

**SNPWG18 – Minutes of the
17th Standardization of Nautical Publications Working Group (SNPWG) Meeting
7 – 10 April 2014 – Rostock, Germany**

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

1. Opening and administrative arrangements

1.1 Opening remarks

Jens SCHRÖDER-FÜRSTENBERG opened SNPWG17 by welcoming new and returning members. Jens followed by stressing the importance of our working group as it pertains to navigation safety by developing a common structure for publications information as a complement to ENCs and other electronic devices.

Jens discussed meeting logistics. Tom LOEPER was acting as secretary.

1.2 Opening address on behalf of BSH

Mathias JONAS, BSH Hydrographer, welcomed the members of the group and remarked that the work taking place within SNPWG will impact the entire maritime community globally making it easier to share data in a common structure. He also discussed the proposal to combine SNPWG and CSPWG in the coming years.

2. Adoption of Agenda

SNPWG agreed and adopted the Agenda by adding a time slot for a presentation of the Draft Feature Concept Dictionary of MPA based on ROK's Feature Catalogue Builder.

3. Adoption SNPWG 16 Minutes

The Final Minutes of SNPWG 16 were approved as circulated.

3.1 Corrections

No corrections were proposed for the Minutes of SNPWG 16.

3.2 Review of Action Items from SNPWG 16

Planned tasks for this Reporting Period						
Action Item	Actor	Task Description	Start Date	Target End Date	Percent Complete	Task Status
14/10	TP	Complete MPA Product Specification for circulation to HOs	04/2011		60	Ongoing
14/11	SNPWG	Circulate inside HOs and obtain comment				Depends on 14/10 progress
15/2	EM+JR	Forward to TSMAD for consideration to change date information by values and text			100	Incorporated into S-100 ver. 2

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

15/9	EM	Await the next joint TSMAD/DIPWG meeting in June 2013 and the outcome of DIPWG portrayal work. Eivind will liaise with TSMAD/DIPWG and report back to the SNPWG. Note: SNPWG cannot proceed with the MPA Product Specification until this is resolved by DIPWG and approved by HSSC5 in November 2013.				Postponed to SNPWG 18
15/11	TP+JR	Investigate the possibility of taking the MPA work completed to date and creating a web service as an interim solution.			40	Ongoing
16/1	JN/PA/OH	Give a presentation at SNPWG 17 outlining current developments along with giving a greater interpretation of their plans.				Ongoing – postponed to SNPWG 18
16/2	TP/EM/JR	Put an update of the MPA Product Specification on the IHO/SNPWG site.				Re-evaluate
16/3	SNPWG	All Members will pose the question at their perspective office concerning whether frequency numbers are necessary for MF, HF, and UHF which are currently written as DSC channel already exist which refers to a frequency. It is believed by group that it would make the information redundant.			100	Completed
16/4	AR	Extend the port information so we can have a better idea of what will be included.			100	Completed
16/5	JS-F	Update the Wiki page and add Signal flag to CATFLG.			100	Considered not needed
16/6	EM & RM	Create a paper which includes a submission proposal of new shapes which need to be included in S-100 where upon. The doc will be circulated to review and finally send to TSMAD.			100	Completed
16/7	EM, RM, SO	Create a paper which includes a submission proposal for a new attribute type named “code list” as an enumeration with examples of list types			100	Completed

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

		(such as Country, World Port Index numbers, language) which need to be included in S-100 where will send it along to the Chairman which will be reviewed and sent to TSMAD under the name of SNPWG.				
16/8	SNPWG	All Members review bearing information use and we'll address the topic at SNPWG 17			100	Completed
16/9	PA+JN	Create the Navigational services (include navigational marks) NP1 Data sample and present it at SNPWG17 NP1.			20	Ongoing
16/10	RD	Create NP1 Data sample for Physical Environment (Hydrography + Topography + Environment (attach NPUB information to existing HYDRO feature)) and present it at SNPWG17.			100	Completed Continued as 17/11
16/11	MK+TO+KJ	Create the NP1 Data sample for Traffic Management and present it at SNPWG17			100	Completed Continued as 17/7
16/12	AR	Revise the current Radio services data sample and to send the relevant parts to the respective parties.			100	Completed Continued as 17/5
16/13	Chairman	The Chairman will submit proposed changes of the ToR to HSSC.			100	Completed and endorsed
16/14	TP	Create a word file concerning M-3 for the NP section to be placed on the Wiki for SNPWG updates.				Ongoing

4. SNPWG status of work overview

The Chairman gave a short presentation detailing the main objectives and the current status of the work to date. The presentation was a short introduction for new members and a refresher for longer-term members.

5. TSMAD 27 and 28 Report

At TSMAD 27 Eivind MONG reported that the new spatial type paper from SNPWG was rejected and a request for a paper on conical shapes was requested. The code list paper was accepted.

In Hamburg, there was a re-establishment of the S-100 subworking group. Jeppesen along with SNPWG provided the paper on conical shapes at the Hamburg meeting.

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

During TSMAD 28 the information type called INFORMATION was introduced which may cause other groups to rethink several data models. It could be used to replace the attributes INFORM, NINFOM, PICREP, TXTDSC and NTXTDS at the feature level.

The TSMAD28/DIPWG6 portrayal part was re-introduced and work is continuing. As part of the S-100 portrayal, PICMAP is available for raster symbols. Note that the symbols will not be scalable. SVG will be adapted as a symbol standard.

The portrayal catalogue builder is being developed now but there is no money available to continue with the work.

A new version of S-100 should be available for member states to vote on in the near future.

It was agreed that feature compositions like buoys with lights will get the spatial and some attribute information from the structure object. This will have potential impacts on all data models.

Good presentation that will be repeated by Dr. Sewoong OH on feature catalogue builder.

An interesting paper was presented by Geoscience Australia. This work will overlap with some of the SNPWG work. They are developing an MSDI warning system. They are trying to get the information available for everyone or anyone to use.

6. DIPWG6 Report

Eivind gave a short presentation on the status of DIPWG as part of the TSMAD briefing. See item 5 above.

7.0 MPA Product Specification

7.1 Status of work

Jens discussed the data samples and product specification as well as how they were mapped. The draft version is not available on the IHO site. The big question with the MPA Production Specification status is, how does SNPWG proceed? Mike KUSHLA recommended that we need to continue working on the MPA Product Specification and continue showing progress. SNPWG still needs a way to portray MPA's and that work is being considered by DIPWG.

Tony PHARAOH said that SNPWG needs to produce a proper feature catalogue. With the work recently completed by Sewoong, SNPWG may now be able to produce a feature catalogue. Once everything is captured in the FCD, it can be turned-over to the chair of TSMAD for inclusion into the live registry. Then SNPWG can generate a machine readable catalogue which will be referenced from the Product Specification.

There is no portrayal or GML in S-100 Ver. 1. When S-100 Ver. 2 is adopted, SNPWG can implement portrayal and GML into the MPA Product Specification.

7.2 Discussion on how to proceed

SNPWG information cannot be integrated with S-101 due to the absence of guidelines in S-100 Ver. 1. It can only be overlaid on top of it. There is a scaling problem that can't be resolved right now. The biggest problem is that MPA information is scale-less. For this reason, MPA information can only be introduced as a stand-alone product and it can only be presented on one chart scale, not multiple scales. Considering that MPA information

is scale-less, we discussed which scale range do we use, what is the best scale range and who or what determines that “best” scale range should be. The Meeting decided that the scale range shall be determined by the producing Agency.

Sewoong did a presentation of the Feature Catalogue Builder (FCB). He populated the FCB locally. The database building process is manual and labour intensive. He demonstrated how to use the FCB using our example of MPA’s in the Hydro and N-Pub domains. While populating the Feature Catalogue, Sewoong found a few inconsistencies with the data model and the hydro domain. He recommended that we use this work to modify and test our work in the SNPWG. His work indicated that he needs to improve complex attributes and sub-complex attribute relationships in the FCB in cooperation with the TSMAD Chair.

Action Item 17/1 – Sewoong will populate the FCD with the Wiki contents and produce a new version of the MPA Feature Catalogue by the end of May 2014.

8.0 Requirement of traceability matrix (based on TSMAD)

The traceability matrix is based on work already started by TSMAD. Mike asked what will the matrix do and how will it help us? Jens asked if this is something we really need?

Eivind replied that it will indicate what “bits” or components need to be completed to finish the task. It will also provide an indication of how much progress was made – this is a “Big Picture” document and it will provide a checklist for the SNPWG and HSSC. It will be one document for each Product Specification. It will help the SNPWG chair report to the HSSC. The most important documents now that need to be developed are MPA, Radio Services and Traffic Management. The relevant test data set component should also be developed for Physical Environment and Navigational Services.

Action Item 17/2 – Jens will develop the first draft of this Traceability Matrix for the SNPWG Product Specifications. (See below for initial draft).

Traffic Management

Main step	Intermediate steps	Content of intermediate steps	Status
Product Specification			
	Sample Data Sets		
		Traffic Control	
		VTS	
		Notice of ETA	
		Notice of ETD	
		Voluntary Reporting Systems	
		AMVER	
		JUSREP	
		Piracy	
		Mandatory Reporting Systems	
		Jusssland 96 hrs	
		Jusssland Right Whale	
		Pre-Arrival (Custom)	
		Pre-Arrival (Quarantine)	
		Pre_Arrival (Immigration)	
	Mapping		
	Application Schema		
		Data Quality	
		Data Model	
		Meta Data	

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

		Update N-PUB Register	
	DCEG		
	Feature Catalogue		
	Portrayal		

25 Report on AVANTI and possible effect on Sweden

Niklas HAMMARKVIST gave a report about the status and future plans of AVANTI. AVANTI stands for Access to Validated NauTical Information and it is a UKHO program. AVANTI is a web-based program that the user must register and log-in to for free. The service is free to the users as well as the providers. The regional authority who owns the information provides it to AVANTI. It is divided into 2 main sections, general information (contact information and emergency numbers) and the navigation section (berths and approaches).

The oil companies and container lines asked the International Harbourmasters Association (IHMA) to provide information about different ports across the globe.

Swedish Maritime Administration (SMA) plans to use AVANTI to fulfil SOLAS Chapter V Reg 9.2.2. SMA is implementing AVANTI in close cooperation with the ports. One port (Gothenburg) is already in the system.

9 Product Specification Radio Services

9.1 Presentation of content

Alain ROUAULT opened the session with a short discussion of the Radio Services test dataset. S-123 Radio Services has three main parts, Maritime Radio Stations, Maritime Safety Information and Global Maritime Distress and Safety System (GMDSS).

9.2 Discussion of the draft paper

The initial mapping was very difficult and it was completed by Raphael MALYANKAR. Many problems were resolved but there are others awaiting solutions such as spatial uncertainties in different radio areas.

In the Jussland mapping example, the first problem was the geometry of areas A1, A2 and A3. We discussed at past meetings to have “fuzzy” areas of say 50NM spacings to account for the imprecise areas. It is not the most elegant solution and it may not be accepted by TSMAD. The discussion was tabled for now.

The next problem was the presentation of satellite call numbers like Inmarsat C and Iridium. The group decided to make telephone numbers a complex attribute and to indicate the service which belongs to a specific voice or data number.

Action Item 17/3 - All members will review the radio services submission and report back if there are any specific details that need to be added to make it more useful. Examples are faxes, telexes, etc. Due date is 30 June 2014.

Action Item 17/4 – (Jens) SNPWG attributes need to specify the service provider if required (for Inmarsat, Iridium and Globalstar, etc.) so the user knows if it is data or voice.

Another example of a problem is having 2 different antennas, where one is for transmission and the other is for receiving. This is done to prevent interference between the 2 signals and both antennas use close frequencies. Alain indicated that the frequency values should not be the same and that the person doing the coding needs to do further investigations if there is a data conflict.

Action Item 17/5 – (Alain) Check the frequencies in the current test data set.

The Safetynet (EGC SAFETYNET System includes the transmission schedule for full GMDSS service) service was very complex and it should be mapped separately.

9.3 Radio Services as a standalone product: White paper on the Maritime Cloud

Ole BORUP presented a technical framework to support seamless information in e-navigation or what is more commonly known as the Maritime Cloud (MC). Ole is part of the Danish Maritime Authority.

The first thing that was needed was to identify framework requirements like service consumers and providers. They both must be easy to locate and identify and also there is a need to secure information (IT security) on both the transmission and receiving ends. The idea was to build on open standards that are widely accepted and supported.

The MC connects all maritime actors in a communication framework. This is not a storage or a computing cloud. Currently there is only one general purpose digital communications service available which is AIS ASM. It is believed that standard internet transport protocols are not sufficient for all kinds of needed communications. MC communications will incur costs even for statutory requirements - that is part of operating the system.

Features of the Maritime Messaging Service include geographic awareness to enable geocasting and actors can listen to a specified area or a specific service. Geocasting is an implicit feature of many radio based systems. Maritime Identity Registry will be distributed and security will be maintained through public-key infrastructure.

What is service? It is a very generic term and it means different interpretations in different domains. In e-navigation it is a broad term that includes radio-based voice and non-structured data services. How do we model this especially in an S-100 environment?

Highlights of the MC include e-navigation as a framework and services as “apps”, builds on existing proven technology (cost effective) and the security solution is proven and used today throughout the financial sector.

Tony PHARAOH said that the IHO (including SNPWG) is very interested in specific products but that the MC is more focused on providing services which is a much broader approach to solving problems. The MC is very minimalistic and not trying to take-over Nautical Publications as an example.

For more information, go to the Maritime Cloud website: <http://dev.maritimecloud.net/> provides background information and some technical documents. Ole's e-mail is obo@dma.dk. Ole's presentation can be found on the SNPWG website.

10 Product Specification Traffic Management

10.1 Presentation of content

Mike opened the talk with a thank you to Alain for all the assistance he provided from his experience in creating the Jussland Radio Signals document.

The work was separated into four main components. They were Traffic Control, Voluntary Ship Reporting Systems, Mandatory Ship Reporting Systems and Traffic Information which was added later on a recommendation from Japan.

10.2 Discussion of the draft paper

Several other papers were submitted from Japan and Korea with recommendations for the draft. Eivind opened the discussion by saying this was the first time that Traffic Management has been systematically collected and that this was a very important first step. Jens said this is the basis for the NPUB test data which will potentially become part of S-64 and that it will help the SNPWG recognize what elements still need to be included in the data model. This is an open-ended document and the expectation is that more components will be added moving forward. Richard DOBSON indicated that the framework is the most important item right now and the content is secondary.

Richard also highlighted that all features on the SNPWG Wiki which are assigned to traffic management, such as traffic separation schemes, should be enhanced with content and be part of the Traffic Management test data sample; see SNPWG16 minutes.

There may be a seasonal or temporal component of ships' routing much like the Right Whale Reporting System. Eivind recommended replacing the Jussland Right Whale reporting system with the Seasonal Reporting System. Under that system we need to have subsystems such as Jussland Right Whale Ship Reporting System and Icebreaking Services.

The current Traffic Management test data set is available for review on the IHO-SNPWG product development website.

Action Item 17/6 - All Members will review the Traffic Management submission and report back if there are any specific details that need to be added to make it more comprehensive. All examples must be for Jussland only and they should not be country specific. Due date is 31 August 2014.

Action Item 17/7 – Mike (NGA) will present results of the review at SNPWG18.

11 TSMAD submissions of SNPWG relevance (S-100)

11.1 Discussion of the SNPWG response on the TSMAD27 outcome (liaison procedures)

Eivind opened the session describing the SNPWG paper submissions to TSMAD27. The content of the papers went to the GML group for talks among the experts. The truncated date-time submissions from SNPWG needed more details. The truncated date-time submission was changed to truncated date since there were no use cases that could be determined for truncated time. The five spatial type changes received the most discussion. The SNPWG paper got a very poor reception especially from some members of industry.

The presentations from SNPWG highlighted the process that WG's are required to use when making submissions to TSMAD. It seems that when papers or ideas are submitted by the prescribed method, they were rejected at the very end of the process by members of industry.

Tony and Eivind said that S-100 has strayed slightly from the ISO methodology and that there are many outside organizations depending on our work. The divergence from ISO standards may increase the complexity of utilizing our product specifications in non-ECDIS applications. The results of the discussion on the proposed geometries are tabulated in the color-coded table below.

Spatial type	TSMAD27	S-100 SubWG	Post Hamburg	TSMAD28
(circular) Arc by centre point and radius	Rejected as too complicated to implement	Accepted as defined in 19136 with additional attribute for direction	SevenCs request a non standard rework	To be modeled with attributes center, start angle, and (signed) angular distance. (Sign gives direction.)
Circle by centre point and radius	Rejected as too complicated to implement	Accepted as defined in 19136 Derived from the arc type so it inherits the new "direction" attribute	SevenCs request a non standard rework	Model as subtype of Arc by c.p1.
Sector by centre point and radius	Rejected as too complicated to implement	Rejected as a work around process can produce	Status quo	Status quo
Offset curve	Rejected as too complicated to implement	Rejected as too complicated to implement	Status quo	Status quo
Ellipse	Rejected as too complicated to implement	Not finalized	Status quo	Status quo
Annular sector	Rejected as too complicated to implement	Not finalized Acceptance unlikely for same reason as sector	Status quo	Status quo
GM_Conic spatial type	Jeppesen/SNPWG asked to bring back a conic proposal	GM_Conic not favoured	Status quo	Unlikely since circle and arc by c.p. and curve interpolation

¹ Modeling circle as subtype of circular arc is consistent with practice in ISO 191xx standards,

				types are agreed
conic curve interpolation types in enumeration S100_Curve Interpolation ²	interpolation type circularArc3Points already included in Edition 1.0.0	interpolation types conic, elliptical, circularArcCenterPointWithRadius added	Status quo	Status quo

Accepted

Postponed to S-100 Ed 3.0

No longer needed

11.2 SNPWG paper to TSMAD and HSSC on formal liaison procedures

Eivind and Jens thought that the lesson learned from the recent submission to TSMAD should result in a paper from SNPWG to HSSC recommending that there be a more structured relationship between working groups.

After further discussion, SNPWG recommended that proposals for additions or changes to IHO standards or specifications should be submitted at least five weeks in advance of the Working Group meetings so that members have sufficient time to consider all proposals and if required, prepare a written alternative or counter proposal for consideration at the meeting. Alternative or counter proposals should be submitted at least two weeks before the commencement of the meeting.

11.3 Truncated time (Jeppesen)

Eivind presented the developments of the truncated date-time proposal. There were no identified use cases for truncated time, and it was therefore dropped from the proposal, which then included only truncated date. The proposal was discussed in the TSMAD S-100 sub working group, which agreed to the proposal. The truncated date attribute type will then be added to the next version of S-100.

11.4 Additional GML Geometries (how to proceed)

The results are covered in the table above.

11.5 New developments regarding code lists in S-100 Edition 2.0.0

Eivind presented the developments of the code list proposal. It originally had 4 sub types included, but during the discussions at the recent TSMAD S-100 sub working group meeting the proposal was reviewed and reduced to three types; open enumeration, closed code list and open code list. The open sub types contain an “other” value at the end of the list and additional values can be entered without having to update the feature catalogue. These new attribute types will be added to the next version of S-100.

12 Data quality of NPUB (S-100)

² These theoretically allow encoding conic sections in terms of “N” points ON the curve. E.g., circular arcs need three points and interpolation type “circularArc3points”, elliptical arcs need 4 points and interpolation type “elliptical”, other conic sections (parabola, hyperbola) need 5 points and “conic”. S-101 (ENCs) - Note that S-101 restricts interpolation of GM_CurveSegment to “loxodromic” only.

The SNPWG proposal to DQWG was partially accepted and the DQWG is awaiting SNPWG response. SNPWG agrees with DQWG and SNPWG will not include the three additional categories of temporal variation values. Richard said that definitions of the four enumerates for category of temporal variations should be amended to cover N-PUB domain quality requests.

Action Item 17/8 – (Eivind) Draft a paper of new definitions to DQWG that encompasses Data Quality Requirements for N-PUBS.

13 Interaction between different products (based on S-100) with examples

13.1 Discussion of context features for MPA ProdSpec

There were a number of feature types examined such “skin of the earth” for docks, canals and lock basins. Many of the feature types were discussed at TSMAD28 and for the time being they are fixed as land areas, dredged areas, un-surveyed areas, dock areas, lock basins and depth areas. Note that some of the features are scale dependent.

Action Item 17/9 – (Raphael) Update the MPA application schema in this regard.

14 MONALISA Project

14.1 Presentation of the ongoing work

A brief progress report on the project was presented by Eivind. MONALISA 2.0 is an update of the original work and it was started in 2013. There are 4 major components to MONALISA. The team is working on further development of effective route and voyage plan exchange between marine stakeholders. Tony asked why the team used XML vs. GML. The reason is that XML can be less verbose and easier on transmission bandwidth.

14.2 Discussion of the paper

Lessons for the project have been taken from airspace and air traffic control. The North Sea is one of the busiest waterways in the world with mineral exploration and extraction, fishing, wind farms and shipping all converging on the same area. Our lesson is that MONALISA is using SNPWG’s examination of MPA’s as one basis for their work. Jens recommended that Sweden and Jeppesen present a briefing on MONALISA’s progress at SNPWG18 if possible.

The presentation is available for review on the SNPWG website.

26 e-MIO project of the EAHC

26.1 Presentation of the ongoing work

The e-MIO (Marine Information Overlay) progress briefing was presented by Sewoong. Discussion took place on developing the S-57 based environment MIO’s for situations like oil spills and other environmental matters. The work took a three phase approach. The first phase was to develop a test-bed project for the East Asia Hydrographic Commission (EAHC). At this stage, the project team extended the e-MIO product specification and production of the e-MIO dataset for the EAHC along with the development of a viewer. The viewer has functions such as loading and displaying shape

and ENC files, GIS basic functions, layer controls, etc. many of which are similar to an ENC viewer.

Actions needed by SNPWG? Take note of the initiative and provide recommendations that may be helpful in developing S-10X standard for marine environmental protection in the future.

26.2 Discussion of the paper

This was a very impressive effort and SNPWG fully supports the EAHC initiative.

The presentation is available for review on the SNPWG website.

15 Product Specification for Physical Environment

15.1 Presentation of content

Richard presented the test data for the physical environment. Most of the work was based on hydrography for items like the seabed, submarine springs, volcanic and seismic activities. Many of the features extend well beyond the Jussland test area to encompass the entire Indian Ocean to consider large areas for items like marine climatology, cyclone tracks, ocean currents and tidal streams, etc. Moving to areas like land topography, SNPWG needs to consider items like mountains and man-made features.

15.2 Discussion of the draft paper

The major item of discussion was information that is covered in both N-PUBs and charts. N-PUBs should be in harmony with the charts but we don't want to duplicate everything. Tony asked how do we intend this to be used in an ECDIS? Items like general remarks, depths, ridges and plateaus are on the chart and should not be included in our work. Surface currents will be covered by a different product specification. SNPWG can and should make a general statement about large or seasonal currents, abnormal waves and sea surface which are of interest when route planning on small scale charts. General statements about ice should be included but not current icing conditions which are provided by the Ice WG. General atmospheric statements (like climate, fog and visibility, winds, precipitation, tropical storms and cyclones) should again be included but specifics are covered by more weather centric information and overlays. If there is any spatial information on the general items listed above, it should be included. The format is good.

A large problem is to format or structure text and images. SNPWG developed a complex attribute which would support the structure of text and images.

Jens said that we have been directed by HSSC to develop a product specification to work inside and outside an ECDIS. In other words, N-PUB product specifications have to be available to the mariner but they could also be standalone products .

The current Physical Environment test data set is available for review on the IHO-SNPWG product development website.

Action Item 17/10 - All members will review the physical environment submission and report back if there are any specific details that need to be added to make it more useful. Due date is 31 August 2014.

Action Item 17/11 – (Richard and Luciano VERLEZZA) Prepare the draft of land features to extend the test dataset and present at SNPWG18.

16 Wiki work

16.1 Open and reviewed items

Jens began the discussion by saying there are only a few items that remain under consideration. They are:

- Under Attribute **Graphic** – Delete SORIND. Keep PICINF and BRGINF
- For Attribute **Bearing Information** – Distance to be determined. Keep CARDIR. The definitions of CARDIR should be as general as possible. Delete fuzzy direction.
- Under Text Content **TXTCON** – Deleted SORIND and further improvements of the conditions were being made.
- **PeriodicDateRange** – is under S-101 DCEG responsibility and SNPWG intends to adopt the current DCEG model.

Eivind informed SNPWG on the introduction of Information Area and Supplementary Information as information features. Certain attributes which normally belong to most of the S-101 features will now be part of these new information features.

Action Item 17/12 – (Raphael) Prepare a version of the MPA application schema which reflects the latest development regarding information area and supplementary information by the S-101 DCEG.

As an initial response, Raphael recommends that SNPWG adds Information Area and Supplementary Information to the MPA data model but not remove any of the existing items. Furthermore, he recommends that we add an encoding rule that states Supplementary Information should only be used if information is shared among three or more instances.

16.2 How to bring the wiki entries to the Registry sufficiently? Do we need the wiki to retain the relations/discussions/examples etc. (BSH, IHB)

The SNPWG Wiki is currently hosted on a personal website so it is not an official record or document. Should we keep the Wiki as an informal forum since very few member access and edit items every year?

Tony said we cannot add it to an IHB server since it is easy to compromise. He did say that we could get bureau permission to establish a virtual server so it would be more official and give the Wiki more visibility.

SNPWG decided that the Wiki is an important tool and that it needs to be transferred to the IHB site to make it more official.

Action Item 17/13 – (Jens and Tony) Prepare a separate, virtual server that is not on any IHB servers. It would be part of the IHB infrastructure and link to the IHB site. Tony will discuss this development with the Directing Committee.

17 Test plan based on Test strategy provided by TSMAD (SNPWG)

Do we need a test plan and test strategy for SNPWG products? Is it too early? What do we want to test? If so, we will need to revisit the test plan work item in the future.

For example, if a vessel approaches an MPA that is restricted, will the ECDIS display an alert and then an alarm informing the mariner?

Eivind said that we may be premature at this point specifying a test strategy and test plan. It might be best to wait until S-100 ver. 2, which optimistically will be available in 2015. Niklas said that at some point we will need a plan and a strategy. Tony said we do not want to get ahead of TSMAD. We need to think in generalities of what we want to alarm and not develop any specifics at this point.

Action Item 17/14 – (Niklas) Investigate general steps for the preparation of a test plan and taking the S-101 test plan into account.

18 Test cases for testing the Radio Services/MPA ProdSpecs (SNPWG)

18.1 Content of Products

See item 17.

18.2 Progress of sea-trial test-bed on an e-Nav service (MSI/Ship Report)

Sewoong presented a proposal by KRISO (Korea Research Institute of Ships and Ocean Engineering) and Jeppesen.

There will be a total of three sea-trails in 2014 starting in April. The MSI and Ship Report data models were developed by Jeppesen.

SNPWG took note of the initiative and will provide recommendations that may be helpful in developing S-10X standards for e-Nav in the future.

The presentation is available for review on the SNPWG website.

18.3 Research on the MPA Dataset needed for the development of S-100 enabled ECDIS

Sewoong presented research on the MPA dataset needed for the development of S-100 enabled ECDIS. The start of the project was in 2012 and the duration is for four years. The MPA sample dataset was in GML and the MPA viewer presented the MPA as a polygon. The MPA is portrayed as a layer on top of the ENC in the viewer.

SNPWG should note the need for conducting N-PUB S-10X test bed projects as a crucial step in the development and implementation of N-PUB S-10X standards and include proposals of the paper in the SNPWG work program.

The presentation is available for review on the SNPWG website.

19 Meta Data handling (adopting of TSMAD27 model?) (SNPWG)

Metadata provides information about the identification, the extent, quality spatial and temporal schema and distribution of digital geographic data. It provides information on the basic characteristics of a piece of data or information resources.

Tony recommended that we wait until the next version of S-100 until we send a document to HSSC. Eivind and Tony said it would be good to start a draft version for presentation at SNPWG18.

Action Item 17/15 – (Tony) Revise the latest MPA Product Specification draft document to reflect the latest metadata developments in S-100 Ver. 2.

20 Proposals on List of Lights improvement

20.1 List of Lights numbering (BSH)

A paper or digital List of Lights is required for carriage for all coastal states. This carriage requirement is based on SOLAS-V and it is assumed that this will not be withdrawn in the foreseeable future.

Richard said that the UKHO has no difficulty with the concept of having persistent, unique identifiers for lights. Tony said that this would need to be done in some type of registry preferably created and maintained by IALA. SNPWG would not want something that contradicts or duplicates what IALA has now or plans to do. If a persistent, unique identifier was given to each light around the world, it may change the way we do business.

Lights could be provided as a service and they could be completely removed from the ENC. Jens said that the idea of having scale independent items like lights stored in a separate registry was not universally accepted in the IHO.

The feature could be stored once and used on the ENC or other product as needed. It all comes down to the persistent, unique identifier. The light is not identified by an authority, characteristic, or geographic position - it is identified by a persistent, unique identifier that could be used across many products.

Tony recommended that this would be an excellent joint project for IALA and IHO. Tony also recommended writing a paper to HSSC discussing the SNPWG plan. HSSC would then assign a work group to investigate persistent, unique light identifiers and report results back at the next HSSC meeting. This action would be within the scope of SNPWG's Terms of Reference.

Certain Radio Service features are another example of a scale independent feature that could be stored in a separate registry.

Action Item 17/16 – (Tom) Draft a new section 4.1 for National and International lights in S-12.

Action Item 17/17 – (Eivind) Inform IALA about the SNPWG concept of having a persistent, unique identifier for items in the List of Lights.

20.2 Introduction of new attributes (BSH)

Light information is required to be encoded and stored in paper charts, ENC's and List of Lights publications. There is a need to ensure that light information contained in these navigational products be kept current. This implies the use of a common data model and a single data source for light information.

Jens asked, how does SNPWG go about introducing a change to the attributes? It seems as if most countries just use the S-57 construct for lights or they still maintain it manually in a paper publication. Richard said that if there is a List of Lights database, there must only be one or there will be problems.

Tony said that lights have always been included on paper charts and they were incorporated into the ENC. This just adds to the size and complexity of the ENC. The

thought of removing light information from an ENC and packaging that data into an N-PUB is recognized as a good idea but it is something that management is not ready to commit to at this point. It is something SNPWG needs to continue asking TSMAD for consideration.

The proposed new attributes were accepted.

Action Item 17/18 – (Jens) Incorporate the drafted attributes into the SNPWG Wiki.

21 ToR review

SNPWG reviewed and discussed the latest ToR and the group agreed with the changes. However, SNPWG intends to propose modifications or amendments to the ToR to reflect the responsibility of S-12 and the relevant parts of M-3. The amendments to both of those documents are in the SNPWG work plan.

Action Item 17/19 – (Jens) Draft an update to the ToR and submit it to HSSC for endorsement.

22 Work plan for the SNPWG

The work plan was slightly altered based on a recent letter from the IHB.

The Group reviewed and discussed the SNPWG work plan. The work plan was slightly altered to incorporate the latest developments.

23 Any other business

SNPWG discussed the prospect of combining CSPCWG and SNPWG. SNPWG sees challenges, opportunities and logistical difficulties combining working groups. SNPWG prefers to get the Product Specifications which are currently endorsed by HSSC to a maintenance level before the Working Group combination option is explored. The reason is the SNPWG believes that the new Working Group needs better material on which to collaborate. That would also reduce the workload of the new Working Group and would support the Project Team idea. SNPWG has concerns that the current work on MPA's, Radio Services, Traffic Management, Physical Environment and Navigational Services would run the risk of losing momentum if both Working Groups are combined prematurely. SNPWG is awaiting further action from HSSC6.

Jens stated that in order for our work in SNPWG to continue that we must make sure we remain active and engaged.

Tony presented TWLWG developments on S-100 based product specification. It was agreed that SNPWG would assist as requested.

The draft minutes were reviewed at the end of the meeting. The draft will be circulated with 14 day's response time. The meeting agreed on tacit approval.

24 Date and place of next meeting

SNPWG18 will take place in Cadiz 1 - 4 December 2014.
SNPWG19 is tentatively scheduled for late September 2015.

Annex A: List of Action Items

Primary objective: Develop guidelines for the preparation of nautical publications, in a digital format compatible with ECDIS.						
Prepared by: Tom Loeper						Date: 10 April 2014
Reporting Period:				Type of report:		Conclusions:
From:	April 2014		To:	December 2014		Team Report Working items to be done by SNPWG

Planned tasks for this Reporting Period

Action Item	Actor	Task Description	Start Date	Target End Date	Percent Complete	Task Status
14/10	IHB (TP)	Complete MPA Product Specification for circulation to HOs	04/2011		60	Ongoing
14/11	SNPWG	Circulate inside HOs and obtain comment				Depends on 14/10 progress
15/9	Jeppesen (EM)	Await the next joint TSMAD/DIPWG meeting in June 2013 and the outcome of DIPWG portrayal work. Eivind will liaise with TSMAD/DIPWG and report back to the SNPWG. Note: SNPWG cannot proceed with the MPA Product Specification until this is resolved by DIPWG and approved by HSSC6 in November 2014.				Postponed to SNPWG 18
15/11	IHB, CARIS (TP/JR)	Investigate the possibility of taking the MPA work completed to date and creating a web service as an interim solution.			40	Ongoing
16/1	FI, DK, NO (TBN/PA/OH)	Give a presentation at SNPWG 17 outlining current developments along with giving a greater interpretation of their plans.				Ongoing – postponed to SNPWG 18
16/2	IHB, CARIS, Jeppesen (TP/EM/JR)	Put an update of the MPA Product Specification on the IHO/SNPWG site.				Re-evaluate
16/9	DK, FI (PA/TBN)	Create the Navigational services (include navigational marks) NP1 Data sample and present it at SNPWG17 NP1.			20	Ongoing
16/14	TP	Create a word file concerning M-3 for the NP section to be placed on the Wiki for SNPWG updates.				Ongoing

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

17/1	KRISO (SO)	Populate the FCD with the Wiki contents and produce a new version of the MPA Feature Catalogue	04/2014	30.05.2014		
17/2	Chairman	Develop the first draft of this Traceability Matrix for the SNPWG Product Specifications	04/2014	30.05.2014		
17/3	SNPWG	Review the radio services submission and report back if there are any specific details that need to be added to make it more useful. Examples are, faxes, telexes, etc.	04/2014	30.06.2014		
17/4	GE (JS-F)	SNPWG attributes need to specify the service provider if required (for Inmarsat, Iridium and Globalstar, etc.) so the user knows if it is data or voice.	04/2014	30.05.2014		
17/5	FR (AR)	Check the frequencies in the current test data set. Review version of the dataset.	04/2014	12/2014		
17/6	SNPWG	Review the Traffic Management submission and report back if there are any specific details that need to be added to make it more comprehensive. All examples must be for Jussland only and they should not be country specific	04/2014	31.08.2014		
17/7	US (MK)	NGA will present results of 17/6 of the review at SNPWG18.	04/2014	12/2014		
17/8	Jeppesen (EM)	Draft a paper of new definitions to DQWG that encompass Data Quality Requirements for N-PUBS.	04/2014	DQWG9		
17/9	Jeppesen (RM)	Update the MPA application schema by incorporating context features.	04/2014	12/2014		
17/10	SNPWG	Review the physical environment submission and report back if there are any specific details that need to be added to make it more useful.	04/2014	31.08.2014		
17/11	UK, VE (RD/LV)	Prepare the draft of land features to extend the test dataset	04/2014	12/2014	40	
17/12	Jeppesen (RM)	Prepare a version of the MPA application schema which reflects the latest development	04/2014	31.05.2014		

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

		regarding information area and supplementary information by the S-101 DCEG				
17/13	GE, IHB (JS-F/TP)	Prepare a separate, virtual server that is not on any IHB servers. It would be part of the IHB infrastructure and link to the IHB site. Tony will discuss this development with the Directing Committee.	04/2014	08/2014		
17/14	SE (NH)	Investigate general steps for the preparation of a test plan and taking the S-101 test plan into account.	04/2014	12/2014		
17/15	IHB (TP)	Revise the latest MPA Product Specification draft document to reflect the latest metadata developments in S-100 Ver. 2.	04/2014	12/2014		
17/16	US (TL)	Draft a new section 4.1 for National and International lights in S-12				
17/17	Jeppesen (EM)	Inform IALA about the SNPWG concept of having a persistent, unique identifier for items in the List of Lights.				
17/18	GE (JS-F)	Incorporate the drafted additional light information attributes into the SNPWG Wiki.	04/2014	31.05.2014		
17/19	Chairman	Draft an update to the ToR reflecting the SNPWG'S responsibility on different IHO resolutions and specifications and submit it to HSSC for endorsement.	04/2014	08/2014		

Variance Details:

XXXXX

Corrective Actions:

XXXXX

Annex B: Agenda

**17th Meeting of the Standardization of Nautical Publications Working Group (SNPWG)
7 – 10 April, BSH, Rostock, Germany**

Agenda (as conducted)

No.	Agenda Item	Lead	Documents
	Monday		
1.	Opening and administrative arrangements	JS-F	
	Opening address on behalf of the BSH	MJ	
2.	Adoption of Agenda	JS-F	17-2.1
3.	Minutes of SNPWG 16	TL	17-3
3.1	Amendments to the minutes		
3.2	Review of Action Items from SNPWG 16		
4.	SNPWG status of work (overview)	JS-F	17-4
5.	TSMAD 28 Report	EM	
6.	DIPWG 6 Report	EM	
7	MPA ProdSpec		
7.1	Status of work	TP	
7.2	Discussion on how to proceed	TP	
7.3	Draft Feature Concept Dictionary of MPA based on ROK's Feature Catalogue Builder	SO	
xx	Discussion of the intended SNPWG and CSPCWG merger to form the NICWG	JS-F	
8	Requirement of traceability matrix (based on TSMAD)	JS-F	17-8
25	Report on AVANTI and possible effects on Sweden	NH	17-25 17-25_Attach

	Tuesday		
9.	ProdSpec Radio Services	AR	17-9
9.1	Presentation of content	AR	
9.2	Discussion on the draft paper	JS-F	
9.3	Radio Services as standalone product: White paper on Maritime Cloud	AR; OB	17-9.3
10	ProdSpec Traffic Management	MK	17-10.0A 17-10.0 Annex A
10.1	Presentation of content	MK, TO	17-10.1A; 17-10.1B; 17-10.1C
10.2	Discussion on the draft paper	JS-F	
11	TSMAD submissions of SNPWG relevance (S-100)	EM	
11.1	Discussion of the SNPWG response on the TSMAD27 outcome (liaison procedures)	JS-F	
11.2	SNPWG paper to TSMAD and HCCS on formal liaison procedures	JS-F	
11.3	Truncated date (Jepp)	EM	
11.4	Additional GML Geometries (how to proceed)	EM; JS-F	17-11.4 17- 11.4_Add
11.5	New developments regarding code lists in S-100 Edition 2.0.0	EM	
12	Data quality of NPUB	JS-F	17-12

	Wednesday		
13.1	Discussion of context features for NPUB ProdSpec	EM; JS-F	
14	MONALISA Project	EM	17-14
14.1	Presentation of the ongoing work	EM	
14.2	Discussion of the paper	JS-F	
26	e-MIO project of the EAHC	SO	17-26
26.1	Presentation of the ongoing work	SO	
26.2	Discussion of the paper	JS-F	
15	ProdSpec Physical Environment	RD	17-15
15.1	Presentation of content	RD	17-15A; 17-15B
15.2	Discussion on the draft paper	JS-F	
16	Wiki work	JS-F	
16.1	Open and reviewed items	JS-F	17-16
16.2	How to bring the wiki entries to the Registry sufficiently? Do we need the wiki to retain the relations/discussions/examples etc. (BSH, IHB)	TP; JS-F	
17	Test plan based on Test strategy provided by TSMAD (SNPWG)	JS-F	17-17
18	Test cases for testing the Radio Services/MPA ProdSpecs (SNPWG)		
18.1	Content of Products		
18.2	Progress of sea-trial test-bed on e-Nav service (MSI / Ship Report)	SO; EM	17-18.2
18.3	Research on the MPA Dataset needed for the development of S-100 enabled ECDIS	SO; EM	17-18.1

Thursday			
19	Meta Data handling (adopting of TSMAD27 model?) (SNPWG)	JS-F	17-19
20	Proposals on List of Lights improvement	JS-F	
20.1	List of Lights numbering (BSH)	JS-F	17-20.1
20.2	Introduction of new attributes (BSH)	JS-F	17-20.2
21	ToR review	JS-F	17-21
22	Work plan for the SNPWG	JS-F	17-22
xx	Discussion of the intended SNPWG and CSPCWG merger to form the NICWG	JS-F	
23	Any other business (e.g. Review of draft minutes)	JS-F	
24	Date and place of next meeting	JS-F	

AR	Alain Rouault (FR)
EM	Eivind Mong (Jeppesen Marine)
JS-F	Jens Schröder-Fürstenberg (GE)
LV	Luciano Verlezza (VE)
MJ	Dr. Mathias Jonas (GE)
MK	Mike Kushla (U.S.)
NH	Niklas Hammarkvist (SE)
OB	Ole Borup (DK)
RD	Richard Dobson (UK)
SO	Dr. Seewong OH (ROK)
TP	Tony Pharaoh (IHB)
TL	Thomas Loeper (U.S.)

Work sessions:

Monday - Thursday: AM and PM.

Session AM1 0900 – 1030

Session AM2 1045 – 1200

Session PM1 1330 – 1500

Session PM2 1515 – 1630

Annex C: List of Attendees

Final List of Participants

IHO MS	Name	email
Denmark	Pelle Aagaard	petar@gst.dk
France	Alain Rouault	alain.rouault@shom.fr
Germany	Jens Schroeder-Fuerstenberg	jens.schroeder-fuerstenberg@bsh.de
Japan	Tokuhiro Masamichi	Ma_tokuhiro@kvf.biglobe.ne.jp
Japan	Teruo Kanazawa	kanazawa-r4w@jha.jp
Korea	Dr. Sewoong Oh	osw@moeri.re.kr
Korea	Hoyun Kang	hykang@koha.or.kr
Sweden	Niklas Hammarkvist	niklas.hammarkvist@sjofartverket.se
Sweden	Andreas Anderson	andres.andersson@sjofartverket.se
UK	Richard Dobson	Richard.Dobson@UKHO.gov.uk
USA NOAA	Tom Loeper	thomas.loeper@noaa.gov
USA NGA	Mike Kushla	Michael.S.Kushla@nga.mil
Venezuela	Luciano Verlezza	luciano.verlezza21@hotmail.com
Venezuela	Michael Nunez	luciano.verlezza21@hotmail.com
Venezuela	Trino Rojas	luciano.verlezza21@hotmail.com
IHB	Tony Pharaoh	pad@ihb.mc

Technical Experts

Interschalt	Michael Neumann	michael.neumann@interschalt.com
Jeppesen	Eivind Eik Mong	eivind.mong@jeppesen.com

External presenter

Denmark (DMA)	Ole Borup	OBO@dma.dk
---------------	-----------	------------

Annex D: Updated SNPWG Work Plan

SNPWG WORK PLAN 2014-15

SNPWG Tasks

A	Decide on the Data Structure of NPs-Data intended for use in ECDIS (NP3) (IHO Task 2.6.2 refers)
B	Define the content requirements of NP data intended for use in ECDIS (NP3) (IHO Task 2.6.2 refers)
C	Develop test data (IHO Task 2.6.2 refers)
D	Develop basic display rules for NP data intended for use in ECDIS (NP3) (IHO Task 2.6.2 refers)
E	Draft guidance documents (IHO Task 2.6.2 refers)
F	Maintain and extend IHO resolutions in M-3 relating to Nautical Publications as required (IHO Task 2.6.3 refers)
G	Liaise with other HSSC WG's and other IHO and international bodies (IHO Task 2.6.2 refers)
H	Develop, maintain and extend S-10n - Nautical Information Product Specification (IHO Task 2.6.2 refers)
I	Conduct the 2014 and 2015 meetings of SNPWG (IHO Task 2.6.1 refers)

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	Related Pubs / Standard	Remarks
A.1	Investigate the interaction between MPA and ENC in ECDIS	M		2015	Permanent	P	Chair/Sec SNPWG	S-100	In close liaison with the S-100 WG (if founded) or TSMAD
B.2	Model the data where required.	H		2004	Permanent	O	Chair/Sec SNPWG	S-100	To be included in NPUBS domain of the FCD Register
B.3	Review of objects and attributes	H	12/2014	2004	Permanent	O	Chair/Sec SNPWG	S-100	According to the tasks assigned by HSSC4

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

B.4	Propose amendments to HYDRO domain of the FCD Register	H		2005	Permanent	O	Chair/Sec SNPWG	S-100	To be included in the FCD register
B.5	Propose amendments to AtoN domain of the FCD Register	H	08/2014	2014	2014	O	Chair/Sec SNPWG	S-125	To improve the current definitions and attribute values at the FCD register
B.6	Populate the NPUBS domain of the FCD Register	H		2006	Permanent	O	Chair/Sec SNPWG	S-100	Awaiting Registry improvements
C.1	Produce NP1 sample data sets								According to the tasks assigned by HSSC4. Collection of information to be modelled
C.1.1	For Radio Services	H	12/2014	2012	2014	O	Chair/Sec SNPWG	S-123	
C.1.2	For Navigational services	H	12/2014	2012	2015	O	Chair/Sec SNPWG	S-125	
C.1.3	For Traffic management	H	12/2014	2012	2015	O	Chair/Sec SNPWG	S-127	Marine Protected Area Part was completed in 2012
C.1.4	For Physical environment	H	12/2014	2013	2015	O	Chair/Sec SNPWG	S-126	
C.2	Set up a test bed ECDIS	M		-	-	P	Chair/Sec SNPWG		
D.1	Develop basic display rules for NP data intended for use in ECDIS (NP3)	M		2008	2015*	O	Chair/Sec SNPWG	S-52	Close co-operation with DIPWG required *end date depends on DIPWG schedule
E.1	Draft Data Capture and Encoding Guides								Document for NPs similar to Use of the Object Catalogue
E.1.1	For Marine Protected Areas	H	12/2014	2011	2015	O	Chair/Sec SNPWG	S-122	To be harmonized with S-101 DCEG; Awaiting next S-100 version

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

E.1.2	For Radio Services	M		2015	2015	P	Chair/Sec SNPWG	S-123	Depends on modelling progress
E.3	Draft Product Specification								
E.3.1	For Radio Services	H	12/2014	2014	2015	O	Chair/Sec SNPWG	S-123	
E.3.2	For Navigational services	H	12/2014	-	-	P	Chair/Sec SNPWG	S-125	
E.3.3	For Traffic management	H	12/2014	2011	2016	O	Chair/Sec SNPWG	S-127	The start date is in-line with the MPA ProdSpec development
E.3.3.1	For Marine Protected Areas	H	12/2014	2011	2015	O	Chair/Sec SNPWG	S-122	Depends on progress of next S-100 version allowing GML data use
E.3.4	For Physical environment	H	12/2014	-	-	P	Chair/Sec SNPWG	S-126	
F.1	Maintain and extend resolutions in M-3 relating to Nautical Publications	M	12/2014	2012	Permanent	O	Chair/Sec SNPWG	M-3	A review is scheduled due to harmonization of M3 information and potential ProdSpecs content
F.2	Maintain and extent S-12	M	12/2014	2014	Permanent	O	Chair/Sec SNPWG	S-12	Depends on the outcome of discussions with other concerned organisations
G.1	Liaise with the DIPWG for the development of the display rules	H		2005	Permanent	O	Chair/Sec SNPWG		
G.2	Liaise with the TSMAD	H		2004	Permanent	O	Chair/Sec SNPWG		
G.3	Liaise with other groups	H		2004	Permanent	O	Chair/Sec SNPWG		Including DPSWG, DQWG, TWLWG, MIO's, AML, ICE, Inland ECDIS
G.4	Liaise with IALA e-Nav Committee	H		2013	Permanent	O	Chair/Sec SNPWG		As advised by HSSC4

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

H.1	Develop S-12n - Nautical Information Product Specification								Liaise with WWNWS-Sub committee
H.1.1	For Radio Services	H	12/2014	2012	2016	O	Chair/Sec SNPWG	S-123	
H.1.2	For Navigational services	H	12/2014	2013	2016	O	Chair/Sec SNPWG	S-125	
H.1.3	For Traffic management	H	12/2014	2013	2016	O	Chair/Sec SNPWG	S-127	
H.1.3.1	For Marine Protected Areas	H	12/2014	2011	2015	O	Chair/Sec SNPWG	S-122	Awaiting completion of S-100 Edition 2 and Feature Catalogue Builder
H1.4	For Physical environment	H	12/2014	2013	2016	O	Chair/Sec SNPWG	S-126	

SNPWG Meetings (Task I)

Date	Location	Activity
13-17 Feb 2012	IHB, Monaco	SNPWG 14
12-16 Nov 2012	Helsinki, Finland	SNPWG 15
3-7 June 2013	Silver Spring (MA), U.S.	SNPWG 16
7-11 April 2014	Rostock (Germany)	SNPWG 17
1-4 Dec 2014	Cadiz (Spain)	SNPWG 18
September 2015	TBD	SNPWG19

Chairman: Jens SCHRÖDER-FÜRSTENBERG, Germany
 Vice-chairman: Tom LOEPER
 Secretary: Open

Email: jens.schroeder-fuerstenberg@bsh.de
 Email: thomas.loeper@noaa.gov
 Email: