



Well Control Committee Meeting

20 May 2015

Host: Falck Safety Services
 15621 Blue Ash Dr.
 Houston, Texas 77090

MINUTES

	WELL CONTROL COMMITTEE (All members)
8:00 – 8:05	Welcome Jason Morganelli, Ensco, Committee Chairman
8:05 – 8:10	Facility Orientation/Safety and IADC Antitrust Guidelines & Policies Thomas Boehmer, Falck Alford Thomas Boehmer provided the site safety orientation and invited attendees to stay after the meeting for a light lunch and tour of the facilities. Brenda Kelly provided the IADC antitrust policy overview.
8:10 – 8:20	Attendee Introductions Jason Morganelli
8:20 – 8:30	Lessons Learned Jason asked if any attendee had a lesson learned to share. Hearing none from attendees, Jason provided the following. While pumping out of hole, the company man walked to rig floor and asked to see trip sheet. Not seeing records for displacement during this operation, he asked the driller if he knew the current displacement rate. Not being able to answer since this was not tripping or drilling operation, the company realized they did not have as common practice to record displacement on the trip sheet. No one had told driller he needed to record it. Mud logger says tank dropping but no incident occurred. The company recognized this as a process safety gap – a barrier missing in process. They had not previously thought to do this. This is being added to well control standard now.
8:30 – 8:45	Review of Action Items Jason Morganelli No action items for the previous meeting.

8:45 – 9:15

Well Control Institute Update

Morrison 'Moe' Plaisance, Well Control Institute (WCI)

Chairman, WCI

Mr. Plaisance said the Industry is working to recover from a tragic incident—Macondo—and recoup its reputation. The preservation of our social license to operate has been threatened by this event and not just in the US! Governments around the world have exhibited a keen interest in well control and what industry is doing to protect our environment as we move into a new era of regulatory scrutiny in our work. WCI is believed to be part of the direction industry needs to go to retain its license to operation and to recoup its reputation.

Rather than individual Industry groups and companies working only within their individual areas of expertise or specialty, the WCI brings together all members of the Drilling Industry (Operators, Contractors, Service Companies, Manufacturers, and Industry Organizations) to work on progressing improvements in our operations with an emphasis on safety and well control at all times.

WCI is “to be industry definitive collaborative body and value-enhancing resource for all matters related to well control”. It will encourage safe well control practices and well bore integrity, while advancing competency, processes, technology, and best practices. It will also be a forum for evaluating practical and economic advances in well control practices and processes.

WCI’s structure includes an Executive Board of 19 members representing operators, drilling contractors, well servicing, and equipment companies. IADC provides oversight, administrative and technical expertise support. IADC and IOGP are non-voting members of board.

WCI’s work focus includes (among other topics):

- Improvements in well control performance
- Sharing of good practices
- Provide leadership
- Recognize and endorse global training standards
- Identify gaps and map improvement efforts

This is the first time this caliper group has come together globally to achieve improvements in well control.

Priority topics as identified by the Board members are:

- Competency – the # 1 priority with scenario-based well control training and personnel credentialing closely related
- Safety management – procedural discipline & communications
- BOP reliability
- High reliability systems (barrier management and process safety culture)
- Reporting lessons learned
- Kick detection automation

	<p>Mr. Plaisance referred attendees to IADC Deepwater Well Control Guidelines.</p> <p>Q: What is WCI doing in context of BSEE rulemaking? WCI is monitoring, especially the request to extend review timeline, but is not directly involved.</p> <p>We (industry) have not educated public into what we do. We need to strengthen our resolve to continue.</p>
<p>9:15 – 9:45</p>	<p>Subsea Engineer Training William Averill, Chevron Chevron Deepwater Unit</p> <p>Mr. Averill explained that industry formed a workgroup 2 years ago with interest in looking for minimum guideline for subsea engineers' competencies. Operators, drilling contractors, manufacturers, and IADC are involved. A charter and framework of standard has been developed.</p> <p>The Subsea Engineer Competency Project workgroup began by identifying causes of down time. They recognized the leading cause as skills of personnel (e.g., proper assemble techniques, spending time reading manual).</p> <p>The group is defining knowledge and skills, drafting a standard document. A question bank will be build this year that aligns to the body of knowledge needed. The group recognized that a lot of training exists but that there is no process in place for 'assurance'.</p> <p>Questions: Is this building on work of West Engineering's reliability studies?</p> <p>Q: What is end goal? Write standard, administered by IADC or other organization. The program would then be run like a competency program. The standard would be used as an auditing tool or model for an in-house competency program.</p> <p>The work focuses on maintenance and reliability for deepwater drilling, MUX systems.</p>
<p>9:45 – 10:00</p>	<p>Break</p>
<p>10:00 – 10:30</p>	<p>The Launch of WellSharp Mark Denkowski, IADC</p> <p>Who's idea was it to redo WellCAP? Industry members requested/initiated it, not IADC. An Advisory Panel was created to perform an initial review of WellCAP and make recommendations for improvements. The prime driver was to make the test better, provide worldwide consistency in training, and deliver more effective training. The Panel also emphasized that training is about people's responsibilities for well control. Training should deliver knowledge and skills critical to specific roles and responsibilities. A step-change in well control training and assessment was the outcome.</p>

Human behavior is a big part of well control, therefore a group of experts has been brought together to develop a human factors module for recently revised Introductory course.

International Oil & Gas Producers Association is updating their Recommendation 476.

Where does WellSharp go from here? The Well Control Committee needs to revitalize the curriculum and test question subcommittees. Also the Committee needs to answer key questions not yet answered, for example what is the appropriate level of well control training for a Captain. Also a new workgroup is needed to define the curriculum and delivery requirements for the Engineer course.

Current concerns about WellSharp launch: 1. The proctoring network – will it be robust enough to accommodate the wide range of training locations of WellSharp training providers; and 2. Adequacy of Instructors' training delivery – are they delivering comprehensive training so that trainees can pass the test.

IADC has no authority to mandate/require specific training levels, therefore, IADC staff are working with members to encourage adoption of specific WellSharp recommendations.

Should we build a module to build bridge from Driller to Supervisor or 'battlefield' promotion? IADC is aware this may be of added value to the program.

Pilot testing of WellSharp has been underway for the past 6 weeks. Early results indicate that there could be value in initiating a pre-test to help trainees become familiar with the online testing process before they have to face the official test.

Chevron data shows problem in training--low pass rate on the fundamentals of well control. This raises a question of frequency of recertification. It was suggested that there needs to be: 1. an interim program of some form to maintain competency, and 2. some form of test out option with simulator assessment (for those who maintain their competency).

A part of WellSharp testing process is the reporting of a trainee's weak areas of performance. This gives the instructor opportunity to work with the training to fill the gaps in knowledge.

What's next for WellSharp:

- Development of the engineering course
- Review and revision of Workover-Completion course
- Review and revision of all other well servicing courses (i.e., Wireline, Snubbing, Coil Tubing)
- Development of human factors module

Another next step for WellSharp is to address knowledge retention during the period between recertification training. The nuclear energy

	<p>reevaluates personnel every 5 weeks, and provides periodic retraining in the interim.</p> <p>One member expressed concern that separation of driller and supervisor in training limits the supervisors training. In the past the supervisors gained insight into what drillers see by having the driller in the classroom and interacting with the driller. WellCAP Plus remains a viable course for well control training. It provides this kind of interaction between the rig-based 'well control team' members and could be used as a mid-cycle training option. Providers may continue to deliver WellCAP Plus training now. To bring the course under WellSharp, a workgroup of the Well Control Committee would need to review and refresh the course content and delivery requirements. Also they would need to make a recommendation as to how to bring the course into the recertification process.</p> <p>Does a 'bad test question' impact trainee's result?</p> <p>Pass/fail test questions are in database but have not yet been turned on. IADC is monitoring performance on those question to assure they are good questions before we launch them.</p> <p>The WellSharp Database contains a Student Survey for collecting information about length of simulator assessment, if assessment occurred before or is to occur after knowledge test, proctor in the room, etc. It was pointed out that the database needs another answer option on the survey: 'not yet taken sim assessment'.</p> <p>Q: How are accredited training providers supposed to guide people concerning training levels? IADC is writing a policy statement that training providers will give a trainee to encourage taking of the appropriate course level for their position or responsibilities in the future. IADC cannot hold training providers responsible for turning away trainees who seek to enroll in a course that is not the one IADC recommends for their recertification. It will be up to other industry stakeholders to drive training at the appropriate level.</p> <p>Q: WellCAP Plus – what is its fate? It needs to be reviewed and brought into WellSharp. A workgroup needs to be formed for this purpose. Ed Geisler, WCS offered to give feedback to the review team on issues and concerns he has about the course. (His company developed a course but industry did not support it.)</p> <p>Q: Human Factors Module – can it be delivered prior to Intro course?</p> <p>Q: Engineering course – when and how will it be developed? How will it cross over between drilling? The development team needs to include completion engineers on this workgroup as well as drilling engineers.</p>
<p>10:30 – 10:45</p>	<p>Demonstration of WellSharp Testing Database Brooke Polk, IADC</p> <p>Brooke Polk provided an overview and demonstration of the WellSharp Database, showing many of the different views (administrator, instructor,</p>

	<p>and trainee), different access permissions, and reporting functions. She indicated that suggestions coming from piloting are being incorporated as appropriate; several new features have already been added (e.g., excel spreadsheet for building and incorporating course roster; students enrolled). The system provides certificates, test score report, etc. in downloadable format. Those trainees who fail the exam with a score greater than 50% may see a report of their exam results, including areas of weakness and the associated learning objectives.</p> <p>Q: Retesting process –if training occurred in Houston, can the trainee retest at other location? Only if the training was delivered by an accredited traveling. IADC needs to develop a procedure for retesting at another location.</p> <p>Q: Can a training provider see the test question analytical reports for the provider’s course(s) or instructor(s)? They cannot see individual student performance. Brooke Polk will check on possibility of this kind of report to a training provider.</p> <p>Training Provider Feedback of Piloting:</p> <ul style="list-style-type: none"> • Very intuitive system • Able to navigate immediately after 2-hr training • IADC very responsible in addressing any issues that popped up during piloting • Much of workforce may have difficulty taking the test because of limited reading skills. (A trainer altered training from first to second delivery and success rate went up drastically. The trainer gave practice questions in a format similar to IADC test and that help trainees succeed. • Test very fair • Support has been top notch • When translating test question into another language, keep same test question number so editing of question across database is easier. <p>Q: Offline Delivery Solution – The intent is to develop and make available a USB stick with operating system. This will be developed after the online version is finalized.</p>
<p>10:45 – 11:15</p>	<p>Industry Groups Update</p> <ul style="list-style-type: none"> • <u>API Subcommittee 16</u>—Alex Sas-Jaworsky (SAS Industries) <ul style="list-style-type: none"> ○ API Spec 16A Specification on Drill-Through Equipment (TG-3) ○ API Spec 16C Specification on Choke and Kill Systems (TG-1) ○ API Spec 16D Specification on Drilling Well Control Systems and Equipment (TG-2) ○ API Spec 16RCD Specification on Rotating Control Devices (TG-6) ○ API RP 16ST Recommended Practice for Coiled Tubing Well Control Equipment Systems (TG-5) ○ API RP 16AR Repair & Remanufacture of Drill-Through Equipment (TG-7) • <u>API RP 59</u> (Well Control Operations): Bill Rau (Chevron) NO REPORT

	<ul style="list-style-type: none"> • <u>API Standard 64</u> (Diverter Systems Equipment & Operations): Alex Sas-Jaworsky (Sas Industries) • <u>API RP 75</u> (Offshore Safety and Environmental Management Program): • <u>API RP 96</u> (Deepwater Well Design and Construction): Scott Randall (PlusAlpha Risk), Bill Rau (Chevron) NO REPORT • <u>API Bulletin 97</u> (Well Construction Interface): Scott Randall (PlusAlpha Risk), Bill Rau (Chevron) NO REPORT • <u>BSEE</u>: Julia Swindle (COS) NO REPORT • <u>Center for Offshore Safety</u>: Julia Swindle (COS) NO REPORT • <u>International</u>: TBD NO REPORT <p>Alex Sas-Jaworski reported on API subcommittee 16. See attachment report for details.</p> <p>Q: Boyles Law will no longer be permitted per 3rd edit of Standard 53/API 16D. Will training providers have to teach Ideal Gas Law instead of Boyles Law? Curriculum will have to change for Supervisor and Engineer courses. Trainees need to know that the accumulator bottles are pre-charged. During an audit, the auditor will ask rig personnel to 'check pre-charges on accumulator'.</p> <p>No report on 16 RCD was given.</p> <p>Recommended Practice 64 is now a standard.</p> <p>Government and regulators look to the expertise 'in the room' (i.e., members of the Well Control Committee). Experts at the Well Control Committee are not actively engaged in API standard, specification, or recommended practice development. Members need to get involved.</p> <p>No other reports provided.</p>
<p>11:15 – 11:30</p>	<p>Update on WCC Subcommittees & Workgroups</p> <ul style="list-style-type: none"> • Curriculum Subcommittee – Gary Nance, Chevron NO REPORT • Simulator Subcommittee – Chairman is needed for his subcommittee • Gas in Riser Workgroup – Paul Sonnemann, SafeKick • Barriers Workgroup – Scott Randall, PlusAlpha Risk NO REPORT <p><u>Curriculum Subcommittee</u> – no report</p> <p><u>Simulator Subcommittee</u> – Focus needs to shift based on WellSharp launch. Simulation needs to provide 'competency' assessment. Simulator assessments need to be audited, and the Simulator Subcommittee needs to put strong emphasis on developing the audit checklist. The Subcommittee also needs to develop training for instructor on how to operate simulation per IADC requirement.</p>

	<p>Now drillers need specific exercises that are more meaningful. The Subcommittee now has the ability to make significant changes in the way exercises and assessments are performed.</p> <p>Q: More frequency of simulator training – how can individuals get on a simulator for ‘more practice’? The subcommittee was first working on hardware. Now the focus is shifting to looking at online software as a means of providing simulator practice.</p> <p>Q: Will the subcommittee develop scenarios? WCS developed a 3-day simulator workshop that included both surface and subsea exercises. The workshop was DIT-accredited but no trainees enrolled.</p> <p>‘Muscle memory’ must become the priority. We must train to develop muscle memory. Maybe we need to rethink simulator portion of the course. This is a question for the Subcommittee to debate.</p> <p>The Subcommittee continues to need a new Chairman.</p> <p><u>Gas in Riser Subcommittee</u> – Paul Sonnemann, SafeKick</p> <p>Mr. Sonnemann reported that 80 people are participating in the workgroup. The workgroup is addressing the following:</p> <ul style="list-style-type: none"> • ‘Riser Equilibrium’ – a term the workgroup is now applying to the phenomenon • Change in behavior that occurs, not necessarily at equilibrium • What does gas do if pressure not applied to manage gas? • ‘Explosive unloading’ – example discussed: shut-in below gas; gas in system and surface pressure; what happens when bleed off pressure at surface.
<p>11:30 – 11:45</p>	<p>IADC News</p> <ul style="list-style-type: none"> • 2015 Conferences: <ul style="list-style-type: none"> ○ Well Control Conference, Galveston, 25-26 August 2015 ○ Human Factors, 21-22 October 2015 • Next meeting date: 24 August 2015, Galveston • Other news <p>Brenda Kelly reviewed the Well Control Conference schedule for Galveston, TX, 25-26 August 2015.</p>
<p>11:45 – 12:00</p>	<p>DISCUSSION & TOPICS FOR NEXT MEETING</p> <p>There were not additional topics of discussion.</p> <p>Brenda Kelly indicated that the August meeting would be held in conjunction with Well Control Conference in Galveston. Topics for the next meeting had been discussed in the morning drilling contractors’ forum. Highlights of the discussions follow:</p> <ul style="list-style-type: none"> • MPD—What is it? Is MPD used in GOM? How does the approach differ from conventional well control? • ConocoPhillips, gas in riser (?)

	<ul style="list-style-type: none"> • Want to hear from Cameron or other BOP manufacturers about storage, maintenance and bringing back online • Where does clock stop, start for BOP service time in context of maintenance (re Standard 53)? Is BOP treated as a single unit or components? Frank Galander, Chevron, would be a good speaker. <p>No other topics or thoughts on the August meeting were offered.</p>
12:00	ADJOURNMENT

Attendance:

Name		Company Name
Jay	Bruton	AMERICAN BUREAU OF SHIPPING (ABS)
Ken	Wasko	ATWOOD OCEANICS
Andrew	Frazelle	BP
Jason	Sasarak	BP
Lei	Zhou	BP
Johnny	Aldridge	CAD CONTROL SYSTEMS, INC
Michael	Schulenberg	CHECK-6 TRAINING SYSTEMS
William Scott	Schafer	CHEVRON
Matt	Parizi	CHEVRON
Adam	Sisler	CHEVRON
Jim	Stanley	CHEVRON
Gary	Nance	CHEVRON
Chuck	Boyd	CS INC
Michael (Earl)	Williams	DIAMOND OFFSHORE
George	Hanst	DRILLING INNOVATIVE SOLUTIONS
Patrick	Stokes	DRILLING INNOVATIVE SOLUTIONS
Melissa	Aranda	DRILLING SYSTEMS (USA)
Jason	Morganelli	ENSCO PLC
Shayne	Braig	FALCK SAFETY SERVICES
Krystina	Amos	FALCK SAFETY SERVICES
Johnny	Richard	FALCK SAFETY SERVICES
Justin	Wilson	FALCK SAFETY SERVICES
Arash	Haghshenas	HALLIBURTON
Brock	Fisher	HELMERICH & PAYNE
Lance	Brown	HERCULES OFFSHORE
Robert	Burnett	HERCULES OFFSHORE

Mark	Denkowski	IADC
Brenda	Kelly	IADC
Brooke	Polk	IADC
Aaron	Mueller	IDENPENDENCE CONTRACT DRILLING
Harry	Cooper	INTERTEK CONSULTING & TRAINING
Joyclyn	Walker	INTERTEK CONSULTING & TRAINING
Fenil	Shah	LEARN TODRILL LLC
Covey	Hall	LLOYD'S REGISTER
Kim	Laursen	MAERSK TRAINING
Charlie	Orbell	MANAGED PRESSURE OPERATIONS
Sundeeep	Yalamanchi	M-I SWACO A SCHLUMBERGER COMPANY
William	Murchison, Jr.	MURCHISON DRILLING SCHOOLS, INC.
Laura	Murchison	MURCHISON DRILLING SCHOOLS, INC.
Karl	Hilthon	PARAGON OFFSHORE
Frank	Klepper	PETROLEUM COLLEGE INTERNATIONAL
Steve	Vorenkamp	RETIRED
Benny	Mason	RIG QA INTERNATIONAL INC
Roger	Sanchez	RIG QA INTERNATIONAL INC
Robert	Ziegler	ROBERT ZIEGLER INC
William	Fleming	ROWAN COMPANIES PLC
Tyler	Kerps	ROWAN COMPANIES PLC
Paul	Sonnemann	SAFEKICK
Alexander	Sas-Jaworsky	SAS INDUSTRIES, INC
Deepak	Gala	SHELL E&P
Larry	Schmermund	SMITH MASON & COMPANY, LLC
Joshua	Robnett	SUBSEA SOLUTIONS
Earle	Findley	WCI INTERNATIONAL
Ehrich	Rose	WELL CONTROL SCHOOL