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|  | <p align="center">IADC UBO & MPD Committee Meeting Hess and Schlumberger Copenhagen, Denmark</p> | <p align="center">13-14 June 2011 2nd Quarter</p> |
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Attendance Sheet

| Name | | Company Name |
|-------------|-------------|--|
| Don | Reitsma | @Balance |
| Kjell-Rune | Toftveg | AGR Drilling Services |
| Martin | Culen | Blade Energy Partners |
| Ray | Bullock | Halliburton |
| Ken | Fischer | IADC |
| Greg | Myers | Integrated Ocean Drilling Program |
| Mike | Offner | MI Swaco |
| Robert | Goodwin | National Oilwell Varco |
| Tracy | Mossman | Nexen Inc. |
| Kristin | Falk | Ocean Riser Systems |
| Doug | Croop | Pruitt Tool & Supply |
| John | van-Vegchel | Research & Teaching Services |
| Sara | Shayegi | Shell International E&P |
| Dag Ove | Molde | Statoil USA |
| Gavin | Humphreys | Stena Drilling |
| Iain | Sneddon | Transocean |
| Jasmin | Begagic | Transocean |
| Brian | Grayson | Weatherford |
| David | Pavel | Weatherford |
| Derek | Hibbard | Weatherford |
| Guy | Feasey | Weatherford |

Monday, 13 June 2011


Welcome, Announcements & Safety Moment.

Sara Shayegi and Ken Fischer opened the meeting with some information about the venue and safety.

Introduction of New Committee Members and Guests.

Each attendee introduced themselves including their company name and location.

Review & Approval of 1Q11 Meeting Minutes.

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Don Reitsma made a motion to approve the Minutes of the 1Q11 meeting. There was no opposition to this motion and the Minutes were adopted. Tracy Mossman volunteered to take the Minutes for the 2Q11 meeting.

Discussion of Draft HSE Planning Guidelines.

Derek Hibbard updated the group on the progress of the initiative to update the HSE Planning Guidelines. In summary, the HSE Subcommittee reviewed the document for relevance and decided to downsize/simplify the Guidelines. They planned to work on the draft during the break out sessions and welcomed any comments from the rest of the Committee.

Discussion of MPD Candidate Selection Tool.


There is a new version of the MPD candidate screening tool that needs to be tested by members of the Committee. Descriptive statements for screening tool software have been recently updated and edited by a professional technical writer. George Medley has requested that the various members of the Committee review the statements for accuracy, particularly those who have successfully executed the technique in the field and are able to verify that the described method will work with regards to operations (with the exception of the prototype techniques). Comments are to be sent directly to George. The next iteration of the tool may contain a representative pressure plot for each technique. It was suggested that the well barrier colour coding needed more debate and needed to be very clear as to whether the MPD technique is for primary or secondary well control. It was suggested that the aid of the IADC Well Control Committee be sought. Ken Fischer is tasked with finding the date of the next Well Control Committee meeting and whether this item could fit into their agenda.

It was generally agreed that the IADC website was the best location for the software. The software should not be downloadable due to lack of version control. There is currently no one within the IADC staff with the expertise to load the software onto their website. Don Reitsma volunteered to find someone within his organization to assist with this work.

Discussion of UBO/MPD Training Initiative.

Martin Cullen presented a proposal to the group recommending a re-organization of the UBO well control training curriculum due to limited uptake by industry. He proposed a single course with 2 modules, a 1.5-day introductory or fundamental module for tool pushers and drillers and a 3.5-day supervisory module for the UB service providers, drilling engineers, and drilling supervisors. The two modules could be combined over one 5-day session. The nomenclature for the modules needs some discussion and must be consistent with other IADC WellCAP courses. First-timers would take the complete 5-day course. The 3.5-day supervisory module would also be taken for recertification, which will be required every other year. He recommended eliminating UBO Rig Pass as a separate course and plans to incorporate those topics into the introductory course. It is also recommended to drop the sections pertaining to the IADC Tour Report and Accumulator Testing & Maintenance. Simulator training will not be mandatory if all learning objectives for the various scenarios are achieved by alternative means. The actual course content will not be significantly changed so it should not be a problem to get it approved by the accreditation body.

The group proposed to create an MPD Introductory course, potentially as a one day add-on to an existing course or another module. Future work will include an MPD supervisory level course which will be critical in the near future with large increase in MPD operations. There may be a need to differentiate between land, floater, and fixed platform operations for supervisory level course.

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This proposal needs to be endorsed by the entire Committee. Martin is going to send a proposal to the entire Committee for review and will be endorsed at the 3Q11 meeting. An advisor from the Committee will participate in the review panel if required. There is probably no need for formal ballot process due to the limited changes to the curriculum. The proposal will also be sent to all accredited schools as a courtesy and to give them an opportunity to get involved in the decision at the next meeting.

Discussion of DNV Technical eNewsletter “DNV DRILL/DRILL(N) Class Requirements for Managed Pressure Drilling Systems”, 26 April 2011 & Status of Marine Guidelines Task Group

The Committee reviewed the newsletter. Gavin Humphrey's brought up his concern regarding these requirements for the drilling contractor's equipment, particularly the marine riser in the event of DGD. A suggestion was raised for Committee members to engage with DNV. DNV may need to be better informed particularly since procedures to convert back to conventional well control may no longer be applicable depending on the MPD technique utilized. Tracy Mossman mentioned that in a recent presentation by the PSA, they had included “MPD application and rig up” as one of their focus areas for 2011. Ken Fischer is going to get in touch with his contact in the PSA to determine their relationship with DNV and their opinion on the technical newsletter. The committee decided to break out later to discuss the forward plan.

The marine guidelines are in the process of being written by the task group.

Status of proposal to reaffirm API Spec 16RCD.


The Committee recommended to re-affirm API 16RCD rather than revise the document. New people need to be tracked down to be voters in the API balloting process, particularly RCD suppliers. Brian Grayson agreed to get the current list of voting members from API and to recruit additional members as needed.

Report on Dual Gradient Workshop, 5 May 2011, in Houston.

Workshop learnings:

- Feedback was favourable with participation from a large number of new people.
- Consider more detail in the presentations.
- Case studies are needed – maybe Chevron will have one for the next Workshop.
- Rig integration is a major issue.
- Consider adding a small exhibit and increase break time for networking opportunities.
- Regulatory input would be valuable.
- Suggested meeting format - presentations in the morning and work groups in the afternoon.
- Unofficial survey of operators – more information on well control.

Another Workshop was proposed to be held in 2012 in Houston in conjunction with OTC. A suggestion was made to hold the meeting close to the IADC Well Control Conference as there may be more participation from well control experts. This is another topic for discussion with IADC Well Control Committee. The Committee agreed that a “Seminar” should be held in Milan on 19 March 2012, the day

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before the IADC/SPE MPD & UBO Conference, to educate the European community on DGD. There will not be an event held during OTC 2012.

Discussion of US BOEMRE Draft Notice to Lessees on Dual Gradient Drilling.

A task force has been initiated within the DGD Subcommittee. The NTL will include a summary of DGD technology and commercial forms of DGD. A spreadsheet was created comparing the various technologies. A flow control matrix has been created and will be reviewed. They are planning to keep descriptions fairly generic to cover all potential technologies.

Discussion of DGD Issues Pertaining to MPD & UBD Well Control Matrix

The well control matrix created for CBHP applied surface pressure is not applicable for DGD. This will be revised by the DGD Subcommittee for subsea applications.

Report on Outreach activities.

No report.

Review 2011 meeting plans.

It was agreed to divert slightly from the normal North America / Europe rotation and hold both the 3Q11 & 4Q11 meetings in North America and the 1Q12 & 2Q12 meetings in Europe to enable linking up with the IADC/SPE UBO & MPD Conference in Milan and, perhaps, the IADC World Drilling Conference in Barcelona.


- 3Q11 – August 23-24 in Houston hosted by AGR
- 4Q11 – December 6-7 in Houston (committee members to come back with ideas for sponsorship/venues at the 3Q11 meeting)
- 1Q12 – March 22-23 in Milan (meeting information to be published in conference program)
- 2Q12 – June 13-14 in TBD location (options are Barcelona hosted by TBD or Oslo hosted by Ocean Riser systems)

The 2Q12 meeting options are to be discussed in more detail at the 3Q11 meeting considering the value from meeting in close proximity to conferences.

Discussion of status of MPD “best practice” document.

The first iteration of the MPD “best practice” document was completed by the MPD Subcommittee. The next step is for the entire Committee is to review the document. Dave Pavel would like to complete the document by the end of 2011. The plan is to meet for two complete days during the 3Q11 meeting to focus on editing the document as a group.

The group reviewed the UBO and CBHP applied surface pressure well control matrices. These matrices have been modified to include stripping pressure in accordance with API 16RCD as the testing is most robust and thus rating is more conservative. The matrices cannot be applied if the RCD is not API certified.

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The plan is to make a proposal to API to amend RP 92U with the revised UBO well control matrix. The committee considered sending members to the next API meeting in San Francisco because the RCD limits could be exceeded with the current matrix in API RP 92U. It was proposed to hold off meeting with API until after the full Committee has a chance to review the proposal. Dave Pavel is to put an information package together for distribution to the Committee prior to the 3Q11 meeting. A final decision will be made at the 3Q11 meeting likely as a general endorsement rather than a lengthy, formal ballot process due to the urgency of the change.

The CBHP applied surface pressure well control matrix was to be further reviewed during the break out session.

Any Other Business.

Testing to API 16RCD results in a new rating of RCDs. The next revision of the document should include adjustments of the testing parameters. Fit for purpose testing is the next step (temperature, fluids, etc) to further increase reliability.

Breakout into Task Groups & Subcommittees

The Committee divided into breakout sessions for the MPD “best practice” document, the DGD Subcommittee and the review of the HSE Planning Guidelines.

Tuesday, 14 June 2011

The meeting was called to order by Sara Shayegi. Safety, comfort and smoking arrangements were reviewed.

Breakout into Task Groups & Subcommittees

The Committee continued breakout sessions for the MPD “best practice” document, the DGD Subcommittee and the review of the HSE Planning Guidelines.

Adjournment:

Sara Shayegi recognized Hess and Schlumberger for their sponsorship and thanked all participants for their time and effort over the course of the meetings. The meeting was then adjourned.