



IADC Well Control Committee
Meeting Minutes
2nd December 2015
IADC Crown Center
Houston, TX USA

Contractor roundtable

An informal discussion of drilling contractors was held prior to the Well Control Committee meeting. Key topics discussed included the following:

- Process Safety – importance of getting correct data regarding the well needed for crucial decisions.
- Need to avoid cost-cutting practices such as short cutting equipment and mud weight.
- Concerns over training providers lacking knowledge and proper understanding of equipment.
- Importance of equipment being properly stored and properly tested prior to recommissioning.
- TRRC API Standard S53/Rule 13 compliance.
- WellSharp web site – need for additional resources to supplement sample test questions.
- Alignment of the Well Control Committee with other committees, such as Maintenance, and the possibly of inviting presentations from other committees.
- Critical importance of barriers, especially with aging wells.

Well Control Committee meeting

Welcome & Introductions

Jason Morganelli of Ensco (Committee Chairman) opened the meeting and welcomed the attendees. Steve Kropla of IADC provided a building safety briefing and reminded everyone the meeting was subject to the [IADC Antitrust Policy and Guidelines](#). Mr. Morganelli asked those present to introduce themselves and their companies.

ABS Managed Pressure Drilling Equipment Certification Guidelines

Jay Bruton of ABS discussed the classification/certification of Managed Pressure Drilling as per the current draft Appendix 7 of the ABS CDS (Classification of Drilling Systems) Guide. Appendix 7 of the CDS Guide is focused entirely on MPD. He said he hoped his presentation would enhance awareness of the timely and practical application of the ABS requirements for drilling system classification and MPD Systems.

The MPD Guide focuses on system level requirements; key safety requirements; risk studies requirements; and equipment requirements. The guide is an outgrowth of the ABS system for classifying marine vessels. The document discussed was in final draft form at the time of the meeting. Mr. Bruton stressed that ABS seeks industry input in developing its rules and guides.

He provided the IADC definition of MPD which is used by ABS in the CDS.

- An adaptive drilling process used to precisely control the annular pressure profile throughout the wellbore.

- The objectives are to ascertain the down hole pressure environment limits and to manage the annular hydraulic pressure profile accordingly

He noted that offshore, managed pressure drilling (MPD) is a novel technology that enables a driller to more precisely control annular pressures in the wellbore.

He discussed different types of MPD, including Constant Bottom-Hole Pressure (CBHP), Mud-Cap Drilling (MCD), Dual Gradient Drilling (DGD), and Return Flow Control (RFC) or HSE Method.

Mr. Bruton described the ABS classification methodology and process as consisting of five key elements : design review, surveys (inspections) during fabrication and installation, surveys after construction and commissioning, issuance of reports and certificates, and maintenance of Class through periodic Surveys and audits.

He noted that the guide is used in conjunction with the ABS *MODU Rules*, and covers drilling systems in connection with drilling, workover and well testing operations. The guide is based on the requirements of API, ASME, ANSI, ISO, etc., and includes additional safety requirements based upon industry practice and marine experience. He stated the guide offers ABS Classification without imposing any prescriptive government regulations.

The classification requirements of the guide describe technology evaluation and a number of key items, including:

- Offshore MPD Systems & Equipment
- Marinization
- Classification society and IADC risk requirements for MPD hazard analysis
- Safety philosophies
- MPD Applicable Rules & Regulations
- Classification society certification requirements

Mr. Bruton concluded by noting the ABS CDS Guide including MPD the guides can be downloaded at no cost from the ABS website at www.eagle.org.

MPD – what is the role of the drilling contractor?

Paul Sonnemann led a discussion focused on the role of the drilling contractor's personnel during MPD operations.

He stated he was trying to start the discussion regarding ideas or actions the Well Control Committee needs to consider regarding contractor interaction with MPD operations. He stated that MPD operations usually use a matrix developed by the IADC Underbalanced Operations and Managed Pressure Drilling Committee to define the point at which a drilling contractor may be required to apply secondary well control practices. He noted that this framework may permit MPD operations even with a small influx into well – something very much at odds with conventional well control practices and contractor policies. He therefore encouraged the Well Control Committee to begin working to ensure understanding of and, if appropriate, participation in development of guidelines for populating and using such a matrix.

In other cases, he noted instances where people have MPD equipment on location but, because of current conflicting policies about managing influx volumes too small to be reliably detected conventionally, can't use MPD equipment and procedures to safely and efficiently manage minor events (which may or may not be considered "well control events", the definition of which is currently under review by the MPD Committee). As a result, the ability of MPD to contribute to safe, efficient drilling operations may be compromised, without actually reducing well control risks – an unfortunate outcome.

Chery Francis noted that Statoil wanted to ensure crews were comfortable with limitations of MPD, and understood the responsibilities and handover between groups once limits were reached. She mentioned one practical way to define practical MPD limitations might be by definition of a minimum detectable influx volume; below such volume limit (which might be the threshold used by a driller in setting his PVT alarms), continuing control of wellbore pressures using MPD equipment might be permissible, with transition to secondary well control (closing of BOP) required only should such threshold volume limit be reached. In their operations, in order to ensure that the rig's secondary well control capabilities not be degraded by the MPD operation, the MPD manifold and well control manifold were kept isolated.

Benny Mason said one problem is responsibility for well control still an issue between operator and contractor; Mr. Sonnemann agreed, adding the suggestion that this problem may be mitigated by closely involving the drilling contractor with the MPD operation. The more the rig contractor and MPD operator are involved in working together, the smoother the operation.

Well Control Institute (WCI) Update

Steve Kropla provided an update of the Well Control Institute, noting that some important developments had taken place at the WCI's most recent Board meeting in San Antonio on 3rd November.

Among the notable items was the formation of the WCI's first work group, focus on one of the WCI's priority topics of Competency. Andy Krieger of BP had taken the lead on assembling this group. Noble Drilling, Maersk Drilling, Seadrill and Chevron had all agreed to assist. One of the group's initial tasks is to review the responses received from IWCF and IADC WellSharp to the WCI's inquiry as to how their respective programs are aligned thus far to IOGP 476. This analysis could lead to a compilation of best practices or the identification of key elements that should be included in a well control training standard to improve crew competency.

He noted that the Board was also considering other activities, such as a Barrier Management Workshop which could be conducted in conjunction with an IADC conference.

Mr. Kropla noted that Jean-Paul Poupeau of Schlumberger had recently been added to fill a vacancy for a service company position on the WCI Board. There still remains a vacancy for another service company representative. Also, Gene Stahl of Precision Drilling had been named to fill one of the contractor positions and David Payne of Chevron and Alan Marsack of Shell had been named to fill two operator positions.

WellSharp Update

Brenda Kelly of IADC gave a presentation on the current status of WellSharp beginning with training provider metrics:

- Of 171 WellCAP training providers, 132 have fully converted to WellSharp
- 41 in final content review, all other review elements satisfied
- 21 programs have been voluntarily or involuntarily closed
- 19 new Applications for Accreditation received
- 27 Add a Course applications received
- **31 December 2015:** Deadline for transferring WellCAP accreditation for Drilling Operations personnel training to WellSharp

As for new WellSharp developments, she mentioned that Bulletin 15-05 will be issued requiring with the following administrative and control provisions:

- New Requirements for WellSharp Knowledge Assessments
- Test Question Appeals and Review Processes
- Test Out Procedures

- Guidelines for Course Prerequisites
- Proctor Emergency Codes
- eLearning Requirements
- CORRECTION: Instructor Initial Approval requirements at Supervisor level

She noted that the correction on initial instructor approval requirements at the supervisory level clarified that Supervisory hours were required instead of Driller hours as had been previously stated.

She provided a preview of the WellSharp Remote Offline Assessment Device, or ROAD-e. Designed to provide a simple way to deliver assessments in locations with weak or no internet connectivity, this pre-configured package includes a laptop, wireless access point and printer enclosed in a rugged waterproof travel case. Proprietary software is pre-installed on an instructor-dedicated laptop and configured to work with the wireless broadcast unit.

Primary features of the system include:

- Fully functional offline assessment version
- Proctor sign-in and sign-out
- Student progress monitoring during exam
- Temporary certificate printing
- Synchronizes new and completed classes when Internet connection available

The system will sell for \$3250. More information is available at <http://www.iadc.org/acd-products-services/>.

She also described new developments now underway for WellSharp:

- Translation of exam into Portuguese
- New curriculum development:
 - Well Servicing courses review
 - Engineering course
 - Human Factors course module
- Instructor knowledge assessments
- Test Question review

Proctor shortages have created issues in the Middle East, Egypt, and South America, as well as reliability issues in Brazil the Middle East and scheduling of exams and proctor notification. She stressed that a class must be made live at least five working days prior to the exam date.

In conclusion, she noted a need for a drilling contractor member on the WellSharp Review Panel. She said that Rene Rodrigues of Transocean has been nominated to replace Elton Cherry. It was noted that Rene was previously a member of the WellCAP Review Panel as well as a prior Chairman of the IADC Well Control Committee. The nomination was approved.

Regulatory Update – BSEE Well Control Rule

Alan Spackman of IADC provided an overview and current status of the long-awaited BSEE Well Control Rule. He noted the proposed rule was originally published on 17th April 2015 and consisted of a total of 264 pages. Comments were originally due on 16th June 2015. Industry groups requested a 120 day extension, but BSEE only extended the comment period by 30 days to 16th July 2015.

He noted that the proposed rule includes: revisions to existing regulations; new requirements; incorporation of 10 API standards by reference; and codification of five notices to lessees and operators (NTLS). The rule requested information and comment on over 90 questions. BSEE

also sought information on their economic analysis. In all, the proposed rule includes about 550 requirements.

Mr. Spackman noted that a concerned joint industry effort to respond the proposed rule had been organized in August 2014, well in advance of its publication. This included the involvement of seven major oil & gas trade associations (API, IADC, IPAA, NOIA, OOC, PESA, and USOGA) and their members. In all the effort to review and compile consolidated comments to the rule mobilized over 300 individuals from 70 companies who devoted tens of thousands of man-hours.

To complete this task these personnel were divided into eight Subject Matter Expert workgroups, each focusing on reviewing and commenting on specific parts of the proposed rule:

- Drilling Margin
- API Standards incorporation by reference
- Real Time Monitoring
- Casing/Cementing
- BOP Equipment
- Containment
- Inspection/Mechanical Integrity
- Economic Analysis

As part of the process, the Joint Industry Team (JIT) met with the Office of Management and Budget prior to the publication of the proposed rule, and with BSEE and Department of Interior officials prior to submitting comments by the 16th July deadline. This was followed by API Upstream Committee Meetings with White House and Congressional leaders, over 80 educational meetings with congressional staff, third party outreach, another meeting with BSEE in September 2015, and appearances at a House Natural Resources Committee Field Hearing also in September.

Mr. Spackman said the comments stressed that the industry shares BSEE's and the public's expectation that offshore oil and gas development should be done safely and in an environmentally sound manner. However, it also feels the proposed rule does not fully consider the significant progress made since 2010 by both BSEE and Industry to improve safety, nor identify any existing gaps. The JIT was hoping for a more collaborative engagement with BSEE to address issues with the proposed well control rule so that the outcome is aligned with the stated intent.

Among the JIT's key concerns is that unintended consequences may increase risk and decrease safety, that the rule proposed an unachievable and unrealistic implementation period which would pose additional administrative burden for BSEE. Other major concerns were expressed over drilling margin requirements, BOP requirements beyond API Standard 53, cementing and packer fluid requirements, and real time monitoring.

The JIT noted that the arbitrary 0.5 ppg hard line limitation defined as "safe drilling margin", when combined with stringent lost circulation requirements, could *decrease* safety by forcing less overbalance between formation pressure and mud pressure to accommodate proposed BSEE drilling margins. (Drilling margin is mandated by BSEE as the difference between mud weight and fracture gradient.)

Additionally, the proposed drilling margin rule would have a significant impact on offshore well construction, limiting exploration and hindering further development of discovered reserves. As an example, the drilling margin work group evaluated 175 wells safely drilled to total depth post-Macondo. If drilled under the proposed drilling margin rule, 110 wells would require a redesign, and 1 in 5 would be un-drillable. The specified margin would severely impact drilling of

deepwater and shelf wells, and many wells drilled safely to total depth in previous years could not be drilled. Development of significant future reserves would likely be cancelled.

The JIT noted that BSEE had no technical basis for the change, and that to date drilling margin has been safely managed by operators in conjunction with BSEE. Industry requested a less prescriptive rule that would provide flexibility enabling engineered solutions for safer operations

The comments submitted to BSEE also stated that Industry fully supports the incorporation of API 53, but does not support those requirements that deviate from those found in API 53. It found that deviations from API 53 in the Proposed Rule may increase risk and complexity; decrease overall system reliability and safety; not be technically feasible; and risk US global competitiveness.

In conclusion, the JIT stated that safety is a core value of the oil and natural gas industry. Industry shares the government's goal of enhancing offshore safety while producing more oil and natural gas in the US. It supports effective regulations in the area of blowout preventer systems and well control. Unfortunately, significant portions of the proposed rule increase risk and decrease safety, and a number of provisions must be revised prior to the finalization of the rule. To do this, BSEE should engage industry in technical workshops to finalize a rule with our shared safety objectives.

It is anticipated the Final Rule will likely be issued in March or April of 2016.

Update on Subcommittees & Workgroups

Curriculum Subcommittee - Gary Nance, Chevron – No report. Brenda Kelly said the group is currently moving on updating the WellSharp well servicing curriculum.

Simulator Subcommittee - Earl Williams, Diamond Offshore – No report. Mr. Morganelli noted that Mr. Williams had recently become Chair of the subcommittee and was planning a meeting to refocus its activities.

Gas In Riser Subcommittee - Paul Sonnemann, Sidekick – The focus of the Gas in Riser Workgroup is on understanding closed riser systems rather than open top systems. Shows that riser behavior was poorly understood (equilibrium concept). Work going on in different areas, notably within ExxonMobil and a school in France. He stated the good news is that lot of stuff is currently happening. Anyone interested can e-mail Paul to be added to his regular distribution list for further developments.

Barrier Management Subcommittee - Scott Randall, Plus Alpha Risk Management Solutions – Mr. Randall stated that no progress had been made by the Barrier Workgroup. He stated the group needs to focus on something achievable, and recommended dovetailing on something already in place. He noted that one group that should be considered is the Capstone Program at University of Houston, which has 18 groups working on different projects including one on barrier management. He stated this group is primarily reanalyzing well control incidents in Gulf of Mexico to discover what barriers failed that let these events occur. Mr. Randall asked for support from the Committee. He would like to gather names of those who are willing to be technical advisors. Kevin Braggs, of Xcel Safety Training Solutions, volunteered to be a mentor for the group

Other Business

Mr. Morganelli's term as Chair will end at the end of 2015. He will be replaced as Chair by Aaron Mueller of Independence Contract Drilling, current Vice-Chairman. Ian Barker of Paragon has volunteered to become the new Vice-Chair.

The next meeting of the Well Control Committee will be on Wednesday, 16th March at the IADC Crown Center in Houston.

The meeting was adjourned.

Attendance:

Name		Company Name
Jay	Bruton	AMERICAN BUREAU OF SHIPPING
Charles	Holt	BP AMERICA, INC.
James	Stanley	CHEVRON
Mahdi	Parizi	CHEVRON
Byron	Sketchler	CHEVRON
William Scott	Schafer	CHEVRON ENERGY TECHNOLOGY CO WELL CONTROL TEAM
Bob	Sliva	CONSOLIDATED PRESSURE CONTROL, LLC
Chuck	Boyd	CS INC
George	Hanst	DRILLING INNOVATED SOLUTIONS
Jason	Morganelli	ENSCO PLC
Johnny	Richard	FALK SAFETY SERVICES
Lance	Brown	HERCULES OFFSHORE
Brenda	Kelly	IADC
Steve	Kropla	IADC
Alan	Spackman	IADC
Brooke	Polk	IADC
Marlene	Diaz	IADC
Aaron	Mueller	INDEPENDENCE CONTRACT DRILLING
Covey	Hall	LLOYD'S REGISTER
Kim	Laursen	MAERSK TRAINING
Laura	Murchison	MURCHISON DRILLING SCHOOLS, INC.
Richard	Grayson	NABORS INDUSTRIES
Bob	Newhouse	NEWHOUSE CONSULTANTS
John	Bottrell	NOMAC DRILLING
Steven	Ronan	NORTHWEST TECHNICAL SOLUTIONS
Ian	Barker	PARAGON OFFSHORE PLUS ALPHA RISK MANAGEMENT SOLUTIONS
Scott	Randall	
Benny	Mason	RIG QA INTERNATIONAL

Paul	Sonnemann	SAFEKICK
Iqbal	Ahmed	SAUDI ARAMCO SERVICES COMPANY
Dan	Morrell	SCHLUMBERGER
Marcus	Mason	SMITH MASON & COMPANY
Larry	Schmermund	SMITH MASON & COMPANY
Cheryl	Francis	STATOIL
Evan	McLaughlin	TRANSCOCEAN
Rene	Rodrigues	TRANSCOCEAN
Bhavin	Patel	WEATHERFORD UNITED STATES
Barry	Cooper	WELL CONTROL SCHOOL
Michael	Howard	WELL CONTROL SCHOOL
Kevin	Braggs	XCEL SAFETY TRAINING SOLUTIONS