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**REPORT ON ERROR
MODEL MANAGEMENT
COMMITTEE**

Magnetic Model Errors

- ⦿ Benny presented a comparison of the IGRF, BGGM and HDGM magnetic models and raised issues with revision 4
 - The statistical handling of percentiles is complex when the distribution is not Gaussian.
 - The error model values we have now are assuming BGGM and similar tables would be needed if other models were used.
 - The look up tables are currently based on geographic latitude and longitude and may need updated roughly every 5 years due to secular variation.
- ⦿ There is concern that the current weighting functions may need to be expanded to allow for model accuracy at high latitudes with a random error component that weights with \tan latitude or \tan dip angle. This will enforce good practice at high latitudes without using LUT's.
- ⦿ Generic error model should be based on IGRF uncertainties. Other term values can be implemented if WMM or BGGM etc are used.

Action Points

- ◉ Harry Wilson showed the random components used by Baker. He will send out for review by others.
- ◉ Another meeting needed to agree magnitudes and weighting functions for implementation with existing error model. Action Steve G.
- ◉ It was generally felt that the current model cannot be too inadequate or we would be seeing greater disagreements with gyros, or failing too many BHA's on mag interference.

Sag Model

- ◉ Anas Sikal presented a proposal to increase misalignment at low inc to allow for mechanical misalignment not gravity dependent.
- ◉ To keep the model from becoming over complicated it may be better to use the existing missal terms. Recommendation to come from Drilscan.
- ◉ Generally felt that this should be addressed by the sub committee and a proposal will be prepared for next meeting.
- ◉

AOB

- ◉ Baker will distribute models for all tools including obsolete tools for general use.
- ◉ Minutes required for future EMM sub group meetings
- ◉ Current model needed on website with examples.
 - Standard, sag, mag and floating.
- ◉ Action to create a single model combining gyro and error models into one integrated error model.
- ◉ Latest model implemented should be written up (including pitfalls in implementation) and available on the website. Include expansion of test profiles.
- ◉ e-book ready now and docs by year end