S-101PT12-06.13

Paper for Consideration by S-101PT

Alignment of attribute "*quality of horizontal measurement*" with S-4

Submitted by:	France
Executive Summary:	Attribute "*quality of horizontal measurement*" needs to be aligned with the latest decision taken by the NCWG.
Related Documents:	S-101FC, S-101DCEG.
Related Projects:	S-101, S-4 (includes INT1).

Introduction / Background

1. At the S-101PT meeting 6 (VTC, Feb. 2021), it was agreed to reduce the list of allowable attribute values for ***quality of horizontal measurement*** in S-101 to *4* (approximate) and *5* (position doubtful). Refer to paper S-101PT6-14 (https://iho.int/uploads/user/Services%20and%20Standards/S-100WG/S-101PT6/S-101PT6_2021_14_EN_Quality_of_Horizontal_Measurement.pdf). This decision was effective in S-101 FC 1.0.1.
2. At the NCWG meeting 8 (Wollongong, Nov. 2022), it was agreed to merge abbreviations PA and PD on paper charts, in favour of PA. Refer to paper NCWG8-06.7A. Note: although agreed at the NCWG8, this proposal has not yet been officially approved by this WG (Letter to be prepared by the Chair).
3. Thus, there are currently 2 allowable values for ***quality of horizontal measurement*** in S-101, while only one abbreviation (*PA: Position Approximate*) will be used on paper charts. Given the fact that both ENC and paper chart products are issued from a same database, there is no necessity to keep 2 allowable values in S-101.
4. It seems useful to anticipate the future changes in S-4 and align S-101 data model for edition 2.0.0 accordingly.

Analysis/Discussion

5. To align S-101 with S-4, 2 options are suggested:
   - Option A: Reduce the number of allowable attribute values for ***quality of horizontal measurement*** to one value (*4*: Approximate);
   - Option B: Create a new Boolean attribute ***position approximate*** (or ***position unreliable***) in place of ***quality of horizontal measurement***.
6. Option A has the advantage of not changing the current data model in S-101. The impact would be limited to an limited update of the S-101 FC, PC and DCEG.
7. Option B seems to be a more appropriate with the use of a Boolean attribute. The impact is more important as there would need to be a change in the IHO registry. Moreover, other S-1XXPS already use attribute *quality of horizontal measurement* (ex: S-122) and having two different attributes to encode the same concept should be avoided as it could have a negative effect on interoperability. If this option is preferred, a proposal could be made to the S-1xx Project Teams to also adopt this Boolean attribute in place of *quality of horizontal measurement*.
8. If option B were retained, the following description is suggested to be added in the DCEG (Clause 28):

   28.xx position approximate

   IHO Definition: **POSITION APPROXIMATE**. An indication that a position is not reliable at the product scale.

   Attribute type: Boolean

   Indication: A True value is an indication that the position cannot be trusted on at the product scale.

   Remarks:

   - No remarks.

Conclusions
In order to have a data model that is consistent for both ENC and paper chart products, it seems beneficial to anticipate the future version of S-4 and align S-101 2.0.0 accordingly.

Recommendations
It is recommended to change S-101, based on option A or B described above.

Action Required of S-101PT
The S-101PT is invited to:

a) Discuss this paper;
b) Agree on the best option;
c) Take any further action if needed.