Attendance

<table>
<thead>
<tr>
<th>Name</th>
<th>Company Name</th>
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<tbody>
<tr>
<td>Martin</td>
<td>Cavanaugh Consulting</td>
</tr>
<tr>
<td>Silvia</td>
<td>GE OIL &amp; GAS, DRILLING SYSTEMS</td>
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<tr>
<td>Steve</td>
<td>GE OIL &amp; GAS, DRILLING SYSTEMS</td>
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<tr>
<td>Scott</td>
<td>IADC</td>
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<tr>
<td>Chris</td>
<td>Kingston Systems</td>
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<tr>
<td>Kent</td>
<td>NATIONAL OILWELL VARCO</td>
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<tr>
<td>Randy</td>
<td>Rockwell Automation</td>
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<tr>
<td>Siv Hilde</td>
<td>SECURE-NOK AS</td>
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<tr>
<td>Drew</td>
<td>TESCO CORPORATION</td>
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<tr>
<td>Trenton</td>
<td>TRANSOCEAN</td>
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<tr>
<td>Jim</td>
<td>WRES, INC</td>
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Minutes

2. Review and approval of Jan 2014 Meeting minutes. Summary of status on actions below
   a. **ACTION:** IADC to determine if the raw data from the Stavanger ART Conference poll is still available for this effort. **STATUS:** Raw data is currently no longer available. Next pole at ART conference we will make an effort to maintain the raw data for future. **CLOSED**
   b. **ACTION:** IADC to provide KSA’s point of contact information. **STATUS:** The KSA workgroup has not met their target release data for Version 1. Once this is complete IADC will put the DCS group in contact with them. **OPEN**
   c. **ACTION:** DCS ART to contact Dave Dartford (IADC ART BOP controls) to determine if the BOP control committee will also be reviewing the KSAs. **STATUS:** Have contacted Dave, waiting on reply. **OPEN**
   d. **ACTION:** Fred Florence to contact Clinton with SPE to come in and review the current details of the ‘Drill A Stand’ process flow.. **STATUS:** Martin Cavanaugh attended today's meeting to provide a status on ‘Drill A Stand’ with SPE. **CLOSED**
The above Workgroups were agreed to by those present and ratified as tasks for the IADC DCS ART Subcommittee.

4. Martin Cavanaugh on behalf of SPE- DSATS (Drilling Systems Automation Technical Session) presented a summary of the 'Drill-A-Stand' which WORKGROUP 2 will be focusing on reviewing. This can be found in APPENDIX B below.

5. Other items that were discussed
   a. There was interest in identifying Industry mechanisms to better improve on requirements gathering. The intent is to ensure the system suppliers have sufficiently captured the use cases for the various products. It was mentioned there appears to be a gap for certain products between the designs and what the equipment is being asked to do.
   ACTION: IADC ART DCS to evaluate if a topic on this can be developed.
International Association of Drilling Contractors

APPENDIX A: DCS Summary Slides from meeting

IADC Advanced Rig Technology Drilling Controls Committee Meeting
1 May 2014
8:30 A.M. – 10:30 A.M.

Agenda

<table>
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<tr>
<th>Time</th>
<th>Item</th>
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| 8:30 – 9:30 | Welcome and Introductions  
Trent Martin – Chairman – Transocean  
Review of Antitrust Guidelines and Facility Orientation  
Scott Maddox – IADC |
| 9:30 – 10:30 | Review and Approval of 1Q 2014 Committee Meeting Minutes  
Scott Maddox – IADC |
| 8:55 – 9:10 | Review of the identified 4 tasks |
| 9:10 – 9:20 | Ratify Task 1: KSA  
The IADC ART DCS subcommittee will support the IADC KSA initiative by evaluating and providing feedback on Version 1 of the KSA to be incorporated into Version 2, specific to relevant roles that interact with the Drilling Control Systems. |
| 9:20 – 9:30 | Ratify Task 2: Steps to Build a well  
IADC ART DCS subcommittee will provide feedback to SPE D6ATS group identifying if any of the steps of ‘build a stand’ are not to be automated. |
| 9:30 – 9:40 | Ratify Task 3: Cyber security  
IADC ART DCS subcommittee will initiate a work group to develop Digital Security Guidelines for drilling control systems. This will build upon existing industry standards and best practices. |
| 9:40 – 9:50 | Other Business  
Trent Martin – Chairman – Transocean |
Workgroup Task 1: KSA

• The IADC ART DCS subcommittee will support the IADC KSA initiative by evaluating and providing feedback on Version 1 of the KSA to be incorporated into Version 2, specific to relevant roles that interact with the Drilling Control Systems.

  • Start Date: June 1, 2014
  • Target Date: September 2014
  • Workgroup Team: Manny Labella, Chris Goetz
  • Deliverable: Status update at RT 14 in Galveston, Tx.

Workgroup Task 2: Build A Well

• IADC ART DCS subcommittee will provide feedback to SPE DSATS group identifying if any of the steps of ‘build a stand’ are not to be automated.

  • Start Date: May 1, 2014
  • Target Date: September 2014
  • Workgroup Team: Kent Hulick, Drew McPhail, Marty Cavanaugh
  • Deliverable: Status update at RT 14
Workgroup Task 2: Build A Well

• IADC ART DCS subcommittee will provide feedback to SPE DSATS group identifying if any of the steps of ‘build a stand’ are not to be automated.

• Start Date: May 1, 2014
• Target Date: September 2014
• Workgroup Team: Kent Hulick, Drew McPhail, Marty Cavanaugh
• Deliverable: Status update at RT 14
SPE DSA-TS Comms Committee Activities

- OPC UA for device comms
- Security and threat model
- Rig Information Model
- Drill-A-Stand

Drill-A-Stand

- Mechanizing Tasks
- Have Autodrillers
- Define tasks surround autodriller
  - List of tasks
  - Data interactions
- Psuedocode algorithms
All meetings must have a written agenda that is circulated prior to the meeting. Attendees must strictly follow the agenda. Topics not on the agenda must be deferred until a later meeting.

Meeting minutes will be posted on the Committee’s website following endorsement by Committee leadership and meeting attendees. Attendees should be aware that: 1. IADC staff shall audio record meetings for purposes of facilitating capture of meeting minutes; and 2. The final published minutes will include a record of who attended the meeting. The audio recording shall be destroyed immediately following endorsement of the minutes.

IADC Committee activities are governed by IADC’s Antitrust Policy and Guidelines. Click here for information on the policy and guidelines.