REPORT

of the
Meetings of

API SUBCOMMITTEE ON DRILLING WELL CONTROL SYSTEMS
(SC 16)

at the
2000 Standardization Conference
of the
Upstream Department
American Petroleum Institute

Wilshire Grand Hotel
Los Angeles, California
June 19 - 23, 2000

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MINUTES

COMMITTEE 3: SUBCOMMITTEE 16

DRILLING WELL CONTROL SYSTEMS

Wednesday, June 21, 2000, 8:00 a.m.
Brentwood Room, Wilshire Grand Hotel, Los Angeles, California

Chairperson: J. David Tannich

1. Introduction

The meeting was called to order, and the Chairman welcomed the group. Introductions were made and the agenda for today’s meeting was outlined. Regrets received from Joe Roche, our Subcommittee Secretary, were extended. Minutes from last year’s Standardization Conference in New Orleans were reviewed; those paragraphs concerning a proposed New Work Item on ‘small’ BOPs and comments surrounding refurbished and remanufactured equipment and API licensing issues were especially emphasized. The minutes were accepted without change.

2. Task Group Reports

A. Paul Stanton, Chairman of TG 4 on Marine Drilling Risers, was called upon to report on the recent progress of his Task Group. See Attachment 1.

The Subcommittee unanimously passed a motion that called for a formal ballot to reaffirm RP 16Q for Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems. It is the SC's desire to retain the present document until TG 4, most likely in a joint effort with the corresponding ISO group, can complete work on a revised edition of RP 16Q (ISO 13624).

A motion calling for a formal ballot to withdraw Bull 16J on Comparison of Marine Drilling Riser Analyses passed unanimously.

Mike Rogers and Dan Becker reported on a recent conference focusing on deepwater drilling risers. The principal issue is how well we understand the behavior of these risers, especially fatigue and the potential for failure due to Vortex Induced Vibration (VIV). Stanton noted there has been a lot of work on VIV, both within the Industry and outside. He added that the dynamics of running and retrieving deepwater risers, as well as the dynamics of hanging off a riser, were additional issues that need to be considered in the revision of API RP 16Q (ISO 13624).

B. John McCaskill, the new Chairman of TG 1 on Choke and Kill Systems, then reported on the progress of the C&K Task Group. See attachment 2.

The Subcommittee passed by unanimous vote a motion that called for a formal ballot to reaffirm Specification 16C for Choke and Kill Systems. It is the SC's desire to retain the present standard
until TG1 can complete its work on a revised edition. The consensus of the SC was that it was vitally important to retain Spec 16C and to update it.

C. David Tannich, filling in for Joe Roche, Chairman of TG 2 on BOP Control Systems, provided the progress report for TG 2. *See attachment 3.*

The Subcommittee unanimously reaffirmed earlier decisions that individual components of drilling well control systems that are ‘commodity items’ should not be monogrammed.

The SC 16 chair was directed in a formal motion, again with unanimous approval, to draft a response in “appropriately strong language” to the API Washington office that re-stated the intentions of our groups with respect to Specification 16D and the API monogram.

3. New Work Items

The Subcommittee unanimously approved a motion endorsing a New Work Item (NWI) submitted by Alex Sas-Jaworsky for the formation of a new Task Group to address Well Intervention Well Control Systems and encouraging SC Chair Tannich to seek its approval at the C 3 meeting. The TG's objective is to write an RP and/or Spec for equipment requirements and procedures for these 'little BOP' well control systems, including coiled tubing, snubbing and wireline operations. Sas-Jaworsky was named to chair the new TG, assuming C 3 approves the NWI.

4. ISO TC 67/SC 4/WG 2 Activity


Ken Young, Project Leader for ISO 13533, then addressed the SC and summarized the few changes and additions to Spec 16A, 2nd Edition, that have been included in the ISO document in response to international input received during its prior circulations. Most noteworthy is the inclusion of a section dealing with repaired and remanufactured equipment. Young distributed a package summarizing the changes and requested that comments from the group be returned to him by July 15.

There was some discussion about who stewards what ISO does and how interpretations of their standards are made. The role of certifying agencies like DNV and ABS in verifying compliance with both API and ISO standards was also discussed. The general consensus was that more involvement from these agencies, as well as regulatory groups like the MMS, was needed in our work in order to better bridge the gap between developing technical standards and implementing/interpreting them. A motion was approved to encourage people from these agencies to become more involved with SC 16 work; moreover, the Chairman was encouraged to identify appropriate contacts and solicit their active involvement.
5. Other Business / Adjournment

There being no further business brought before the SC, the meeting adjourned at 12:15 p.m.
MINUTES

COMMITTEE 3: SUBCOMMITTEE 16: TASK GROUP 4
MARINE DRILLING RISER SYSTEMS
Monday, June 19, 2000, 1:00 p.m.
Wilshire Grand Hotel, Los Angeles, California

Chairperson: Paul Stanton

1. Previous meeting minutes were reviewed and approved.

2. David Tannich reported that ISO TC 67/SC4 interrupted the approval process for ISO 13624 Drilling and Production Equipment—Design and Operation of Marine Drilling Riser Systems (API 16Q) so that the results of a DeepStar study on deepwater practices can be included. The study should be nearing completion. DeepStar has asked for but not yet received from all DeepStar members approval to release the results to API.

3. The Task Group voted to recommend that API Spec 16J, 1st Edition (8/92) be withdrawn from publication.

4. The Task Group voted to recommend that API Spec 16Q, 1st edition (11/93) be reaffirmed.

5. Draft 6 of proposed API Spec 16F for Marine Drilling riser Equipment was reviewed.

    After extended discussion of Section 5.4.3 Non-ferrous alloys, the group decided to leave the wording as is.

    Another item that received extended discussion was minimum requirements for Charpy impact values. The values in the draft reviewed at this meeting were left unchanged. Bob Funderburg is to provide additional requirements for lateral expansion.

    Bob Funderburg will check on the requirement in 7.6.1 that flex joints be type-tested at maximum flex angle at 100 percent of load classification.

    Mike Regan volunteered to add pressure test requirements to 8.1 for riser choke, kill and auxiliary lines to make clear that lines with design working pressures of less than 10,000 psi do not have to be tested to more than 1.5 times working pressure.

    API Spec 16C for Choke and Kill Systems will be reviewed to see if most of Section 9 Drape hoses and jumper lines for flex/ball joints can be deleted in favor of a reference to 16C.

6. The next task group meeting will on July 27 in Houston at Aker Engineering. The meeting was adjourned at 5pm.
MINUTES

COMMITTEE 3: SUBCOMMITTEE 16: TASK GROUP 1
CHOKE AND KILL SYSTEMS
Monday, June 19, 2000, 8:30 a.m.
Wilshire Grand Hotel, Los Angeles, California

Chairperson: John McCaskill
Secretary: Jim Miller

1. Introduction. David Tannich, Chairman of SC 16, called the meeting to order and introduced and welcomed John McCaskill as the new Choke and Kill Task Group chair.

2. TG Chair asked for brief introductions from those present, their company affiliation and their interest in the TG work. Twenty-two people responded. See the attendance roster for details.

3. Minutes from the June 1999 Conference in New Orleans were read. There were no additions or corrections. Moved-seconded-passed to accept the minutes as read.

4. The first new business item was to decide to reaffirm or not to reaffirm the existing C&K standard, API Specification 16C. The time frame to complete a revision was discussed. Consensus was it would take 6 to 18 months to revise 16C, so 12 months was chosen as the estimate. One issue is whether to pursue the revision totally within API, or to look into the ISO 'fast track' option; there was some confusion about the best course because the requirements for admission to the 'fast track' process are not well defined. It was moved-seconded-passed to confirm reaffirmation of the current 16C by ballot, in order to provide time for the completion of a second edition of Spec 16C. McCaskill stated the revision work would begin immediately.

5. Tannich stated the larger goal of API is to ultimately move important API Specs and RPs into ISO. Discussion followed. The consensus was 16C is not yet ready for submission to ISO.

6. Sandor Antal asks: Are users wanting to buy 16C or not? Much discussion followed; the main topic surrounded the common buyer's statement of "I want it 'built to and documented to' the standard" -- but not monogrammed. There was no consensus.

7. Question: Are we serious about testing requirements, or are we going to loosen up on the current requirements? The consensus was no loosening of test requirements.

8. Question: Are we going to define specific inner pressure and outer pressure design requirements (for flexible C&K lines in subsea applications) in the revised spec? Discussion followed, and the consensus was no.
9. Jim Miller stated that 'standard' bores and rated working pressures for most components are different from those of unions and swivels. He asked if anyone was furnishing unions and swivels monogrammed to 16C. There was much discussion, with no clear answer. Graham Guy asked about the possibility of selling products as "complies with 16C except for paragraph(s) such-and-such." There was more discussion and no consensus.

10. Guy raised a question about marking requirements for the pipe or hose between hammer lug union end fittings. There was discussion of accidents in which users read pressure ratings off of the lug nuts and then the middle sections blew up. There were nods of agreement, but no action was taken to remedy the problem.

11. Tannich stated that mandating full compliance to the letter of the spec was the best way to level the playing field. Guy expressed the view that to loosen specifications after several companies had fully complied with their requirements would be a travesty.

12. Discussion turned back to 10k lines connected with 15k flanges or unions. McCaskill mentioned flow irons and their pressure ratings and body markings. Mike Rogers noted the same thing occurs on choke manifolds where there is a changeover in pressure ratings. Guy, returning to the subject of testing, stated that 'once we specified it and did it, we cannot undo it. 16C has raised the level of flexible hose quality worldwide.' There was broad agreement with his statement, and the group consensus was yes.

13. Dave O'Donnell mentioned the testing of chokes and noted the fact that Specs 6A, 16A and 16C establish different testing requirements for similar products. There was discussion about whether to manufacture to different specs for final use under different conditions. The consensus was no, this is not required.

14. Gerry Janszen noted the differing trims of drilling valves from production equipment with respect to sweet/sour, alloy/stainless steel, etc. There was further discussion, but no action was taken.

15. Tannich, McCaskill and Janszen noted that the revised 16C would need to address repaired and remanufactured equipment, as well as metrification, before it could be moved on to ISO. It was agreed that it was better to build these items into the new document, rather than trying to retrofit them later, but no action was taken.

16. McCaskill stated that he planned to conduct Task Group business via E-mail. The date and place for the next meeting will be August 27 in Houston; details about the time and place will be confirmed via E-mail.

Since there was no old business, or new business beyond that noted above, the meeting was adjourned.
Introduction

David Tannich on behalf of Chairman Joe Roche called the meeting to order at 8:00 a.m.; Joe could not attend the meeting though he had planned to do so. The agenda for today’s meeting was presented, and minutes from last year’s Standardization Conference in New Orleans were reviewed and accepted without change.

Discussion of Old Business

David began by stating the objective of the TG’s current work: to complete revisions to Specification 16D, 2nd Edition, so that we can advance the document to Subcommittee ballot. He then reviewed the highlights of the Task Group’s activities and progress since the last Summer Meeting:

- Held TG meetings at more or less regular monthly intervals during the past year
- Restructured the draft and converted it to the ISO format
- Added a section to specifically address deepwater issues, subsequently expanding the section to include specifications for Emergency Disconnect Sequence (EDS), ‘Deadman’ and Autoshear systems; monitored closely related work being conducted by a joint IADC/OOC task force
- Reorganized and segmented the draft to include sections that cover elements common to all control systems, thereby eliminating repetitive content
- Completed an estimated 95 percent of the technical content of the document; some editorial work still needs to be done, i.e., checking paragraph numbering, ensuring consistency of internal references, etc.

The most recent draft of the Specification, including modifications from the June 6 TG meeting, was then distributed to attendees.

Mike Rogers then reviewed the status of the IADC/OOC task force’s work to address ways to prevent inadvertent drilling-riser disconnects. The IADC/OOC effort, which was initiated in response to MMS concerns after two inadvertent disconnect incidents and which is now nearing completion, addresses many features of BOP control systems. Mike, as well as other TG members following the IADC work, stated that the findings of the task force with regards to
control system design and operation agree for the most part with the requirements of our current
draft Spec.

Several typical conclusions from the current draft IADC report were read to illustrate the
similarities with and differences from the current draft Spec.

David assigned an action item to all of those present: to critically review both the draft IADC
report (a new version is expected to be posted on the IADC website this week) and the current
draft of Spec 16D, 2nd Edition, and to provide written comments for further improving our draft
to Joe Roche at his new E-Mail address j.roche@fgg.com by July 15. Another TG meeting will
be held on or about July 25 to discuss these comments and to advance the draft; Joe plans to
electronically distribute an updated draft prior to the next meeting.

Comments and suggestions regarding the current draft and TG progress and plans were solicited
from the group.

Bob Shetti stated that the title and the opening paragraph of the Scope statement were confusing
with regard to diverter control systems. He also suggested that perhaps we in the API task group
should actively solicit MMS participation in our activities. David Tannich responded by stating
that all API working meetings were ‘open meetings’ that could be attended by anyone and that
MMS representatives would certainly be welcome to attend. He asked whether anyone present
thought we should show more initiative in securing MMS participation in our work. No one
responded to the question.

Gerry Janszen stated, based on his quick assessment of our draft during the meeting, that in his
opinion the draft was in pretty good shape to be placed in the ISO arena. He noted that he saw
several instances of ‘hanging paragraphs’ (unnumbered paragraphs that follow a paragraph that
does bear a number) that should be corrected to comply with ISO standards.

Other Business

David updated members on the status and plans for progressing the document within ISO. Based
on discussions at the May 2000 TC67/SC4 meeting in Bali, Indonesia, hopes for getting the
specification into a pilot fast-track program were dimmed when it was stated that suitable
candidates for the program would likely be those that were early in their review cycle, and not
those nearing an API ballot. It was noted, however, that detailed selection criteria had not yet
been firmly established. The TC67 Executive Committee, in a meeting yesterday at this
conference, discussed specific proposals for selection criteria. Based on current understanding of
these criteria, hopes have once again brightened for getting our BOP controls standard into the
pilot program. If the document does not qualify for the program, we will need to file an ISO
New Work Item request following a successful API ballot in order to add the specification to the
approved ISO work program.

Harry Byars provided the Task Group with a listing of current NACE documents and items of
interest; the listing is attached to these minutes for information only.
Because it was not possible to distribute the latest draft in time for a thorough pre-meeting review, it was decided that detailed review of the document was not warranted during this meeting. The need to supply comments to Joe Roche by July 15 was reiterated. With no other business brought forward, the meeting was adjourned shortly before 9:00 a.m.