IHO Standardization of Nautical Publications Working Group (SNPWG)

Chairman:
David Acland
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
Telephone: + 49 (0) 381 4563 764
Fax: +49 (0) 381 4563 769

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

26 November 2009

FINAL MINUTES

11th Standardization of Nautical Publications Working Group (SNPWG) Meeting
7 - 11 September 2009 - IHB, Monaco

Chairman: David Acland (UKHO)
Deputy-Chairman: Jens Schröder-Fürstenberg (BSH)
Secretary: Pelle Aagaard (KMS)

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

Item

1. Opening and administrative arrangements

1.1 Chairman's opening address

David Acland opened the 11th SNPWG meeting by welcoming all to Monaco and looking forward to a fruitful meeting. Briefly summarizing SNPWG work in the past 6 months, David Acland said he hoped for a week where, we not only attend routine work, but also venture ideas for the medium future. He encouraged each member to bring all thoughts and opinions to the table during the course of the meeting. He particularly welcomed Barrie Greenslade, Chairman TSMAD, and Yiorgos Palierakis (NOVACO). He hoped that they would engage fully with our work and looked forward to hearing their advice.

1.2 Administrative Arrangements

Tony Pharaoh, IHB, also welcomed everyone to Monaco and briefed on practical matters of the meeting.

1.3 Introduction round

Members introduced themselves outlining their organizational background and professional experience.

2. Approval of Agenda

David Acland went over the schedule for the week and the Agenda was approved.

3. Minutes of SNPWG 10

David Acland thanked Pelle Aagaard for his first go as secretary for the group, and Pelle Aagaard promised to make an effort to get the SNPWG 11 Minutes ready by the HSSC meeting in Singapore at the end of October.

3.1 Corrections

No corrections were proposed and so the Minutes of SNPWG 10 were approved as circulated.

3.2 Review of Action Items from SNPWG 10

Action Item Acland
Arrange meeting with the TSMAD and the DIPWG in 2010.

Still ongoing. *Barrie Greenslade is attending this SNPWG meeting.*

Action Item SNPWG
Tony Pharaoh put together a paper emphasizing the need for a more close-knit cooperation with the TSMAD. Members should revise the paper in April.

Completed. *Revision didn't really happen but Tony Pharaoh did put the paper to the TSMAD in May 2009.*

Action Item Americas WG

- Recommend to TSMAD adding tundra, taiga/boreal, deciduous forest, desert, desert-scrub, rainforest, alpine and chaparral to Category of Land Region.
- Review the definitions for the Category of Land Region and show the results at a later date.
- Add Med Pine to the Category of Vegetation.

Closed. *This item has been overtaken by events, was not discussed at the SNPWG 11 meeting and is closed.*

4. IHO Geospatial Information Registry

4.1 State of the NPUBS Register

95 % of the attributes are in the register as invalid. Attributes have to be in the Register before moving on to the features. There remains quite a bit of tidying up before this will be complete. Putting features in the register should be relatively quick. The step after that will be to change them to valid. The SNPWG is the Control Body for the NPUBs Register and Mal Tennant, UKHO, is the Register Manager.
HSSC has been informed that the IHO Register is not user friendly and time consuming.

4.2 Status of feature/attribute/enumeration relationship in S-100

The working group only adds new features and enumerations if they are not in the hydro register. The group discussed the interaction between information in nautical publications and the hydro register. The whole idea of the SNPWG is to create standards so that NPUBS information can be displayed in association with items from the hydro register in future ECDIS. The aspiration is that these ECDISs will be developments of current ECDISs, built in accordance with S-100 standards to display charts created in accordance with the S-101 product specification.

The way objects associate in the 'new' S-100 was then explained for the group by Eivind Mong. The first version of the S-100 is hopefully going to be put to the HSSC for approval by the end of 2009.

Some digital NPUB products, such as climatic environmental information, may not be directly associated with charted features. However in other products, NPUB features may share geometry with charted features. In order to structure data so that NPUBS and ENCs work together, they must both use a common set of standards. Technically there may eventually be just 2 registers – An IHO Register and a non-IHO Register. The IHO register could contain the core SOLAS features controlled by SNPWG and TSMAD. The non-IHO Register could contain non-SOLAS features and attributes and would be controlled by other maritime interest groups. In every case the product specification defines the relationships between features and the binding of their attributes.

Eivind Mong also pointed the attention of the group to the TSMAD update document.

5. Nautical information display or portrayal - SNPWG and DIPWG - Review of ToRs

The group discussed a draft paper for consideration by HSSC on Portrayal of Nautical Publications Information. Revised proposals on ToRs of SNPWG and DIPWG were also discussed.

Craig Winn advised that there was still time to meet the timetable for Information papers for HSSC1. It was decided that a small drafting group should form up, to review the material, redraft it in this format and report back to the rest of the group by Wednesday afternoon. The proposal was accepted.

Members of the group: Michael Kushla (Chair)
David Acland
Alain Rouault

Thomas Loeper
Craig Winn

See 10.4 below.

6. NPUB data quality proposals to DQWG

Eivind Mong informed the group on the work of the DQWG. Up until now emphasis has been put on e.g. bathymetric data.

Reliability of official versus unofficial data and the age of data were discussed.

Barrie Greenslade reminded the SNPWG that we must not introduce more data to the mariner than he needs. It may not be an advantage to the mariner to attribute data all the way down to the object level. He also suggested that the group study the work done by Anthony Pharaoh on data quality in the S-100.

Action Item SNPWG
Examine the quality of data in existing publications. Is there really a need for the mariner to be provided with measurements to state the quality individual items of information?

7. Report of progress from sample product specification sub groups

7.1 Waterway

Jens Schröder-Fürstenberg reported on the Waterway work. 3 different approaches were presented based on the mapping of the contents of the Key West NW approach and River Jade Sailing Directions.
The Recommendations from this work are:

- Chartable land feature information should be completely stored in HYDRO features
- Depth information should be completely stored in HYDRO features, for both sea and inland waters
- Avoid duplication of data
- SDs are useful as a means of communicating information about waterways that are not discrete hydrographic data values (e.g. limits on vessel dimensions; depth vague or uncertain, subject to change based on 1..n conditions)
- Fuzzy areas should be taken into consideration

7.2 Pilotage

Eivind Mong and John Parrott presented the group's work on pilotage product specification.
The Recommendations from this work are:

• IHO, IMO, and the industry should reach mindshare and publish the core
S-100 ECDIS design objectives, explaining whether:
ECDIS remains a purpose-built chart navigation solution (with better text)
ECDIS changes to become a multi-purpose Decision Support System that provides both a charting user interface and a text user interface.

ECDIS remains a purpose-built chart navigation solution, but it interfaces to separate systems that are optimized for text publications.

• SNPWG should assess the full spectrum of NPUBS and related HYDRO information, organize work packages, and continue with Product Specs.
SCOPE: Decide whether SNPWG is modelling all carriage-required, HO authored NP content, or only the part that works well in a chart-driven user interface
Assess time and cost to reach S-100 implementation
Divide the full scope into work packages, prioritize, and continue the work started in SNPWG 10 using subgroups. Publish and follow a timeline.
• SNPWG should submit edits to S-100 and define an improved template for Product Specifications.

Following the presentation Eivind gave a short run-by of the UML diagram used for the pilotage application schema. Barrie Greenslade added that UML tutorials are freely available on the internet or in book form, such as *UML Distilled: A Brief Guide to the Standard Object Modeling Language*.

7.3 Maritime Protected Area Detail

David Acland gave a brief report of a small amount of work done on a Maritime Protected Area Detail product specification. This simply consisted of an attempt at a UML diagram.

7.4 Lessons learnt from sample modelling. Conclusions, tools, UML tutorial.

David Acland opened this item with an initial lesson: Simplicity is key.

Use of packages was discussed. The meeting was urged to consider processing efficiency in ECDIS. Related layers - NPUBS, ENC layers - iterations and data integrity will be cornerstones.

The question of mandatory carriage was debated - what will the future requirements be? Will SNPWG products prove equivalent to paper products of for instance Sailing Directions? In any case, the SNPWG must always keep the Mariner in mind.

As far as UML modelling tools go, there was general agreement that the open source StarUML was adequate for the first steps, but Enterprise Architect is the standard modelling tool and the packages from the S-100 will be created in Enterprise Architect. UML can in theory be converted from one application to another using XMI but in practice there are usually losses of some detail.

Issues of sharing fragments were also discussed.

8. Report of progress with sample dataset

Teruo Kanazawa gave his presentation on JHOD's pilotage sample dataset. The study can be found at the SNPWG 11 page on the IHO website.

Action Item SNPWG
David Acland encouraged members to take a block of text from their own nautical publications and play around with it like JHOD has done in order to get a better grip of the problems we are likely to encounter.

9. National plans for Digital Nautical Publications

9.1 NOAA

Thomas Loeper gave a short report on the recent release of a Coast Pilot in XML.

NOAA has created a data model of its Coast Pilots and successfully migrated one publication into a new production system. From there several different products can be drawn in XML for publication of books, for web-pages, or as PDF.

The Coast Pilots have been accessible on the internet for years in PDF and RTF, and now the first Coast Pilot has been made available in tagged XML. The hope is that third parties can define new purposes for the nautical information.

Work has been started to make presentations for leisure boaters, for instance on an iPhone, in order to get them to use the official information.

9.2 KORDI

Sewoong Oh presented the national plan for digital nautical publications of Korea. Based on the current NPUBS status Korea has outlined a 3 stage project scheme leading from book via digital file to NP3 products based on S-100 and SNPWG work.

10. How NPUBS data and ENC data can work together in an ECDIS

Most of Wednesday was set aside for a substantive discussion on this fundamental point. 4 Questions were devised to guide the discussion.

10.1 Boundaries of NPUBS NP3 products

An extensive discussion ensued trying to draw up the boundaries of NPUBS NP3 products.

NP3 products must supply the mariner with a route planning tool from berth to berth as well as provide the information that meets the requirements of SOLAS.

In the area of static, historic information versus dynamic real time data NP3 products must still contribute to passage planning. Information in ENC and in NPUBS must continue to live side by side without data duplications or detrimental impact on each other.

10.2 How will an NP3 NPUB product improve Safety of Life at Sea?

- Lessen the administrative burden on the bridge - the master mariner can concentrate on navigation.
- Securing updated information when needed.
- Filtering away unnecessary and excessive information - too much data kills information.
- Provision on the sources of information is continuous.
- Integration between sources of information.
- Reducing stress on the bridge.
- Data consistency.
- Updating and amendments will be more consistent and the means of dissemination may be vastly improved.

On the other hand, lack of knowledge of change because of automation may *worsen* the situation. Principles of simplicity must be at heart of the NP3 product.

10.3 What NPUB data can stand alone in an ECDIS without linking to an ENC feature?

- Regulatory NPUBS not necessarily concerned with SOLAS, in other words keeping the vessel legal.
- Facilities at places (bringing own geometries)
- Area data sets
- Climatic data sets
- Information which has no relation to the HYDRO features. Some of this information may have known geometry. Some of it, like reference information, i.e. Morse Code and flags for letters and numbers, may not.

Action Item SNPWG

- Look through NPUBS for data like fog, swell, wind conditions, Regulations (known geometry)
- Look through NPUBS for general statements like information on military exercises, fishing methods (fuzzy or imprecise geometry)
- Look through NPUBS for general reference material (no geometry)

10.4 Portrayal

With a few amendments the drafting/proposal group's paper for consideration by HSSC regarding portrayal of nautical publications information within ECDIS was agreed upon.

What do we need to task DIPWG?
David Acland put it to the group to consider where DIPWG could aid SNPWG in its work.

DIPWG should bear in mind rules of portrayal when constructing the ECDIS display. A secondary display for nautical publications may also be considered.

On the subject of the S-101 ECDIS Stakeholders Forum, Barrie Greenslade strongly recommended the SNPWG to follow the TSMAD example and set up a stakeholder meeting early on in the process. IHO working groups should attend, users, OEMs, ECDIS training houses, etc.

The next stakeholders meeting is scheduled for February or March 2010 - should SNPWG present outline concepts for how we see our work continue from here?

David Acland considered setting up an SNPWG stakeholders meeting an agenda item for the SNPWG 12 in Tokyo next year.

11. Next steps

David Acland opened this point by asking the group to consider not only what we should do in the next 3 months but to think further ahead to what we should be doing in the next 3 years?

Jens Schröder-Fürstenberg then started the discussion with his presentation on “How to write product specifications effectively”.

Creating UML Packages, which could be used many times, was discussed and generally considered sensible and efficient use of modelling work.

Rather than starting everybody off using UML software, it was recommended that perhaps only a few active users should develop models from suggestions from members of the group. Although Rational Rose had its supporters, no one opposed Enterprise Architect being the choice of UML software.

Jens Schröder-Fürstenberg pointed out that members should nevertheless try to acquaint themselves with Enterprise Architect, particularly the visualization, which is essential to understanding what the UML diagrams symbolize.

Members were also urged to give re-drafting the product specifications a try - even if it has already been done new aspects are bound to appear and only by doing will we learn.

David Acland hopes to bring the IHO NPUBs Register to a useable state.
IHO Hydrographic Registry URL is: http://www.iho-wms.net:8080/iho_registry/home.php.

Once in a reasonable state, the obvious next step will be changing items from invalid to valid in the Registry. The Group agreed that this was not a priority and that there are probably advantages in working with the material for as long as possible to gain experience and confidence and only changing to valid when it becomes necessary for the creation of products.

Action Item SNPWG
David Acland strongly recommended members to get familiarized with the IHO registry. He stressed that we must start working on it.

Debating our course of action until the next SNPWG meeting, Eivind Mong presented the S-64 publication on the IHO website used for ECDIS producers. It is a collection of data sets, ‘one of each’, available in an encrypted and an unencrypted version.

The SNPWG decided to build on the unencrypted version. We will create a small sample Sailing Direction dataset using for instance a waterway as a package, and adding pilotage, Radio Signals and if possible some environmental conditions. From there we shall try more product specifications and if possible try to create an NP3 dataset.

The S-64 data set contains 2 smaller and 2 larger harbours. Though initially suggested that 2 separate groups each attempt to model the approach to the larger harbours, it was decided to work co-operatively on the *Micklefirth exercise* instead:

Define the voyage plan (Jens Schröder-Fürstenberg/Olav Haugen)

- Define vessel
- When do we want to be there (Berth 2, Micklefirth/INT3)?
- Plan the route (from NE corner of GB4X0000 to Berth 2, Micklefirth)
- Check the route

Write the Nautical documents that apply within the space (review Micklefirth dataset to ensure text is consistent with ENC/dataset can be extended if needed)

- Write Sailing Directions (David Acland, by end of October 2009)
- Write pilotage, radio signals (Alain Rouault, by end of December 2009)
- Write regulated area (Marine Protected Area) sample (Thomas Loeper/Craig Winn/Holly Johnson, by end of December 2009)
- Write natural conditions (currents/weather) sample (Michael Kushla, by end of October 2009)
- Write List of Lights, *consider the bits that are missing from ENC and see what value if any, is added in addition to Sailing Directions* (Pelle Aagaard/David Acland, by mid-November 2009)
- Share samples, review and agree (by end of February 2010)

Make use cases (Ernest Sebright, John Parrott, Raphael Malyankar)

- Make use cases from the text, Micklefirth and input from the NPUBS text authors (by end of February 2010)
- Develop use cases at ECDIS stakeholder forum (at ECDIS stakeholder forum)
    - Design a Questionnaire (For possible use at ECDIS stakeholder forum, and elsewhere)

Prioritize the subjects (by SNPWG 12)

- Mapping (all 5 texts mapped to feature/info types) (text sample authors, Jens Schröder-Fürstenberg, Jeppesen, NOAA)
    - Use existing SNPWG model
    - Fix where it breaks (extend, redefine, etc.)
- UML
- Linking NPUBS to ENC
- Mock-up display
- XML/GML data sets (Ernest Sebright)
    - Application Schema

Attention points
Alarms/indications generated from data.

Consider updating mechanism for NPUBS.
Consider updating of data.

12. Extensions to SNPWG data model as expressed in SNPWG Wiki

Jeppesen proposals
John Parrott presented the Jeppesen proposals for alterations and additions - new use of objects, new attributes, new complex attributes, changes. The list of proposals can be found at the SNPWG 11 page on the IHO website.

Discussion followed on the changes proposed.

BSH proposal
Jens Schröder-Fürstenberg proposed adding the new geo object class Waterway Area, WATARE.

Discussion ensued.

It was decided that the proposals will be added to the Wiki for approval and closed by silence by end of October 2009.

13. Work plan for the SNPWG

David Acland outlined the SNPWG report to HSSC1 in Singapore 22 - 24 October 2009.

He then summarized the output of the earlier planning session in a PowerPoint file.
This “Vision from SNPWG11” was amended and is attached (soft copy only).

14. Any other business

Olav Haugen gave a brilliant photo presentation on his summer survey in preparation for the publication of the Norwegian Sailing Directions for Bjornoya and Svalbard.

15. Date and place of the next meeting

SNPWG 12 will be hosted by JHOD in Tokyo, Japan in the week of 21 - 25 June 2010.

Teruo Kanazawa informed the group that June in Japan is the rainy season so bringing an umbrella might be a good idea. The airport is located 60 km from Tokyo - the easiest and cheapest way to get from one to the other is by train.

Olav Haugen has informed the Chairman that STATKART has kindly offered to host the SNPWG 13 meeting in Stavanger, Norway, tentatively in March 2011.

16. Meeting Closure

The Chairman expressed his appreciation with the course of the SNPWG 11 and thanked all members for their dedication, hard work and contributions. He thanked the IHB for hosting the SNPWG 11 and Pelle Aagaard for acting as Secretary and he looked forward to seeing everyone again in Tokyo.

Attachment: PowerPoint Presentation: Vision from SNPWG 11