

**6th DQWG Meeting
Silver Spring, USA (24-26 July 2012)**

MINUTES

Meeting was opened by the DQWG chair Chris Howlett (CH) which welcomed everyone and proceeded with the domestics. The DQWG 6 agenda was approved by stunned silence, and the participants did their own introductions.

DQWG was welcomed to Silver Springs by John Nyberg (NOAA Deputy Director)

NGA thanked NOAA for taking over the hosting of the meeting

Agenda item 3 – Discussion of TSMAD DCEG assessment of Data Quality Proposals for S-100 register and S-101

Doc: DQWG6-03A TSMAD assessment of Data Quality Proposals for S-100 register and S-101

Julia Powell (JP), TSMAD vice-chair and S-101 work item lead, presented the NOAA paper on input to the data quality proposal for S-101. She expressed appreciation for work of DQWG, and made a strong recommendation to provide a mapping between S-57 and S-101 data quality. CH appreciated the point, and stated it was a consideration of DQWG and that the working group is working on it. However, he stated that if the portrayal investigations of University of Southern Mississippi (USM) show that something previously not captured is needed a direct conversion may not be possible.

Agenda item 4 – Acceptance of DQWG5 minutes and review of outstanding actions

Doc: DQWG6-04A Actions resulting from the meetings up to DQWG-5 and Status

Outstanding actions were reviewed.

DQWG3-1A: *SNPWG liaison work* – **Item closed**; DQWG will wait for SNPWG requests.

DQWG3-7A: *Fully quality attributed ENC test dataset* – **Complete**; superseded by DQWG6 agenda item 8

DQWG3-8A: *Education of mariners and cartographers* – **In progress**; CH has started preliminary discussions with UK maritime colleges. Work continues as the S-101 ENC Prod Spec is evolving. UKHO is working on a course for mariners in the use of ENC. CH will try to make contact with IAIN – International Association of Institutes of Navigation (www.IAIN.org). Dave Wells will contact Egyptian contact to see if IAIN can become involved in the work.

DQWG4-2A: *Provision of S-101 Data Quality Section to TSMAD* – **Complete**; Eivind Mong (EM) presented work to TSMAD23.

DQWG4-2B: *Development of S-101 Data Quality Section* – **Complete**; Work was completed and submitted to TSMAD23.

DQWG4-3A: *Display of quality indicators* – **In progress**; USM is involved, deadlines to be discussed during agenda item 8.

DQWG4-5A: *Amending UOC §2.2 on the use of M_QUAL and CATZOC* – **In progress**; CH to draft paper to be submitted to HSSC.

DQWG4-5D: *Dissemination of data quality knowledge to practicing mariners* – **In progress**; Progress report to be put together by Samuel Harper (SH) for the S-64 meeting in London, October. Key findings were distributed via IHO CL 58/2012.

DQWG4-8C: *HSSC WGs input to DQWG* – **Closed**; TWLWG did not have any input at this time.

DQWG4-9A: *DQWG Membership* – **In progress**; Google group has many limitations due to office e-mail restrictions. Therefore Google group will be discontinued and the IHB will keep a master list of DQWG membership. CH will send a shut down message.

DQWG5-1A: *IMO ECDIS Model Course* – **In progress**; CH & SH to draft paper to be submitted to HSSC.

DQWG5-1B: *Training of Mariners* – **Complete**; there is no international body of training institutes.

DQWG5-2A: *Sharing of data quality survey with CSPCWG* – **Complete**; SH provided paper to CSPCWG. No feedback relevant to the DQWG conclusions received from CSPCWG.

DQWG5-2B: *IHO CL reporting on the data quality survey results to MS* – **Complete**; see IHO CL 2012/58.

DQWG5-2C: *Reporting on data quality survey results to CSPCWG* – **Complete**.

DQWG5-3A: *Attribute SURTYP (Survey Type)* – **Complete**; was part of the DQWG submission to TSMAD23

DQWG5-3B: *Definition for Bathymetry* – CH proposed changes. HDWG is reviewing input. **Complete**.

DQWG5-3C: *Proposals for additions and changes to the Hydro Register* – **Complete**; submission was done to TSMAD23

DQWG5-4A: *Data quality of water level predictions* – **Complete**.

DQWG5-4B: *Existence Doubtful (ED)* – **In progress**; CH discussed with Andrew Heath-Coleman. CSPCWG to discuss and CH will follow up with Chris Jones.

DQWG5-4C: *Completion of S-100 Part 4C review* – **Complete**; To be discussed further during DQWG6 agenda item 9.

DQWG5-5A: *Data Quality in Nautical Publications (NPubs)* – **Complete**.

DQWG5-6A: *DQWG Work Plan* – **Complete**; Work plan will be further reviewed during DQWG6 item 12

DQWG5-7A: *Facilitating participation in next meeting* – **Complete**.

Minutes from DQWG 5 were reviewed and approved without change.

As a follow up to action **DQWG5-1A**: *IMO ECDIS Model Course*; DQWG6 decided to review IMO ECDIS model course. Upon review DQWG6 noted the data quality included in the model course is very high level. DQWG felt that the IMO model course is an outline targeted on training institutes and therefore the effort of IHO should not be on changing the model course, but rather for HSSC to task the working groups or a new working group to draft IHO input for training institutes. Draft prepared by CH and SH of DQWG submission to HSSC on a proposal to set up a new working group to develop IHO input to the IMO ECDIS model course was reviewed and approved. Further to **Action DQWG5-1A**: CH and SH to liaise with HSSC on the item.

Agenda item 5 – ToR - Discussion on feasibility of changes to S-57 DQ representation

Doc: DQWG6-05A DQWG Terms of Reference

Item is raised to respond to views discussed at an informal meeting under CHC2012. The view was to look at fixing the situation now, as opposed to focusing on S-101 only. DQWG found it was not necessary to modify the DQWG Terms of Reference to investigate changing data quality portrayal. DQWG found that changing the S-52 presentation is the best course of action.

Action DQWG6-5A: CH to inform the DIPWG chair of the DQWG intentions.

Action DQWG6-5B: SH and EM will produce first draft portrayal, and further input may be gained from the USM work.

Agenda item 6 – Finalise mapping of M_QUAL to QualityOfBathymetricData

Doc: DQWG6-06A Mapping of M_QUAL to QualityOfBathymetricData

The data quality model and mapping between M_QUAL and bathymetric quality was reviewed. The following changes were agreed upon for the data quality model:

- Positional uncertainty and vertical uncertainty need to be made into a complex attribute with a mandatory and an optional attribute. This is to allow for increasing uncertainty with depth.
- Add associations between quality of bathymetric and survey quality, and between quality of non bathymetric and survey quality.
- DQWG agreed with the comments from TSMAD DCEG subgroup that for category of temporal variation the value “event” wasn’t the best term and DQWG suggested “extreme event” instead, and welcomed input from the TSMAD DCEG sub group. DQWG also suggested that encoding guidance is given to say that when the extreme event is added, information or textual description is mandatory to further explain the extreme event and welcomed TSMAD DCEG to take note of this comment. DQWG wants to keep “likely to change” and “unlikely to change” as the attribute values.

A mapping with each of the CATZOC values is needed to assist in the convertor development. DQWG is working on mapping from M_QUAL to bathymetric data quality.

DQWG worked on a mapping between M_SREL and QualityOfSurvey. During the ensuing discussion the line spacing and measurement distance attributes were found to be of little value for surveys with full sea floor coverage, but there is value in retaining them to sufficiently describe other surveys.

Action DQWG6-6A: EM to update mapping between M_QUAL and bathymetric quality and distribute to group. DQWG to review and comment by end of September.

Action DQWG6-6B: EM to distribute updated data quality model to group. DQWG to review and comment by end of September.

Action DQWG6-6C: CH will write the table of the mapping of M_SREL and QualityOfSurvey.

Action DQWG6-6D: SH to capture the drawing from the discussion and write up further instructions of the use of the proposed features and attributes.

Agenda item 7 – Discussion on Leendert Dorst’s report on his visit to CSMART

Doc: DQWG6-07A Report of Visit to CSMART ALMERE (L. Dorst)

Leendert Dorst (LD) presented the report from his visit to CSMART training institute in Netherlands. CSMART focuses much attention on the soft skills of the mariners, such as making each officer responsible and checking each other, they train as a means to reduce risk. They provided input to what they would like data quality in the future to be. During the planning phase they would like to see more details, while during route execution, a quick/on off layer is desired. Go/no go was not desired, but rather a quantified risk expression to allow the mariner the choice.

CSMART would like to have examples of when things went wrong, to help spark discussion in the class room. Any HO wishing to support this should send the example to LD.

Agenda item 8 – Discuss University of Southern Mississippi (USM) proposals on data quality architecture

Doc: DQWG6-08A Proposals on chart quality portrayal USM-UNH)

David Wells (DW) gave a quick presentation about the use of the SPINE network in the St. Lawrence River in Canada.

DW went through his paper presenting the USM proposal on how to approach visualization of data quality. The 12 axioms in his paper were discussed. The composite parameters (axiom 8) are an item which is highlighted with some disagreement. DQWG would like to have a bit more clarification on composite indicators, for their components to be more useful to the mariner and for this to be tested. DW to update the list based on the discussion.

Sean Legeer (SL) will provide NOAA data as test data. If any attribute combination is not available from NOAA, CH will look into providing UKHO test data.

The test beds first stage is proposed to be the generation of an MIO which will drive the colour coding areas. The display would show the colour coding of each of the attributes at one time. Stage

one does not include a composite view of the attributes as a deliverable, but will be attempted as a “stretched deliverable”.

SH to provide the methodology of the DQWG survey and the contact information of those respondents who indicated they’re interested in being contacted.

Brian Heap (BH) will assist. Cameron McLeay (CM) can host the survey and additional information on the HGMIO website.

Stage two of the USM proposal is based on work by Brian Calder. Work is mostly contained in an unpublished paper. DQWG found the input from Brian very promising and very interesting, but simultaneously had many questions about the feasibility of the approach. DQWG made a number of suggestions that DW will bring to Brian. Primarily DQWG wishes that Brian further review the proposal and determine the level of effort needed to make generating the risk maps feasible. DQWG noted that for S-102 the approach will probably be very appropriate, also noting that S-102 v 1.0.0 has no portrayal. It was also noted by LD that the work can significantly contribute to survey planning.

DW has been in contact with Colin Ware (University of New Hampshire) on a possible cooperation in looking into visualization of data quality. Colin is willing to help if an appropriate partner can be identified to join the search of a practical solution.

DQWG approved the work plan and will endeavour to assist where possible.

Action DQWG6-8A: DW to progress the investigation into visualization of data quality.

Agenda item 9 – ISO 19115 / ISO 19157 review

Docs: DQWG6-09A Existing version of ISO 19115 - Metadata (Part I)
DQWG6-09B New version of ISO 19115 - Metadata (Part I: Fundamentals) - under preparation
DQWG6-09C Existing version of ISO 19115 - Metadata (Part II: Extensions for imagery and gridded data)
DQWG6-09D Existing version of ISO 19157 - Geographic information - Data quality

EM opened with a high level summary of why DQWG is looking at the ISO 19115 and 19157 standards. He pointed out the sparse representation of data quality in S-100, and that HSSC & TSMAD have asked DQWG to propose an improvement to S-100 Part4 C (see DQWG Work Programme task A). SH then gave an overview of 19157 pointing out that it is not a clear fit for the data quality as understood by DQWG. SH proposed a DQWG sub group be established to take on the work item. Overall, DQWG did not feel comfortable with the ISO documents to form a sub group at this time.

Action DQWG6-9A: DQWG membership to become more familiar with the ISO documents, with particular focus on ISO 19157, by DQWG7

Action DQWG6-9B: CH to discuss assistance from TSMAD in developing the improvements to S-100 and the S-101 Data quality model.

Action DQWG6-9C: DW to distribute the ISBN number of an introduction document to TC211.

Agenda item 10 - Any Other Business

Docs: DQWG6-10A Depiction of CATZOC for Unsurveyed Areas after Disaster (Japan)
DQWG6-10B Chart action taken after the great Earthquake and the great Tsunami (Japan)

Paper from Japan on CATZOC following an extreme event was reviewed. DQWG considered that U was not appropriate due to the lack of information it provides. CATZOC D was found more appropriate as the definitions seem to fit with the conditions after an extreme event like the earthquake and following tsunami is.

Action DQWG6-10A: CH to respond to Japan with the recommendation of DQWG to their.

SNPWG 14 report was reviewed for output on data quality. The action is for EM to continue the liaising with SNPWG on data quality.

Action DQWG6-10B: EM to liaise with SNPWG.

BH asked DQWG to note the imminent emergence of 3D products and to start considering data quality aspects of such products. In particular to be noted as the S-100 data quality section is developed.

LD informed about a request from Don Ventura of the possibility of an informal DQWG meeting during Hydro2012. The meeting could deal with any follow up actions from SH presentation on the DQWG work.

Action DQWG6-10C: SH and LD to organize open ad-hoc meeting during Hydro12.

DW went though the actions he had collected related to data quality portrayal project.

Item 11 Elections of chair and vice chair of DQWG

Docs: DQWG6-11A DQWG elections
DQWG6-11B rev1 List of candidates

Chris Howlett (UKHO) was the only candidate for chair. No objections or abstaining members was received and CH was elected.

Leendert Dorst (Netherlands) was the only candidate for vice-chair. No objections or abstaining members was received and LD was elected.

Item 12 Review of DQWG work programme

Doc: DQWG6-12A DQWG Work Programme

Task A: Add ISO 19157 to the list of standards under review. Change priority to high.

Task B.1: Complete, to be removed

Task B.2: Complete, to be removed

Task B.3: Ongoing, change milestone to DQWG7. Change end date to 2013. Change contact to USM. Change remark to “assess USM input to DQWG7 for impacts on the model”.

Task C.1: complete, to be removed

Task C.2: complete, to be removed

Task C.3: change to complete. Add remark, DQWG concluded change is not relevant. See DQWG submission to HSSC4.

Task C.4: Add milestone DQWG7. Add remark “Investigate via IAIN additional data quality training”

Task D.1: Change to complete. Change remark to “see IHO CL 58/2012”

Task E.1: change milestone to “DQWG7”. Change contact person to USM. Change remark “Logic to be discussed following USM input to DQWG7”. Change to planned task. Remove end date.

Task E.2: change milestone to “follows USM stage 1”. Change start date to 2012, change end date to 2013. Change contact person to USM.

Task F.1: Change status to Ongoing. Change contact person to Eivind Mong.

Action DQWG6-13A: CH to update work programme.

Item 13 Tidy up any outstanding actions prior to HSSC4

No actions to review at this time.

Next meeting

CHS has offered to host DQWG7. A 3 day Meeting in the early July 2013 time frame and venue within Canada to be determined.

CH thanked everyone for their participation and specially thanked the hosts for their efforts and generosity.

Annex A – Participant List

Name	Member State
Michel GOGUEN	Canada
Leendert DORST	Netherlands
Kennet GUSTAFSSON	Sweden
Eşref GÜNSAY	Turkey
Chris HOWLETT (Chair)	United Kingdom
Sam HARPER	United Kingdom
Sean LEGEER	USA (NOAA)
Lucy Hicks	USA (NOAA)
Jerry Mills	USA (NOAA)
Brian HEAP	USA (NGA)
Michel HUET	IHB
Name	Organization
Cameron McLeay	CARIS
Eivind MONG (Secretary)	Jeppesen
David WELLS	University of Southern Mississippi
Kandice GUNNING	University of Southern Mississippi

Annex B – Open actions

- **DQWG3-8A:** *Education of mariners and cartographers*; CH has started preliminary discussions with UK maritime colleges. Work continues as the S-101 ENC Prod Spec is evolving. UKHO is working on a course for mariners in the use of ENC. CH will try to make contact with IAIN – International Association of Institutes of Navigation (www.IAIN.org). Dave Wells will contact Egyptian contact to see if IAIN can become involved in the work.
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- **DQWG6-10A:** CH to respond to Japan with the recommendation of DQWG to their paper.
- **DQWG6-10B - SNPWG on data quality:** EM to liaise with SNPWG on data quality.
- **DQWG6-10C:** SH and LD to organize open ad-hoc meeting during Hydro12.
- **DQWG6-13A - Review of DQWG work programme:** CH to update work programme.