



Minutes of the 28th
Meeting of the

**Industry Steering
Committee on
Wellbore Survey
Accuracy**

and

**SPE Wellbore
Positioning Technical
Section**

Sheraton Hotel,
Denver, USA
September 25th 2008



Attendees:

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** Minutes

1. Admin

After Chairman Angus Jamieson's welcome, Harry Wilson reminded everyone that elections were to be held at this meeting for the 4 Board of Officers positions which had reached the end of their term; these being Program Chair, Secretary, Treasurer and Web Master. As required by the Section constitution, the three non-officiating members of the Board had canvassed for nominations, but the constitution also allowed for nominations from the floor. Therefore anyone wishing to stand for election should make themselves known before the election, which would take place later in the day.

2. Collision Avoidance Work Group – Status Report

Harry Wilson reported that the Group had met the previous day. The minutes of that meeting are attached. (Note that the minutes of each work group meeting are available on the Section web site.)



CoCollision
Avoidance_Minutes [

Regarding the educational documentation, the lexicon and the Collision Avoidance bibliography had been subject to minor revision (*published on the ISCWSA web site, 1 Oct 08*), while the Current Common Practice document was still being worked on, but would be published before year end.

John Thorogood asked if this document made recommendations as to best practice. Harry said that it was his preference to do so, but a pole of the Group at the start of the project had indicated resistance to making recommendations. John felt that this was a missed opportunity. Harry agreed and asked the Section members if anyone still disagreed with the proposal to identify recommended practices from the range of practices currently employed. No one voted against and it was therefore agreed to include recommendations in the next revision of the document.

With respect to other tasks to be taken on by the Work Group, Harry reported that two smaller groups had been formed; one to look at the optimum probability distribution and optimum calculation of probability, the other to look at collision avoidance policy and procedures.

3. SF by Expansion

Angus Jamieson presented a new method of calculating Separation Factor for collision avoidance monitoring. He had presented the method briefly at previous meetings, but now gave a fuller description of the method, including the possibility of deriving a probability value from the separation ratio.

One benefit of the method is that it does not suffer from the problem of determining ellipsoid separation that is a weakness in other SF calculation methods.



Separation Factor by
expansion.pptx

4. A New Look at Wellbore Collision Probability

Andy Brooks repeated his ATCE presentation of SPE 116155. Like Angus' presentation, this work is aligned with the Collision Avoidance Work Group's investigation of improved methods of calculating probability of intersection.



SPE-116155.ppt

Simon McCulloch asked if the method could be applied to Travelling Cylinder diagrams. Andy said that it could.

The question of how to quantify the risk of collision from several offset wells was asked. Andy said that he recommended treating each offset individually.

5. Election of Officers

Harry Wilson reported that no additional nominations had been received, and therefore there was only one candidate for each post, as follows:

- Program Chair, Simon McCulloch, Maersk
- Secretary, Phil Harbidge Baker Hughes INTEQ
- Treasurer, Robert Whyllie, NOV (incumbent)
- Steve Grindrod, Copsegrove Developments (incumbent)

Harry asked if anyone present had objections to any of those named being appointed to the Board of Officers. There were no objections, and therefore Simon, Phil, Robert and Steve were considered elected, with their term of office to begin immediately following the meeting.

Harry explained that the Program Chair automatically accedes to the post of Chairman, and that the latest version of the constitution requires staggering of the election of the Program Chair/Chairman with that of the other three officers. Because of this requirement, it had been decided, at the previous meeting, that the newly elected Program Chair should become Section Chairman after only one year. This means that Simon will succeed Angus immediately after the 2009 AGM.

6. From ISCWSA Formalisation to Relief Well Real Case Study Application



Drillscan_Mag
ranging on relief well.

Anas Sikal of DrillScan described how magnetic ranging was being used in conjunction with survey position uncertainty calculations to drill a relief well. The relative position uncertainty of the offset was initially defined by the ISCWSA model's uncertainty prediction for both wells, then the offset well's position relative to the reference well was updated each time magnetic ranging was achieved. However, the ranging device's specification is not quantified in the same terms as the ISCWSA model, and Anas described how the ranging tool's "window" of uncertainty was converted into a sphere of uncertainty for summation with the incremental survey uncertainty quantified from the ISCWSA model. Relative position uncertainty was used to determine when the next ranging run was required.

Olli Coker mentioned a recent study of relief well interceptions had indicated that the chances of killing the well were only 1:20 if a direct hit was not achieved. Chuck Asfahl said that Tensor's experience indicated much higher success rates for close passes. Simon McCulloch asked if magnetic ranging had been applied as a method of collision avoidance. Others answered that passive ranging had been used for collision monitoring.

7. Error Model Simplification Project

Angus Jamieson recalled discussions from previous meetings on the subject of the possibility of revising the ISCWSA models such that they are simpler and easier to implement successfully in software. Angus said that several Operating companies were interested in achieving more reliable and consistent implementation of the ISCWSA models, and interested in funding such a project.

Jon Bang presented a SINTEF proposal that was intended to achieve the Operating companies' objectives. The broad scope of the proposal is the revision of the ISCWSA error models and delivery of related QC requirements and educational material.



SINTEF
ProjectIdea_v3_25.p

Bjorn Bruun questioned the need for simplification of the model. Others agreed, and the point was made that simplification might prevent the modelling of future advances in surveying techniques.

Harry Wilson agreed, but noted that the SINTEF proposal specifically required that simplification resulted in no decrease in reliability.

In order to get a feel for how the Industry viewed the usefulness of such a project, Angus asked those present to vote on prioritisation of a detailed list of objectives. Confusion over the voting process made this an entertaining exercise, but resulted in no useful conclusion. A quick show of hands indicated that the majority of those present favoured QC and education goals over simplification of the model. However, the significance of this poll was qualified by Olli Coker's comment that he expected it would be the financial sponsors of the project who would specify and prioritise its scope.

Angus said that he would co-ordinate a more formal survey of task prioritisation and willingness to provide sponsorship.

8. A Heavy Tailed Distribution

Bjorn Bruun presented the results of the StatoilHydro sponsored study into survey error distribution; "A heavy tailed statistical model applied in anti-collision calculations".

Bjorn had presented to the Collision Avoidance work group the day before. The minutes of that meeting (attached in item 2 above) include a detailed summary of the presentation along with comments from the Group.



Heavy tailed
distribution.ppt

9. Any Other Business

Angus said that the next meeting will be held to coincide with the SPE/IADC conference in Amsterdam in March.