

	<p style="text-align: center;">IADC UBO & MPD Committee Meeting</p>	<p style="text-align: center;">3rd Quarter Meeting September 3-5 2014 Bergen, Norway</p>
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DAY 1 - Wednesday September 3rd 2014

Welcome, Announcements & Safety Moment.

Martin Culen welcomed the UBO-MPD committee, and referenced the “MPD from Floaters Workshop” held over the past few days. He also announced that DNV-GL will be conducting a workshop in the evening today to discuss a JIP proposal. Further announcements included the API 16RCD subcommittee teleconference with API (Washington) and the Paper selection committee meeting Thursday evening.

The hotel then provided a safety briefing, discussing alarms and associated emergency actions.

Scott Maddox (IADC) reviewed the IADC Anti-Trust Guidelines. The guidelines can be retrieved in their entirety from the IADC web site.

Martin then thanked the meeting sponsors – Enhanced Drilling and Statoil.

Introduction of Committee Members and Guests.

The group was then asked to introduce itself. Each attendee gave an introduction including company name and work location. See Appendix 1 for the detailed list of the attendees.

Saad Saeed (Halliburton) then presented a safety moment on “*attention*”. A video was presented showing how attention can be averted by fairly simplistic techniques. The emphasis was made on paying attention to important facets of everyone’s work – health, safety, environment and technical.

Francisco then announced a DNV workshop at 5 pm today, with the intention of gathering feedback on a JIP proposal. Approximately 30 people expressed interest.

2Q14 Meeting Minutes - Review

The previous minutes were not officially approved. Martin provided a recap of the minute for all attendees. Ian motioned to approved. Seconded by C. Minutes were approved unanimously.

Subcommittee reports

Following are the updated as provided, Isabel unable to attend. Dennis M provided the update.

- **UBO Subcommittee – Dennis M**

Dennis provided an update. Currently working draft of API 92U circulated for review. Ballot distributed to subcommittee - ballot passed, but comments need to be addressed and it was noted that there are corrections required – e.g. there was a “shall” clause which cannot be completed (i.e. element pressure tested after change). Needs further review in breakout session.

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- **MPD Subcommittee – John K, Per Cato**

Working on PMCD for subsea stack document

Documents currently being worked on,

- PMCD – Subsea stack (work in progress): Technical content is finished. Some issues with structure that remains to be resolved. Plan was to send out draft, but has not happened. To be discussed in breakout.
- MCD – Surface stack (work in progress): Status On Hold. No further work on this.
- 92M – MPD Recommended practice: Brian – checked with Roland on status, no update. This has not gone out to ballot yet. Has been on hold due to redrafting requirement of two figures.
 - o Action: Brian has an engineer which will draft the two figures for completion – not needed.
 - o Per Cato Berg edited the original Visio drawing and sent to Brian Grayson for inclusion and sending to API.

Focal point of documents:

- 92M ← Brian G
- PMCD S/S ← John K
- MCD Surface ← Bob G
- MPD ABP S/S ← Gavin (needs confirmation)
- Overall Document ← Sara S
- 92U ← Isabel

- **DGD Subcommittee – Frederic J**

Frederic provided the update and informed the group that since the last meeting the subcommittee website had been updated on the IADC website. The four technique diagrams have been posted here.

The second update was on Future DGD workshops structure, format and content. Blending the workshop into IADC/SPE event not possible for this year and has been postponed to 2016. The 2015 format will remain, i.e. 1 day workshop, followed by two days for the SPE/IADC meeting. Future DGD workshop structure, format and content need to be discussed in the breakout session,

IADC advised that for the workshop in Dubai that only ½ a day with 3 rooms is available.

Martin then asked IADC whether a paper planning committee needs to be setup. This will be examined further.

- **HSE Subcommittee – CJ Bernard & George M (not present)**

No current initiatives. Discussion on incorporating risk management type approach to HSE guidelines. DNV workshop may feed into guidelines into the future.

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- **Training Subcommittee – CJ Bernard & George M (not present)**

No update

MPD Curriculum defined but needs to be reviewed - Cleanup documentation.

Action: Need to get update from lead

- **Outreach Subcommittee – Brian**

No action to report.

- **Well Control Liaison – Scott Pettrie/ Earl Dietrioch**

No action to report.

- **Regulatory Liaison Subcommittee – Per Cato & George M**

No detailed update

George M – In September 2013 came up with flow chart of who to contact with BSSE in relation to MPD. Need to distribute – either email or website.

Action: Need to be updated and publish on website

- **Certification Task Group – Martin C**

Martin provided a quick recap on the last meeting and on the DNV certification document. A Letter was written by David P and CJ to DNV (Mr Handal) to discuss issues in DNV-E101 (especially with definitions such as 8.1.2). A response was received from DNV – stating that all pressure equipment was essential unless you can prove otherwise.

ABS draft will be released in the next two weeks.

A discussion on certification then ensued covering a wide variety of opinions. But no overall consensus was arrived at.

Break

- **API16RCD Subcommittee – Martin C**

Martin provided a quick recap of the last meeting. All comments on revision of API16RCD have been addressed. API has released revision 2 to industry for ballot, which is open till 9-Sept-2014.

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Changes to edition 1 do not affect Monogram program.

Operational testing criteria are going to be reviewed in the breakout session. API teleconference will be at 3 pm to explain way forward.

22 independent tests to RCD. 5 part test being discussed and considered.

Action: Martin to discuss with Ed on drafting a preface for E2

Discussion

Madrid MPD/UBO Conference Feedback

- Abstract reviewed differs from Presentation

Action: Discuss with Peggy on organization for technical paper and process for next conference

New Issues:

- Organization of breakout session and content

Task groups that will split out will be:

- DGD
- API 16RCD
- MPD – PMCD
 - 92U

Breakouts

- API 16RCD task group breakout
 - Recap of API 16RCD background
 - Operational testing overview
 - Specify time of test
 - Specify test mandrel

Lunch

MPD subcommittee breakout

This session started with a discussion of 92U. The following points were discussed:

- 92U Discussion
 - The comments reviewed in the last balloting round were discussed and addressed individually
 - 3.22 – Accepted
 - 3.3 – Accepted

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- 5.1 – Accepted
- 4.2.3.1 – Accepted
- 4.3.4 – Accepted
- 5.4.1 – Accepted

DGD subcommittee breakout

- Brain storming on upcoming event
- Dubai cancelled for 2015
- Other options explored
- 1 day workshop prior to Well control conference ← August 2015 in Galveston
- Workshop on Mon 24
- Started working on program

DG15 workshop:

- The subcommittee discussed the update received from IADC` since last meeting that the DG15 workshop and MP15 could not be combined into a single 3-day event in Dubai as desired and agreed at the Q2 committee meeting. In addition we were informed this morning that the workshop would be reduced to half a day only due to conference availability and vendor setup for the MP15 conference
- Based on the above, the subcommittee decided to cancel the DG15 workshop in Dubai and looked at alternatives such as tying the DG15 with other events (IADC well control, OTC...), or simply cancelling DG15 until it merges with SPE/IADC conference in 2016. The subcommittee unanimously agreed to maintain a one-day event in 2015 and tie-in to the IADC Well Control conference held in Galveston, TX Aug 25th – Aug 26th
- This one day event would be titled “IADC Dual Gradient Well Control Forum” and to be held on Monday Aug 24th
- The subcommittee started planning the agenda and topics for that forum. The concept would be to have a keynote speaker, a morning session with 3 speakers on different DG technology case studies, and an afternoon session on DG well control (see attached draft)
- The DG Subcommittee would like to have a DG panel session during MP15 conference

Action: IADC to confirm cancellation of Dubai DG 15 – **DGD for Dubai is Cancelled**

Action: IADC to confirm Moody Gardens availability for Monday Aug 24th – **Confirmed but move to the 27th of August.**

Action: Inform Well Control Committee and ensure DG15 registration link available on WC15 conference for the 1-day forum (Scott)

Action: Finalize agenda of the DG15 Forum (Frederic / Iain)

16RCD subcommittee breakout

- Agreed on structure of Operational test
- Discussed parts 1 through 5 and modified as required
- This will be structured as a Supplemental requirement (SR1)

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Pause in subcommittee breakout sessions

The group re-convened to attend a teleconference with API (Ed Baniak) who is responsible for all of API16

- 1/3 voted
- No negatives
- Technical, editorial comments
- Well on its way to being published
- Amend existing document ← through amendment existing process
 - Generate new section
 - Annex (normative or required)
 - Ballet that comment
 - Once passes & published. It becomes a technical change to document
 - Technical changes become immediate
 - Petition oversight committee, to treat addendum as much as new publication. Delay implementation period – to enable adequate time for implementation.
 - RCD is ~~not~~ part of the monogram program
 - E2 - Complete RCD unit and packer
 - OK to have operational testing document.
 - Other option is a standalone document
 - Advantage – not impacting existing requirements
 - Can be phased in at any speed
 - Testing – usually Standard or recommended practice
 - Specifications – manufacturing type document
- Committee informs API that new section will be small in size (+/- 5 pg)
- Example API 5L
 - Manufacturing requirements specifies minimum baseline
 - Informative annex (maybe performed if required by contract) has optional options. Up to manufacturer and/or customer
- Annex can be normative in nature
 - Effective implementation period is needed
- Committee informs API that Annex would be informative in nature
- Supplemental Requirement route
- Questions:
 - Testing framework ← certain aspects would be variable
 - Via marking – convey what SR is met and what variable, e.g. SR1-100
 - When did ballots go out and how?
 - Initiated: 29-Jul
 - Reminder: 5-Aug, 19-Aug, 2-Sept
 - Closes: 9-Sept
 - Voting Group 2: 22 voting companies on that group
 - Operator, manufacture, catch all (consultants, engineering)
 - Ballot: 3290

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- To get on: Chair of the subcommittee, waiting period, subcommittee. To be voter – you have to become a member of subcommittee.

DAY 2 - Thursday September 4th 2014

Welcome, Announcements & Safety Moment

Martin welcomes everyone and then provides a review of DNV-GL meeting held yesterday evening

- DNV-GL has identified many of the same issues as committee that need to be addressed
- DNV-GL offered a JIP to complete these gaps. Committee extended invitation to DNV-GL to join the committee to work together

Martin then presented a safety moment. He injured his knee (wake) surfing in Canada. Pay attention to safety during recreational activities.

Upcoming Committee Meetings schedule

Discussion on dates and sponsoring for upcoming committee meetings resulting in the forecast below:

Meeting	Dates	Location	Host / Sponsor	Confirmed?	Tie-back
3Q 2014	Sep 3-5	Bergen	Enhanced Drilling	YES	SPE ATW Sep 1-2
4Q 2014	Dec 9-11	Houston	IADC / Shell	YES	-
1Q 2015	Feb 10-12	Houston	Weatherford	YES	-
2Q 2015	Apr 15-17	Dubai	MPO / Blade	NO	MPD/UBO/DGD Apr 12-13-14
3Q 2015	Aug 25-27*	Houston	IADC / Halliburton?	NO	DGD
4Q 2015	Dec 8-10	London	MPO?	NO	-

Martin thanks sponsors for their support of this meeting – Statoil and Enhanced Drilling

MPD subcommittee breakout

This session continued with a discussion of 92U. The following points were discussed:

- 92U Discussion

The comments reviewed in the last balloting round were discussed and addressed individually:

- 5.4.2 – Add a column to cover the <P1 case
- 5.4.2 – Disagree leave colors as the same
- 5.4.2 – Disagree leave, as is
- 5.4.2 – (#14) Comment not understood
- 5.4.2 – (#15) Disagree leave, as is
- 5.4.2 – (#16) Disagree leave, as is

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- 5.4.2 – (#17) Disagree leave, as is
- 5.4.2 – (#18) Agree
- 5.4.2 – (#19) Agree
- 5.4.4 – (#20) Disagree leave, as is
- 5.4.4 – (#21) Disagree leave, as is
- 5.5.2.1 – (#22) Agree. Modify statement
- 5.8.3.5 – (#23) Agree. Modify statement
- 5.8.3.3 – Modify statement
- 5.8.3.4 – Remove
- Subsea PMCD
 - Action list for the Subsea PMCD document was reviewed
 - Document format for future revisions of 92M were reviewed
 - Current plan forward is to submit 92M for balloting as is. Future revisions will include new format and inclusion of PMCD content
 - Editing drawings from 92M completed

Breakout reports

Upon reconvening Martin advised the group of a petition by a company in the US that has been lodged with OSHA requesting legislation mandating RCD slings. This needs to be looked at further by the committee.

- API 16RCD task group breakout (Martin)
 - A review of the Operational testing requirements was conducted (5 part test)
 - Test variables were discussed:
 - Test fluid
 - Temperature
 - Stripping speed
 - Tool joint angle
 - Number of tool joints
 - Stated/Specified pressures
 - Static test hold time (min 3 min)
 - Center offset
 - Rotational Speed
 - Pipe Size

The task group also reviewed questions regarding the 16RCD monogramming process, the contents of the discussion included herein:

The questions posed to the task group follow, with the answers shown in blue.

What are the steps to place the API monogram on a particular equipment unit manufactured under a API SPEC?
for example:

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A) If the equipment is manufactured in a API qualified facility is it automatically monogrammed?

For 16RCD The monogram process has two steps. First, the vendor/manufacturer must apply for API Q1 status for the facility. This is an overarching specification relating to quality control standards and specifications for the manufacture of all goods. This is not a small process, and some vendors have stated that this is the more arduous part of getting a monogram for their equipment. The second step is then to apply for a specific monogram for the type of equipment that the vendor chooses to build. So, to answer your question - just because a facility has a Q1 specification does not mean they can monogram equipment. They also must meet all of the criteria of the specific manufacturing spec. in order to be able to monogram it.

B) If the one unit of a particular equipment has been manufactured and qualified under the API Spec all other units of this particular model manufactured on this facility automatically monogrammed?

API 16RCD is a design & manufacturing standard. The specification includes criteria that an overall design of an RCD must meet as well as criteria for factory acceptance testing of all units that are built to that design. Please note that the manufactured unit must meet the criteria of both Q1 and 16RCD, which would include all traceability on materials used and testing documentation for each design and unit as laid out in the spec. An API auditor will audit that entire process and then issue the license to the vendor. I am unsure of the exact frequency of audits, but they are performed routinely, and if a vendor fails an audit they lose the ability to hold the license and cannot monogram the equipment. This has happened in the past, where a manufacturer has lost their license due to a failed audit.

C) Does every unit need to comply with every step of the API SPEC to be monogrammed?

There are two criteria in the specification - the design verification testing (of which we are all familiar - stripping 400 tool joints etc etc) and Factory Acceptance Testing. The design verification tests are performed once for each *design*. Once the design verification criteria is met and the vendor goes to production mode, then the manufactured units need only to meet the FAT - which is a different set of tests than the design verification tests.

D) If manufacturing of a particular unit is made following the design but in a non API qualified facility can this unit still be qualified if it passes all the steps on the API SPEC?

To the best of my knowledge, a unit that is built in a non-Q1 facility cannot be monogrammed - that is the reason the Q1 spec exists. If a unit is built in such a facility, a vendor may state that "the unit has been built in accordance with API 16RCD specifications", but there is of course no guarantee that all criteria are met, and therefore API will not stand behind that build and it will then definitely not carry an API monogram. This is also true of testing that is done on non-API monogrammed units - a vendor may state that the unit is "tested in accordance with 16RCD standards", but it would then be up to the end user to scrutinize and or audit all of their test results to ensure that they do in fact meet that criteria.

E) It is not clear on the Appendix F what are the pressure tests reports that should be on the unit

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databook.

- Appendix F deals with purchasers guidelines for RCDs. Section F.4 deals with the data book as you have outlined and note that it states the databook is to be requested by the purchaser (end user). Item (i) would undoubtedly refer to the Factory Acceptance pressure test reports of the specific unit. The FAT tests are different from the design verification tests (400 TJs etc). An end user could request copies of the pressure tests for both the design verification as well as the FAT if they wish, as it is not explicitly called out in the Appendix.

F) It is not clear to me that the section 4 is:

- a) for the design; or
- b) to verify that that unit complies with the pressure ratings as it should per the design in "some" working condition.

What is being verified in section 4 is the ability to hold pressure in certain conditions.

According to what I have received from API Monogram program it should be the unit.

Section 4 relates to the RCD design. Specifically, Section 4.7 calls out design verification tests for 'operational characteristics' such as stripping and rotating. This is meant to verify the overall design of an RCD model, not requirements for each particular manufactured unit. Section 7 (Quality Control.) on the other hand, references the tests that must be conducted on each unit manufactured to that specific RCD model. Have a look at section 7.6 - Factory Acceptance Test by RCD Type.

G) Can manufacturing be defined as assembling parts manufactured from third parties? shouldn't the third parties all be API Q1?

We have clarified in a recent API bulleting that only two items can have receive an API monogram specific to RCDs:

- A rubber packing element
- A complete RCD

Use of unqualified/uncertified third party parts to assemble an RCD may contravene the design specifications of 16RCD and therefore fail an audit if conducted. The manufacturer should know the impact the impact of deviating from their certified process. If they received their license using third party parts, then they have demonstrated to an API auditor (or designate) that those parts meet all the criteria called out in Q1 and 16RCD.

- MPD subcommittee breakout
 - See above
- DGD subcommittee breakout
 - See above

Meeting adjourned by Martin

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Abstract review committee convenes to discuss paper selection for Dubai conference

DAY 3 - Thursday September 4th 2014

• **MPD subcommittee breakout**

- API 92 M, drawings completed by Per Cato Berg, reviewed with MPD subcommittee and accepted. Per Cato sent drawings to Brian Grayson to send to API. After API receives these, shortly thereafter to send out API 92M Applied Surface Back Pressure (Surface Stack) for Balloting. This will be 92M e1.
 - Action: Brian Grayson to follow up with API.
- Subsea PMCD document completed and will be sent by Per Cato Berg out next week to be reviewed for two weeks by MPD subcommittee. Comments and changes should be entered in excel spread sheet and sent to Per Cato prior to teleconference. In three weeks a teleconference meeting will be arranged for reviewing comments and finalizing PMCD document. Once finalized PMCD document will be sent to API for task group for review. This will be treated as an appendix to 92M e1 and will come out as 92M e2. The reason for this is not to delay issuance of this document and have the standard available while the combined document is completed.
 - Action: Per Cato Berg send out PMCD Draft for comments.
 - Action: All review and send back comments in excel format to Per Cato.
 - Action: Brian Grayson to engage API regarding review by 92M task group.
- The draft format of a Combined 92M document (surface stack and subsea applied back pressure and PMCD) will be sent out next week to those who volunteered to work on assigned sections. The document will be in the format decided upon at the meeting with each section following the master table of contents numbering/heading for each type of MPD and for surface stack and subsea. Where no change or additional information required, reference is made to master document chapter/section number.
- Once completed the different sections are to be sent to Sara Shayegi by November 30th, she will combine them and send out prior to December 2014 Committee meeting. At the December 4Q 2014 meeting the combined document will be reviewed. A review of the format will be done once more during this time as well to ensure clarity. Once this combined document is completed with surface stack and subsea stack written for applied back pressure and PMCD types of MPD it will go to API as a combined document and will be treated as 92M e3.
 - Action: Sara Shayegi to send out combined document structure to those who volunteered to write sections week of September 10th.
 - Action: All who volunteered to work on sections and send them to Sara by November 30th

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○ **Appendix 1: Attendees List**

Name		Company Name
Jay	Bruton	ABS
Harish	Patel	ABS
Martin	Culen	Blade Energy Partners
Louis	Romo	BP
Dale	Straub	Chevron
Francisco	Chavez V.	DNV GL
Carlton	Walden	Exxonmobil
Rachel	Johnson	Halliburton
Saad	Saeed	Halliburton
Joseph	Karigan	Halliburton
Christopher	Bernard	Halliburton
Thomas	Aarstad	Halliburton
Mike	Vander Staak	Hess Corporation
Scott	Maddox	IADC
Johnny	Petersen	International Research Institute of Stavanger (IRIS)
Austin	Johnson	Managed Pressure Operations
Jeff	Robbie	Managed Pressure Operations
George	Michaud	Managed Pressure Operations
Dennis	Moore	Marathon Oil
Ron	MacInnes	M-I Swaco
Shantur	Tapar	National Oilwell Varco
Thomas	Jackson	National Oilwell Varco
Torstein	Thingnes	National Oilwell Varco
Cameron	Craig	Pacific Drilling
Frédéric	Jacquemin	Pacific Drilling
Guilherme	Vanni	Petrobras

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Karen	Lobato	Petrobras
Alexander	Diab	Petrobras
Sara	Shayegi	Shell International E & P
Tom	Askeland	Siem WIS AS
Per	Berg	Statoil
Gavin	Humphreys	Stena Drilling
Stewart	Wilson	Strata Energy Services
Iain	Sneddon	Transocean
Brian	Grayson	Weatherford
David	Pavel	Welling & Company

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Appendix 2 – MPD/UBO Committee Document Status

Document Title	Custodian	Status	Date

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Closed action Items
