. NIPWG currently believes that this will be a back of bridge product but the further use for front of bridge operations remains open.

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Action Item 5/11 – SE will continue to monitor S-201 and S-101 development and maintain the S-125 data model as needed. December 2018.

15   Lesson learned from insufficient ECDIS use

The meeting took note of the presentation.

Discussion: From this use case, we cannot develop any useful recommendations that are in the IHO remit.

Action Item 5/12 – YG will inform the NCWG of this presentation on the use case of insufficient ECDIS operation. Complete.

21   IHO Registry

The meeting took note of the presentation.

Discussion: Note the significant progress made on the IHO GI Registry since it was commissioned in October 2016. Also note the further work that is required, some of which will be discussed in related S-100WG3 papers (April 2018).

20   S-122, S-123 and-126 discussions

The meeting took note of the presentations and papers.

The meeting discussed the issue of coordinating the hydrodynamic modelling effort with other working groups.

Discussion: Three key questions from S-122 discussions. First, how will S-122 datasets be constructed? Second, how are the proper provisions handled? Finally, how are dynamic information and displays handled?

Action Item 5/13 – KHOA representative will invest effort and capacity in the development of portrayal concepts for S-126 data. December 2018.

Action Item 5/14 – BS will provide recommendations for what physical environment topics should be removed first based on the compiled list from Annex A (NIPWG 5-21.2 Status report S126-Annex A.xlsx). December 2018.

Action Item 5/15 – BS and WdT to continue to compile use cases for S-126 data. December 2018.

Action Item 5/16 – RM and VZ to prepare a paper to S-100 WG on the support of multi-polygon spatial type in the next edition of S-100. NIPWG members are encouraged to add more examples and send them RM and VZ. March 2018.

Action Item 5/17 – JS-F to submit the Action Item 5/16 paper to the next S-100WG meeting. March 2018.

Action Item 5/18 – VZ to investigate interoperability of S-121 and S-122 and report. December 2018.

22   S-124 Correspondence Group report

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22.1 Canadian Nav Warning System

NIPWG appreciates Stephane's remotely driven presentation on the status of the Canadian Nav Warning System development.

22.2 S-124 Correspondence Group status report

The meeting took note of the presentation and commended the S-124 Correspondence Group and its outgoing Chair (Yves Le Franc), for the work done. NIPWG was encouraged to adopt a similar consistent and holistic approach for the development of S-1xx products in its remit.

Discussion: Unique identifier should be used to identify overlapping information provided by S-124 and NAVTEX and SafetyNET.

43   Harmonisation of NtM XML Structure

The meeting took note of the paper.

Discussion: The meeting discussed several points. The meeting considers the need to continue to automate tasks to increase efficiency. The demand for other users is increasing and the information needs to be distributed in a way that suits the end user. Safety and preparation time for notices also needs to be considered. There is also the possibility of adding this to the next version of S-124. Notices can be broken down into several parts like AtoNs, chart corrections, etc. Canada offered to seek internal approval to test the concept. NIPWG agrees to have a section on its Wiki to share XML ideas and development work between countries currently involved with automated data exchange.

Action Item 5/19– AJ to investigate gaps in S-124 that do not allow specific chart corrections based on the DMA NIORD system. December 2018.

Action Item 5/20 – Canada to investigate the usefulness of S-124 for chart correction exchange. December 2018.

Action Item 5/21 – ML to investigate the provision of P and T messages by the STM validation project. December 2018.

Action Item 5/22 – JS-F to approach HSSC and inform on the proposed workshop to develop harmonized NtM chart correction XML. March 2018.

Action Item 5/23 – For NIPWG, recognizing that most members are moving forward with their own XML, those members are encouraged to host XML chart correction examples on the NIPWG Wiki for comparison. September 2018.

44   Provision of georeferenced nautical information

The meeting discussed the possibility of conducting an occasional workshop where system experts can exchange ideas on issues like XML information exchange. For instance, at the next NIPWG meeting, NIPWG would schedule part of 2 afternoons to update the rest of the group on technical topics. The workshops would be conducted on an as needed basis.

45   MSC98/ NCSR5

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The meeting took note of the paper.

46   IMO's e-Navigation

46.1 Outcome of 1st HGDM meeting

The meeting took note of the paper.

The meeting discussed the possible involvement in the Maritime Service template submission to the 2nd HGDM meeting.

Action Item 5/24 – JS-F to inform HSSC about the invitation to submit Maritime Services descriptions which are under IHO responsibility according to the HGDM Maritime Services template and to invite other involved IHO WG's and SC's to submit their Maritime Services descriptions to NIPWG. March 2018

46.3 Report on e-Navigation underway conference

The meeting took note of the paper.

The meeting discussed the possible involvement in the Maritime Service template submission to the 2nd HGDM meeting.

46.4 MARVELOWS presentation

The meeting took note of the presentation and appreciates the Italian initiative on the nautical information provision via satellite system. The presentation underlined the request for the provision of minor data packages and confirms that the incremental update developed for S-100 is appropriate.

The meeting thanked Nazzareno Marchese for presenting as a guest speaker.

47   Submissions to IALA Conference

The meeting took note of the papers which have been provided to the conference,

48   Delivery of S-100 based products

The meeting took note of the paper. The IEC TC80 Chair provided written comments during the meeting. These comments will be considered and incorporated into the final version as appropriate.

49   Think tank (NIPWG strategic discussion)

The meeting took note of the presentation.

Discussion: A major problem for SDs production teams is the lack of adequate, consistent and reliable port information. Another issue with the NOAA idea is eliminating the use of Chart/ENC reference numbers in SD. NIPWG needs to share implementation ideas every few meetings.

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The DQWG assessed the S-127 data quality information and provided feedback. The question whether the DQWG guidelines are mandatory or whether modifications per need are possible should be addressed at HSSC10.

The exclusion of Information types for catalogue entries (S-128) might cause problems in the data provision. A need of Information types for catalogue entries has been detected by WG members. Other WG members pointed out that Feature Types can have no geometry.

The discussion on the usefulness of the provided feasibility/impact study as proposed by the 2/2007 revision concluded that such studies should be done in two parts. The first part should be the feasibility study and conducted before the development starts. This study should address the feasibility of the intended product specification. The second part is an impact study and should be initiated before the release and should address the potential users. The audience of both studies can be different. The first study should approach the interested parties, whereas the latter should approach software developers, OEMs and Member States.

NIPWG needs to review the allocation of budget for 2019. NIPWG 6 will check if money should be requested for 2020.

Action Item 5/25 – NIPWG will review the budget proposal circulated by the Chair. March 2018.

Action Item 5/26 – JS-F to address the appropriateness of DQWG guidelines at HSSC10. March 2018

Action Item 5/27 – IB to check why the only use of feature classes is not appropriate in S-128 and that information types should be implemented. December 2018.

50   ToR review

The Meeting reviewed and discussed the current ToR.

Discussion: No substantial amendments needed.

53   Work plan for the NIPWG

The Meeting reviewed and completed the NIPWG work plan.

Top 2 working items

- Develop S-12n - Nautical Information Product Specification (See work plan F8.1).

- Coordinate the IHO contribution to the definition and harmonization of IMO Maritime Services within IHO's remit (See work plan task G).

Independent from that list, NIPWG members will continue their work on following items:

- KHOA: Development of the S-128 product specification

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- UNH: Assessment of data structure to support S-126 development – This will include minimizing the list of physical environment topics.

- NIPWG will continue to explore more data exchange via XML methods for NtM chart corrections.

57   Any other business

57.1   Review of draft minutes

The Meeting reviewed and adopted the draft Minutes of NIPWG5. The final Minutes will be prepared by the Secretary servicing this Meeting in close co-operation with all participants.

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 may be granted for papers which are discussing urgent matters, and are on Chair group's discretion.

59   Date and place of next meeting

The NIPWG6 meeting will be held in Rostock (Germany) 14-18 January 2019.

The next meetings are proposed to be held:
NIPWG7 in St. Petersburg in 25-29 November 2019
NIPWG8 in Brest in September 2020
NIPWG9 in ????? June 2021
NIPWG10 in ??????? March 2022

Invitation from India is expected but not confirmed (tbc – Monaco as an alternate)

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Annex A: List of Action Items

Planned tasks for this Reporting Period

Action Item	Actor	Task Description	Start Date	Target End Date	Percent Complete	Task Status
5/01	IP	Consider any lessons learned and recommendations from the e-MIO project relevant to NIPWG Prod Specs for the next meeting	04/2018	01/2019		
5/02	HC	Report to NIPWG6 on the use of this MCP in SMART	04/2018	01/2019		
5/03	JS-F	Prepare the paper on 2/2007 revision for HSSC	03/2018	03/2018		
5/04	JS-F	Prepare the paper on M-3 amendment proposals for HSSC10 including a note to the S-100WG to consider the amendments to 7/2009	03/2018	03/2018		
5/05	DL	Draft M-3 amendments based on the matrix provided as Annex (Doc NIPWG5-08.5 Comment Matrix (CC))	03/2018	07/2018		Ex 4/03
5/06	JS	Add definitions on Dynamic and Static UKCM systems to the Hydrographic Dictionary	03/2018	08/2018		
5/07	MK	Update S-49 to reflect the existence of UKCM systems	03/2018	09/2018		
5/08	EA	Act as PoC for collecting amendments to NIPWG Product Specifications	03/2018	permanent		Ex 4/06
5/09	NIPWG	Review UKCM aspects and report back to Mike Kushla (NGA)	03/2018	16 April 2018		
5/10	MK	Send a compiled list of comments back to Raphael to incorporate into the standard.	16 April 2018	30 April 2018		
5/11	SE	Continue to monitor S-201 and S-101 development and maintain the S-125 data model as needed	03/2018	12/2018		

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5/12	YG	Inform the NCWG of this presentation on the use case of insufficient ECDIS operation	03/2018	03/2018	completed	
5/13	KHOA rep	Invest effort and capacity in the development of portrayal concepts for S-126 data	3/2018	12/2018		
5/14	BS	Provide recommendations for what physical environment topics should be removed first based on the compiled list from Annex A (NIPWG 5-21.2 Status report S126-Annex A.xlsx)	03/2018	12/2018		
5/15	BS+WdT	Continue to compile use cases for S-126 data	03/2018	12/2018		
5/16	RM+VZ NIPWG	Prepare a paper to S-100 WG on the support of multi-polygon spatial type in the next edition of S-100 NIPWG members are encouraged to add more examples and send them RM and VZ.	03/2018	31 March 2018		
5/17	JS-F	Submit the Action Item 5/16 paper to the next S-100WG meeting	03/2018	03/2018		
5/18	VZ	Investigate interoperability of S-121 and S-122 and report	03/2018	12/2018		
5/19	AJ	Investigate gaps in S-124 that does not allow specific chart corrections based on the DMA NIORE system	03/2018	12/2018		
5/20	Canada	Investigate the usefulness of S-124 for chart correction exchange.	03/2018	12/2018		
5/21	ML	Investigate the provision of P and T messages by the STM validation project.	03/2018	12/2018		
5/22	JS-F	Approach HSSC and inform on the proposed workshop to develop harmonized NtM chart correction XML	03/2018	03/2018		
5/23	NIPWG	Members are encouraged to host XML chart correction examples on the NIPWG Wiki for comparison	03/2018	09/2018		

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5/24	JS-F	Inform HSSC on the invitation to submit Maritime Services descriptions which are under IHO responsibility according to the HGDM Maritime Services template and to invite other involved HSSC WG's to submit their Maritime Services descriptions.	03/2018	03/2018		
5/25	NIPWG	Review the budget proposal circulated by the Chair	03/2018	03/2018		
5/26	JS-F	Address the appropriateness of DQWG guidelines at HSSC10.	03/2018	03/2018		
5/27	IB	Check why the only use of feature classes is not appropriate in S-128 and that information types should be implemented	03/2018	12/2018		

Variance Details:

Xxxxx

Corrective Actions:

Xxxxx

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Annex B: Agenda

Agenda (as conducted)

5ᵗʰ Meeting of the Nautical Information Provision Working Group (NIPWG)
12–16 March 2018, Genova, Italy

	Monday, 12 March Forenoon		
1	Opening and administrative arrangements	JS-F	
	Opening address on behalf of the Italian HO	LS	
2	Agenda		
	Adoption of the Agenda	JS-F	5-2
3	Minutes of NIPWG4	TL	5-3
3.1	Amendments to the minutes	TL	
3.2	Review of Action Items from NIPWG4	TL	
4	NIPWG status of work (overview)	JS-F	5-4
6	S-100 related information		
6.1	Outcome of the S-100WG TSM meetings	JS-F	5-6
7	Council and HSSC related information		
7.1	Overview of Council and HSSC decisions affecting NIPWG	YG	verbal
5	EAHC e-MIO project update/ e-nav project EfficienSea 2/ SMART Project update		
5.1	Results of the recent e-MIO developments	IP	5-5.1
5.2	Information on the outcome of the EfficienSea 2 project	ML	5-5.2
5.3	Information on SMART project progress	HC	5-5.3
	Monday, 12 March Afternoon		
8	Proposal of M-3 and S-49 amendments		
8.1	Submission on 7/2009 (time reference)	SE	5-8.1
8.2	Submission on 5/1937 (numbering of types of station)	EH	5-8.2
8.3	Submission on 9/1932, 4/1982, 4/1937, 9/1962 (diverse)	JS-F	5-8.3

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8.4	Submission on 2/2007 (Principles and Procedures for Making Changes to IHO Technical Standards and Specifications)	JS-F	5-8.4
8.5	Outcome of investigations on the presentation of NtM related information	DL	5-8.5 Comment matrix chart
8.6	Provision of Under Keel Clearance information (draft discussion paper for UKCMPT consideration)	MK	5-8.6 5-8.6 Annex 5-8.6 pptx
8.7	Provision of Under Keel Clearance information in S-49 (draft discussion paper for UKCMPT consideration)	MK	5-8.7 5-8.7 pptx
	Minutes of Day1		
	END OF DAY 1 (ICEBREAKER)		

	Tuesday, 13 March Forenoon		
9	(S-122) MPA and (S-123) Radio Services		
9.1	Status of Registry entries	BS	verbal
9.2	Outcome of Impact Survey	JS-F	5-9.2
9.3	Maintenance procedure	JS-F	verbal
10	(S-128) Catalogue of Nautical Products		
10.1	Presentation of the work status	IP	5-10.1
10.2	Discussion on the paper	JS-F	
13	(S-125) Navigational Services		
13.1	Status of work and gap discussion	SE	5-13.1
11	(S-127)Traffic Management		
11.1	Presentation of the development status (contracted)	EM+ RM	5-11.1 5-11.1 DCEG draft 5-11.1 Feature type diagram 5-11.1 Application schema draft
11.2	Discussion on the paper and outstanding issues (e.g. portrayal)	JS-F	
	Tuesday, 13 March Afternoon		
15	Lesson learned from insufficient ECDIS use		
15.1	Grounding of "Munos"	MK	5-15.1 5-15.1 Annex 5-15.1 ppt
8.1	M-3 revision of Time reference definition (8.1 cont.)	SE	
	(S-125) Navigational Services) cont.		
13.2	16:00 Practical experience with an Italian AtoN	CM	
	END OF DAY 2		

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	Wednesday, 14 March Forenoon (Data work)		
21	IHO Registry		
21.1	Status of the IHO Registry and intended revision	JW	5-21.1
21.3	"A New Approach for Extension of S-126 Physical Environment including Marine Forecast"	KH	5-21.3 Annex
21.2	Outcome of the S-126 vs. S-101/411/412 comparison	WdT	5-21.2
20	S-122, S-123 and-126 discussions (cont. for the latter)		
20.1	S-126 status and further data model development discussions	BS	5-20.1
	Wednesday, 14 March Afternoon (Data work cont)		
	S-122, S-123 and-126 discussions (cont. for the latter) cont.		
	S-123 practical NL GML presentation and discussion	BS	
	S-122 practical showcase with Anthropocene data distribution	VZ	
22	Cooperation with S-124		
22.1	Overview of Canadian Nav Warning System (session starts 15:45 CET)	SL	5-22.1
22.2	S-124 Correspondence Group report	EM	5-22.2
	Minutes of Day3		
	END OF DAY 3		

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No.	Agenda Item	Lead	Documents
	Thursday, 15 March Forenoon (NIPWG ProdSpecs, IMO)		
43	Harmonisation of NtM XML Structure		
43.1	Reports on different HOs approaches	all	5-43.1
43.2	Discussion of potential benefits and way forward	JS-F DL	
44	Provision of georeferenced nautical information		
44.2	Benefits from VONI	AP	
45	MSC98/ NCSR5		
45.1	Presentation of the results related to NIPWG work	JS-F	5-45.1
45.2	Discussion of what is relevant for NIPWG work	JS-F	
46	IMO's e-Navigation		
46.4	MARVELOWS project, introduction	CM	5-46.4
46.1	Outcome of 1st HGDM meeting	JS-F	5-46.1
	Thursday, 15 March Afternoon (IMO/NIPWG ProdSpecs)		
46.3	Report on e-navigation underway conference	EH	5-46.3
	Discussion of the development coordination		
47	Submissions to IALA Conference		
47.1	Data sharing between ATON authorities and HOs in the S-201 world	DL	5-47.1
47.2	Provision of Nautical Publication Information in an S-100 Based ECDIS	JS-F	5-47.2 Annex
47.3	Discussion of the papers	JS-F	
48	Delivery of S-100 based products		
48.1	Introduction of the developed approach	JS-F	5-48.1 Annex
49	Think tank		
49.1	Mid-term and long-term goal of NIPWG strategic discussion	TL	5-49.1

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49.2	Vision beyond the 10 year horizon (e. g. Autonomous ships)		5-49.2
49.3	Going toward information presentation on an S-100 environment		5-49.3
	END OF DAY 4		

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	Friday, 15 March Forenoon (		
50	ToR review	MK; JS-F	See NIPWG website
53	Work plan for the NIPWG (status of HSSC9 action items)	JS-F	
53.1	Prioritising of NIPWG work plan items (top three)	JS-F	verbal
57	Any other business		
57.1	Reminder on deadline for the submission of meeting papers		
	Review of Minutes	TL	
59	Dates and places of next meeting(s)	JS-F	
	NIPWG6 14 – 18 January 2019 Germany/Rostock		
	NIPWG7 25 – 29 November 2019 Russian Federation / St. Petersburg		
	NIPWG8 September 2020 France/Brest (tbc)		

Table of names

AP	Anniken Puntervold (NO/ NHS)
BS	Briana Sullivan (U.S./ UNH)
CM	Carlo Marchi (IT)
DL	Dave Lewald (U.S./ Coast Guard)
EA	Elena Armanino (IT)
EH	Edward Hosken (UK)
EM	Eivind Mong (U.S./ Portolan Sciences, CA/ Coast Guard)
HC	HyunSoo Choi (KRISO/ ROK)
IB	Igor Bonakov (RU)
IP	Inyoung Park(KHOA/ ROK)
JS-F	Jens Schröder-Fürstenberg (GE)
JW	Jeff Wootton (IHO Secretariat)
KH	Kwangnam Han (KHOA/ROK)
LS	Luigi Sinapi (IT)
MK	Mike Kushla (U.S./ NGA)
ML	Malin Liljenborg (SE)
RM	Raphael Malyankar (U.S./ Portolan Sciences)
SE	Stefan Engström (FI)
SL	Stéphane Lessard (CA)
TL	Thomas Loeper (U.S./ NOAA)

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WdT	Wilfred den Toom (NL)
YG	Yves Guillam (IHO Secretariat)

Table of Acronyms

EAHC	East Asia Hydrographic Commission
e-MIO	electronic-Marine Information Overlay
HSSC	Hydrographic Services and Standards Committee
M-3	Resolutions of the International Hydrographic Organization
S-49	Standardization of Mariners' Routeing Guides
TSM	Test Strategy Working Group Meeting
UKCMPT	Under Keel Clearance Management Project Team

Work sessions:

Monday	Tuesday	Wednesday	Thursday	Friday
0900–1030	0900–1030	0830–1015	0900–1030	0900–1030
1100–1230	1100–1230	1045–1230	1100–1220	1045–1230*
1400–1530	1430–1530	1400–1500	1350–1540	
1600–1800	1600–1800	1530–1800	1610–1800	

* It has been proposed to continue the forenoon session without lunch break and close the meeting around noon

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Annex C: List of Attendees

NAUTICAL INFORMATION PROVISION
WORKING GROUP (NIPWG)
Visualisation of nautical information workshop

[A Working Group of the Hydrographic Services and Standards Committee (HSSC)]

Genova, 12 – 16 March 2018

List of Participants

IHO MS	Name	email
Canada	Lynn Patterson	Lynn.patterson@dfo-mpo.gc.ca
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Norway	Anniken Puntervold	kveann@kartverket.no
Republic of Korea	Inyoung Park	piyocean@korea.kr
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US	Michael Kushla	Michael.S.Kushla@nga.mil
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	R. David Lewald	Robert.D.Lewald@USCG.MIL
	Tom Loeper	thomas.loeper@noaa.gov
IHO	Yves Guillam	adcs@iho.int
	Abri Kampfer	dtech@iho.int
	Jeff Wootton	tsso@ihb.int
Technical Experts		
US (Antrophocene Institute)	Virgil Zetterlind	virgil@anthinst.org
US (UNH)	Briana Sullivan	briana@ccom.unh.edu

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	Steven Johnson	wetraftingrat@yahoo.com
US (Portolan Science)	Raphael Malyankar	raphaelm@portolansciences.com
	Eivind Mong	24ivind@mail4mong.name
CA (IIC Technologies))	Christopher Hudson	Chris.Hudson@iictechnologies.com
KRISO	Hyunsoo Choi	troychou@kriso.re.kr

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Annex D: **Updated NIPWG Work Plan**

NIPWG WORK PLAN 2018-19 *(approved by HSSC9 and revised at NIPWG5)*

Tasks

D	Maintain Publication S-12 "Standardization of List of Lights and Fog Signals" (IHO Task 2.8.1)
E	Maintain Publication S-49 "Recommendations concerning Mariners' Routeing Guides" (IHO Task 2.8.3)
F	Establish and monitor, in liaison with the S-100WG, the project teams required to specify and develop nautical information layers for use in ECDIS (IHO Task 2.3)
G	Develop high level specifications for a combined Marine Service Portfolio (MSP) covering the provision of hydrographic services to mariners in accordance with the IMO e-navigation strategy implementation plan (IHO Task 2.5.2)
H	Develop a test and implementation plan for the development of the MSP "hydrographic services" (IHO Task 2.5.2)
I	Maintain IHO Resolutions in M-3 relating to Nautical Publications as required (IHO Task 2.1)
J	Liaise with other HSSC WGs and other IHO and international bodies (IHO Task 2.1)
K	Conduct the 2017 and 2018 meetings of the NIPWG and its sub-group(s) and project team(s) (IHO Task 2.1)

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Work items

Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
D.1	Monitor and assess proposals for amending S-12	M	Next meeting	2014	Permanent	O		S-12	In close liaison with IALA; see J.5.1
F.1	Assess the progress and perspectives of developing specifications for NP data ~~layers in ECDIS~~ and propose the way forward for consideration by HSSC	H		2015	Permanent	O			To be considered in the context of the IMO e-navigation strategy implementation. NIPWG to consider establishing one or more project team(s) in liaison with S-100WG as required (see J.2), in particular to continue the development of Product Specifications currently assigned to the NIPWG.
F.2	Investigate the interaction between Marine Protected Area Product and ENC in ECDIS	H	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 On target for endorsement ~~by Council - 2.~~
F.3	Model the NP data where required.	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related. To be included in Hydro domain of the FCD Register.

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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.4	Review of objects and attributes	H	Next meeting	2004	Permanent	O	Chair/Sec		S-100 related.
F.5	Propose amendments to HYDRO domain of the FCD Register	H		2005	Permanent	O	Chair/Sec		S-100 related. To be included in the FCD register
F.8.1	Develop S-12n - Nautical Information Product Specification								
F.8.1.1	For Radio Services	H	next NIPWG meeting	2012	2019	O	Chair/Sec	S-123	
F.8.1.2	For Navigational services	L	next NIPWG meeting	2013		P	Chair/Sec	S-125	On Hold
F.8.1.3	For Marine Traffic Management	H	next NIPWG meeting	2013	2021	O	Chair/Sec	S-127	
F.8.1.3.1	For Marine Protected Areas	H	next NIPWG meeting	2011	2019	O	Chair/Sec	S-122	
F.8.1.4	For Physical environment	L	next NIPWG meeting	2013		P	Chair/Sec	S-126	On Hold
F.8.1.5	Catalog of nautical products	M	next NIPWG meeting	2016	2021	O	Chair/Sec	S-128	Development continued by KHOA
G.1	Monitor the requirements for, and provision of, nautical information in e-navigation test-beds								According to the tasks assigned by HSSC4. Collection of information to be modelled

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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
	Produce NP1 sample data sets								
G.1.3	For Marine Traffic management	H	next meeting	2012	2018	C	Chair/Sec	S-127	
G.1.4	For Physical environment	L	next meeting	2013		O	Chair/Sec	S-126	On Hold
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)	M		2008		O	Chair/Sec	S-52	Close co-operation with NCWG and S-100WG required. Interoperability Spec to be considered.
G.3.2	Monitor and contribute to the development of IMO guidelines showing how navigation information received by communications equipment can be displayed in a harmonized way and what equipment functionality is necessary.	M		2015	2019	O		S-52	e-nav IMO Strategy Implementation Plan, Task T13 (HSSC6-07.1A refers) Output number 5.2.6.2 of NCSR biennial agenda 2016-17 For HSSC consideration
G.5	Contribute to considering the future of paper charts in the perspective of the establishment of MSPs	M		2014		O			Subject to request from NCWG
I.1	Maintain and extend resolutions in M-3 relating to	M	Next meeting	2012	Permanent	O	Chair/Sec NIPWG	M-3	A review is required due for the harmonization of M3 information and

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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
	Nautical Publications								potential ProdSpecs content
J.0	Liaise with the NCWG	M			Permanent	O	Chair/Sec NIPWG		Establish joint project teams as required and endorsed by HSSC.
J.1	Liaise with the ENCWG	M			Permanent	O	Chair/Sec NIPWG		
J.2	Liaise with the S-100WG	H			Permanent	O	Chair/Sec NIPWG		Establish joint project teams as required and endorsed by HSSC.
J.2.1	Draft Data Classification and Encoding Guides								Document for NPs similar to Use of the Object Catalog
J.2.3	Draft Product Specification								
J.2.3.2	For Navigational services	L		-		P	Chair/Sec	S-125	On hold
J.2.3.3	For Marine Traffic management	H		2011	2021	O	Chair/Sec	S-127	In progress
J.2.3.5	For Physical environment	L		-	-	P	Chair/Sec	S-126	On hold
J.2.3.6	For Digital Catalog of Nautical Product		Next meeting	2016	2021	O	Chair/Sec	S-128	In progress
J.3	Liaise with other HSSC WG	M		2004	Permanent	O	Chair/Sec NIPWG		
J.4	Liaise with IRCC								
J.4.1	Liaise with WWNWS Sub-Committee							S-124	Monitor developments of S-124 Correspondence Group
J.5	Liaise with other international bodies which contribute to nautical information	H		2015	Permanent	O	Chair/Sec NIPWG		
J.5.1	Liaise with IALA e-Nav Committee	H		2013	Permanent	O	Chair/Sec NIPWG		
J.5.2	Liaise with International Harbor Masters' Association	L		2015	Permanent	O	Chair/Sec NIPWG		See outcome HSSC8 Section 7.10 of the minutes

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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
J.5.3	Liaise with International Cable Protection Committee (ICPC)	M		2016	Permanent	O	Chair/Sec NIPWG		MOU signed between IHO and ICPC

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Meetings (Task K)

Date	Location	Activity
12–16 March 2018	Genoa, Italy	NIPWG5
14–18 Jan 2019	Rostock, Germany	NIPWG6
25–29 Nov 2019	St. Petersburg, Russian Federation	NIPWG7
Sept 2020	Brest (tbc), France	NIPWG8
June 2021		
March 2022		
	(fallback Monaco), eventually India (inivitation expected)	

Chair: Jens Schröder-Fürstenberg, BSH, GE   Email: jens.schroeder-fuerstenberg@bsh.de
Vice Chair: Edward Hosken, UKHO, UK   Email: Edward.Hosken@UKHO.gov.uk
Secretary: Tom Loeper, NOAA, USA   Email: thomas.loeper@noaa.gov

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