CSPCWG6-08.7A

6th CSPCWG MEETING
IHB, Monaco, 1-3 December 2009

Paper for Consideration by CSPCWG

Chart Accuracy notes

Submitted by:	UK
Executive Summary:	Chart accuracy notes have been in use for at least a decade. It is time to reassess the appropriate wording and application of the notes.
Related Documents:	S-4.
Related Projects:	None

Introduction / Background

Chart accuracy notes were introduced at least 10 years ago in the Baltic Sea area. There was concern that mariners would rely on the newly available accuracy of GPS fixing and, by assuming that the chart detail was surveyed and portrayed to the same level of accuracy, navigate dangerously close to charted features. UK also adopted the practice on selected charts of scale about 1:50 000 and larger, where the source data is known to be less accurately positioned than positions possible by GPS fixing.

Analysis / Discussion

S-4 states:

B-202.4 Chart Accuracy. In many parts of the world, even the most recent data available may have been gathered when survey methods were less sophisticated than they are now and the achievement of accuracy currently available with GPS was not possible. In these areas, GPS positions available to the navigator may be more accurate than the charted detail. Therefore, in such circumstances, the following note may be combined with the appropriate note at B-202.3:

> However, due to the age and quality of some of the source information, such positions may be more accurate than the charted detail.

UK received consistent user feedback that this wording caused confusion. UK now uses a stand-alone note with the following wording, which is believed to be easier to understand:

> CHART ACCURACY
>
> Owing to the age and quality of the source information, some detail on this chart may not be positioned accurately. Particular caution is advised when navigating in the vicinity of dangers, even when using an electronic positioning system such as GPS.

The S-4 extract above gives no guidance on the scale of chart for which such notes are appropriate. Generally, in UK such notes were applied only to fairly large scale charts (eg 1:50 000 areas with a rocky seabed). Recently, UK has been assessing all charts which are stated to be on 'undetermined datum', so that ENC derived from them can be referred to WGS84. As a beneficial side affect of this work, many more paper charts themselves can now be shifted to WGS84 or have Satellite-Derived Positions shift notes (B-202.3) added to them.

However, in many cases, the shift is not a precise single value ('block') shift. Normally, the accepted tolerance is 0.3mm (see B-202.2); nevertheless, UK has decided that if any resultant positional discrepancies are up to 2mm at the scale of the paper chart, the shift or shift note may still be applied, provided a Chart Accuracy note is also added. Some charts affected are at a much smaller scale than those to which such notes have previously been applied.

Conclusions

The chart accuracy note example in S-4 should be amended.
Chart accuracy notes can be used in cases of approximate datum transformations, with agreed tolerance (suggested 2mm). This will enable progress with ENC production.

Recommendations
As above.

Justification and Impacts
Justification:

- Improved wording for a standard chart accuracy note will enable better user understanding of the necessary caution required when using GPS for position fixing.
- The use of a chart accuracy note may enable datum transformation to WGS84 to be applied, where it is believed to be within acceptable tolerance (ie 2mm).

Impact:

- Minor change to S-4

Action required of CSPCWG
The CSPCWG is invited to:

a. discuss the issues
b. agree wording of a revised note
c. agree that the note can be used in the case of approximate datum transformations, within agreed tolerance (suggested 2mm)
d. decide on any changes required to S-4.