

9th CSPWG MEETING
Seoul, Republic of Korea, 13-16 November, 2012

Paper for Consideration by CSPCWG
Strengthening requirement to construct charts on WGS84

Submitted by:	Chairman (UK)
Executive Summary:	To discuss the strength of guidance relating to the construction of paper charts on the global horizontal reference datum WGS84 (World Geodetic System 1984)
Related Documents:	S-4, S-11 Part A
Related Projects:	

Introduction / Background.

Historically paper charts have been constructed and positioned on a variety of local, national and regional horizontal datums. Many of these charts remain current within the portfolios of individual MS's chart series.

Analysis / Discussion.

S-4 B-201 states

B-201.2 The **World Geodetic System (1984) (WGS84)** should be used as a basic worldwide reference system for nautical charts until an adequate alternative geodetic datum is adopted by the relevant international organizations to be used as the international geodetic reference system for cartographic work on land and sea areas.

B-201.3 Internationally recognized **regional datums or local datums** may continue to be used for the graduation of paper charts in areas where they apply; however, a transformation adjustment to WGS84 should be included on any such chart (see B-202).

UK's understanding is that the adoption of WGS84 Datum, or its equivalent, for all charting is a long term objective of the IHO and, by extension, all chart-producing MS. This supports international standardization of position referencing across nautical products and services, mitigates the risk of error arising from misunderstanding and/or mis-converting positional information, and thereby eases the task of the mariner. Further, it meets users' needs and expectations in today's navigation environment.

Mariners are increasingly reliant on GNSS for their navigation and positioning. The understanding and practical application of 'traditional' positioning techniques may be declining, notwithstanding the good practice of not relying on a single positioning tool.

ENCs must be referenced to WGS84; and positional quality attributes are available to provide further information within the ENC dataset (e.g. accuracy, CATZOC).

In positioning chart source data during chart compilation, it is recognised that the vast majority of this data was acquired before the advent of accurate satellite-derived positioning and thus needs to be 're-positioned' to make it compatible with a WGS84-referenced chart frame. For HOs, standardizing the position reference of data will bring benefits for processes and, indeed, may be an essential requirement (e.g. in populating a coherent database).

UK has for many years pursued conversion to WGS84 Datum as part of its chart modernization, wherever possible. However, this is not yet complete and opportunities to modernize in this aspect have been missed. Further, adoption of others' charts adds another complication. Accordingly, UK is pressing to make all its

charts referenced to WGS84, with only limited exceptions (e.g. very urgent time-constrained chart editions, honouring bilateral arrangements with another HO for adopted charts). This explains the dialogue that UK is seeking with producer nations on this matter. It is hoped this approach will accelerate the timescale in reaching the objective.

In planning its work, UK has recognized issues such as:

- Consulting all appropriate authorities, noting the potential impacts on, for example, legal statutes, territorial considerations, positions given in shipping broadcasts, etc.
- Managing the transfer in a coherent programme to avoid a mix of charts on different datums in the same region for any significant period.

Conclusions.

As a community, are we giving this matter sufficient priority in our chart maintenance plans?

Recommendations.

To undertake a review of the clarity and emphasis of this principle in our documents.

Justification and Impacts.

To accelerate the adoption of WGS84 Datum, or its equivalent, for all charting in accordance with the objective of the IHO and the expectations of the mariner.

The potential to improve the guidance in S-4 and S-11A.

Action required of CSPCWG.

The CSPCWG is invited to:

Endorse the principle outlined above

Advise on the how this guidance may be given greater impetus with chart producers.