



IADC Well Control Committee Meeting Minutes
Wednesday, 15 August 2012
Wild Well Control, Houston TX

Dan Munoz of Transocean, Committee Chair, welcomed all to the meeting and reviewed IADC Anti-Trust Policy and Guidelines, referring attendees to the IADC website for a copy. The latest revision of the Anti-Trust Policy and Guidelines dated March 2009 is available at <http://www.iadc.org/antitrust>.

Larry Andrews (Wild Well Control) provided building safety information and the meeting was called to order.

Review of Meeting Minutes/ Recap of Last Meeting/Action Items
Dan Munoz

Mr. Munoz reviewed the May meeting minutes. There were no corrections or additions to the minutes. Brenda Kelly (IADC) asked for assistance in appropriately labeling one of the potential roundtable topics identified in the May meeting. Attendees could not recall the details of the topic so it was dropped from the list.

Managing Gas in the Riser
Barry Braniff, Transocean

Mr. Braniff discussed the issues of riser degas procedures, characteristics of gas under pressure, and the different responses to gas in the riser. He stated that a small undetected influx of gas could result in significant gas volume in the riser once gas reaches bubble point and expansion begins. He highlighted hazards associated with gas influx and the challenges of responding to the influx.

Some of the reasons given for undetected gas was swabbing, ballooning, horizontal well, and no ECD (e.g., slight underbalanced condition resulting) on connection. Mr. Braniff indicated that gas detection is easier in water-based mud because the gas is more expansive and rises more quickly than when contained in oil-based mud.

Optional degassing procedures were discussed. In conditions of well flowing, gas is diverted. Whenever the well is not flowing, the gas/fluid is circulated to either a vacuum degasser or a flowline degasser where the gas is removed. Circulation is periodic stopped to check for flow. As long as flow is not detected, circulation is resumed.

Mr. Braniff concluded that, when a well kicks, it should be shut-in within the shortest possible time. With the well secure, any flow from the riser must be diverted overboard. The riser degas procedure must be used for any suspected gas in the riser. Understanding the conditions and variables to which the operation is exposed will assist in maintaining well control.

Questions were raised about the "BLEVE" phenomenon, with concern expressed that once bleve occurs the phenomenon prevents any kind of well control response. The suggestion was made that the physics of the phenomenon be discussed at a future meeting to bring broader understanding of the phenomenon. It was suggested that back pressure could be applied on the flow line to prevent this phenomenon.

Mr. Braniff was questioned about the monitoring of pressure gages on the mud/gas separator. He indicated that pressures are monitored, although the pressure range for gages is low.

Attendees agreed that the topic of gas in the riser and response procedures would make for a good roundtable topic. Attendees thought the subcommittee should have a clearly defined mission. John Kozicz of Transocean volunteered to head the effort. A team was formed to explore the topic, define a course of action, and report back to the Committee at the next meeting. Team members included:

- John Kozicz, Transocean – Chair
- Gary Nance, Chevron
- Paul Sonnemann, SafeKick

General conclusions of how IADC might want to respond to this issue included the following suggestions:

- Develop deepwater curriculum
- Review training requirements pertinent to this topic
- Recommend methods of enhancing rig personnel's awareness of the issue
- Target deepwater players
- Consider recommendation of riser detectors
- Recommend standard operating procedures
- Focus on detection and intervention

When considering whether or not to treat gas in the riser as a deepwater issue, members concluded that it is tied to subsea operations, but not to deepwater only. Shallow water operations may also have subsea stack and potential issues with gas in the riser.

Action Item: Gas in Riser workgroup will meet to discuss needed response from IADC Well Control Committee to the issue of gas in the riser. Workgroup will formulate recommendations for future actions and report back to full Committee.

BREAK

Attendees introduced themselves.

Killsheets Survey Results

Ed Geissler, WCS

Mr. Geissler reported that the IADC Killsheet Survey had been distributed, with results minimal. Out of the approximately 500 Committee members notified, only 11 responses were received. Mr. Geissler emphasized the need for everyone's involvement and asked once again that members take time to complete the survey and send it back to IADC as soon as possible. The survey results will be reported at the next meeting.

No additional comments have been received on the Bullheading Killsheet, thus the balloting of the killsheet will proceed. Committee members will receive the ballot electronically seeking official adoption of the draft Bullheading Killsheet.

Action Items: 1. Brenda Kelly will distribute the Bullheading Killsheet for official vote of approval.

Where Does MPD End and Well Control Begin?

John Kozicz, Transocean

Mr. Kozicz was asked to discuss the delineations between Managed Pressure Drilling well control and convention drilling well control operations. Reporting on work performed by the IADC Underbalanced Drilling/Managed Pressure Drilling (UBD/MPD) Committee, Mr. Kozicz pointed to Notice to Lessees (NTL) No. 2008-G07 published by the U. S. Bureau of Safety and Environmental Enforcement. This NTL describes MPD operations and delineates MPD versus convention well control operations delineation based on influx and surface pressure. The matrix below shows this delineation. The NTL was jointly developed by IADC's UBD/MPD Committee and the Offshore Operators Committee.

Mr. Kozicz reviewed the matrix, indicating that surface pressure indicator is the key factor in determining when to hand over MPD operations to conventional well control. The "Red Zone" in the matrix below indicates the response required for each pressure and influx condition. In general, conventional well control procedures are activated whenever planned operational pressures are exceeded, whether due to exceeding drilling back pressure, connection back pressure or back pressure limit.

MPD Drilling Matrix		Surface Pressure Indicator (See Chart 2 Below)			
		At Planned Drilling Back Pressure	At Planned Connection Back Pressure	> Planned Back Pressure & < Back Pressure Limit	≥ Back pressure Limit
Influx Indicator (See Chart 1 Below)	No Influx	Continue Drilling	Continue Drilling	Increase pump rate, mud weight, or both AND reduce surface pressure to planned or contingency levels	Pick up, shut in, evaluate next action
	Operating Limit	Increase back pressure, pump rate, mud weight, or a combination of all	Increase back pressure, pump rate, mud weight, or a combination of all	Increase pump rate, mud weight, or both AND reduce surface pressure to planned or contingency levels	Pick up, shut in, evaluate next action
	< Planned Limit	Cease Drilling. Increase back pressure, pump rate, mud weight or a combination of all	Cease Drilling. Increase back pressure, pump rate, mud weight or a combination of all	Pick up, shut in, evaluate next action	Pick up, shut in, evaluate next action
	≥ Planned Limit	Pick up, shut in, evaluate next action	Pick up, shut in, evaluate next action	Pick up, shut in, evaluate next action	Pick up, shut in, evaluate next action

Chart 2			
Defined Limits for		Interval	ft to ft TVD
Surface Pressure Indicator	Planned Drilling Back Pressure		
	Planned Connection Back Pressure		
	Back Pressure Limit		

Note: Equipment must be used which can measure the surface pressures to an acceptable tolerance.

Mr. Kozicz also indicated that exceeding a 10 barrel kick would trigger conventional well control procedures activation.

In describing MPD operations, Mr. Kozicz explained that MPD drilling is performed with a closed circulating system, thus the pressures within the well are clearly known. MPD operations is intended to be an overbalanced operation and therefore, closely aligned with conventional drilling operations. The difference between the two operations is in operating procedures, with a distinction made between well control and pressure control. MPD utilizes pressure control until the BOP is closed.

In discussions that followed, questions were raised about who responds to a well control incident and whether or not drilling crews are being appropriately prepared to interface with MPD personnel. Mr. Kozicz said the bridging document between operator and drilling contractor defines the response personnel. Some thoughts from attendees on preparing personnel included developing an advanced well control course or developing an MPD module that would be available as an add-on to the supervisory drilling well control course. Workover well control training was indicated as a particular training need.

Attendees also raised questions about definitions used for well control and related terms. Brenda Kelly indicated that the UBD/MPD Committee requested that Well Control Committee members review well control terms/definitions to help achieve alignment. The UBD/MPD Committee is drafting recommended practices for MPD operations for API. The terms and definitions will be part of API's Recommended Practice for Managed Pressure Drilling. A copy of the definitions section was distributed to attendees, who were asked to review and provide feedback. Feedback should be sent to Brenda Kelly (brenda.kelly@iadc.org) by mid-September. Ms. Kelly will compile responses and submit to the UBD/MPD Committee before their September meeting.

Action Item: 1. Committee members send feedback on MPD well control terms and definitions.
2. Brenda Kelly to compile feedback and communicate responses to UBD/MPD Committee.

Subcommittee Reports

- **Curriculum Subcommittee Report**
Gary Nance, Chevron

The official release of Drilling Supervisory level WellCAP course curriculum was delayed because of a potential error in the text. This error has been recently resolved. The curriculum will be released shortly.

A workgroup is needed to review the Workover curriculums, both Supervisor and Fundamental levels. It was suggested that a combined review team be formed from members of the Well Control and Well Services Committees. Volunteers and suggested participants for the subcommittee include Harris LeFleur (Intertek), Larry Schmermund (Intertek), and Barry Cooper (WCS).

The workover/well services combination course curriculum was also discussed. One member indicated that the well services community thinks the combo course is no longer adequate for their training needs. More training is needed. This will be considered when the curriculum review workgroup begins their review.

Making the supervisor certificate labeled differently or having different courses and certificate types was discussed. Differentiation should be made between a unit operator-type supervisory level course and one for supervisors who do not have hands on responsibilities for operations. For example, coiled tubing stand alone course for unit operators requires 36 hours of training. A supervisor seeking a combination course completes only 20 hours of training at a more non-specific level. The certificate should

distinguish between the two types of Supervisor training. The certificate issued should indicate something similar to “Supervisory level well control training for Coiled Tubing Unit Operators”.

- **Quality Control and Audit Subcommittee Report** – A chairman has not been appointed or this subcommittee established. The question of whether or not to keep the subcommittee was discussed. Brenda Kelly stated she thinks there is no need for the subcommittee at this time because the quality control and audit functions pertain to WellCAP program administration, which is governed by IADC’s ISO 9001 Quality Management System certification. There was a second recommendation to dissolve of the subcommittee. This subcommittee will be removed from the role.
- **Simulator Subcommittee Report**
Steve Vorenkamp, Wild Well Control

Mr. Vorenkamp stated help is needed in defining what should be demonstrated on simulators in the additional time available now that the 30% of minimum course time requirement has been implemented. The subcommittee intends to provide directions to training providers on what simulation exercises should include. Mr. Vorenkamp requested that the Curriculum Subcommittee teams reviewing curriculums offer recommendations for specific simulation activities and amounts of time as they revise curriculums.

Members asked for an interpretation of the current simulation time requirement. Members of the WellCAP Review Panel present indicated they interpret the requirement to be a percentage of the minimum course hours. Thus if a provider is delivering a course longer than the minimum 20 hours, the added time would not be counted when computing the amount of required simulation time. For example, a Drilling course with subsea stack add-on would have minimum course duration of 25 hours. The minimum required simulation time would be 7.5 hours. If the same course was delivered in 40 hours, the minimum required simulation time would remain 7.5 hours. IADC staff was asked to communicate this interpretation to accredited training providers. WCT-03 will also be revised to further explain this point.

On a second issue, it was stated that the current WellCAP Handbook shows drilling, workover/completion, and snubbing courses as requiring simulation. It was suggested that the inclusion of snubbing was an error, and that requiring simulation for snubbing courses had not been required in the past. Ms. Kelly pointed out that this requirement was written not only in the current handbook but also recorded in the 2004 version of the Handbook. Ms. Kelly requested the subcommittee review the matter and make a recommendation for inclusion or removal of the Snubbing simulation requirement.

Currently Wireline and Coiled Tubing courses do not require simulation.

Action Item:

1. Simulator Subcommittee review the simulator requirement for snubbing course and recommend whether or not to keep the requirement. Report at the next meeting.
2. IADC staff communicate interpretation of minimum simulation time to accredited training providers.
3. Curriculum Subcommittee make recommendations for simulation activities to the Simulator Subcommittee.

- **Testing Subcommittee Report**
Paul Sonnemann, SafeKick

No activity to report at this time. The action items identified previously should be held for future action. The Subcommittee should remain active.

IADC & WellCAP News

Brenda Kelly, IADC

- New IADC Accreditation Staff – Brooke Comeaux joined IADC Accreditation & Certification Department (ACD) in June. Ms. Comeaux brings curriculum development and instructional delivery expertise to the department. She works with new program development, program revision, and special project, and will facilitate IADC's activities and response in the KSA project.
- IADC Knowledge, Skills & Abilities (KSA) Project Update – Update was given on the KSA project by Mark Denkowski (IADC). IADC's Executive Committee approved the project, and the contract has been signed. Phase 1 tasks have begun, with Petrofac initiating the worldwide mapping exercise to gain insights into current competency models and review current competency templates. The goal of this activity is to define the competency template that will be used in the IADC project. Twelve organizations around the world have been contacted and invited to participate in the worldwide mapping exercise. A Steering Team will select the competency templates and approve the final competencies. A Review Team will review all positional competencies. Anyone wishing to join the Review Team may contact Brenda Kelly or Mark Denkowski.
- WellCAP Quality Issues – Elfriede Neidert (IADC) reported non-compliance issues with new program requirements. Many accredited training providers are not responding appropriately or in a timely manner to implementation of new program requirements. Corrective actions are being issued by IADC, with program accreditation in jeopardy for those who fail to respond appropriately to the corrective actions.
- WellCAP Instructor Issues – An instructor evaluation process has been defined by IADC in which the instructor's subject matter knowledge, classroom skills and simulator skills will be evaluated. The form is ACD-65. Expect to see it available on the IADC website soon.

As many of you know, qualifying new instructors can be challenging. The question of how we prepare new instructors for the classroom, and whether or not we permit instructor trainees in the classroom needs to be addressed by this Committee. Brenda Kelly indicated this issue would be addressed at the next meeting due to a shortage of time for discussion at the current meeting.

- Complimentary IADC Membership Ended – Beginning January 2013 IADC will no longer grant complimentary IADC membership to newly accredited WellCAP training providers. If you are currently accredited, know that you must seek IADC membership for 2013 or face non-member pricing in your fees and certificate purchases.
- Managed Pressure Drilling (MPD) Committee Requests Feedback – The MPD Committee has drafted an API Recommended Practice for Managed Pressure Drilling Operations. This document includes definitions of well control terms that the Committee wants to assure are similarly defined by the Well Control Committee. Terms include kick, kick margin/tolerance, primary well control, secondary well control, primary barrier,

secondary barrier, well barrier, as well as other terms. Definitions to be reviewed are included in a separate handout. Committee members' feedback is requested. Send feedback to Brenda Kelly (brenda.kelly@iadc.org) or Gary Nance (gary.nance@chevron.com) no later than 4 September.

- IADC BOP Equipment Workshop – ART Committee is planning a workshop on BOP Equipment, particularly focusing on subsea BOPs. The workshop will be held 30 October in Stavanger. The workshop will also be held in Houston 21 January 2013. If you want to be involved with the workshop's organization, contact Mike Killalea (mike.killalea@iadc.org).
- WellCAP/WellCAP Plus Facilitator Certification Course – The next course is scheduled for 27-30 August. It is not too late to register for this course. Contact Loundia Riggs for information (Loundia.riggs@iadc.org).
- IADC Upcoming Conferences:
 - IADC Critical Issues India Conference & Exhibition, Mumbai, India, 27 -28 August 2012
 - IADC Drilling HSE Europe 2012 Conference & Exhibition, Amsterdam, Netherlands, 26-27 September 2012
 - IADC Contracts & Risk Management Conference, Houston, TX, 16-17 October 2012
 - Drilling & Completing Trouble Zones, Galveston, TX, 23-25 October 2012
 - IADC Drilling Africa 2012 Conference & Exhibition, Lisbon, Portugal, 24-25 October 2012
 - IADC Annual General Meeting, Scottsdale, AZ, 7-9 November 2012

Open Discussion

- Coordination between IADC committees that have well control activities needs to be improved. In the past, IADC staff was responsible for maintaining communications. Members suggested it is better for members to be the link between committees, and provide regular reports back to this committee.
- Communications also needs to be established with industry organizations other than IADC committees. It was suggested that IADC staff email attendees requesting identification of industry committees members serve on. These members would be asked to report to the Well Control; Committee on the well control-related activities of other organizations.

Action Item: 1. Committee leaders with input from IADC staff identify industry groups, organizations whose activities we want to monitor
2. Committee leaders with input from IADC staff identify Well Control Committee members who are active in those groups/organizations and ask the member to periodically report back to this committee on activities of the other group.

Action Items

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- Brenda Kelly will distribute the Bullheading Killsheet for official vote of approval.
- Committee members send feedback on MPD well control terms and definitions.
- Brenda Kelly to compile feedback and communicate responses to UBD/MPD Committee.
- Simulator Subcommittee review the simulator requirement for snubbing course and recommend whether or not to keep the requirement. Report at the next meeting.
- IADC staff communicate interpretation of minimum simulation time to accredited training providers.

- Curriculum Subcommittee make recommendations for simulation activities to the Simulator Subcommittee.
- Committee leaders with input from IADC staff identify industry groups, organizations whose activities we want to monitor.
- Committee leaders with input from IADC staff Identify Well Control Committee members who are active in those groups/organizations and ask the member to periodically report back to this committee on activities of the other group.

Next Meeting will be hosted by **ExxonMobil, 14 November 2012.**

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