



IADC MEETING NOTES – OCTOBER 30TH

Drilling Control Systems Subcommittee Meeting
IADC Advanced Rig Technology Committee
8:30 am, Tuesday, 30th of October, 2012
IADC Offices – Houston, TX

Attendees:

- David Wagner, AWC, Inc.
- Timothy Babcock, Axon Energy Products
- Jagbir Dhindsa, Axon Energy Products
- Nathan Morales, BP
- Pradeep Annaiyappa, Canrig Drilling Technology
- Steve Ronan, GE Oil & Gas
- Scott Maddox, IADC
- Fred Florence, National Oilwell Varco
- Jay Pickett, National Oilwell Varco
- Andrew Engram, Rowan Companies
- Terry Loftis, Transocean
- Trent Martin, Transocean

Summary:

1. Subcommittee Chairman opened the meeting and welcomed the participants.
2. Attendees were requested to familiarize themselves, if they had not already done so, with the IADC Antitrust Policy available on the IADC website (<http://www.iadc.org/about-iadc/iadc-antitrust-policy-and-guidelines/>).
3. The focus of this meeting was two-fold, but the first order of business was to regroup after the long recess and review Drilling Control System Subcommittee's support for SPE-DSATS and OPC/WITS Interface of Surface Drilling Controls and Downhole Instrumentation. T. Loftis provided a status on the original Work Groups, and projection of future activity.

TASK/WORK-GROUP	LEAD	
Transfer of Tool Ownership	Craig Brooks/Andy McKenzie	NOV
User Interface Standardization	Clinton Chapman	Schlumberger
Well State/Phase Definition	Fred Florence	NOV
Cascade Effect of Control	Cesar Pena	Schlumberger

Rather than continue to attempt to identify and facilitate four separate working groups, we have elected to isolate a small group of IADC volunteers and work through all issues to the extent that DSATS' basic concerns are addressed sufficiently to define a 'beta' interface protocol. The respective Leads collectively felt it would be more efficient in gaining momentum on the 4 groups of clarification issues if they were brain-stormed in a 24-48 hour dedicated session.

4. The second order of business addressed was to explore further the formation of a 'Subsea BOP Multiplex Controls' subcommittee. This topic was broached a couple of months ago and met with enthusiasm within the Advanced Rig Technology Committee. The DCS Subcommittee is prepared to foster such a group through initial structuring and development and during this meeting we began this process.

Steve Ronan of GE-Hydril proposed one of the new group's objectives should be to get rid of ambiguity in BOP design with respect to regulations and standards. In Steve's opinion and supported by other



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attendees, the BOP should be considered as a safety system, and as such should embody a very specific standard. It has become extremely complicated for what was intended to be a simple system. Define the BOP as a secondary safety system in that it must be available on demand. A definition that cites the boundary of the BOP control system with the emphasis on simplicity (to eliminate scope creep) and give the ability to concentrate on true reliability and system diagnostics. Goal is a safety system, available on demand, with self-diagnostics and automation that communicate status to the operator and possibly takes action at pre-defined outer limits. Possibly this would be an independent control system integrated into the stack with another dependent well control system.

Some thoughts captured from discussions of where this proposed group can focus:

- Ensuring the availability and reliability of the control system.
- Give the operator the information he needs so that the equipment is available and ready to go on-demand. The correct diagnostics, works instructions, training, etc, to know when something may not be available.
- First define requirements of A BOP preventer; keep as simple as possible, then define what needs to be.
- Restrict this group to the control system aspects specific to the BOP stack.

Trent Martin of Transocean presented a few slides for discussion. Some possible areas for further discussion included:

- Improving reliability through automation
- standardized tests and measurements
- Further instrumentation of the well control equipment.
- Maturing the FMECA process – leverage the concepts that have been successfully developed in the DP arena
- Software process standards
- Recommended Practices for standardizing communication interfaces (BOP Control to Drill floor interfaces, Riser Anti Recoil System interface, BOP control to DP interfaces e.g. ERA).
- Education and awareness of all the relevant industry standards (API, IEC, Class-DNV/ABS, regional/regulatory).
- Hardware-In-The-Loop recommended practices testing for Well Control Equipment.

Next steps for this proposed Deepwater BOP Control Systems interest group:

Capture everyone's comments for distribution.

Need to meet at least once more; Nov 27th, 8:30AM proposed. This meeting should target developing the goals and objectives for a “Deepwater BOP control systems group”.

5. The next meeting was tentatively scheduled for November 27th, 8:30 am, at the Houston IADC office; 10370 Richmond Ave., Suite 760 Houston, TX 77042.
Register at <http://www.iadc.org/iadc-committees/iadc-advanced-rig-technology-committee/meeting-schedules-minutes>.
6. With no further issues presented for discussion, the meeting was adjourned.