SPE Wellbore Positioning Technical Section

Collision Avoidance Work Group

7th meeting, Marriot Hotel, New Orleans, 7th October 2009

Present:
Darren Aklestad, Bill Allen, Andy Brooks, Steve Grindrod, Phil Harbidge (minutes), Mark Michel, Simon McCulloch, Wayne Phillips, Benny Poedjono, Ludovic Macresy, Shola Okewunmi, Anas Sikal, Harry Wilson (group leader).

Apologies:
Stein Harvardstein, Angus Jamieson, Jim Towle.

Agenda

- Sign off changes to documents
- Progress on the Process Management task
- Progress against original objectives

Harry Wilson having taken a roll call of those present, Shola Okewunmi suggested that members that failed to attend for 3 or more consecutive meetings are removed from work group distributions. Those present agreed that membership would end after 3 successive no shows.

Sign off changes to documents

Harry Wilson told the group that the Bibliography document will be published in December 2009.

He has separated publications into the following three groups:
SPE Peer reviewed journal published
SPE Non peer reviewed
Other publications

Harry Wilson called for suggestions for adding to the bibliography.

Action
Benny Poedjono will send some additional papers to Harry

Harry Wilson asked if the group had any additions to the Lexicon document.
The Group did not offer any new additions to the lexicon document.

The current version will be reissued named as the 2010 version

Harry Wilson then reviewed the Current Common Practice (CCP) Document

Section 2.6. The inclusion of a table of probabilities was proposed and accepted, but Darren Aklestad suggested changing the table to round to nearest percent and include equivalent standard deviations.

Action
Darren Aklestad to send Harry Wilson tables for 2 different ways of expressing PU.

Section 2.7. Steve Grindrod proposed inclusion of a reference to the recent British Geological Survey/Steve Grindrod, since it clarifies the distribution table content.

Action
Harry Wilson to include paper reference in 2.7.

Section 2.8. Shola Okewunmi asked for clarification of the last sentence in (surface location uncertainty) Harry Wilson confirmed that bullet 3 was the recommended practice.

Section 2.9. Harry Wilson asked if the group had any objection to including Andy Brooks' suggestion to avoid using the term negative correlation in. There were no objections.

Section 2.10 Bill Allen and Benny Poedjono suggested that gross error would be a better description rather than mistake. Harry agreed that a gross error may not be a mistake. No objections to including gross error in 2.10.

Section 4.0. Harry Wilson asked if everyone, particularly the companies who use bias error terms, was happy with the inclusion of the recommendation that axial mag interference be not treated as a biased term.

Simon McCulloch stated that analysis of data from the North Sea indicated that axial magnetic interference does not show a significant bias. Harry Wilson reviewed the BHA pole strength data that he had presented at ISCWSA 19 which showed an insignificant bias.

Bill Allen stated that BP's use of mag interference bias in MWD magnetic model is always conservative.

There were no objections to retaining the recommendation.

Harry Wilson said that he assumed that all members would push for adoption of the recommendations in their own organizations.

Action
Harry Wilson to complete revision and send to Steve Grindrod for publication.

Progress on the Process Management task
Harry Wilson reminded the Group that Andy Brooks' sub group investigating probability of collision calculation method had completed its work as far as it could and had disbanded, leaving only Bill Allen's Collision Avoidance Process Management sub group active.

Andy brooks' added that one reason for his sub group disbanding was that it was difficult for contractors to work collaboratively on the subject.

Harry Wilson asked Bill Allen to report on progress with developing a document describing the process of managing collision avoidance.

Bill said that he had had been working with other operating companies on his draft proposal and had received feedback from Chevron, Devon, ExxonMobil and Shell, and was awaiting feedback from Maersk and Statoil. Bill said he hoped that the document would guide training in this area and possibly a guide to audit.

It was agreed that Bill would forward his draft to the sub-group for their contributions so that a rev A could be discussed by the Work Group at the next meeting in spring 2010.

Review progress against objectives and outstanding action items

Harry Wilson said that the objectives of education, review of current methods, and recommending practice will be complete with the 2010 revision of the Group's publications. He then reviewed the Group's actions and decisions in detail, by stepping through key points from the minutes of past meetings, confirming everyone's agreement on the decisions made and identifying outstanding action items.

Shola Okewunmi proposed a better annotation of position uncertainty reports. Differences in results from different contractors were often due to different choices made for the several calculation variables, but these were not evident in the report and were difficult to identify.

Wayne Phillips pointed out that it might be difficult to show all of the settings on the report, and that it might be necessary to agree on shortened descriptions for predefined combinations that are documented elsewhere.

It was agreed that standardization of reporting was desirable, but Harry Wilson said that it was a task that was not specific to Collision Avoidance and could be dealt with outside of this Work Group.

Action
Shola Okewunmi to form a new team, possibly within the Error Model Work Group, to review current software companies' annotations to make recommendations for a standard annotation defining how position uncertainty calculation variables have been set.

Regarding the task of evaluating alternative distributions to the normal distribution, it was noted that nothing had been heard from Statoil on the second part of their sponsored Msc project.

Action
Harry Wilson to ask Erik Nyrnes for feedback on second part of the report requirement.

Discussion regarding the work done on evaluating alternative distributions and the decision that it was necessary to continue to use the normal distribution, led to agreement that error model inputs are best determined by determining the test data's 95.4% confidence interval and dividing by 2 to establish 1 standard deviation.

Action
Harry Wilson will include this recommendation in the Current Common Practice document.

Harry Wilson noted that, in addition to setting out best practice for implementing current R type rules, it been agreed to consider making recommendations for an improved R type rule. This centered on the best method of defining ellipsoid proximity. It was agreed that the biggest weakness was the use of two uncertainty estimates, one on each well. It was preferable to combine the uncertainties into one relative uncertainty, as is done for the application of P type rules. Harry Wilson noted that this option was already introduced to the CCP document as one of the R type options in the table in section 3.0, and not excluded by the definitions of R type rules given earlier in the document.

It was pointed out that correlation of errors must be properly taken into account, and that our recommendation should be qualified by this requirement.

Action
Harry Wilson to include a reference to this option in section 2.4 and to add it as a recommendation in section 4.0

Andy Brooks demonstrated that Pedal curve combined is not is not correct in all circumstances i.e. two wells parallel EOU overlapping will be more conservative. Needs to be managed but agreed safe to use currently. However it is proposed to recommend combining to single ellipse and use pedal curve method.

AOB
There was no other business.

Close of meeting