

# IHO Standardization of Nautical Publications Working Group (SNPWG)



Chairman:  
David Acland  
[david.acland@ukho.gov.uk](mailto:david.acland@ukho.gov.uk)  
Telephone: +44 (0) 1823-337900 x 3423  
Fax: +44 (0) 1823-284077

Deputy-Chairman:  
Jens Schröder-Fürstenberg  
[jens.schroeder-fuerstenberg@bsh.de](mailto:jens.schroeder-fuerstenberg@bsh.de)  
Telephone: + 49 (0) 381 4563 764  
Fax: +49 (0) 381 4563 76

Secretary:  
Pelle Aagaard  
[petar@kms.dk](mailto:petar@kms.dk)  
Telephone: +45 72 54 50 97  
Fax: +45 35 87 50 51

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## 13<sup>th</sup> Standardization of Nautical Publications Working Group (SNPWG) Meeting 4 - 8 April 2011 - NHS, Stavanger, Norway

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

### Item

## 1. Opening and administrative arrangements

### 1.1 Opening remarks

David Acland opened SNPWG13 by welcoming members with special credit to Olav Haugen and the Norwegian Hydrographic Service for kindly hosting the meeting in Stavanger. He continued by greeting Finnish representative Mr. Jan Nyholm, attending SNPWG for the first time, and welcoming back Mr. Michael Neumann of Interschalt and Dr. Yiorgos Palierakis of Novaco. Apologies had been received from Ricardo Freire who had to withdraw at short notice.

Referring to the recent disaster in NE Japan, the Chairman gave a very special and warm welcome to the Japanese delegation, Mr. Teruo Kanazawa and Mr. Yoshimi Deai. Expressing how pleased the group was to see them both present in Norway, the Chairman requested a moment of quiet reflection for the troubled people in Japan.

David said that his thoughts underlined the importance of the work of the SNPWG. With production of ENCs nearly complete, the next step will be to make use of them mandatory, starting in 2012 with new build tankers and cruise ships. Mandation continues until 2018, until some 60,000 ships will have transferred to ECDIS. But during this period the SNPWG must develop the standards to

allow the inclusion of products like environmental information, Regulation, and Routeing Guides to support passage planning.

David Acland then gave the floor to Mr. Evert Flier, Director of the Norwegian Hydrographic Service.

## **2. Presentations by NHS**

### ***2.1 Welcome by NHS Director***

After introducing himself Evert Flier explained how he sees the work of SNPWG as a mark of the shift towards the electronic era of navigation. NHS is itself in the process of changing from paper to digital, and Evert Flier particularly considered the approximately 70% of the Norwegian charts covering 0 - 20 m depths interesting, but a lot of work still remains to be done.

Evert Flier gave some background for the MS Gann visit on Wednesday, and then introduced the speakers from the Norwegian Hydrographic Service. He wished all a productive meeting.

### ***2.2 Surveying the Norwegian Coast and Arctic Waters***

Arne E. Ofstad gave his presentation on the challenges of surveying the Norwegian coast and Arctic waters. The use of LIDAR and laser was discussed - there is still much development to be done in those areas. Spectral photography is also being explored as a means of surveying.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

### ***2.3 MAREANO program – Detailed mapping of seabed topography, sediments, bottom fauna and pollutants in Norwegian waters***

Hanne Hodnesdal gave her presentation on the MAREANO programme (Marine Area Database for Norwegian Coastal and Sea Areas) - [www.mareano.no](http://www.mareano.no). The programme deals with the detailed mapping of seabed topography, sediments, bottom fauna and pollutants in Norwegian waters. Coral sanctuary as an ENC object was discussed.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

### ***2.4 High resolution tidal models for the Norwegian coast and implementation of current fields in electronic navigational chart systems***

Birgit Kjoss Lyngre gave her presentation on high resolution tidal models for the Norwegian coast. The consequence of implementing marine information objects like tides, currents and waves in ENC systems was discussed.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

## **2.5 Introduction round**

Following the Norwegian presentations all group members outlined their organizational affiliation and professional background. Mr. Juha Korhonen of the Finnish Transport Agency took the opportunity to remind the group of the impending DQWG meeting in June in Helsinki, Finland, calling on submissions on any issues or questions the SNPWG might have.

## **3. Approval of Agenda**

With a few minor adjustments the agenda was approved. The paragraph numbers below refer to the agenda Item numbers. Several items were taken out of order. A number were discussed in more than one sitting of the SNPWG13.

## **4. Minutes of SNPWG 12**

The Final Minutes of SNPWG 12 were approved as circulated.

### **4.1 Corrections**

No corrections were proposed for the Minutes of SNPWG 12.

## **5. Review of Action Items from SNPWG 12**

### **Action Item 11/1 - SNPWG**

Examine the quality of data in existing publications. Is there a need for the mariner to be provided the quality of NPUB information?

Tony Pharaoh has previously pointed out that 2 ISO documents on data quality exist, ISO 19113 and 19114. David Acland suggests that we should look at what these have to offer on the matter - do they apply to our work? The SNPWG should define the quality parameters and then we can ask the DQWG to add these to their ToR.

**Still ongoing.** *Eivind Mong pointed out that the DQWG primarily deal with the quality of bathymetric data. In all likelihood DQWG must expand to contain NPUB data as well. KMS and Jeppesen will make a presentation on the subject of data quality in Arctic water NPUBS at the SNPWG 14 in Monaco.*

### **Action Item 13/1 - SNPWG**

HOs are encouraged to respond to the DQWG Questionnaire about the Depiction of the Quality of the Data in Nautical Charts (CL 23/2011) by 27 May 2011.

*Several countries, among these Denmark, the Netherlands and Germany, have published links to the questionnaire in Notices to Mariners/Chart Corrections.*

### **Action Item 11/2 - SNPWG**

Prioritize subjects.

- *Mapping to feature/info types*
  - *Use existing SNPWG model*
  - *Fix where it breaks (extend, redefine, etc.)*
- *UML*
- *Link NPUBS to ENC*
- *Mock-up display*
- *XML/GML data sets*
  - *Application Schema*

**Closed.**

**Action Item 11/3 - SNPWG**

Consider updating mechanism for NPUBS and updating of data.

**Closed.**

**Action Item 12/1 - SNPWG**

Design a questionnaire to refine use cases of NPUBs data for possible use at an ECDIS Stakeholders Forum, maritime training institutions and in contacts with the shipping industry.

**Complete.** *Maybe some refining is needed.*

**Action Item 12/2 - Alain Rouault and Jens Schröder-Fürstenberg**

Review data model for Frequency Pair. Decide how to handle current footnotes.

**Complete.**

**Action Item 12/3 - Eivind Mong and Jens Schröder-Fürstenberg**

UKCLRN (Underkeel clearance) - we need to cross check the definition for this one. Eivind Mong mentioned that the Canadian Hydrographic Service perhaps have got a usable definition.

**Complete.** *David Acland will report back to the group during the meeting with the new definition.*

**Action Item 12/4 - David Acland and Jens Schröder-Fürstenberg**

In the OPERAT attribute we must revise definition to include the language “**numerically** larger” or “numerically smaller”.

**Complete.**

**Action Item 12/5 - Thomas Loeper**

A nomination is required to act as the SNPWG liaison member for the HDWG. Thomas Loeper agreed to fulfil this task until the next meeting.

**Complete.**

**Action Item 12/6 - Jens Schröder-Fürstenberg, Tony Pharaoh, Holly Johnson, Olav Haugen and Eivind Mong**

Assess whether the TSMAD Encoding Guide, S-57 Appendix B.1, Annex D, can serve as an outline for a SNPWG draft.

**Still ongoing.**

**Action Item 12/7 - SNPWG**

SNPWG must draft a framework paper to put to the DIPWG at their next meeting in May 2011.

**Closed.** *Issues of portrayal will be discussed during this meeting.*

**Action Item 12/8 - David Acland**

SNPWG should approach the DIPWG chairman to discuss the portrayal aspects of the MPA.

**Closed.** *Issues of portrayal will be discussed during this meeting.*

**Action Item 12/9 - Pelle Aagaard**

Compile taxonomy of NPUBS topics. David Acland asked members to suggest subject matter and pass it to Pelle Aagaard to combine and compile a consolidated list which could be used in a Questionnaire.

**Complete.**

**Action Item 12/10 - David Acland and Jens Schröder-Fürstenberg**

Develop model for APPLIC and post it on the wiki. Check if CHALIM can be suspended when APPLIC fulfils all requests.

**Complete.**

**Action Item 12/11 - Eivind Mong**

For the test dataset, we should start with 1 area and then expand the population to 10-15. Eivind Mong will find out if it is possible for Jeppesen to do the testing.

**Complete.**

**Action Item 12/12 - David Acland**

Discuss with Tony Pharaoh whether a formal approach to the World Database on Protected Areas is needed.

**Complete.** *The World Database on Protected Areas has been approached and contact has been established.*

**Action Item 12/13 - MPA Development Team (Ricardo Freire, Tony Pharaoh, Jens Schröder-Fürstenberg, Eivind Mong, Holly Johnson)**

Present draft Product Specification for MPA to SNPWG 13.

**Complete.**

**Action Item 12/14 - Jens Schröder-Fürstenberg**

Amendments to the ToR - if any - should be presented at the SNPWG 13 meeting in Stavanger.

**Complete.**

## **6. Report on other IHO work**

### ***6.1 TSMAD 21 – S-100 Revised General feature Model***

Eivind Mong gave an account of the TSMAD 21 held in Canada in December 2010. A Draft ENC Product Specification has been made in an S-100 environment. This will be S-101.

The new Feature Catalogue Builder, which was demonstrated at TSMAD 21, is a tool from which SNPWG will benefit for the MPA work.

Also, we now have a new General Feature Model linking information types to other information types, which in turn enables SNPWG to continue our work in the model.

Approval of the revised S-100 awaits the TSMAD 22 to be held in the Republic of Korea next week and then finally the HSSC 3 in Monaco in November. After that, member states will have to approve the CL once this comes out.

The Chairman thanked Eivind for his substantial work.

*Eivind Mong's report can be found at the SNPWG 13 page on the IHO website.*

## **7. Report on BLAST work**

Jens Schröder-Fürstenberg gave the group a general account of the work going on in the BLAST project. BLAST, Bringing Land and Sea Together, is a European regional project for maritime safety in the North Sea region.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

### ***7.1 Digital Routeing Guide Product Specification***

Eivind Mong presented the work done for the BLAST Work Package 4 on drafting a Digital Routeing Guide Product Specification. The Digital Routeing Guide is a feature-based product with features and properties defined in S-57, the IHO feature concept dictionary for S-101 and the SNPWG Wiki. The Routeing Guide is intended as a demonstration of the use of harmonized S-100 compliant information provided by Norway, Denmark, and Germany.

*The Draft Digital Routeing Guide Product Specification can be found at the SNPWG 13 page on the IHO website.*

Discussion on data redundancy between ENC and the Routeing Guide followed.

On the cross-pollination between the MPA and the DRG draft product specifications, David Acland noted that the national experts in BLAST and SNPWG should be able to keep track of developments in both groups and prevent duplicate work. BLAST has produced a draft DRG product specification, but should SNPWG adopt the work?

The initial conclusion seemed to be that we should contribute our views on the work, and it was agreed that SNPWG13 should return to this Item at a later stage of the meeting, when people would have had time to give it some thought.

## **8. Marine Protected Area Product Specification - Initial Discussion**

David Acland opened by encouraging all to study Tony Pharaoh's extensive draft Marine Protected Area Product Specification. Also John Smart's (CARIS) paper outlining the characteristics of 8211 and GML, respectively, should be scrutinized. In addition, the latter identifies some pros and cons of both formats, from an NPUB approach.

*Both papers are to be found at the SNPWG 13 page on the IHO website.*

During the following discussion on GML versus 8211, Eivind Mong said that updating issues had been raised at the TSMAD meeting. For new NPUBs product specifications to work in 8211 substantial development would probably be needed to 8211.

David Acland noted that we may have to live with products in both encodings and that changes to OEM software would require more work.

Tony Pharaoh recommended that the product specification should be encoding neutral and aim at producing a GML dataset. David Acland suggested we return to this point at a later time.

Tony Pharaoh's work on the MPA product specification is founded on the ISO standard 19131. It is largely based on the application schema, and once we have application schema, product specification and feature catalogue together we will be able to produce a GML dataset to work with.

## **9. Status of NPUBS Register on IHB Registry**

David Acland informed the group on the status of the NPUBS register on the IHB Registry.

Eivind Mong proposed that we enter into the registry the features and attributes that we agree on now and leave only in the Feature Concept Dictionary, those which are not yet agreed. He also suggested that the TSMAD be approached to make clear how we are to proceed for entering into the registry.

## **8.1 Marine Protected Area Product Specification - Continued**

David Acland returned to the MPA product specification discussion encouraging all to visit the website <http://protectedplanet.net>. The website hosts the World Database on Protected Areas, an initiative under the United Nations Environment Programme.

Notes for the MPA product specification:

- Instead of scalable and non-scalable we should do scale dependent and scale independent.
- Instead of quoting we refer to the Technical Resolutions in the product specification.
- Rethink textual description on the application schema.
- Reference system: the EPSG was accepted. 2 vertical datums are needed.
- Reference date: we need to check the date format (ISO 19113 standard).
- Data product delivery - delivery medium information: re-write to "Bounding Limits defined by producing authority".
- Exchange Set Metadata will probably be defined by the distributors. For now, we settle for them being external, as a separate file.
- Portrayal: we shall have to get back to this at a later stage.
- Feature Catalogue: For now we go for XML with style sheet for the printed version (if one is required).

## **10. Updating a GML product**

Eivind Mong gave his presentation "Updating Publication Datasets in XML".

*The presentation can be found at the SNPWG 13 page on the IHO website.*

The recommendations in the paper were debated and David Acland then asked whether we could do both an XML and an 8211 file. In reply, Tony Pharaoh said that he considers GML a suitable working tool for SNPWG purposes. It will probably not inhibit the use of 8211 should that turn out to be the OEM choice.

## **11. Presentation on impact on ECDISs of additional layers**

Michael Neumann gave his presentation "ECDIS Chart Layers and their Navigational Impact".

*The presentation can be found at the SNPWG 13 page on the IHO website.*



## **12. SNPWG Terms of Reference**

Due to uncertainty expressed by the Nordic Hydrographic Commission on a previous occasion, the phrasing of the SNPWG Terms of Reference was discussed.

The question was whether standardization of nautical *paper* publications is also within the SNPWG scope.

There was general consent that while the title on its own might be misconstrued, the terms themselves leave no doubt about the objective of the working group.

It was decided to keep the wording as is.

### ***8.2 Marine Protected Area Product Specification - Continued***

*Wordsmithing continued on the MPA product specification.*

## **13. Boat trip**

After a visit to the bridge aboard the school ship M/S Gann, SNPWG met up with the Nordic Hydrographic Commission for a joint working session.

### ***13.1 Presentation to Nordic Hydrographic Commission on SNPWG work and discussion***

Jens Schröder-Fürstenberg gave his presentation to the NHC on SNPWG work.

During the talks that followed the possible overlaps between the newly established Nordic Nautical Publications Working Group (NNPWG) under the NHC and the work of SNPWG were discussed. It was emphasized that the objective of the SNPWG, as stated in our ToR, is to develop guidelines for the preparation of nautical publications, in a digital format compatible with ECDIS. SNPWG does not undertake standardizing printed nautical publications.

### ***13.2 Navigation in narrow waters and the proper use of charts and NPUB. What is redundant? Is redundancy needed for special purposes? How can 3D navigation improve the safety of navigation?***

David Acland gave his presentation on Navigation in Narrow Waters and the impact of 3D display on Safety.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

### ***13.3 Visit to the VTS Kvitsøy***

Vessel Traffic Service (VTS) Kvitsøy is one of the five VTS centres run by the Norwegian Coastal Administration (NCA). The main task is monitoring traffic as a precautionary measure in connection with the shipment from the gas terminal at Kårstø, in addition to general monitoring of coastal traffic in an area with relatively high traffic density.

During the stay we were shown the operations centre and were given a presentation on the VTS.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

## **14. Underkeel clearance and Underkeel allowance**

*See Action Item 12/3 above.*

SNPWG proposes new definitions for Underkeel clearance and Underkeel allowance to be put to the S-32 IHO Hydrographic Dictionary Working Group.

David Acland presented the new definitions to the group.

It was, after some discussion, agreed to submit the proposed new definitions to the S-32 working group.

*The presentation can be found at the SNPWG 13 page on the IHO website.*

## **15. Representative on IHO Geospatial Registry Control Bodies**

David Acland introduced to the group the IHO Publication S-99 describing the Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry.

SNPWG must appoint a representative for the Domain Control Body and a representative for the Executive Control Body.

*The S-99 can be found on this URL:*

*[http://www.iho-ohi.net/iho\\_pubs/standard/S-99-Operational%20Procedures\\_E1\\_0\\_0.pdf](http://www.iho-ohi.net/iho_pubs/standard/S-99-Operational%20Procedures_E1_0_0.pdf)*

### **15.1 Domain Control Body (DCB)**

Jens Schröder-Fürstenberg agreed to be the SNPWG representative for the Domain Control Body.

### **15.2 Executive Control Body (ECB)**

Michael Kushla agreed to be the SNPWG representative for the Executive Control Body.

## **16. Representative on S-32 IHO Dictionary Working Group**

Thomas Loeper agreed to continue as the SNPWG representative on the S-32 IHO Hydrographic Dictionary Working Group.

## **17. Status of SNPWG Wiki entries (remaining open topics)**

The group discussed the status of the SNPWG Wiki entries.

- Membership (MBRSHP), Included or Excluded - should it be renamed?
- Underkeel clearance (UKCLRN) - work in progress.
- Category of completeness of content (CATTXT) - not yet completed, was discussed.

#### **Action Item 13/2 - Jens Schröder-Fürstenberg**

Information, multi-lingual (INFOML) - a complex attribute, to be deleted.

*A request was received to see if the status of agreement of items in SNPWG Wiki FCD could be made more visible. Jens Schröder-Fürstenberg will try to see how this could be done.*

The Chairman took the opportunity to express his appreciation of Jens Schröder-Fürstenberg's contribution in hosting the SNPWG Wiki - he is doing a tremendous job!

## **18. Taxonomy discussion Results from Questionnaires at several ECDIS training centres and BSH; impact of coming NPUB Product Specification**

Jens Schröder-Fürstenberg began by thanking the secretary for compiling the taxonomy from the suggested subject matters produced by the members at the SNPWG meeting in Tokyo.

To the question: What does the mariner expect to see under each different item on the ECDIS? The answer seems to be that we need to make a better, more accurate, questionnaire. Tony Pharaoh will upload the spreadsheet to the SNPWG page on the IHO website.

### **8.3 Marine Protected Area Product Specification - Continued**

Work on the MPA product specification continued.

The next steps, according to Tony Pharaoh, will be to figure out the Feature Catalogue and then we need a GML test data set for us and OEMs to work with. After that we can start putting together more complex product specifications.

Eivind Mong noted that a Data Capture and Classification Guide needs to be drafted for the MPA work. David Acland said that a sub-working group will have to be formed.

#### **Action Item 13/3 - Jens Schröder-Fürstenberg**

Work on a Data Capture and Classification Guide needs to be initiated.

*A free GML Viewer from Snowflake Software can be downloaded at:  
<http://www.snowflakesoftware.co.uk/products/gmlviewer/>.*

Returning to the subject of 8211 versus GML, David Acland concluded that we do not know which will eventually be the choice. Consequently, we shall continue our work on the GML platform, and although S-57 is now only able to handle 8211, as future ECDISs should not have problems with GML.

Eivind Mong added that maintaining a paper version will also be possible if we go with GML.

In continuation of this, Tony Pharaoh asked how the HSSC is supposed to get an overview of ongoing projects. Is some form of coordination needed?

David Acland asked the group whether we should present an information paper to the HSSC 3 in Monaco on the work we have done on the MPA product specification. The group thought this a good idea.

**Action Item 13/4 - Tony Pharaoh and Eivind Mong**

The draft MPA product specification is to be circulated to HOs for commenting.

**7.2 Digital Routeing Guide Product Specification - Continued**

Returning to the subject of adopting the DRG product specification, Jens Schröder-Fürstenberg informed the group that BLAST as a project has a very short lifespan, and that it is geographically limited to the eastern part of the North Sea. The work on the DRG will be completed within 6 months' time, so let us see where it can take us.

Eivind Mong mentioned that Raphael Malyankar, a regular contributor to the SNPWG, is the prime mover from Jeppesen and as a research project the DRG is definitely valuable. The DRG product specification can serve as a draft piece of work for the SNPWG to do with as they please.

Japan expressed general concurrence with any agreement on the matter reached by the SNPWG.

Thomas Loeper, too, was of the opinion that it would be beneficial to see where the project goes. In connection with his own work on the Arctic Routeing Guide, he believed that conclusions drawn from the BLAST DRG approach could prove valuable.

Olav Haugen also recommended that SNPWG make use of what they can from the BLAST project.

Alain Rouault considered the DRG a very specific project, and agreed that SNPWG should seek to benefit from the results.

David Acland said that it is very useful that a second group is making use of the NPUBs FCD. However the SNPWG should aim to get as far down the route as possible with the MPA product specification and should keep focussed on that. Adopting another product specification now would not benefit either group. The UK position is to take an active interest, to facilitate and do everything possible to assist BLAST but that the lead and ownership should remain with BLAST for the moment. In particular SNPWG should amend and extend the NPUBs register as required by BLAST. He also said that if IHO did adopt a Digital Routeing Guide product specification, as a chart product it might fall to the TSMAD in the Hydro domain, and not to the SNPWG at all.

**19. Work plan for the SNPWG**

The SNPWG work plan was revised.

**Action Item 13/5 - David Acland and Eivind Mong**

Display rules paper is to be put the DIPWG.

**Action Item 13/6 - David Acland**

Provide Tony Pharaoh and Eivind Mong with GML S-57 product specification.

## **20. Any other business**

### ***20.1 Nippon Foundation***

Teruo Kanazawa reported that the engagement with SNPWG by Japan was made possible with the help of a subsidy from The Nippon Foundation and that it was hoped that this would continue. The Chairman said that the SNPWG was most grateful to The Nippon Foundation for their interest and active support.

### ***20.2 JHOD Statement***

Yoshimi Deai made the following statement on the response of JHOD to the disaster in NE Japan:

Immediately after the earthquake, Japan Maritime Authorities received multiple requests for information from Masters of rescue ships delivering assistance including general cargo ships, tankers and ferries. The Japan Maritime Authorities approach had been to make announcements and provide information on the Website. The first step was a general precautionary announcement that mariners should not rely on charted depths in fairways and ports over a very wide area.

JHOD then prioritized work as follows:

- a. Rapid surveys of the fairways into ports that were needed to despatch and deliver relief and supplies to the disaster area;
- b. Then wharfs and access inland were proved to be clear and port facilities were tested and announced as being available for use.

Notwithstanding the massive scale of work, JHOD stated that they felt that it was important to maintain a coherent picture across products so that ENCs, paper charts and nautical publications updated at the same time.

JHOD felt that the process they had developed and the establishment of the priorities would have been most useful if it already existed in the immediate hours and days following the earthquake. It was felt that the maritime authorities of other nations would benefit from general principles of this nature, which Japan had had to develop on the fly. It was therefore proposed that the insights gained by Japan should be included in the most appropriate IHO document.

David Acland thanked Yoshimi for this statement and said that the policy on where this sort of guidance should be held was probably a subject for HSSC or within IHB.

### **Post meeting Note:**

It has come to light that guidance on this subject is in IHO Resolutions (M-3) Section 3.1.

## **21. Date and place of next meeting**

SNPWG 14 will be held in Monaco in the week of 16 - 20 January 2012.

Provisionally, SNPWG 15 will be held in Brazil in December 2012.

## **22. Meeting closure**

The Chairman thanked Olav Haugen and the NHS for the impressive arrangements for the meeting.

On behalf of the NHS, Olav Haugen wished everyone safe return journeys and hoped all had enjoyed their stay in Stavanger.