

International Association of Drilling Contractors



**IADC Advanced Rig Technology (ART) Committee
Meeting Minutes
14.00-16.00 Monday, 10 September 2018
Venue: Hyatt Regency Austin
Big Bend Ballroom
Austin, Texas**

In Attendance:

Andrew Zheng, Schlumberger
Bob Judge, Baker Hughes, a GE company
Brian Ellis, Canrig Drilling Technology
Cole Burdette, Helmerich & Payne
Dan Gudall, MHWirth
David Shackleton, IDS (dial-in)
Duane Cuku, Precision Drilling
Gabriel Felipe, Petrobras
Guido Van den Bos, National Oilwell Varco
Han Tiebout, GustoMSC
James David Franks, Pioneer Natural Resources
Jim Rogers, Realtime Systems
John de Wardt, DE WARDT AND COMPANY
Lee Womble, Cameron, a Schlumberger company

Patrick O'neill, Noble Drilling
Rafael Fulco, Petrobras
Rob Shank, Parker Drilling
Robert van Kuilenburg, Noble Drilling
Robin Macmillan, National Oilwell Varco
Rolf Gullaksen, Cameron, a Schlumberger Company
Sarah Elizabeth Kern, Helmerich & Payne
Seth Menard, Franks International
Steven Garbrecht, Achieve Global
Terry Loftis, Oilfield Consulting
Trent Martin, Transocean
Waybourn Anderson, AFGlobal
Mike Killalea, IADC
Melissa Mejias, IADC
Linda Hsieh, IADC

The IADC Advanced Rig Technology (ART) Committee convened a meeting on 10 September in conjunction with IADC Advanced Rig Technology Conference, held 11-12 September in Austin, Texas.

Robin Macmillan, IADC ART Chairman, welcomed the participants, and Linda Hsieh reviewed the IADC anti-trust policy.

Cybersecurity Committee update

Melissa Mejias, IADC, provided an update on the Cybersecurity Committee in place of Committee Chair Siv Hilde Houmb. To volunteer on any of the below projects or to obtain more information about volunteering, please contact [Melissa Mejias](#):

- Guidelines on Network Segmentation: Work is being led by Committee Co-chair Ben Ramduny, Seadrill. A draft will soon be sent out for review/comment, and more volunteers are needed to help review the document. The goal is to complete the document by September 2018 and launch it at the [IADC Annual General Meeting](#), 7-9 November.
- Guidelines on Cybersecurity Training: Target completion is December 2018. Original drilling contractor volunteer leading this effort recently left his position, so new volunteers to continue this project are urgently needed.

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- Guidelines on Security Monitoring and Guidelines on Hardening of Control Systems: Both are targeted for completion by June 2019. Additional volunteers welcome.
- 2018 GOMEX exercise, to be held on 9/13 by US Coast Guard, will be on physical assets, not cybersecurity, unlike last year.
- 2018 IADC Cybersecurity NAM Workshop will be held on 13 December in Houston, sponsored by BP at its Westlake facility. The USCG will participate, and ONG-ISAC has been invited. The exercise will have two teams, each role-playing hackers and defenders. Details of the scenario will be discussed at the [11 October Cybersecurity Committee meeting at IADC HQ](#).

ART subcommittees update by Trent Martin, IADC ART Vice Chairman:

BOP Controls Subcommittee, update in place of Subcommittee Co-chair Mitch Eichler: Participation at the BOP Controls Subcommittee meetings remains strong, with work moving ahead on expanding the [IADC Control Valve Qualification Testing Recommendations](#) with guidelines for regulator and relief valves. Update is expected to be released in Q1 2019. [Next meeting](#) will be 25 September at IADC HQ.

Drilling Control Systems (DCS) Subcommittee, update of the DDR Plus project by Co-Chair Robert van Kuilenburg, as well as John de Wardt, DE WARDT & COMPANY, and David Shackleton, IDS: Robust discussions have taken place around the DDR codes/sub-codes at well-attended DCS meetings and workgroup conference calls. A list of 500-plus codes is now being reviewed to minimize the number of codes in every main section, with the goal of keeping the new codes backwards compatible with the existing 23 baseline codes. Many companies have already shared their own code sets with this project, and interested companies can still either share their codes or join the open work group by contacting [John de Wardt/David Shackleton](#).

A revised list of codes/sub-codes will be available around September/October 2018, which will be sent out via IADC for review/comment. Once the codes have been finalized, the DCS Subcommittee will begin working on code definitions, aiming to achieve uniformity in start/stop criteria for each activity. Volunteers to participate in this effort are welcome. The goal is to complete the DDR Plus project by year-end 2018. The [next meeting of the DCS](#) will be held on 27 September at IADC HQ.

The new DDR codes will be recommendations only; any company can choose to adopt them in full, in part, or not at all. Further, IADC will not develop state engines as that is considered to be beyond the scope of this project.

ART Spark Tanks, update by Robin Macmillan: Seven Spark Tanks have been held so far. Attendance and interest in the contents of each event have been strong, with approximately 40 attendees at each Spark Tank. It was suggested that the group consider holding Spark Tanks in Europe or other regions of the world, perhaps in conjunction with events like the Europe-based Drilling Conferences or IADC World Drilling. However, volunteers would be needed to organize such events.

Future ART initiatives

Robin Macmillan asked attendees to consider future projects that ART or its subcommittees could undertake. Three categories of suggestions were made: integration and communications, data and digitalization, and safety systems.

1. Integration and Communications

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- a. Remote operations – communications
- b. Better integration between the BOP and drill floor (there are companies that see this as a competitive advantage)
2. Data and Digitalization
 - a. Digital twin – CBM
 - b. Data ownership – perhaps the focus can be around what information needs to be captured, in order to avoid treading into competitive space for drilling contractors
 - c. DDR Plus Community database to collect performance data and provide benchmarks; this may be challenging to do without intruding into drilling contractors' competitive space
3. Safety systems
 - a. System engineering – potential partnership with INCOSE Houston Chapter to leverage expertise around safety in machine design
 - b. Safety metrics – Incident Statistics Program – potential to partner with IADC HSE Committee
 - c. Fire and gas placements recommendations for land rigs – e.g. what is captured in API. Classification-type rules for land rigs.

Other possible projects include:

1. Defining the phases of drilling as industrial processes as in other industries;
2. Should we have DNV/ABS type classification inspections for land rigs;
3. Can we have a clearing house of anonymized drilling data, as IADC has done with BOP performance data.

To initiate projects around any of the above topics, volunteers are needed; any volunteers should contact either [Robin Macmillan](#), [Trent Martin](#) or [Linda Hsieh](#).

Advanced Rig Technology (ART) Conference

A strong program has been developed for [2018 ART Conference](#), 11-12 September in Austin, Texas, and all ART members are encouraged to provide feedback about the conference content to Robin Macmillan and/or Linda Hsieh. As in previous years, Audience Response System (ARS) questions will be asked, and answers collected will be compared against previous years. It was also suggested that ART conference consider incorporating sessions with non-drilling/non-oil and gas speakers to learn about innovations/best practices.

The [2019 ART Conference](#) will take place 22-23 October in Amsterdam. It was discussed whether the committee should encourage students to attend the ART conferences, especially when it's held in a university town.

There being no further business, Mr Macmillan adjourned the meeting.