Minutes of DQWG 11

Welcome by Antti Castren (AC).

Introductions

Welcome by Bob Marckle (RTCM). He gave a brief introduction of RTCM and its role in standards setting.

Practical arrangements were discussed.

Review and adoption of Agenda.

**1.4 Terms of Reference**

Group reviewed the ToR. There were no comments.

**1.5 UKHO paper on the future of DQWG**

Paper presented by Edward Hosken (EH) suggesting that DQWG become part of S-100WG. The argument for this proposal was that the UK struggled to find which type of participation would be appropriate to progress the work of DQWG. There was agreement that the discussion on the paper would be delayed till the 2nd day to give non-attending members a chance to comment.

Julia Powell (JP) responded to the paper (she wouldn’t be present on 2nd day). She cautioned on the suggestion to add into S-100WG, particularly given the size of S-100WG. She also pointed out that having a smaller group is often more productive. And that there are a number of data quality items that need review in upcoming product specifications, such as S-102 and under keel management.

Yves Guiallam (YG) responded to JP and agreed that the load on S-100WG is already too heavy. But he also pointed out that DQWG must get better at agreeing to specific tasks and timelines.

Mike Prince (MP) responded that Australia viewed DQWG as a project, and that when the work was done it can be shut down. He also agreed with JP that the work load on S-100WG is too big.

Rogier Broekman (RB) suggested that the issues be clearly defined and suggested that it is needed to have a separate group to review the data quality indicators in product specifications to ensure they are interactive and not contradictory.

MP suggested that DQWG input to HSSC, on its continued existence, should be that DQWG concentrate on delivering the S-101 data quality elements. Once this has been achieved, an evaluation should be done to review if there is a continued need for DQWG and if so what should the focus be.

The discussion raised questions about the need for a DQWG overall, where some suggested that data quality aspects of a product specification should be left to the subject matter experts. Responses to this concern were that DQWG helps with harmonizing the data quality elements so that a systematic approach can be taken when data products are integrated in user systems. It was further suggested that given the current actions, a review of the remaining work should be done to see if it can be reassigned to other working groups and if DQWG can conclude that its work is done.

Brian Heap (BH) stated that he has taken the lessons learned from attending DQWG meetings back to his organization and improving work processes with these lessons. He further stated that he sees a role for DQWG with S-103 and that he is hoping the group continues to operate.

**1.6 Membership report**

YG gave a report of his review of the DQWG membership. He reported that few members had responded and asked if those who did not respond should be removed for the membership list. He also reported that the responding membership indicated 5-15 days available for the group on average. Therefore the resources available to the group are quite low. RB informed the group of how the North Sea Hydrographic Commission tidal group works, and suggested that DQWG can work similarly with clear actions, deadlines and assigned people with regular check up on the progress.

**2.1 IHO Strategic Plan**

YG gave an overview of what is expected as inputs from DQWG towards the IHO strategic plan and work plan for 2018-2020.

JP presented the outcome of a survey that S-100WG has done on the work that is ongoing with S-100 and its derived product specifications.

EH suggested that the current IHO Strategic Plan is more of a vision, and therefore it is difficult to report to it. Making it practical was suggested to be the real challenge.

EH presented the input from NIPWG, and several comments were received to highlight various elements of the input as being relevant to DQWG.

MP raised a concern over what the ToR for working groups are, in that these are often vaguely defined. He suggested that better defined action items and associated deadlines be used to direct working groups.

AC summarised that there is consensus within the group that a better structure is needed within HSSC working groups to drive the actions and expected outcomes.

* AC and EH to write the DQWG report to the HSSC chair group meeting.

**2.3 HSSC Work Plan**

The group reviewed the work plan and recorded needed amendments.

* AC to update work plan according to discussion

**2.4 Minutes of HSSC7**

AC reported on the DQWG report sent to HSSC7. There were no comments

**2.5 DQWG report to NCWG**

AC reported on the DQWG report sent to NCWG, highlighting the points he made in the report, specifically when DQWG consider bathymetric data quality is needed, and the change from 3 tier to 5 tier.

YG showed a proposal from NCWG to the 3 tier approach, using “smiley face” as inspiration. The proposal received good review, one comment receive was that a boundary should be visible between areas.

It was highlighted that there currently is no standardized way to explain to the user what the data quality symbols mean. Brian Heap (BH) suggested that this information could be added to the Mariners Handbook. JP also suggested that this information also need to be added to INT1. Boundaries were discussed as useful and there was agreement that they should be available, but not be mandatory and should be optional.

**3.1 Minutes of DQWG10**

Minutes were accepted without comments.

**3.2 Review of actions**

Actions were reviewed and the list of actions was updated by AC.

**4.1 Decision Tree, threshold values**

**4.2 Data Model / QualityOfBathymetricData**

Eivind Mong (EM) and AC introduced the hierarchy and decision tree. It was recommended that a better explication of the hierarchy should be made. Discussion on the threshold values agreed that only a very good reason can be used to justify changes. AC and MP voiced concern over the current values, but agreed that in the current values can be maintained.

* MP to draft a definition of what oceanic means
* MP to draft descriptions to accompany the 1-5 possible outputs, and share with DQWG membership for comment.
* EM to add time and speed uncertainty to data model. Change orientation uncertainty to direction uncertainty.
* EM to update feature and attribute definitions and circulate within group for comment. Once finalized, AC to submit to S-101PT (DQWG10-8g).
* AC to distribute decision tree and hierarchy to S-101PT.

**4.4 Guidance on stacked bathymetric quality**

RB presented his paper on guidance for stacked bathymetric quality. The paper was presented on first day to stimulate discussion in the next days. The paper proposes that quality indicators from the European INSPIRE project be reviewed for the usefulness for IHO products and used to enhance S-100 Part 4. Furthermore a question of how to understand the use of depthRangeValueMinimum and depthRangeValueMaximum was discussed, and it was concluded that the use of the same attributes with different meanings in depth areas and swept areas/deep water route, was contradictory. A proposal will be made to use another attribute name for the swept area and deep water route.

* SL to draft proposal for S-101PT of new depth attributes for swept area and deep water route.
* RB will continue to review the INSPIRE quality criteria and enhance proposal with examples and how to enhance S-100 Part 4 with this input.
* RB and SL to add guidance to explain the usefulness of stacked QualityOfBathymetricData in areas of mobile seafloor.

**4.5 Guidance on temporal variation of data quality**

RB presented his paper on guidance for temporal variation. The paper generated good discussions and RB’s contribution was greatly appreciated. It was agreed that the guidance for when to use the attributes of temporalVariation should be reworded. YG suggested that the North Sea Hydrographic Commission’s survey working group should be consulted on this guidance. It was mentioned that the possibility to stack QualityOfBathymetricData areas with different temporalVariation values can add great value to hydrographic offices in being able to communicate assurance that some seafloor change isn’t affecting ships ability to safely pass areas of change.

There was discussion if an alternative of the temporalVariation enumeration of ‘likely to change, but significant shoaling not expected’ is needed for QualityOfNonBathymetricData.

* RB to revise wording of temporalVariation guidance using the group feedback, and circulate among DQWG.
* RB to consult the NSHC survey working group on their view of the temporal variation guidance.
* SL to review the applicability of the enumerated values of temporalVariation for QualityOfNonBathymetricData and propose any needed change to the group.

**5.1 Review ISO 19113, 19114, 19115 and 19157 and make recommendations for inclusion in S-100**

Covered under 4.3, 4.4 and 4.5.

**5.2 Road map**

A road map was created of the actions.

* AC will update road map after the HSSC chair group meeting and circulate among DQWG.

**6.1 Presentation on crowd sourced bathymetry**

Anthony Klemm (AK) from NOAA reported on the work of the IRCC Crowd Source Bathymetry Working Group (CSBWG). They have made some transfer formats to allow the public to send their data. These are still in their first iterations and some items like uncertainty still need to be worked out. Issues around legalities are not yet addressed, but the group is collecting questions that need addressing as they arise for later discussion with international law experts.

AK also reported on a project he is working on, looking into extracting depth information from NEMA data logs in ECS software without having to buy another system. They were able to extract X,Y,Z and collected over 120k soundings over 12 days. They then compared these data (unprocessed) to the survey data that NOAA has within the same area. They found that the data detected shoals and wrecks to a fair level of accuracy. They also found that areas that may have shoaled were consistently detected and can be used as an indicator that new surveys should be done in these areas. The work has concluded that there is great potential for change detection with this approach. They are looking into developing an AIS Application Specific Message to include depth as another potential. Several ECDIS/ECS system manufacturers have indicated interested in participation.

**7.2 Bowditch update**

Jason Otero-Torres (JT) shared a report on the new edition of Bowditch, specifically on the hydrography chapter recompilation. Whitney Anderson (WA) and JT have comprised the working group responsible for the hydrographic chapter. JT informed the group that several parts that were cut in the past, due to limitations to book size, will now be reinstated since the information is still considered important. For example survey by lead line will be reinstated since there are still charts with lead line soundings, and polar code sections. Comments from the group were focused on the presence of data quality descriptions in the new edition and that the new edition might be a good opportunity to add more information on data quality for the mariner. JT responded that the hydrographic standards section will include information about this.

**8.1 S-122 Portrayal**

EH reported on NIPWG development on S-122 (Marine Protected Areas). A particular issue raised is the uncertainty over who should define portrayal. This is partly to do with uncertainty over where the MPA will be shown, such as only on ECDIS or back of bridge, or both. Therefore the group will develop some use cases during a visualisation workshop hosted at University of New Hampshire at end of May 2017.

**8.2 Fuzzy Areas**

EH presented the NIPWG on how to model approximate and fuzzy areas. He highlighted the problem with an example of radio coverage which may shift in different conditions. Furthermore, he suggested that one could consider services that are not easily defined at any time, but which may get more defined shapes due to certain conditions. Whale reporting was mentioned as an example. The discussion concluded that each grouping of features that are in some way fuzzy need to be reviewed by themselves for usefulness to the end user. It was further suggested some of these cases can be compared to the approximate depth contours that a drawn in areas of poor survey and that such cases can be defined in similar ways. AC suggested that NIPWG should list problem cases for DQWG to evaluate.

At least four categories of uncertain areas related to nautical publications were suggested

* Container overboard with predictions of where it will be moving over time (dynamic and modelled). May be solved by including a modelled area of effect over time with the observation.
* Whale observation which rely on frequent data update (dynamic and frequent updates). May be solved by establishing a service to provide frequent updates based on observation, etc.
* Static areas which are poorly defined (static). May be solved by using approximate attribution in spatial attributes.
* Some cases might not be possible to model in an S-100 data model, and therefore geo-referenced text might be the best solution.

These are likely to require different approaches to solve for inclusion in GIS environments.

* EH to report back to NIPWG and if appropriate facilitate ongoing dialogue on the topic.

**9.1 Data Supply Chain Certification**

EM presented an overview of what Data Supply Chain Certification (DSCC) is and why it can be useful. The presentation generated much discussion which highlighted different views among the working group members. YG suggested that IHO already has most of supply chain assurance in place already for ENCs. It was suggested that where the challenge remain, is when several data streams are integrated in a system to generate an enhanced view, such as under keel clearance management systems. EH suggested that the discussion on DSCC should also be held within the Under Keep Clearance Management Project Team.

* AC will draft a group view and distribute within DQWG for comment. When finalized, communicate group view to HSSC and DPSWG.

**10.1 Report from S-100WG**

JP gave a report from S-100WG activities. She highlighted the work under way to ready the GI Registry for official launch, and mentions the support from Korea. She reported that significant work still remain with S-100 portrayal. She also reported that there is a plan to issue a new version of S-100 in 2017. S-101 was reported as progressing slowly due to delays with GI Registry and portrayal. S-102 was reported as being progressed by the project team and targeted to be submitted to HSSC8. She also reported on under keel management project team has been stood up. Work has commenced on a draft interoperability specification, and that the plan was to have a draft to solicit comments from stakeholders. AC requested input to the DQWG deliverables, and JP responded that the highest priority was for S-101 data quality, and second was S-100 part 4.

**10.2 Report from ENCWG**

EM gave a report of the activities of ENCWG, emphasising the work on S-52, S-58 and S-64. He informed the group that the plan is to have these ready for HSSC8. SL asked if ENCWG would be the place to suggest guidance on how to populate M\_QUAL in S-57 ENC. YG suggested that such guidance should be drafted by DQWG and submitted to HSSC for strong endorsement looking at the transition to S-101.

* SL to draft a paper of the NOAA guidelines on how to populate M\_QUAL and share with the DQWG membership soliciting input of their best practice in populating M\_QUAL.

The resulting paper will be assessed against the S-57 UOC to see if there is a need to request changes.

**10.3 NIPWG report**

Covered with 8.1

**10.4 NCWG report**

Covered with 2.5

**10.5 TWCWG report**

EM report from the TWCWG meeting, where he informed the group that S-111 is progressing well and that first edition is close to being finalized. He elaborated on the developments of S-104 and S-112. It was suggested that next draft of S-111 be reviewed by DQWG for data quality aspects.

* EM to contact Kurt Hess for sending the latest version to DQWG for comment.

**Any Other Business**

The meeting discussed the rules of procedure of correspondence, and agreed that correspondence within DQWG should include a deadline for response, and that lack of a response means the recipient agrees with the correspondence.

**Next meeting and dates**

It is proposed that June 13-15 be set as tentative dates for next meeting. Netherlands has offered to host in The Hague.

AC recorded actions