

## ISCWSA/SPE Wellbore Positioning Technical Section

### **Collision Avoidance Work Group**

11<sup>th</sup> meeting, Hyatt Regency Hotel, Denver, 2nd November 2011

#### MINUTES OF MEETING

**Present:** Darren Aklestad, Bill Allen, Phil Harbidge, Angus Jamieson, Ross Lowden, Simon McCulloch, Ian Mitchell, Mark Michell, Erik Nyrnes, Benny Poedjono, Andy Sentance, Anas Sikal, Harry Wilson (Group leader and minutes).

**Absent:** Andy Brooks, Pete Clarke, Jerry Codling, Maxime Devilder, Steve Grindrod, Fernando Laroca, Dave McRobbie, Wayne Phillips, Jim Towle

**Visitors:** Chip Abrant (for Jim Towle), Ed Stockhausen (for Pete Clark)

#### **Minutes of last meeting**

Accepted as correct.

#### **Changes to Group membership**

Andy Sentance has joined the Group.  
Bjorn Brunn replaced by Erik Nyrnes.

#### **Work Group publications**

Lexicon. One definition (Plane Angle) has been modified and the revised document published, dated as 2011

Current Common Practice. No change apart from dating as 2011

The above documents have been translated into Chinese (by Baker Hughes Beijing office) and are now available on the web site.

Bibliographies. Still to be updated.

**Action:** Harry to publish revised bibliographies by end of year.

**Action:** All to send inputs for all documents to Harry.

#### **Collision Avoidance Management Process**

Bill reported that the document is close to completion, and that he will distribute to the Group for final review once he had BP legal clearance.

It was agreed that the inclusion of an anti-collision standard guideline and JORPs was not consistent with the objective of providing a brief check list of key requirements, i.e. what to do rather than how to do it.

**Action:** Bill to distribute draft document to Group.

### **Standardization of collision avoidance scanning method**

Following on from the request for candidate methods, made at the previous full ISCWSA meeting, Angus presented his ellipsoid expansion method for Ratio type rules (already presented at ISCWSA 28). He pointed out that the method avoids the weaknesses associated with other methods of determining the ellipsoid dimensions to be used in the calculation of the ratio, being neither optimistic nor pessimistic. Angus said that it may be best to use more than one rule type in a collision avoidance policy.

No other candidates had been proposed, but Erik presented Statoil's Separation Factor which is the ratio of the separation distance to the separation distance uncertainty scaled to an acceptable

confidence level, e.g.  $SF = \frac{D}{2.878 \times \sigma_D}$ , where separation distance  $D$  is the centre to centre distance

minus the wellbore radii. Assuming a normally distributed separation distance  $D$ , a scaling factor of 2.878 results in a probability of either a collision or a well crossing of 1/500 when the separation factor SF is equal to one.

This calculation equates to the alternative implementation of the probability of collision calculation described briefly in section 2.11 of our Current Common Practice document.

**Action:** Harry to write a discussion document that the Group can consider and comment on prior to the next meeting.

### **Standard well data set for collision scanning evaluation**

Harry reported that he had been unable to find the existing set of test well scenarios that had been referred to at the last meeting, and that he had not had time to prepare such a set.

**Action:** Outstanding action from last meeting for Harry to develop a draft set of test scenarios and distribute to the following team for review and development: Darren Aklestad, Andy Brooks, Jerry Codling, Angus Jamieson, prior to next meeting.

### **Formal definition of probability of collision**

Discussion was postponed due to lack of time and Pete's absence. Harry noted that Erik's presentation may be a good basis for that discussion.

**Action:** Include Pete's probability of collision calculation discussion in the agenda for the next meeting

### **Definition of minimum mitigation requirement for HSE risk offset wells**

A draft recommendation that had been circulated prior to the meeting was discussed and finalised ready for publication. Our recommendation is that "...the possibility that the offset well will not be penetrated in the event of collision cannot be reliably quantified and therefore does not justify dispensation against the agreed MASD."

**Action:** Harry to provide document to Steve for publication. (*Done; published in November.*)

**Meeting closed.**