

Macaé, May 05th 2015

MINUTES OF IADC-BRAZIL OPERATIONAL TECHNICAL COMMITTEE MEETING HELD ON MAY 05th 2015 10:00 a.m. TO 12:00 p.m. AT TRANSOCEAN'S OFFICE IN MACAE AND VIDEO CONFERENCE WITH SEADRILL'S OFFICE IN RIO DE JANEIRO.

Present at this meeting were the following:

- Bruno Manfredini - Transocean (Macaé) - Tony Cox - IADC (Macaé)

- John Guy – IADC-BRAZIL (Macaé) - Lane Romine – TOI (Macaé)

- Thaísa Aleixo – IADC-BRAZIL (Macaé) - Lucio Pedroso – Ocean Rig (Macaé)

- Mauricio Aguiar - Seadrill (Rio) - Raphael Nascimento - ENSCO (Macaé)

The agenda for this meeting was displayed on the screen. The focus was to review the Operational Technical Committee Goals set for 2015. The topics of discussion were as follows:

- Review Goals set for 2015
 - 1. Managed Pressure Drilling Procedures
 - 2. Standard Equipment List for ANP Propose
 - 3. Well Control Equipment Reliability
- Discuss Technical Presentations for the upcoming IADC meetings
- Discuss Participation on the DNV Seminar
- Define new Committee Leader
- Corporate Committees Status
- Schedule the Committees' next meeting
- Open Forum
- Close out

The following items were agreed upon

- Mauricio provided the committee with an update concerning technical and operational initiatives from the IADC International conference in Dubai:
 - 2015's goal of having a MPD procedure is underway. MPD and PMCD procedures from Petrobras are yet to be distributed (Petrobras has informed that the distribution will likely take place in May 2015). IADC International has defined MPD procedures and the Petrobras procedures are thought to be in line with the IADC procedures. Upon receival of the Petrobras procedures IADC Brazil will discuss in order to give a consolidated opinion on the procedures.



- The current initiative for The Applied Pack Pressure with Subsea BOP Stack review has been submitted to API for review. IADC is awaiting feedback.
- The PMC with Surface BOP Stack is not completed yet.
- o Gasing Riser is with the Well Control committee and is underdeveloped
- o IADC International is reviewing API16 RCD specification
- Operational guidelines for underbalanced drilling is also underdeveloped.
- HSC and Training guidelines for a MPD fundamental and a supervisor have been finalized and will be distributed in due time.
- Various companies, including Petrobras, demonstrated success in completion using MPD. The acceptance and application of this technology is increasing in the marketplace.
- Well Control Equipment Reliability goals are vague. Lane to develop a draft review which will be completed by August and open to comments and input from all contractors. A Final Draft to be completed by October and an approved version by November.
- Thaisa to send out the notice for the General Meeting on May 28th in Rio. Mauricio to give a brief update on MPD at this meeting.
- Tony to discuss MPD HSC and Training guidelines with IADC Houston and update IADC Brazil.
- IADC Brazil's reply for the ANP Well Integrity Regulations are ready. IADC International will also review and compare with other region's regulations. IADC is awaiting a date and time for a meeting ANP and will have a team attend.
- Mauricio will present at DNV on May 13th on behalf of IADC Brazil. His presentation will include an overview of the MPD updates from the IADC International conference. IADC is a sponsor of the event.
- IADC Members to get priority for Technical presentations at general meetings. Non-members of IADC must pay a sponsorship for the meeting in order to present.

The following items were discussed yet they remain open

- Bruno has had discussion with IADC Houston on the 2015 Goal of a Standard Equipment List for ANP. The committee is awaiting Bruno's feedback on this topic.
- The Motorola Solutions IADC Brazil presentation's content is complete and was reviewed by the committee. The committee determined that the presentation needs to be shortened to fit within the 20 minute allotment. Bruno will contact the presenters and have them provide a brief presentation of the content to help determine what parts to shorten or remove.
- Llyods sent an abstract as a potential presentation for the general meeting. The
 technical committee will reply informing them that the subject is applicable, but a
 presentation needs to be provided for review and stressed that the presentation
 must not be commercial instead focusing on the technical aspects.



- Another possible technical presentation for IADC was discussed RFID technology as a solution for dropped objects and logistics as it could be used to track items location in transit to and from the rig.
- The Technical Operations Committee still needs a new Committee leader. Lane and Geovanny are possible candidates. Bruno to send out the agenda and compile presentations for the next meeting until a new leader is determined.
- Tony to attempt to increase participation of Drilling Contractors at Tech\Ops meetings.

Next Meeting

The next meeting for the Operational/Technical committee was agreed to be held on June 09th at 10:00am. The meeting will be at Transocean's office with video link to Seadrill's Rio office.