

**Paper for Consideration by HSSC****Comments on Paper HSSC9-05.5E**

<b>Submitted by:</b>	Data Quality Working Group (DQWG) – Chair & Vice-Chair
<b>Executive Summary:</b>	This paper comments on the HSSC9-05.5E paper and addresses questions brought up in the same paper.
<b>Related Documents:</b>	HSSC9-05.5A, HSSC9-05.5B, HSSC9-05.5C, HSSC9-05.5D
<b>Related Projects:</b>	S-100, S-100 product specifications.

**Introduction / Background**

During the June 2017 meeting of the DQWG in the Netherlands the group decided to update its terms of reference (TOR) in an effort to refocus the group and find a more appropriate path forward.

The draft TOR were send for approval to all DQWG members, including those not present at the meeting. No objections to the draft TOR were received. A report of these activities and the new terms of reference was sent to HSSC for approval at the upcoming HSSC09 meeting in Ottawa, Canada. Sometime after the submission of the report and updated TORs, a paper (HSSC09-05.5E) was submitted to HSSC by the Nautical Information Provision Working Group (NIPWG) that questions the updated TORs and the working group's activities.

**Analysis/Discussion**

The change to the terms of reference is not a proposal to extend the current responsibilities of the DQWG. The goal is to refocus the activities so that it applies to all digital hydrographic data. The change also reflects how the current membership is changing its focus to work on other S-100 base product specifications. For example, the need for data quality in future product specifications such as nautical publications, weather information, tides and currents would also be beneficial. This is something the group has already started to work on by extending the current data quality model to include certain attributes that would apply to newly created draft product specifications.

The current membership is not completely made up of hydrographic surveyors. There are indeed hydrographic surveyors but there are also cartographers and professionals from other disciplines within the group. The current members of the Data Quality Working Group overtime have developed significant expertise in data quality regardless of their academic and professional training, whether it be physical science, hydrographic survey or cartography. The group also invites HCCS to ask countries currently not participating in the Data Quality Working Group to send participants, particularly if they had any experience in data quality or related fields.

The Data Quality Working Group believes strongly that the continuity between data quality modelling in different product specifications is very important. Any delays caused by the review and endorsement the model by the Data Quality Working Group will be minimal and far outweighed by the benefit. This is also, why the group is calling for better participation between working groups so that delays are minimized.

At the IHO Council Meeting, 17-19 October 2017 in Monaco, Programme 2 (Hydrographic Services and Standards) Decision A1/08 was agreed. The Assembly urged Member States to contribute more actively to the implementation of Programme 2 and to maintain the relevant expertise. The following six Programme 2 Priorities 2018 were established:

1. Develop an S-100 Interoperability Specification  
Issue/Risk: Critical to the S-100 concept itself
2. Develop all the components needed to make S-101 a reality  
Issue/Risk: Nomination of new S-101 Project Team Manager
3. Develop S-121 Product Specifications for Maritime Limits and Boundaries  
Issue/Risk: Product expected by DOALOS
4. Consider data quality aspects in an appropriate and harmonized way for all S-100 based product specifications.  
Issue/Risk: Inconsistencies when S-100 based products start to become available.
5. Prepare Edition 6.0.0 of S-44  
Issue/Risk: Scope of work
6. Develop initial guidance on definition and harmonization of Maritime Service Portfolios  
Issue/Risk: Lack of resources. Strategy driven by OEM, rather than by IHO/IALA/IMO.

Priorities 1, 2, 3 and 4 coincides with the new main objective in the proposed TOR of the DQWG: "To ensure that the data quality aspects are addressed in an appropriate and harmonized way for all S-100 based product specifications."

Answers to questions in paper HSSC09-05.5E

- A) DQWG proposes a checklist that would help working groups stay consistent with current and future specifications when developing data quality in a S-100 based product specification. The checklist would also act as a guide to section 4C of S-100. This section borrows heavily from ISO standards 19115 and 19138 and are not easily understood and interpreted.
- B) Members of the working group would base the periodic review of other products specifications around DQWG meetings. DQWG schedules their meetings ahead of other working group's meeting so that feedback can be provided in advance. The working group would also like to schedule meetings at the same time of other working groups so participation and cooperation can be maximized.
- C) ISO standards that apply to geographic information have been updated periodically in the past. DQWG would simply monitor standards that have sections that are relevant to data quality.
- D) The United States is currently updating all NOAA electronic charts with data quality information. When starting this multi-year project, the United States discovered that there was little guidance available. It was only through participation with the DQWG that guidance was obtained. While working on S-57 implementation of data quality, the working group has discovered many countries are interpreting the standard differently. Particularly the use of the attribute CATZOC and the lack of temporal degradation of quality data. The working group believes that other countries will have this problem once they start populating data quality in S-57 electronic charts. Guidance from the working group will help mitigate this.
- E) The working group has found that metadata on charts representing data quality is not understood by mariners and is rarely used. Therefore, special education

materials are required and are currently being developed by the working group. The need for mariner education will be magnified when S-101 is released.

- F) Visualization of data quality on nautical charts is highly complicated and will be extremely hard to implement in S-101. The DQWG believes that it should have input in creating visualization in an S-101 ENC having built the model that will drive the visualization.
- G) The DQWG would advise that purposely encoding data quality incorrectly or exaggerating the information in any nautical products may have legal ramifications. Moreover not encoding the information when it is available could also result in misinterpretation and possible legal ramifications.
- H) Like all working groups, their topics can evolve resulting in the possibility of new work items with the approval of HSSC.

## **Conclusions**

The overall objective of the proposed terms of reference coincides with the priorities of workplan 2 as endorsed by the first Council of the IHO, namely to consider data quality aspects in an appropriate and harmonized way for all S-100 based product specifications. Members of the Data Quality Working Group have developed an expertise that is valuable to all S-100 product specifications. The working group has regained momentum and working very well via correspondence. With the new terms of reference, the working group will have a clear focus on how to proceed. This has re-energized the members and the group is asking for more members to participate from other countries. Norway has already assigned a new active member to the working group. Finland has assigned a new active member, replacing the former active member and giving continuing contribution to the Data Quality Working Group.

## **Recommendations**

HSSC is invited to agree with the overall objective "To ensure that the data quality aspects are addressed in an appropriate and harmonized way for all S-100 based product specifications." is a priority of HSSC for 2018 and onwards. Furthermore HSSC is invited to balance the arguments how this objective is to be achieved taking into account paper HSSC9-05.5B, HSSC9-05.5E and this paper.

## **Action Required of HSSC**

HSSC is invited to:

- note and discuss on this paper
- agree with the recommendations