

MINUTES
19th Joint Meeting
API C2/SC 17 & ISO/TC67/SC4/WG6
Subsea Production Equipment
Galveston, Texas
March 3, 2006

1. John Bednar, API SC 17 Chairman, welcomed the group to the meeting at 8:30 AM and outlined various safety and housekeeping issues.
2. A roll call was completed and it was confirmed that there was a quorum present for this meeting. (Attendee List provided in Attachment A)
3. The agenda was adopted (Attachment B)
4. The minutes from the 18th Joint Meeting, held in Calgary were reviewed by Gary Hurta and subsequently approved by the attendees.

John Bednar recognized and presented the API Citation for Service award plaques to David Wilkinson and Brian Skeels. Both had been officially recognized at the 18th Joint Meeting in Calgary but were not present to receive the award.

5. The latest Work Program Listing (Attachment C) was presented and the Action items were reviewed and updated/added as appropriate (Attachment D) throughout the meeting.
6. Task Group Chair/Project Group Leader reports.
 - a. ISO 13628-1/API RP 17A---**Subsea Production Systems**---Verbal Report.
 - i. ISO has scheduled a meeting in Paris on May 23 and 24 to review and discuss the next revision of Part 1.
 - ii. A separate meeting from the 20th Joint Meeting in Atlanta will be set aside on Tuesday for this group to review the revising process.
 - iii. Discussions continued as to whether API 17A should continue its existence as a Recommended Practice or should be written as a specification as the new ISO 13628 Part 1 is written today.
 - b. ISO 13628-11/API RP 17B, ISO 13628-2/API 17J & ISO 13628-10/API 17K **Flexible Pipe** and API RP 17L **Ancillary Equipment**

for Flexible Pipe—See Task Group Chair report (Attachment E) and Action Items.

- i. ISO 13628-2 (API -17J)---The DIS comments have been resolved & the FDIS should be out by 2nd quarter this year.
 - ii. ISO 13628-11 (API-17B)---The FDIS should be out by the 2nd or 3rd quarter this year.
 - iii. ISO 13628-10 (API 17K)---The 2nd edition was published in November of 2005. Ready for Adopt Back.
 - iv. The MCS, JIP is scheduled to be finished in the summer of 2007. This is to be the forerunner to the next revisions to ISO 13628-11 and -2.
 - v. The ancillary JIP is scheduled to be finished by May or June of this year. This is to become API 17L1 and L2.
- c. ISO 13628-3 (API 17C)---**TFL Systems**---No Report
- d. ISO 13628-4 (API 17D)---**Subsea Wellheads and Trees**---Verbal Report.
- i. Issuance of the DIS is waiting on the patent issue voting response from the five horizontal tree equipment manufacturers. Ross Frazer projects having a recommendation ready for the SC 17 Leadership by the June conference.
 - ii. Brian Skeels proposes to add a new “Normative” Annex L to the document addressing the performance qualifications for subsea drilling and tree hydraulic connectors.
 - iii. Brian Skeels recommended that 17D refer to API 6A regarding “Rework and Remanufacture” requirements.
- e. ISO 13628-E (API 17E)---**Umbilicals**---See Task Group Chair report (Attachment F)
- i. John McManus reported that ISO is reviewing the document for editorial correctness prior to issue as a DIS. This work merges the API Task Groups and the DNV’s JIP efforts. The DIS is proposed to be out in August of this year.
- f. ISO 13628-6 (API 17F)---**Production Controls**---No Report
- i. The ISO FDIS ballot closes March 19th and the API Adopt-back Ballot closes March 29.
- g. ISO 13628-7 (API 17 G)---**Completion/Workover Risers**--See Task Group Chair report (Attachment G)
- i. API Adopt-back ballot did pass and the 2nd edition is to be published.
 - ii. Brian Skeels reported the task group is now recommending that IWOCS be kept in the document. The committee suggested that the task group re-address the IWOCS issue, along with what other systems they consider should be added to or removed from the document and report back at the June conference.

- iii. Additionally, Brian is to propose how Part 7 (17G) will address the pressure barrier issue at the June conference.
 - h. ISO 13628-8 &-9 (API 17 H&M)---**ROV & ROT Systems**---Verbal Report
 - i. ISO 13626-8 (API 17H) has now been published. A new NWI has been raised and passed to combine parts 8 & 9 (17 H & 17 M) into one document which is to be ISO 13628-13
 - i. ISO/WD 16389 (API RP 2RD)---**Dynamic Risers for Floating Production**---See Task Group Chair report (Attachment H)
 - i. The ISO document is to have its number changed from 16398 to 13628-13. A working draft is presently being prepared.
 - j. API 17N---**Subsea Reliability and Technical Risk Management**--See Task Group Chair report (Attachment I1 & I2)
 - i. The task group has reviewed the current status of the work and its alignment with the ISO 20815 document presently being written. (ISO 20815 focuses on data gathering.)
 - ii. John Rainwater has been replaced by John Strutt as the 17N writer and editor.
 - iii. The plan is to have a first draft ready by the June conference this year. There is to be a task group workshop scheduled sometime in April.
 - iv. Olav Inderberg is to begin the process of creating a NWI within ISO so that an official sister number can be assigned to API 17N.
 - k. API 17O---**HIPPS**---Verbal Report
 - i. A preliminary document is ready for the task group's review. A working draft should follow soon.
 - l. API 17P---**Templates and Manifolds**---See Task Group Chair report (Attachment J)
 - i. A preliminary document is presently being written. Jeff Whipple and Dave Wilkinson are to put forward a proposal to get API funding to help write the document.
 - m. API 17Q---**Systems Engineering**---No Report
 - i. Olav Inderberg is to take the lead on this project, preparing a presentation for the June conference so the committee can decide whether to go forward with this work or not.
 - n. **Materials Study Task Group**---No Report
 - i. The groups next meeting is a work group meeting scheduled for sometime in March this year.
- 7. The Composite Suite of API/ISO subsea standards are to be discussed at the June conference on Tuesday along with the ISO 13628-1 (API 17A).
- 8. Other Business;
 - a. It was suggested that API and ISO use "revision bars" when a revised document is issued.

- b. Andrew Wainwright recommended that API consider a SC 17 specification that addresses Powered Winches.
- 9. Next Meeting---, Wednesday June 14, 8 am – 1 pm during the 2006 API Summer Conference (June 12-15) in Atlanta. See the API Meeting Webpage for Registration and Hotel information.

RECORD OF MEETING ATTENDANCE

GROUP API SC17/ISO SC4/W66 CHAIRMAN Bednar/Indenberg
 MEETING Winter 2006 TIME Mar 3 DATE 8:30am

COMMITTEE MEMBERS SHOULD MAKE CHANGES TO THEIR PERSONAL RECORD ON THE ATTACHED ROSTER.
 VISITORS ADDING NAMES TO ROSTER WILL NOT AUTOMATICALLY BECOME MEMBERS OF THE COMMITTEE.

Indicate BEFORE YOUR NAME if you are:

- (M) Member of the Committee in session
 (R) Representing a Committee Member (if so, state member's name)
 (V) Visitor - ONLY voting members or their Representatives may vote
 (S) Staff

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THIS FORM MUST BE RETURNED TO THE API STAFF

API standards meetings are open to all interested parties. By participating in the standardization process, you agree: (1) to fully comply with API's policies and procedures governing standards, (2) that once balloted and approved by API, API shall have the sole and exclusive right to use any materials that are submitted by the participant for use in the standard, (3) you will not provide any material that will violate the rights of any third parties including, but not limited to, patents, copyrights, trade secrets, and trademarks, and (4) to disclose the existence of any patented technologies in the material that you provide.

March 3, 2005 – Joint Meeting - 8:30 am

1. Opening of the meeting (*Bednar/Inderberg*)
2. Roll call/Roster Update (*Jordan*)
3. Adoption of the proposed agenda (*Bednar/Inderberg*)
4. Adoption of the minutes from 17th joint meeting (*Bednar/Inderberg*)
5. Status and action plan update (***See Attached Action Items***)
6. Task Group/Project Group Reports (***See Attached Work Program***)
 - A. Subsea Production Systems (API TG7)
 - Introduction of New API Task Group Chairman (*Bednar*)
 - API RP 17A 4th Edition/ ISO 13628-1:2005 Published Jan 2006
 - B. Flexible Pipe (API TG1) (*Doynov*)
 - ISO 13628-2/API Spec 17J & ISO 13628-11/API RP 17B – report on progress and status of JIP to update standards
 - Spec 17K 2nd Edition/ISO 13628-10 – Published Nov 2005
 - 17L - Flexible Pipe Ancillary Equipment JIP – report on progress to date
 - C. TFL Systems (API TG6) (*Yonker*)
 - ISO 13628-3/API RP 17C – Report on ballot to reaffirm
 - D. Subsea Wellheads/Tree (API TG5) (*Frazer/Skeels*)
 - ISO Spec 13628-4 – report on progress of DIS preparation
 - E. Umbilicals (API TG4) (*McManus*)
 - ISO 13628-5/API Spec 17E - report on progress of revision
 - F. Control Systems (API TG 2) (*Neuenkirchen*)
 - ISO 13628-6/API Spec 17F – report on FDIS ballot
 - G. Completion/Workover Risers (*Skeels*)
 - ISO 13628-7/API RP 17G – report on FDIS & API Adoption ballots
 - H. ROV/ROT (API TG3) (*White*)
 - ISO 13628-8 and -9/API RP 17H and RP 17M – report on progress of NWI to combine documents into one standard
 - I. Dynamic Risers (*Stanton*)
 - ISO 16389/API RP 2RD – report on status of revision
 - J. Subsea Reliability RP (*Allen*)
 - Update on RP17N activity
 - K. HIPPS RP (*Goggans*)
 - Update on RP17O activity
 - L. Templates and Manifolds (*Whipple*)
 - Update on 17P activity
 - M. Subsea System Engineering (*tbd*)
 - Update on 17Q activity
 - N. Materials Study Group (*Haerberle*)
 - Update on activity
7. Suggestions for new work items and amendments to existing standards
 - Composite Suite of API/ISO subsea standards and gaps in existing standards (*Bednar/Inderberg*)
 - Report on Path Forward for Insulation and Buoyancy Spec and RP (*Wilkinson*)
8. Other Business
 - ?
9. Review of Action Items
10. Next meeting – At API Summer Standards Conference, Atlanta Hilton, June 12-16, Atlanta, Georgia

API C2 /SC17 (ISO TC67/SC4/WG6), SUBCOMMITTEE ON SUBSEA PRODUCTION SYSTEMS

2006 WORK PROGRAM

Revised March 2006

BRIEF DESCRIPTION OF WORK/SCOPE	API Standard	ISO Standard	API Chair	ISO Project Leader	SC17 Leadership Team Champion	STATUS
Design and operation of subsea systems	RP 17A	13628-1	Luiz Souza, Petrobras America (TG7)	Per Dahl, Norsk Hydro	Wilkinson	Published (Jan 2006)
Flexible pipe	RP 17B	10420 Proposed as 13628-11	Krassimir Doynov, ExxonMobil (TG1)	Krassimir Doynov, ExxonMobil	Wilkinson	FDIS ballot 2 nd quarter '06.
TFL systems	RP 17C	13628-3	TBD (TG6)	TBD	Hurta	API RP17C/ISO 13628-3 published. Reaffirmation ballot passed. No action needed at this time.
Subsea wellhead and tree equipment	Spec 17D	13628-4	Ross Frazer, ATP Vice Chair: Brian Skeels, FMC (TG5)	Ross Frazer, ATP Vice Chair: Brian Skeels, FMC	Hurta	Work ongoing. Preparing for DIS submission. Resolution of patent release letters in progress regarding horizontal tree issue.
Production control umbilicals	Spec 17E	13628-5	John McManus, Gibson Tube (TG4)	Ron Dee, Shell	TBD	Currently undergoing editorial checks, expect ISO DIS in 3 rd quarter '06.
Subsea controls	Spec 17F	13628-6	John Bodine, Chevron (TG2)	Jens Neuenkirken, Statoil	Bednar	ISO FDIS ballot closes March 19 (API TAG ballot closes March 10). API Adopt-back Ballot closes March 29.
Design & operation of completion/workover risers	RP 17G	13628-7	Brian Skeels, FMC	Anthony Muff, FMC	Hurta	FDIS ballot skipped per ISO SC4 Resolution. API adopt-back ballot passed. To be published.
ROV interfaces	RP 17H	13628-8	Charles White, DORIS, Inc (TG3)	Eric Luszi, Statoil	Hurta	ISO 13628-8/API 17H published. NWI passed to combine with 13628-9 to become 13628-13.
Unbonded flexible pipe	Spec 17J	13628-2	Krassimir Doynov, Exxon Mobil (TG1)	Krassimir Doynov, Exxon Mobil	Wilkinson	ISO DIS comments resolved. FDIS scheduled for 2Q06.
Bonded flexible pipe	Spec 17K	13628-10	Krassimir Doynov, ExxonMobil (TG1)	Krassimir Doynov, Exxon Mobil	Wilkinson	Second Ed Published Nov 2005.

BRIEF DESCRIPTION OF WORK/SCOPE	API Standard	ISO Standard	API Chair	ISO Project Leader	SC17 Leadership Team Champion	STATUS
Flexible Pipe Ancillary Equipment (Spec)	Spec 17L1	TBD	Krassimir Doynov, ExxonMobil (TG1)	Krassimir Doynov, Exxon Mobil	Wilkinson	Incorporating comments in working draft.
Flexible Pipe Ancillary Equipment (RP)	RP 17L2	TBD	Krassimir Doynov, ExxonMobil (TG1)	Krassimir Doynov, Exxon Mobil	Wilkinson	Incorporating comments in working draft.
ROT Intervention System	RP 17M	13628-9	Charley White, DORIS Inc.	Eric Luszi, Statoil	TBD	NWI passed to combine with 13628-8 to become 13628-13.
Dynamic Risers	RP2RD	13628-12	Paul Stanton, Technip	Paul Stanton, Technip	Bednar	Working draft being prepared.
Subsea Reliability	RP 17N	TBD	John Allen, Vetco-Grey	Olav Inderberg, FMC	TBD	Working draft being prepared.
HIPPS	17O	TBD	Tim Goggans, FMC	Tim Goggans, FMC	Bednar	Document ready for TG review.
Templates and Manifolds	17P	TBD	Jeff Whipple, Intec	TBD	Wilkinson	Working draft being prepared.
Systems Engineering	17Q	TBD	(-TBD-)	Olav Inderberg, FMC	Wilkinson	Decision on continuing this project is pending discussion at next meeting.
Materials Study Group	n/a	annexes to existing	Tim Haeberle, Vetco-Grey	Ragnar Mollan, Norsk Hydro	Inderberg	Generating annex materials for 17A (-1) and 17P

ISO SC4/WG6 / API SC17 Action Items

March 3, 2006 Joint Meeting

Standard/ Subject	Action Item	Last Update	Current Status <i>(items in bold are complete)</i>
General Requirements 13628-1 (17A)	2004-14: Form a team to look at the scope of 17A/13628-1 with regard to these items and other new work topics as they relate to the composite suite of subsea standards. Some of the topics to be covered include: <ul style="list-style-type: none"> • Systems Engineering • Subsea processing • Multiphase pumping • Intelligent wells interfacing • Interaction between flowlines and subsea structures • Integrated Production Umbilical (IPUs) • Spec breaks • Existing flowline specifications and their relationship/applications to SC17 	9/30/05 – Ongoing	3/3/06 – Work session for Tuesday in Atlanta planned. Jonathan Jordan to send notice on Atlanta meeting and request input to L Souza on -1 content May 23-24 ISO Meeting planned for Paris. Olav Inderberg to send notice on Paris meeting. Olav Inderberg to follow-up on possible NWI for an RPIW interfacing
	2005-9: Leadership Team to identify candidates to replace Vince Vetter as 17A TG chair.		Jan 06 – Bruce Crager identified Luiz Sousa, Petrobras America Complete. Will be removed following next meeting
Flexible Pipe 13628-2 (17J), 13628-10 (17K), 13628-11 (17B) 17L1, 17L2 (Ancillary Equipment)	2004-6: Olav Inderberg to prepare an ISO NWI based on the 17Ls work for consideration at the June meeting.	6/29/05 - Ongoing	9/30/05 – Ongoing
	2004-18: Krassimir Doynov to forward a draft of 17Ls (when draft is deemed ready for widespread release) to be used in the ISO new work item and this should include a proposed title and how it could also include umbilicals.	9/30/05 - Ongoing	3/3/06 – Incorporating comments into draft documents

Standard/ Subject	Action Item	Last Update	Current Status <i>(items in bold are complete)</i>
TFL 13628-3 (17C)	No outstanding action items		
Subsea Wellheads and Trees 13628-4 (17D)	2004-16: Brian Skeels/Ross Frazer to provide a report at the next meeting on the repair/remanufacture issue.	6/29/05 - Ongoing	3/3/06 – Referred back API SC6 for action. Complete. Will be removed following next meeting
	2006-1: Resolve horizontal tree patent issue	New Action Item	3/3/06 – By end of March, Ross Frazer to provide status update and recommendation on how to proceed.
Umbilicals 13628-5 (17E)	No outstanding action items		
Control Systems 13628-6 (17F)	2005-10: Jonathan Jordan to contact John Bodine (now with Chevron) to discuss continuing role as API TG chair	10/05 Confirm J. Bodine (now w/ Chevron) to continue at TG Chair	Complete. Will be removed following next meeting
Comp./Work over Risers 13628-7 (17G)	2005-5: Brian Skeels will prepare New Work Item to form a new API task group related IWOCS with ISO participation. This will then be submitted Olav Inderberg to prepare an ISO New Work Item request before the June API meeting.	9/30/05 - Ongoing	3/3/06 - Brian Skeels to propose an approach on what systems (including IWOCS?) the TG will address and how the documents will be structured by June '06 meeting
	2006-2: TG to provide a proposal wrt barrier philosophy for wellbore interventions systems.	New Action Item	3/3/06 - Brian Skeels to provide update on barrier discussion at June '06 meeting
ROVs 13628-8 (17H) ROTs 13628-9 (17M)	2004-7: Charley White and Eric Luszi to develop an API NWI that details the path forward on combining 13628-8 and 13628-9 into one document and incorporating the additional items received in comments during the ISO ballots and the API adopt-back ballots.	12/15/05 – To be combined into a new -13 document	Complete. Will be removed following next meeting
17N (Subsea Reliability)	2006-3: Determine path forward on publication status	New Item	John Allen to confirm API and Deepstar are aligned on issue of API document. Decide on timing for initiation of ISO NWI. John Allen to provide information to Olav Inderberg for SC4/WG6 meeting in May.
HIPPS 17O	No outstanding action items		

Standard/ Subject	Action Item	Last Update	Current Status <i>(items in bold are complete)</i>
Templates and Manifolds 17P	2004-23: Olav Inderberg to initiate an ISO NWI on this subject.	9/30/05 - Ongoing	3/3/06 – Waiting on working draft prior to NWI
	2005-7: Jeff Whipple to circulate an electronic draft to 17P members for review. Olav Inderberg will send this draft to interested ISO members. Jonathan Jordan to post on API SC 17 website.	9/30/05 - Ongoing	3/3/06 - FTP site created to facilitate TG input
	2005-11: David Wilkinson to contact Jeff Whipple to check on status of 17P project.	9/30/05 - Ongoing	Complete. Will be removed following next meeting
	2006-4: Jeff Whipple and Dave Wilkinson to develop proposal requesting API funding for technical writing of draft	New Item	3/3/06 – Jonathan Jordan to send RFP form to TG Chairs.
System Engineering 17Q	2005-8: Revisit Systems Engineering in June 2005 and determine if there is a champion. All SC17 members are requested to consider who might be involved with this effort.	12/15/05 – No candidate identified	3/3/06 - Ongoing
	2006-5: Olav Inderberg to make presentation in Atlanta Meeting on Systems Engineering	New Item	3/3/06-Olav to prepare presentation
13628-12 (API RP 2RD) Dynamic Risars	No outstanding action items		
General/ Admin.	2002-23: Alf Reidar Johansen will prepare a document outlining how ISO and API will work together to ensure that the standards work is well coordinated. This document will provide guidance on how both groups should handle comments made on the various documents throughout the development/ review process.	3/3/06 - Ongoing	Complete. Will be removed following next meeting.
	2004-25: Leadership team to explore ways to get information out to industry in a more timely manner.	6/29/05 - Ongoing	3/3/06 – Verify document status sheet on API website and/or develop dedicated page. Review System Poster in Atlanta

Standard/ Subject	Action Item	Last Update	Current Status <i>(items in bold are complete)</i>
Permanent Discussion Items	2001-18: John Bednar, Gary Hurta, and Olav Inderberg are to look at the direction that SC17 should be pursuing relative to the composite suite of API 17 Series general and specific documents that address the broad spectrum of subsea hardware.	9/30/05 - Ongoing	3/3/06 – To be discussed at Atlanta meeting during -1 and -7 sessions.
	2003-8: SC17 Leadership Team to discuss how experiences gained when using the standards/specifications are captured and fed into future revisions.	6/29/05 - Ongoing	3/3/06 - Comments/Questions received are forwarded to TG Chair for resolution and potential action in next revision. Complete, will be removed following next meeting.
	2003-21: Maintenance of N172.	9/30/05 – Ongoing	3/3/06 - Olav Inderberg to provide update on ISO progress on developing hierarchal definition structure at June '06 Meeting.
New Work	2003-22: Brian Skeels to develop a plan for dealing with HPHT issues for subsea production system standards, addressing: - what areas should be covered in terms of equipment and procedures; - how this would best be integrated into the SC17 documents e.g. stand alone document versus HPHT Annexes in each existing document; - what else is going on in the industry in this regard e.g. API sponsorship of testing of effects of HT on material properties.	12/15/05 – Ongoing – Multi-SC Task Group is developing a tentative draft of proposed “API RP 6HP”	3/3/06: Maintain continued SC17 awareness of issue and provide input relevant to SC17
	2004-13: Dave Wilkinson, John Bednar, and Andy Radford to determine path forward for Insulation and Buoyancy standards prior to the June meeting.	1/15/06 – Mike Given, Vetco to review MCS documents and provide recommendation on TR	3/3/06 – Mike Given to provide update/recommendation at June '06 Meeting.
	2006-6: David Wilkinson to contact Andrew Wainright regarding his proposal for NWI on standardized installation reels for coiled subsea products	New Item	3/3/06 - Ongoing

API C2 / SC 17
SUBCOMMITTEE ON SUBSEA PRODUCTION SYSTEMS

STATUS
OF
API 17J,B,K AND ISO 13628 -2,11,10
FLEXIBLE PIPE STANDARDS

JOINT API-ISO FLEXIBLE PIPE TASK GROUP

MARCH 3, 2006

Prepared by: **Krassy Doynov**

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1. INTRODUCTION

The joint API-ISO Flexible Pipe Task Group (FPTG) had the scope of work of providing smooth transition between:

*ISO 13628-11: Flexible pipe systems for subsea and marine applications, and
API RP 17B, Recommended practice for flexible pipe, Third edition, March 2002*

*ISO 13628-2: Unbonded flexible pipe systems for subsea and marine applications, and
API 17J, Specification for Unbonded Flexible Pipe, Second edition, November 1999*

*ISO 13628-10: Bonded flexible pipe, and
API 17K, Specification for Bonded Flexible Pipe, First edition, March 2002*

This report contains comments on the completion of the scope of work, as well as presents the status of the:

- a) Ancillary Equipment JIP aimed at the creation of draft for API 17L1 and L2 standards,
- b) Flexible Pipe Technology JIP whose purpose is the next revision of the ISO 13628-2/-11 and API 17 J/B standards, intended for the 2007/2008 timeframe

2. CURRENT STATUS

The joint API-ISO FPTG has completed its scope of work.

The ISO 13628-10 was published on October-1, 2005, while the identical API 17K was published on November-1, 2005.

On August-31, 2005 all technical DIS 13628-11,-2 comments and questions were resolved in a face-to-face meeting of the joint API-ISO FPTG, hosted by ExxonMobil in Houston. On November-11, 2005 the answers to all technical, general and editorial comments were incorporated into FDIS drafts by Valley Forge Technical Information Services. Since then, the FPTG Chair has been working with the API (Jenny Kelly) and ISO (Mary Page) technical editors on resolving primarily comments of general and editorial nature.

The ISO FDIS 13628-2 document is to be finally completed by the end of March, 2006. The ISO 13628-2 FDIS voting will be kicked-off most likely in early April. The FDIS

ballot period is two months. Ballot is considered positive if more than 2/3 of the committee members vote yes, and no more than 1/4 of committee members vote negative. At this stage, only editorial corrections will be made, while technical comment will not be considered. Thus, the ISO 13628-2 standard may be published as early as July, 2006. The ISO FDIS 13628-11 will follow the same process, with most likely one or two months delay.

The Ancillary Equipment JIP is still 2-to-3 months away from completion. The JIP manager MCS is in the process of incorporating the final comments of the participants into draft proposals for API Specification 17L1, and API Recommended Practice 17L2 standards.

The Flexible Pipe Technology JIP, whose purpose is the next revision of the ISO 13628-2/-11 and API 17 J/B standards within the 2007/2008 timeframe, has 18 participants – manufacturers, operators, service companies, regulators and standardization bodies – a very broad Industry representation worldwide. The JIP was kicked off in January 2005 and is about to be completed in 2007. The JIP main task is to work on resolving the most challenging issues associate mostly with deepwater applications, which cannot be resolved by simple e-mail correspondence.

3. MEMBERSHIP

The list of the subject matter experts volunteering their time to support the Flexible Pipe Task Group (FPTG) activities is provided in the table shown below. This list is being updated only when the FPTG Chair receives a request for that from a Subject Matter Expert (SME), Company, or Country with a stake in the development of the ISO 13628-2/-10/-11 standards. Most of the requests are usually for the replacement of one SME with another SME from the same institution. This list is a reflection of all companies with a stake Table 2 and notable presence Table 1 in the International flexible pipe user community.

List of Subject Matter Experts actively participating in the FPTG activities			
No.	Name	Company	E-mail address
1.	Krassimir Doynov	ExxonMobil Development Co.	krassimir.doynov@exxonmobil.com
2.	Kent Caveny	ExxonMobil Development Co.	kent.p.caveny@exxonmobil.com
3.	Phil Abrams	ExxonMobil Development Co.	kent.p.caveny@exxonmobil.com
4.	Antoine Felix Henry	Technip - Flexi France	afelixhenry@technip.com

**API 17 B,J,K,L & ISO 13628-11,2,10 FLEXIBLE PIPE
2006 WINTER MEETING STATUS REPORT**

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14.	Trond Stokka Meling	Statoil	tsmeling@statoil.com
15.	Knut-Aril Farnes	Statoil	kafa@statoil.com
16.	Einar Oeren	Statoil	eoer@statoil.no
17.	Harald Thon	Norsk Hydro	harald.thon@hydro.com
18.	Jon Olav Bondevik	SeaFlex	jon.olav.bondevik@seaflex.no
19.	Rune Haakonsen	SeaFlex Riser Technology Inc.	rune.haakonsen@seaflex.com
20.	Chris Mungall	KBR	chris.mungall@halliburton.com

TABLE 1 LIST OF ACTIVE API-ISO FPTG MEMBERS

List of Subject Matter Experts invited to participate in the –2/-11 FPTG activities			
No.	Name	Company	E-mail address
21.	Jemei Chang	Shell Oil Company	jemei.chang@shell.com
22.	Ali Anaturk	Shell Oil Company	ali.anaturk@shell.com
23.	Neil Reeve	Shell Global Solutions	neil.reeve@shell.com
24.	Alan Bliault	Shell International E&P	alan.a.bliault@shell.com
25.	Dick Percy	BP Exploration	percyrj@bp.com
26.	Stephen Groves	BP Exploration	grovess2@bp.com
27.	Carlos Lemos	PetroBras	caolemos@petrobras.com.br
28.	Marcos Carpigiani	PetroBras	carpigiani@petrobras.com.br
29.	Renato Da Silva	PetroBras	rsilva@ep.petrobras.com.br
30.	Luiz Lobianco	PetroBras	lobianco@petrobras.com.br
31.	George Gu	ConocoPhillips	george.z.gu@conocophillips.com
32.	Richard Thompson	ChevronTexaco	rmth@chevrontexaco.com
33.	Paul Hays	ChevronTexaco	hayspr@chevrontexaco.com
34.	John Lawson	ChevronTexaco	john.lawson@chevrontexaco.com
35.	Todd Jones	ChevronTexaco Products	toddjones@chevrontexaco.com
36.	Chris Lawlor	Woodside	chris.lawlor@woodside.com.au
37.	Tore Narum	Woodside	tore.narum@woodside.com.au
38.	Don Johnson	ASME	johnsond131@asme.org

39.	Meyrick Hadfield	HSE	meyrick.hadfield@hse.gsi.gov.uk
40.	Nicola Feroletto	Agip	nicola.feroletto@agip.it
41.	Rick Hill	Kvaerner Oilfield Products Inc.	rick.hill@akerkvaerner.com
42.	Sijm Last	Materials Engineering Consultancy	slast@euronet.nl
43.	Bob Rothberg	JP Kenny Inc.	bob.rothberg@jpkhouston.com
44.	Barry Thomson	Materials Engineering Research Laboratory	bthomson@merl-ltd.co.uk
45.	Jean Philippe Roques	SAIPEM	jean-philippe.roques@saipem-sa.com
46.	Olivier Moutet	Singlebuoy	olivier.moutet@singlebuoy.com
47.	Graeme Reid	CNR International Ltd	graeme.reid@cnrinternational.com
48.	Frank Grealish	MCS International	frankgrealish@mcs.com
49.	Kieran Kavanaugh	MCS International	kierankavanaugh@mcs.com
50.	Patrick O'Brien	MCS International	patrickobrien@mcs.com
51.	Michael O'Sullivan	MCS International	michaelosullivan@mcs.com
52.	Craig Redding	Southwest Research Institute	credding@swri.com
53.	George Wolfe	Southwest Research Institute	gwolfe@swri.org

**TABLE 2 LIST OF INVITED SME COPIED WITH FPTG
CORRESPONDENCE**

This FPTG list is subject to further modification based on the availability of the volunteering SMEs.

4. UPDATED TARGET DATES FOR DELIVERABLES

The target dates for the milestones described in Section 2 are:

- a) FDIS voting on ISO 13628-2 to be kicked off in April 2006; with the possibility to publish the standard in July 2006
- b) FDIS voting on ISO 13628-11 to be kicked off in Spring 2006; with the possibility to publish the standard in Summer 2006
- c) Submitting Ancillary Equipment standard draft proposals of API Specification 17L1 and API Recommended Practice 7L2, and requesting ISO New Work Items for these standards – Summer, 2006
- d) Preparing Flexible Pipe Technology proposals for the next revision of ISO 13628-2/-11 and API 17J/B – 2007

5. LESSONS LEARNED

Resolution of standard technical comments by SMEs volunteering their time is inherently a long process, whose time length is difficult to control. The difficulty arises from: 1) managing a large group of SMEs whose volunteering contribution is mostly dependent in turn on managing their own Company priorities and schedule, and 2) the sheer volume and complexity of technical comments. If timeliness of technical comment resolution is not an issue, then it is practical to use the formula of FPTG SMEs volunteering their time only on resolving comments of relatively low technical complexity. Comments of high technical complexity, like design philosophy, checking correctness of design formulas from first principles, or calibration of allowable utilization factors with test data, can be resolved in a timely manner only via a dedicated JIP, whose manager can facilitate an arbitrage of competing views on solid technical ground in multiple face-to-face meetings, and takes the time to perform detail engineering tasks under guidance to define/derive the solid technical ground.

Another lesson is the need of a better coordination between each ISO-member-country standardization committee and the different company SMEs within that country, to provide a single and agreed upon input to the ISO standards being modified. The solution can be a two-way street, in which:

- a) the ISO-member-country standardization committee actively seeks and manages the collection of the different company SME inputs, and
- b) the FPTG Chair encourages the SMEs to coordinate actively their input with their respective ISO-member-country standardization committee.

An improved coordination can actually reduce the time required to handle the standard issues.

6. ANTICIPATED NEW WORK ITEMS

Two proposals for API 17L "Ancillary Equipment" Specification and Recommended Practice standards are expected in Summer, 2006. Since these standards are about to compliment API 17 J/B/K ISO 13628-2/11/10 to provide the business framework for complete flexible pipe/ancillary equipment system, I expect the need of two NWI for corresponding ISO standards in the S of 2006.

7. PLANS FOR FUTURE MEETINGS

None at this time.

8. RESOURCE NEEDS

None at this time.

API C2 / SC 17
SUBCOMMITTEE ON SUBSEA PRODUCTION SYSTEMS

API 17E SPECIFICATION for SUBSEA UMBILICALS
REVISION TASK GROUP STATUS

MARCH 3, 2006

1. INTRODUCTION

On June 18, 2003 the NWI was formally sanctioned by SC17 for the API TG to work on a revision of the joint API/ISO document. The API 17E TG began the revision process by correcting or supplementing areas of the document which were deemed weak or incorrect. In June 2004 the DNV JIP began work on selected items and worked in parallel to the API TG.

In October/November 2004, a NWI was formally submitted by Olav Inderberg to the ISO committee.

2. STATUS

The API 17E TG has progressively worked on the revision. The DNV JIP formally began their work in June 2004 and has completed their work items. A final merged document was agreed upon in early December 2006.

However, comments were received in February which required further clarification. Two conference calls were convened and resolution of the comments was agreed upon by the API TG, DNV, and ExxonMobil. The completed document will now undergo review to ensure ISO editorial correctness and will then be submitted to the ISO secretariat to issue as a DIS.

3. MEMBERSHIP

Task Group

The working task group is made up of the following personnel:

TABLE 1-1: API 17E TASK GROUP MEMBERS

Name	Company	e-mail
John McManus	RathGibson	mcmanus@skylinemail.com
Katrina Clausing	Shell International Exploration & Production	Katrina.Clausing@shell.com
Peter Worman	Chevron	pjwo@chevrontexaco.com
Dave Madden	DUCO Inc.	DMadden@Ducolnc.com
Fraser Thomson	Oceaneering Multiflex	fthomson@oceaneering.com
Alternate to Katrina		
Tom Williams	Shell International Exploration & Production	tom.williams@shell.com

4. UPDATED TARGET DATES FOR DELIVERABLES

Table 4-1 shows the new proposed milestone targets:

TABLE 4-1: MILESTONE TARGET DATES

Milestone Targets	Proposed Completion Date
Final agreed text merge of API TG and DNV JIP work	December 2005 / Completed
ISO “expert group” review	December 2005 / January 2006 Completed
Final clarifications	February 2006 / Completed
ISO review for editorial correctness / Shell Norway	March 2006 / 1 month
Send updated DIS proposal to SC 4	April 2006 / 1 month
Send to ISO secretariat in Geneva to issue the DIS	May 2006 / 2 months
Publication of ISO DIS	July/August 2006

5. MAJOR ISSUES

None at this time.

6. ANTICIPATED NEW WORK ITEMS

Following publication as DIS, a NWI will be prepared to begin next revision process.

7. PLANS FOR FUTURE MEETINGS

Next API TG meeting is June 2006 to discuss timing for next revision. Note: certain items were intentionally omitted in this revision as there was either not enough existing data to corroborate and/or group consensus to include in this revision.

8. RESOURCE NEEDS

None at this time.

API C2 / SC 17
SUBCOMMITTEE ON SUBSEA PRODUCTION SYSTEMS

API 17G Subsea Completion Risers
TASK GROUP STATUS

Work in Progress
DECEMBER 21, 2005

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Work in Progress

1. INTRODUCTION

ISO 13628-7 has finally passed and is currently in the API adopt back process (Jan. 2006). The 17G task group met in December to task group to discuss where does the task group go from here. The task group debated both idea to break out IWOCS controls, wellbore control procedure updates, and the future scope of the RP. The conclusion of the task group is a reversal from the February 2005 plan, with everyone wishing to keep IWOCS within the scope of the RP and expand the overall scope of the RP to address all forms of subsea well intervention; not just completion workover risers. *Since this is a reversal of view from what was agreed in February by SC 17, it should be discussed again at the next SC 17 meeting.*

2. PREVIOUS REPORTED STATUS

ISO 13628-7 has passed and has been published in November 2005. The API adopt back process for RP17G is currently in process and voting is scheduled to close January 6, 2006.

During a workshop at the February 2005 SC 17 meeting, it was agreed that:

1. For now, controls will stay in the FDIS of 13628-7 until the document has been voted and accepted.
2. A new task group will be formed afterwards to address the workover controls scope, leading to the creation of a new RP addressing the subject and 13628-7 will be revised to remove controls within its document when released.

3. CURRENT REPORTED STATUS

A meeting was held on December 7, 2005 to meet on where the task group goes from here now that the main goal to publish 13628-7 has been achieved. All U.S. task group members except for Tom Ames and Bobby Voss were in attendance.

1. The meeting started by reminding members that 13628-7 is in the “adopt back” process for API RP17G and balloting will close January 6, 2006.
2. The next order of business was a new work item proposal to add more operational testing requirements to the 17G document. Alex Sas-Jaworski passed out a proposed NWI which proposes to reword 17G to include well control issues. Many of the other task group members argued the relevance and barrier philosophy between surface well control practices (API SC 16 – which Alex is a member) and subsea practices. Brian pointed out that 13628-1, Annex J has a very well worded section on subsea barrier philosophy which will be distributed by Brian to the task group for their review and comment. Alex also said he had a mandate from SC 16 to reconcile and standardize the well control philosophy between subsea and surface practices, if TG 17G would not address the issue in the future. All task group members agreed that 17G should retain ownership of subsea well control practices, but maybe it would be better placed in another RP (similar to RP 53) and leave RP 17G as is. As a result of the discussion the following actions were agreed:

- a. Brian Skeels will distribute copies of 13628-1, Annex J to task group members,
 - b. Alex will report back to SC 16 that TG 17G will work to include well control wording in future. This will relieve SC 16 from having to do the task,
 - c. Alex will review Annex J against RP 53 and rewrite his proposed NWI on workover well control issues. Part of the NWI re-write will be to suggest the best way to publish such wording – in RP 17G, in a separate new RP 17 “X”, or in a cross-functional RP similar to RP 53. The task group will meet again in February to discuss Alex’s re-written NWI proposal.
3. The task group then wanted to discuss the merits of the SC 17 decisions to break out IWOCS from future versions of 13628-7 and RP 17G. Brian Skeels mentioned that the drive for such a move was predicated on the fact that IWOCS controls will change and evolve into different version to coincide with newly developed concepts for subsea well intervention such as light well and riserless wireline and coiled tubing intervention. The task group members unanimously felt this would be an improper way to go, based on a simple common thread; the LRP. The task group argued that the LRP should be designed to be roughly the same for all subsea intervention such that if one light well technique being used developed problems, the well could be safely shut in by closing the LRP on top of the subsea tree followed by a later reconnection of a completion/workover riser by connecting the EDP to the LRP. By making the LRP common to all intervention techniques, it can be argued that the IWOCS and all other intervention techniques should reside in RP 17G so as to maintain uniformity with respect to the LRP interface. Brian reminded the task group that what they were proposing was counter to what was voted in February and would require an expansion of company participation and subject matter experts within the task group roster. All understood and agreed that this would be a 3-5 year effort. As a result of the discussion the following actions were agreed:
- a. Brian Skeels will prepare minutes of the meeting (this document) and request that the subject of a change in scope/direction for the future of 13628-7 and RP 17G and ask that it be a discussion point at the next joint ISO TG6 – API SC 17 meeting, when task group reports are discussed.
 - b. Brian Skeels has asked the ISO task group chair, Tony Muff, whether the ISO task group wishes to either take over the proposed new direction, or (if not) list any ISO task group members who would like to participate in subsequent TG 17G effort.
 - c. All task group members and SC 17 members and member companies are asked to spread the word of companies and/or subject matter experts who would volunteer their time and expertise by participating in the “expanded” task group over the next few years.
 - d. Ginny Stover asked task group members if their company, along with API, were willing to chip in some funds for the task group to retain technical writing to help with the

writing of the new scope of work and potentially shorten the 3-5 year preparation time. Brian Skeels will make this request known during the discussion at the next SC 17 meeting.

4. Brian will schedule the next task group meeting in March, 2006, (after the planned SC 17 meeting in February) depending on task group member availability.

4. MEMBERSHIP

Table 1 shows the current volunteer membership for the API RP 17G task group:

TABLE 1: API 17G TASK GROUP MEMBERS

Name	Company	E-Mail Address
Tony Muff (Norway) (ISO Chair)	FMC Technologies	Anthony.Muff@fmcti.com
Brian Skeels (API 17G Chair)	FMC Technologies	brian.skeels@fmcti.com
Tom Ames	BP	amest@bp.com
Ginny Stover	BP	stoverg1@bp.com
Sterling Lewis	ExxonMobil	Sterling.f.lewis@exxonmobil.com
David Lacaze	Shell	David.lacaze@shell.com
Bobby Voss	Vetco	Bobby.voss@vetco.com
Bill Parks	DTC International	Bill.parks@dtc-houston.com
Alex Sas-Jaworsky	SAS Industries	sasindinc@cs.com
Russell Hoshman	MMS	Russell.Hoshman@mms.gov

Ginny Stover has been added to the 17G roster in November.

5. UPDATED TARGET DATES FOR DELIVERABLES

Table 2 shows the current proposed milestone targets:

TABLE 2: MILESTONE TARGET DATES

Milestone Targets	Proposed Completion Date
International voting on 13628-7	Passed and Published
17G Task Group Meeting to discuss well control requirements for LWRP's, IWOCS, and other subsea well intervention techniques (NWI).	12/05, 3/06
API adopt back of 13628-7 for RP 17G	1/06 (adopt back voting closes)

6. MAJOR ISSUES

None.

7. ANTICIPATED NEW WORK ITEMS

- Look at where well control testing and operational procedures belong (in RP 17G, a separate new RP 17 document, or a cross-functional API RP.
- Revisit future scope of RP 17G, retaining IWOCS and expanding the overall scope to include other subsea intervention techniques based on a common LRP interface. Outside technical writing assistance will be sought.

8. PLANS FOR FUTURE MEETINGS

Tentatively the task group will meet in March 2006 to discuss the path forward for well control requirements.

9. RESOURCE NEEDS

All task group members and SC 17 members and member companies are asked to spread the word of companies and/or subject matter experts who would volunteer their time and expertise by participating in the “expanded” task group over the next few years. Controls systems experts, companies working on light well intervention, and additional operator company participation – especially those who are actively looking at light well intervention operations are being sought to join the 17G task group. This is contingent on what the ISO task group wants to do.

Work in Progress

**ISO/TC67/SC4/WG6
API C2 / SC 17
SUBCOMMITTEE ON SUBSEA PRODUCTION SYSTEMS**

**API RP 2RD REVISION -- ISO/WD 13628-12
DYNAMIC RISERS FOR FLOATING PRODUCTION INSTALLATIONS
TASK GROUP STATUS**

Work in Progress
March 3, 2006

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- 5. MAJOR ISSUES**
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- 7. PLANS FOR FUTURE MEETINGS**
- 8. RESOURCE NEEDS**

Work in Progress

1. INTRODUCTION

The ISO 13628-12/API RP 2RD Task Group's scope of work is to revise API RP 2RD and to submit the revision to ISO. The new document will cover top-tensioned risers, catenary risers, hybrid risers and offloading risers. The new name of the document will be *Dynamic Risers for Floating Production Installations*.

2. STATUS

The TG met on February 16, 2006. Fourteen attended.

Kieran Kavanagh presented the current status of the sub task group work on riser reliability.

Kim Mork presented a draft of Chapter 6 – *Design requirements*. He emailed a revised copy to the Task Group on February 24.

Work in Progress

3. MEMBERSHIP

Table 1 shows the current volunteer membership for the API RP 2RD TG:

TABLE 1: API RP 2RD TASK GROUP MEMBERS

Name	Affiliated Organization	Email
Stanton Paul N.	Technip Offshore, Inc	pstanton@technip.com
Aggarwal, Rajiv	KBR	rajiv.aggarwal@halliburton.com
Anaturk, Ali	Shell	ali.anaturk@shell.com
Bai, Yong	MCS	yongbai@mcs.com
Baxter, Carl	RTI	RTICBaxter@compuserve.com
Bhat, Shankar	KBR	Shankar.Bhat@halliburton.com
Chezhan, Mathu	DNV	Muthu.Chezhan@dnv.com
Cerkovnik, Mark	2H Offshore	cerkovnm@2hoffshoreinc.com
Colby, Craig	DNV Tech. Services	craig.colby@dnv.com
Dutta, Amit	KBR	amit.dutta@halliburton.com
Garrett, David	Stress Engineering	david-garrett@stress.com
Jin, Joe	Exxon Mobil	joe.jin@exxonmobil.com
Kavanagh, Kieran	MCS	kierankavanagh@mcs.com
Kirkemo, Finn	Statoil	fkir@statoil.com
Massaglia, Jacky	Vallourec & Mannesmann Tubes Corp.	jacky.massaglia@vmtubes.fr
Meling, Trond Stokka	Statoil	tsmeling@statoil.com
Mork, Kim	DNV	kim.mork@dnv.com
Moros, Thanos	BP	morosa@bp.com
Shu, Steven	Technip Offshore, Inc	sshu@technip.com
Song, Ruxin	Technip Offshore, Inc	rsong@technip.com

TABLE 2: API RP 2RD Sub Task Group Members

1	Scope	Stanton and Shu
2	Normative references	Stanton and Shu
3	Definitions and Nomenclature	Stanton and Shu
4	General	Stanton and Shu
5	Description of Riser Systems and Components	Stanton and Shu
6	General Design Considerations	Garrett, Song, Kirkemo, Mork, Anaturk
7	Loads	Garrett, Song, Kirkemo, Mork, Anaturk
8	Design Criteria for Riser Pipes	Garrett, Song, Kirkemo, Mork, Anaturk
9	Connectors and Riser Components	Craig, Kirkemo, Anaturk, Baxter
10	Materials	Moros, Roussie, Hill, Baxter, et.al.
11	Fabrication and Installation	
12	Riser Integrity Management	Kavanagh, Anaturk
Annex A	Definitions and Nomenclature	Stanton and Shu
Annex B	Design Basis	Song
Annex C	Analytical Considerations	Garrett, Kavanagh
Annex D	Load Case Examples	Garrett, Song, Kirkemo, Mork
Annex E	Example TTR Design	Shu
Annex F	Example SCR Design	Bai, Song
Annex G	Example Hybrid Riser Design	Cerkovnik
Annex H	Bibliography	Stanton and Shu

Un-assigned: Bhat, Colby, Datta, Meling

Work in Progress

4. TARGET DATES FOR DELIVERABLES

Table 3 shows the proposed milestone targets:

TABLE 3: MILESTONE TARGET DATES

Milestone Targets	Proposed Completion Date
Revised Draft agreed by TG to proceed to Subcommittee (SC)	12/06
Draft approved by SC for formal ISO ballot	6/07
Publication of Standard	2008

5. MAJOR ISSUES

Availability of free time.

6. ANTICIPATED NEW WORK ITEMS

None at this time.

7. PLANS FOR FUTURE MEETINGS

Next meeting is scheduled for May 4, 2006.

8. RESOURCE NEEDS

Someone to lead *Fabrication and Installation* Section.

Work in Progress

Meeting ISO -API

Date: 20-02-06

Venue: Vetco Offices, 90 Long Acre London

Agenda

1. Schedule for ISO and API
2. ISO review
3. Review Progress on 17N
 - a. Document 17-01-06 sent out
 - b. Comments and resolutions (History document)
4. API 17N structure: document issues to be resolved
 - a. content
 - b. length
 - c. detail
 - d. layout
 - e. style
5. API RP 17N in the ISO
 - a. standard vs. recommended practice
 - i. Wording
 - ii. Definitions
 - iii. Focus and degree of alignment
 - b. Timing of API and ISO production
6. Report to Houston 14.00
7. Action Plan
8. Future Developments

Minutes of meeting – API 17N

Present:

John Allen (JA)

Knut-Edmund Haugen (KH)

David Rainford (DJR)

John Strutt (JES)

Karl Woods (KBW)

Minutes

Ref.	Discussion item	Action /Comment	By
KH	ISO Standard cf. API RP Definition of normative (mandatory) and informative clauses	The only normative clause in ISO 20 815 is that the project “shall have a plan”	
JA	Conversion of API to ISO	API 17N will not be an annex to ISO 20815. But it could become an ISO. If so API 17N needs to be registered as an ISO candidate	JA
	If API does become ISO then we need to decide whether to adopt plan preparation as normative.	To be discussed with subsea ISO committee	JA
JES	Liaison between ISO and API	All subsequent API drafts to be copied to KH and Henrik Kortner	KBW
KH	ISO Schedule: KH Provided time schedule for ISO document: ‘Committee Draft’ req. by 15 March to go to OGP for review. Review over 15 April. Minor revisions can be made (Draft standard) and sent out 1 May (absolute deadline). DIS out in 1 July.	PAP ISO early draft is expected to be completed by 15 th March. Boreas goal is to create a completed API draft by mid March	Boreas
KH	Review ISO and API: Review of ISO 20 815 PAP performed	Purpose of meeting is to compare ISO PAP and API 17N with goal of harmonisation	
		KH to Send out MOM and latest version of ISO 20815 to BOREAS	KH
		Most of the process and phase titles are consistent between PAP ISO (general) and API. The latter being more specifically subsea	
JES	Risk categorisation table ISO needs an update on project risk categorisation if it has altered in API JES – raised issues of safety critical hardware in relation to risk categorisation.	JES to look at /review risk categorisation in light of recent work	JES

JES KH	Processes and project phases: Table 4.3.2 is the ISO table showing which processes occur during the phases of the project life cycle.	There is no reason why these shouldn't be the same between ISO and API. Work towards agreed set of processes and phases. There are no obvious conflicts.	ALL
		Make sure that the life-cycle is the same unless there is a good reason for it being different	All
KH	References to API in ISO. There was some uncertainty regarding decision to exclude reference to API	Check decision made regarding the PAP referencing to the API doc	KH
JES	Outline progress on API	Section on How to use this RP incomplete still evolving	JES
		Waiting input from DJR on qualification of new technology	DJR
	New Technology section in API KH recommended keeping it short and referring to other documents.	We still need to clearly define the new tech development projects and processes.	DJR
		Work with KH to agree life-cycle stages, risk categorisation and KPs	KH/JES

Notes

- Lose anything that is the least bit controversial
- ISO 'Plan'
 - Preparation of a Plan is normative
 - Contents of plan is informative
- ISO need to introduce a planning process which is not currently included in ISO (but is in API)
- Aim to use 17N as an informative ref for PAP ISO (20815) if at all possible
 - OK in practice but 17N would need to be in existence i.e. formally issued prior to ISO release (1st July is the deadline for this)
 - If this doesn't happen then ISO could reference body such as API
 - When/if API 17N becomes ISO then ISO20815 could then refer to ISO17N equivalent
 - They are essentially stand alone documents that may reference each other.
 - Try to get API out formally by the 1 May – action on JA to check possibility of this.
- DJR Comments re: documents to be sent via KBW at Boreas
k.woods@boreasconsultants.com
- The only normative reference currently in PAP is the data collection standard ISO 14224
- PAP reliability definitions are in line with ISO standards
 - API definitions will be aligned with PAP as far as possible but there may be need for some specific non ISO references
(Note: although there was a preference for some of the NORSOK

reliability definitions, KH has gone with ISO definitions for ease of acceptance.)

- We need to make sure the when people read the API they are ‘doing the right thing’
 - Make sure they are all delivering value and understand that this isn’t replacing quality management but integrates with QM
- ISO PAP – The key process reliability improvement and risk reduction is really describing the practical design and manufacturing actions that should be implemented
- The main points of reference in PAP that have links to API 17N are
 - risk categorisation table
 - Key processes table
 - Project phases
 - Reliability process model (nuclear vs. structural see ISO circular diagram)
- The main items that need to be aligned, therefore, are:
 - Risk categorisation table
 - Key processes
 - Life cycle phases
- API
 - Consider removing the section on general principles if it isn’t subsea specific. If it remains, it must be made clear that it is subsea relevant.
 - We need to define the technology qualification process. Main problem is that it is subject sensitive. Hence:
 - Can only discuss the process and principles – but we don’t yet have a process.
 - PAP discusses this in terms of KP6 (but it is limited)

Phases

- ISO PAP doesn’t have a FEED phase but it does have a procurement phase
- KBW noted that ISO 15663 on LCC does refer to FEED. This may be one of the justifications for retaining a FEED phase. The other is simply the practice of the subsea industry to use the term FEED phase.
- ISO has taken a different approach namely to define phases as pre-contract and post contract.
- The phase that ISO refers to as concept design has been broken down to Concept design and FEED in the API.
- API should Lose the word appraisal from feasibility and appraisal so that it aligns with ISO
- Drop the term ‘selection’ from API conceptual design and selection phase
- API detailed design phase is referred to as engineering phase in ISO PAP. However, API has good reason for keeping detailed design as it is a well used terminology in the subsea industry.
- PAP ISO has a phase called “procurement” to focus on supply chain management after the engineering phase. API has dropped it as a specific phase as it occurs during detailed design phase. API will however, include “procurement” as part of the supply chain management process

- In the API document we refer to the phase Manufacturing and Assembly. In ISO their equivalent phase is Fabrication, Construction and Testing. It was proposed that API should add the term testing back in to call the phase Manufacturing Assembly and Test. Alternatively ISO could change. The issue of whether to treat Testing as a phase or a process remains to be resolved. However we note that there are different aspects of testing which are implemented at different stages of the phases.
- The PAP ISO has installation and commissioning, API has them as separate stages. It was decided that API would combine installation and commissioning to align.
- Operations OK.

Key processes

- ISO was created using an old version of the key processes
- API and ISO should aim to have the same top level processes and break out into more detail where specifically necessary to the subsea industry.
- API will Integrate organizing with planning
- ISO PAP will include a similar planning phase.
- API to create a diagram that will look like Knut's diagram (nuclear) once the KPs have been defined and add in the quality paradigm "define-plan-do-check-learn".
- API to redefine "reliability requirements" process to include categorisation, value analysis and LCC
- ISO to switch planning and reliability requirements to agree with API (i.e. define req. and then plan)
- API – need to add back management of change (left out by oversight error).
- API and ISO resolved to use 12 key processes.

Mark Siegmund telecom

- Summarised comments on API inclusion of FEED
- ISO to state that concept design could include FEED
- KH – this is OK as we already do this for 'engineering' phase.
- Contact API regarding the 3 March meeting.

Action plan

- Boreas to send out rev 4 by Thursday 2nd of March
- KW to send DJR detailed design, TQP and annex 2 sub-documents along with pdf of entire document.
- KH to send ISO doc and last mins to Boreas
- Boreas to create reconciliation and alignment doc to send to KH (issue tomorrow). This will cover
 - Risk categorisation
 - KPs
 - Life cycle
 - To be aligned by the end of this week.

- Re-work DPDCL model and send out to KH
- Remind DJR to send data collection annex (BOREAS)

REFS

PAP – Production assurance program ISO (20815) based on Z016

DIS – Draft International Standard



Introduction to API RP 17N

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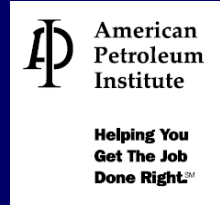
Recommended Practice for Subsea Production System Reliability and Technical Risk Management

API Recommended Practice 17N
Presentation to Joint API/ISO meeting
Houston
March 06

John Allen



DeepStar / API API RP 17N



Steering Committee

- John Allen - ABB Chairman**
- Mark Siegmund - BP Co-chair**
- Don Wells - ConocoPhillips**
- Eric Waguespack – ChevronTexaco**
- Luis Bensimon - KMG**
- Charles Burton - Unocal**
- Jean Pierre Signoret - TFE**
- James Papas – Devon**
- Nilo Jorje - Petrobras**

- Prof. John Strutt – Coordinator**
- David Rainford - Secretary**





DeepStar / API RP 17N Committee Participation

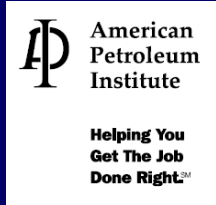


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- DeepStar
- API
- MMS
- Petroleum Companies
- Manufacturers
- Consultant Companies



Contacts



- **Professor John Strutt of Boreas Consultants-Document Editor**

J.Strutt@boreasconsultants.com



Challenges



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Where are the interfaces? Subsea, down-hole, topsides, drilling, work-over (API 17A)

Implementation Blockers for the upstream oil & gas industry (multiple buyers buying with differing drivers)

Demonstrate economic value to the industry

Universal process – all customers, all projects – large, small, complex, simple

Different independent initiatives

Common approach be agreed by industry?

Alignment to be obtained with proposed ISO Standards



How does Subsea differ?

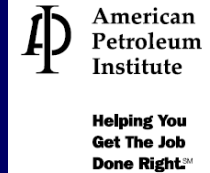
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- Evolving products – deeper, HPHT, seabed
- Low volume high cost of products
- Project based “no standardization”
- Uncertain Operating Environment
- Qualification Status and approach fragmented
- Intervention costs are high
- Regional differences
- High Level of Growth



Objective



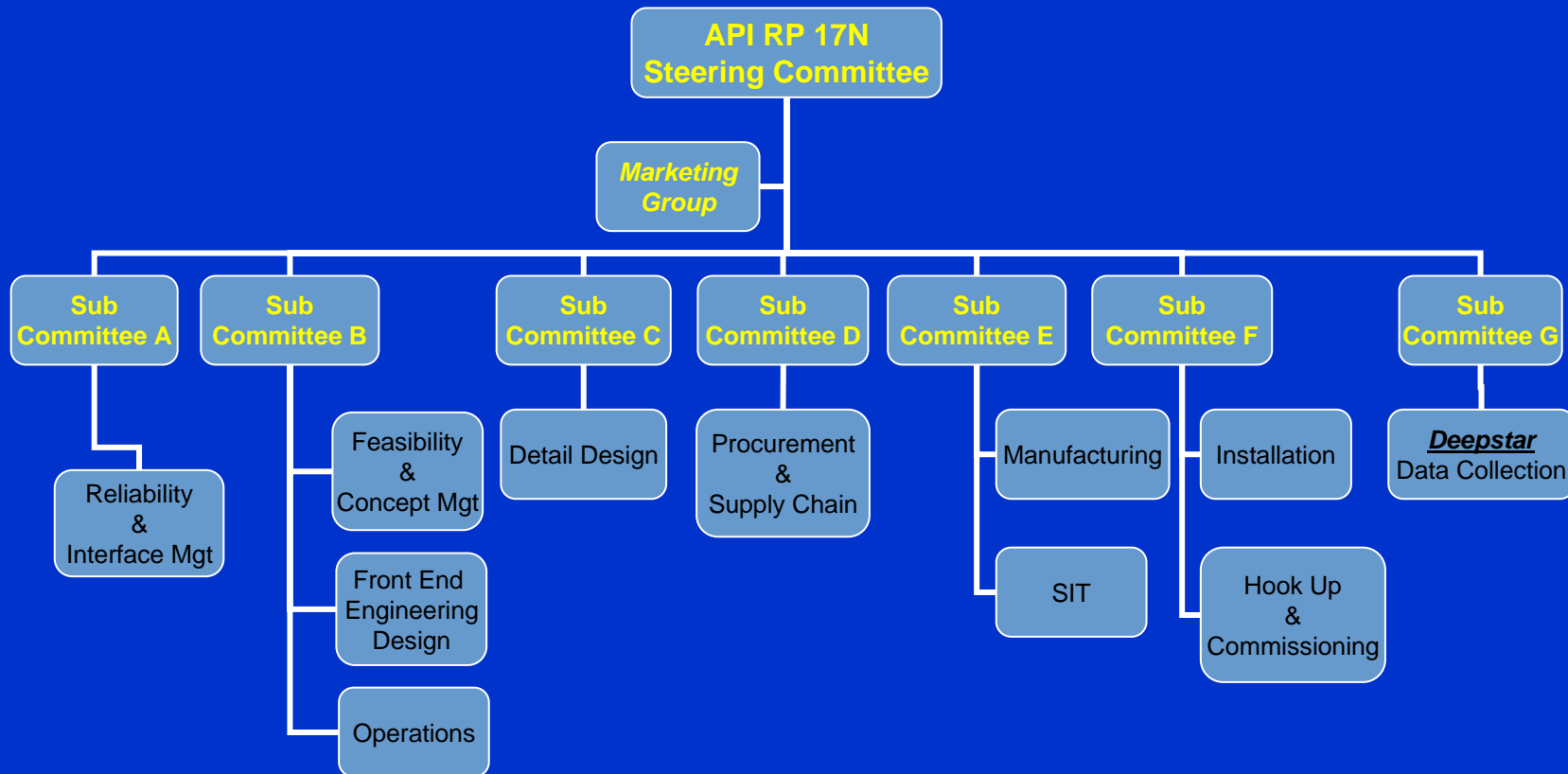
- **Provide a framework to support Operators, Contractors, and Suppliers**
 - Allow the development and implementation of a reliability strategy and plan that meets all the stakeholders' requirements throughout the full life-cycle.
- **Culture Change**
- **Take it to the next level**



API RP 17N Organization

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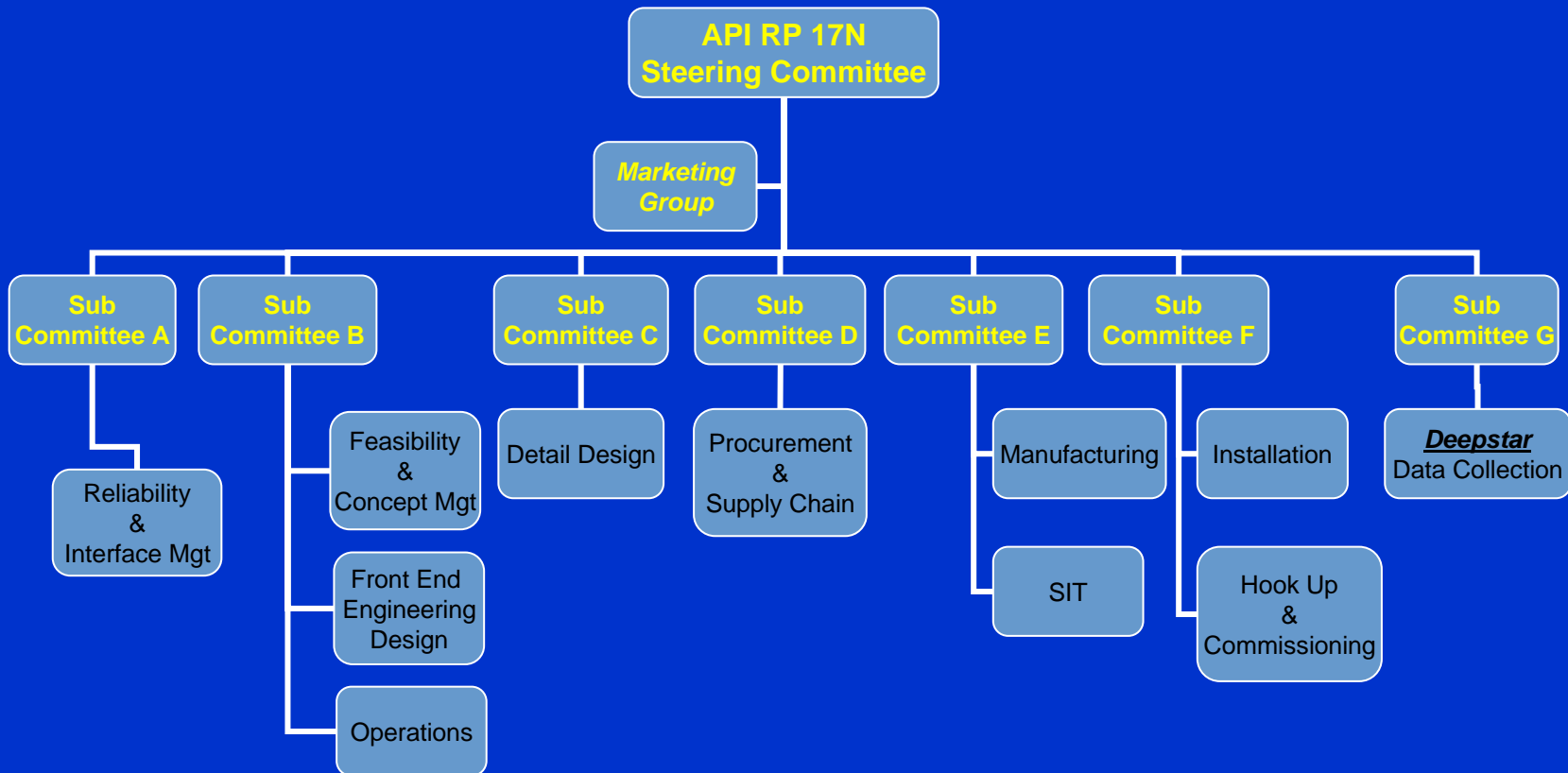




API RP 17N Organization

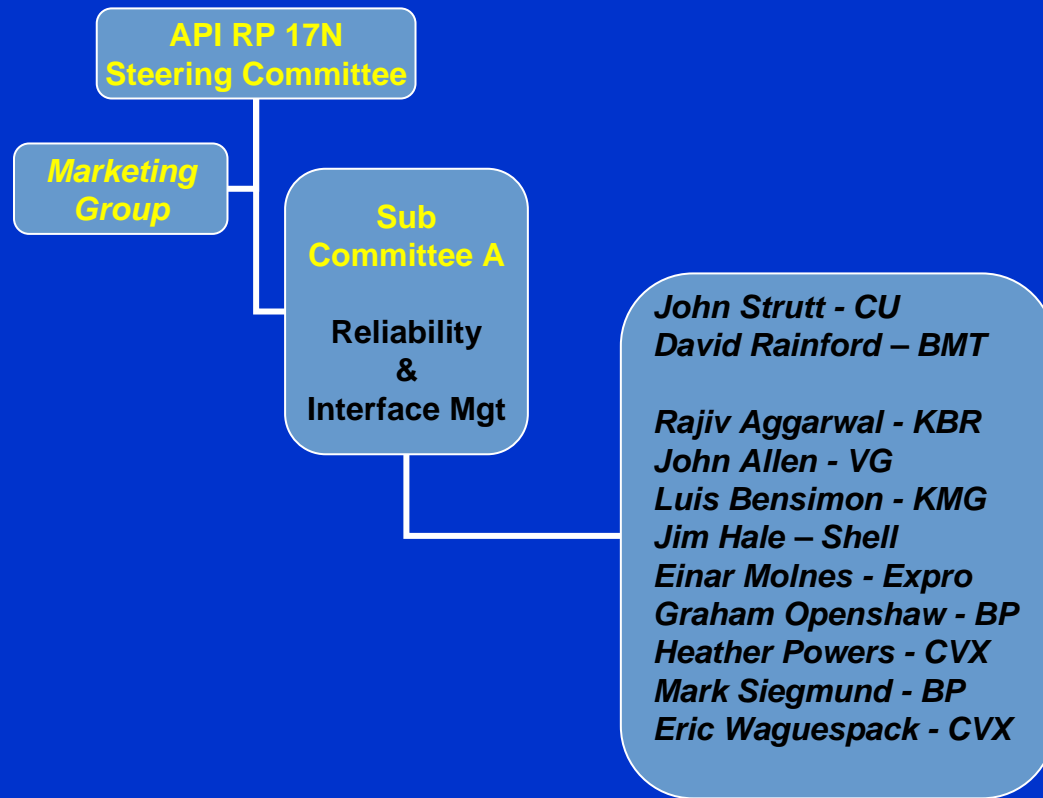
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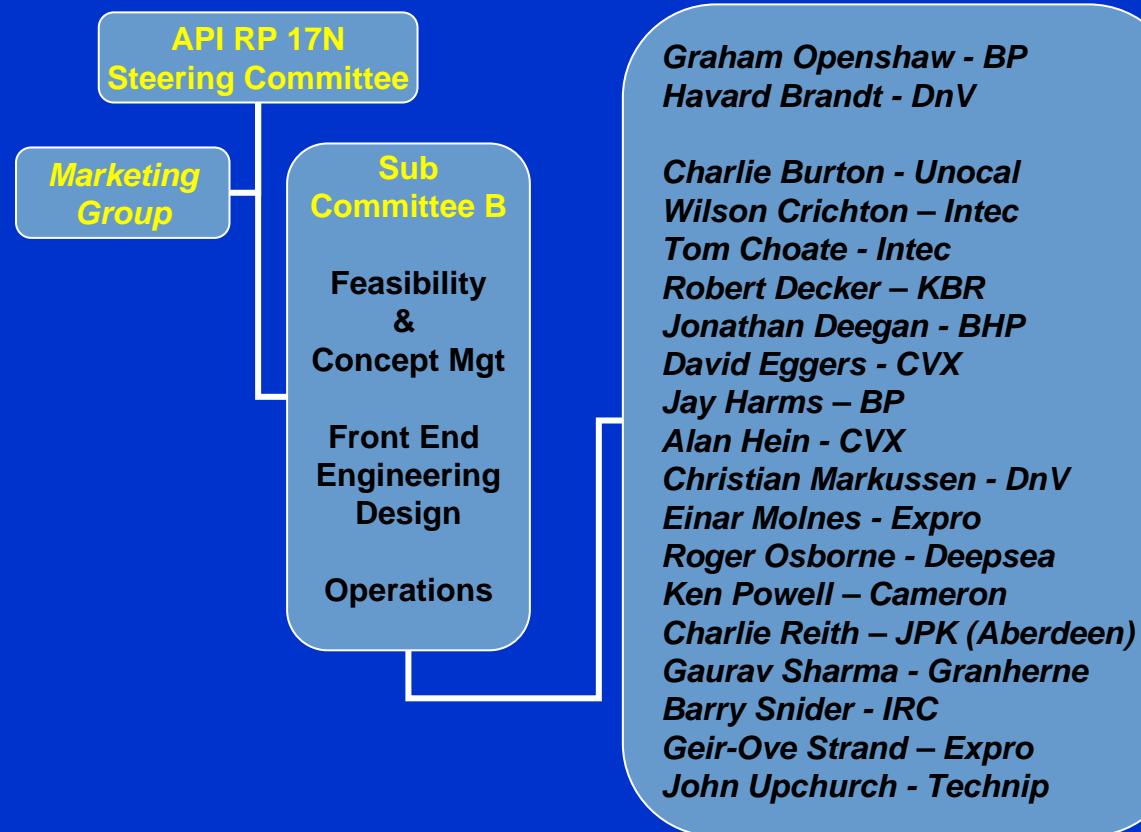


Sub Committee A



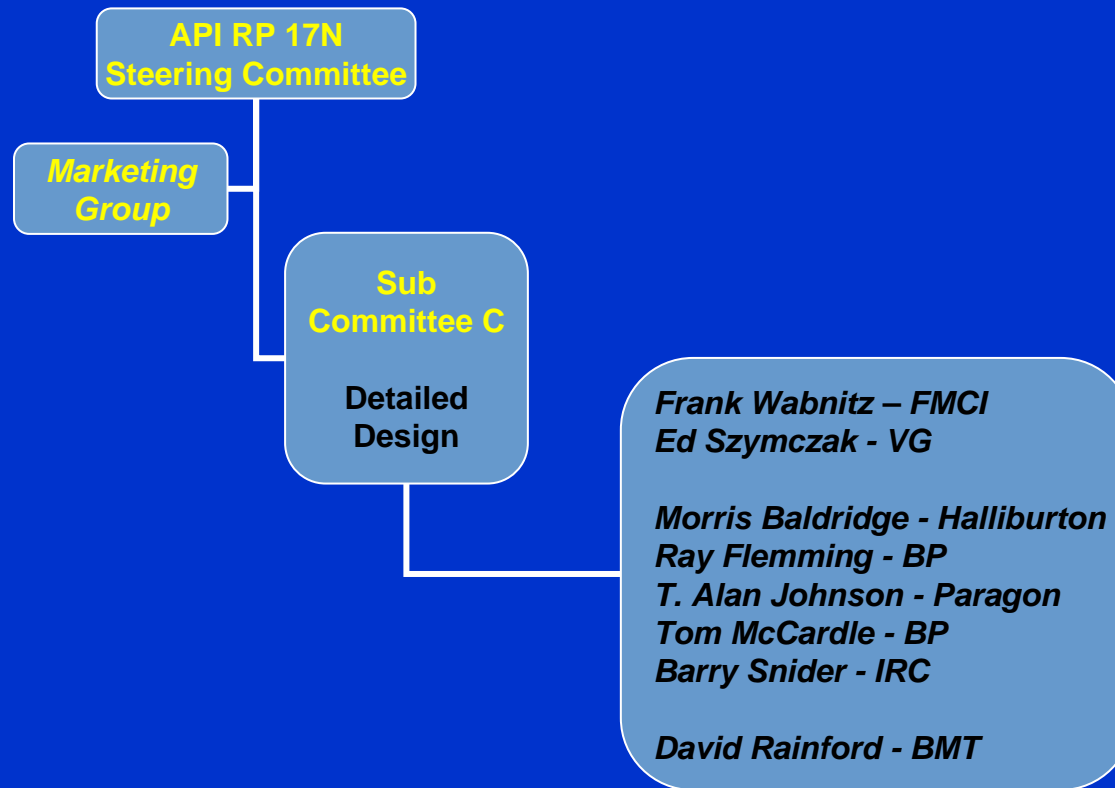


Sub Committee B



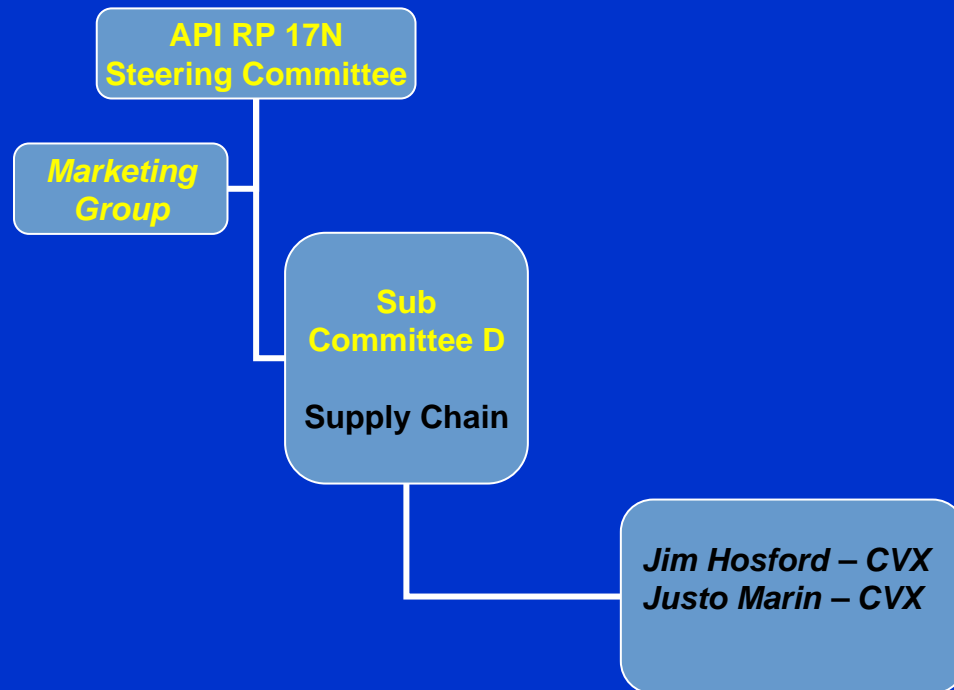


Sub Committee C



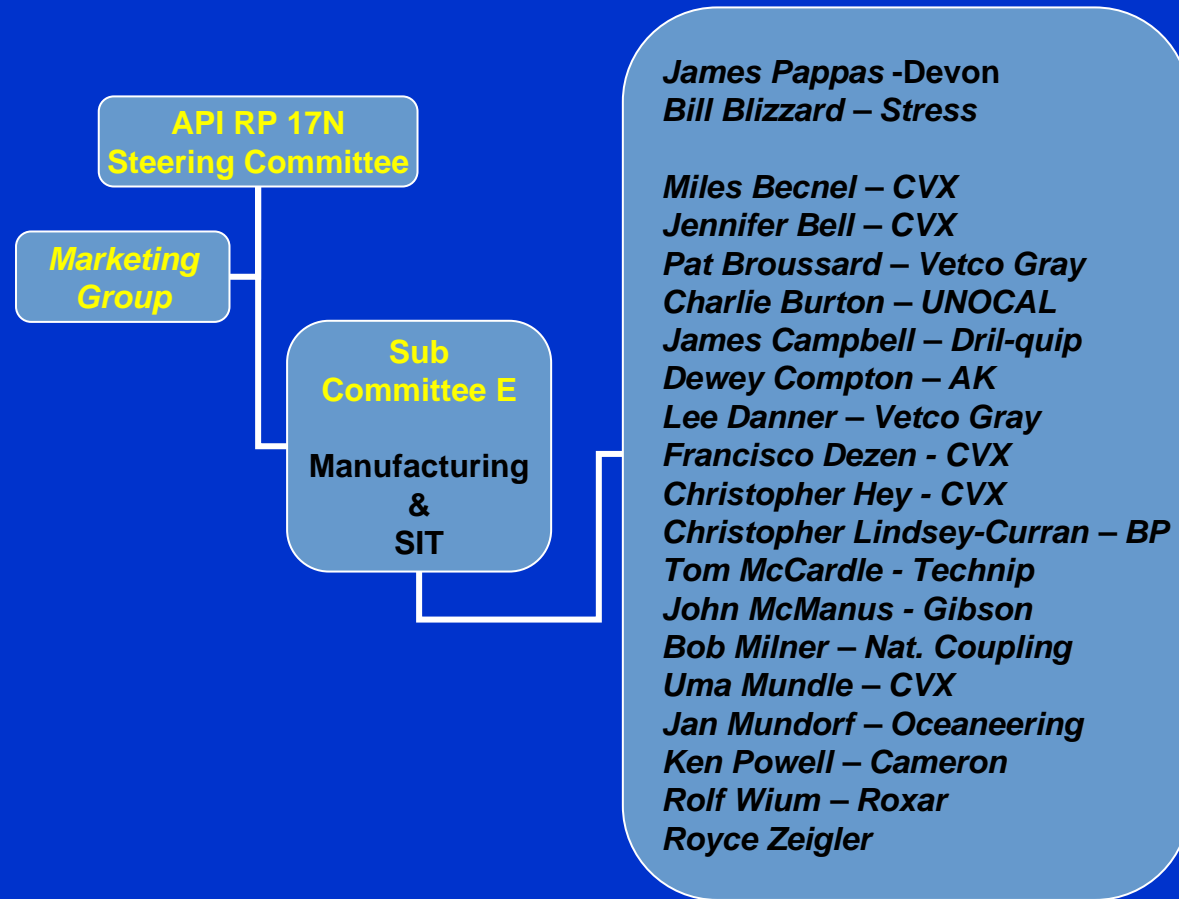


Sub Committee D



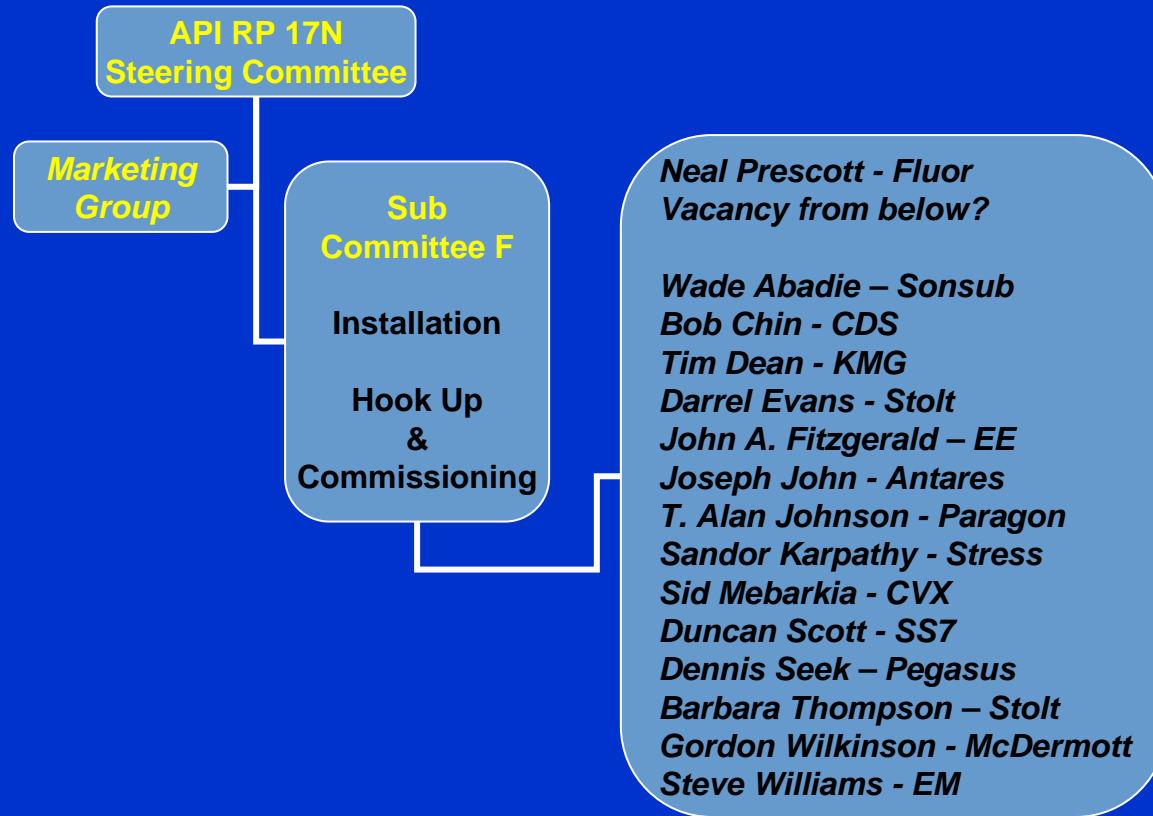


Sub Committee E



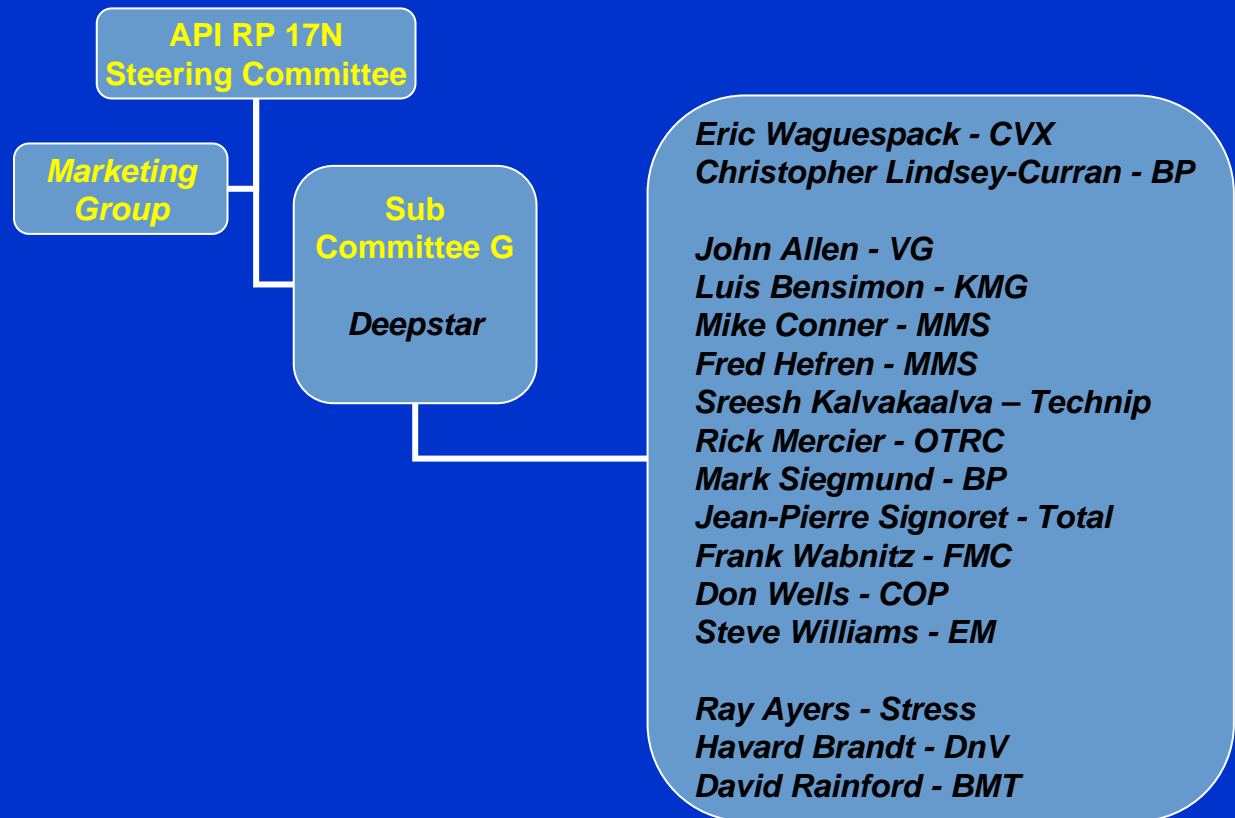


Sub Committee F





Sub Committee G – Deepstar Data





Coordination Committee



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A: & Advisor: John Strutt - CU
A: & Editor: David Rainford – BMT

B: Graham Openshaw - BP
B: Havard Brandt – DnV

C: Frank Wabnitz – FMC
C: Ed Szymczak – VG

D: Jim Hosford - CVX
D: Justo Marin - CVX

E: James Pappas -Devon
E: Bill Blizzard – Stress

F: Neal Prescott – Fluor
F: Vacancy

G: Eric Waguespack - CVX
G: Christopher Lindsey-Curran - BP



The Past

API called for a Recommended Practice

- API approval Mar 2003

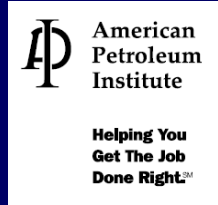
Deepstar looking to sponsor subsea Rel Initiative

BP offered straw man (Prof. John Strutt)

- DeepStar Approval Funding April 2003
- First Industry Workshop June 2003
- API / ISO reliability meeting¹ London Jan 2004
- Joint API / ISO meeting Houston Feb 2004
- Publish second draft Feb 2004
- Subcommittee Forming Workshop May 2004
- API / ISO meeting² Aberdeen May 04, Houston
November 05 and London January 06



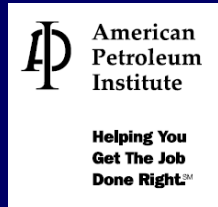
Ongoing



- Subcommittee kick off meeting
 - June 04
 - Data subcommittee already started
- Secure funds to support ongoing expert support in 2005
- Request title change from API to include 'Risk'
- Integrated Committee Meetings:
 - August 04, November 04, February 05, April 05, June 05
- Subcommittees:
 - Monthly until October 04
 - Then BI Monthly until June 05
- Work the Chapters-Manage interfacing
- Circulate for review
- Publish Draft of complete Document



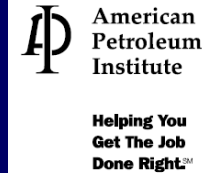
ISO



- ISO 14224 data and 20815 general (reliability management and technology) committees change convener to Henrik Kortner DnV December 04
- JA/Mark Siegmund/David Rainford attended ISO meeting Houston November 05.
- Joseph Thorp the host of this meeting suggested that the ISO should have registered this 'standard' ISO NWI, to avoid delays due to the phase lag between ISO and API.
- JA raised this with API (e mail to Andy Radford). **Needs API response**
- Joint API/ISO alignment meeting London Feb 06 with Knut Haugen representing Henrik Kortner. Notes attached.



Status as of February 2005



Feb 06

- Subcommittee A (Management) 80%
- Subcommittee B (FEED & Ops) 70%
- Subcommittee C (Detailed Design) 80%
- Subcommittee D (Procurement) 10%
- Subcommittee E (Manufacturing) 30%
- Subcommittee F (Installation) 30%
- Subcommittee G (Data Collection) 80%



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- **Assembled & Edited by John Strutt and David Rainford by 1st April 06.**
- **Material distributed to steering committee and sub committees.**
- **Discussion workshop third week April.**
- **Receive comments 1st May and Incorporate edit. If comments are resolvable by end June then:-**
- **Hand to API to consider for adoption and to canvassed 'formal' industry comment (publish) Atlanta meeting.**

API C2 / SC 17
SUBCOMMITTEE ON SUBSEA PRODUCTION SYSTEMS

API 17P TEMPLATES AND MANIFOLDS
TASK GROUP STATUS

MARCH 3, 2006

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1. INTRODUCTION

The API 17P task group has the scope of work to develop a standard that would be applicable to all types of templates and the manifolds supported by them. This would include well spacer templates, riser support templates, manifold templates and multiwell/manifold templates; i.e. drilling and production templates, as well as pipeline end terminations and pipeline end manifolds. Some of the main topics to be covered by the standard are:

- Design and performance requirements for all components
- Definition of interface requirements
- Fabrication guidance
- Installation guidance
- Operations and maintenance guidance
- Abandonment considerations

2. PREVIOUS REPORTED STATUS

Since the June API SC17 & ISO TC67-SC4-WG6 joint meeting, we have continued to refine the table of content and condensing input from several sources into the write-ups for the different sections.

Holding effective team meetings in the last quarter of 2005 was difficult and not very productive. Consequently, our intention to progress by including our overseas colleagues via phone or video conferencing did not progress.

INTEC Engineering has setup a FTP web site to post the skeleton of the draft to allow access by more than the local members of the task group (<ftp://API:iso@ftp.intecengineering.com>). The draft document and other supporting documents will be posted by end of March.

3. MEMBERSHIP

Membership to the task group has grown with several new members participating. Table 3-1, Table 3-2, and Table 3-3 show the changes in the current volunteer membership for the API 17P RP:

TABLE 3-1: API 17P TASK GROUP MEMBERS - HOUSTON

Name	Company	E-mail
Jeff Whipple	INTEC Engineering	jeffrey.whipple@intecengineering
Kim Dyson	INTEC Engineering	kim.dyson@intecengineering
Charles White	DORIS	CWhite@doris-inc.com
Ron Pflugger	Cameron	rpflugerr@camerondiv.com
Yong Bai	Grenland Group	bai@grenlandgroup.com
Eric Ringle	FMC	eric.ringle@fmcti.com
Bhailal Parmar	ChevronTexaco	BPAX@chevron.com

TABLE 3-2: API 17P TASK GROUP MEMBERS - OVERSEAS

Name	Company	E-mail
Jørgen Holst	Norsk Hydro	jorgen.holst@hydro.com
Børge Brubæk	Statoil	bbru@statoil.com

TABLE 3-3: RESERVE API 17P TASK GROUP MEMBERS

Name	Company	E-mail
John Hellums	Cameron	hellumj@camerondiv.com
Chad Hughes	FMC	CHAD.HUGHES@fmcti.com
Mario Lugo	Exxonmobil	mario.lugo@exxonmobil.com
Hevle, Eric J. (ejhe)	ChevronTexaco	ejhe@chevrontexaco.com
Paul Mason	Consultant	paulmason@houston.rr.com
Ken Stefano	ChevronTexaco	Ken.Stefano@chevrontexaco.com

Reserve members are not able to participate directly due to combination of project workload and temporary relocation to support projects, but are interested in the success of the task group.

4. UPDATED TARGET DATES FOR DELIVERABLES

Table 4-1 shows the current proposed milestone targets:

TABLE 4-1: MILESTONE TARGET DATES

Milestone Targets	Proposed Completion Date
Working Draft agreed by TG to proceed to Subcommittee (SC) (ISO Stage 20.99)	06/06
Draft approved by SC for formal ballot (ISO Stage 30.99)	09/06
Publication of Standard (ISO Stage 60.60)	2007

Forecast based on location of additional full time resources by early 2nd Qtr.

5. MAJOR ISSUES

Several major issues have come out of the review of the recently circulated ISO 13628-1 Annex L Draft A (14-Nov-2005) and ISO 13628-1 Clause 6 Draft A (14-Nov-2005) that were proposed as being integrated into the working draft for manifolds. In general the manufacturers in our task group find a significant number of items in these ISO draft documents to be in excess of industry standards and may preclude the procurement of off the shelf consumables. To meet some of the requirements for construction in the States would require procurement of material from overseas. Comments made to the ISO drafts will be posted on the FTP site.

The task group wants to take the approach that the recommend practice does not specify specific materials for construction, instead examples are offered and selection criteria highlighted.

6. ANTICIPATED NEW WORK ITEMS

None at this time.

7. PLANS FOR FUTURE MEETINGS

Task Group half-day meeting scheduled quarterly. This is a change from the once a month approach.

8. RESOURCE NEEDS

Volunteer help to progress this document has meet with limited success. Work loads of the main participants have precluded making a significant break thorough. It is suggested that a full time person be sourced to devote the required time to complete.