MINUTES
API Subcommittee 17 (SC17)
Subsea Production Equipment
2015 Special Summer Committee Meeting - Update
Houston, Texas (BP Westlake Location)
August 27, 2015

John Bednar, Chairman
Brian Skeels, (Co) Vice-Chairman
Terry Cook, (Co) Vice-Chairman
Bruce Witwer, Liaison Materials
TBD, Liaison Industry Standardization
Ross Frazer, (Co) Vice-Chairman
Man Pham, Secretary
Jens-Henrik Neuenkirchen

1. John Bednar, API SC17 Chairman, welcomed the group to the meeting at 8:00 AM with opening remarks and safety/housekeeping overview

2. Attendance and Rosters - roll call of attendees/rosters

3. This is a summary review meeting of what took place at the summer conference in San Francisco. There is no planned approval items at this meeting that required.

4. The chair reviewed the SC17 report made to the CSOEM (executive oversight committee) at the API summer standards conference. There are 42 documents maintained by SC17 with at least 50% in revision or development at any one time.

5. Summer meeting recap (Attachment 01):
   a. Need for a simplified message - clarity in content, minimize redundancy, user friendly
   b. Proper selection of format (Spec for manufacturing; RP for Best practices, guidelines, standards used on a limited basis.
   c. Attention to “shall”s and “should”s
   d. Proposal for guidelines to develop SC17 documents
   e. Emphasis on task group generated documents (vs funded/consultant-based development)

6. The updated SC17 Voting Representation Listing was reviewed (Attachment 02) and comments taken for needed changes, the API Work Group Leads Contact List was presented (Attachment 03) and the Standards Status Matrix (Attachment 04) were reviewed. Corrections were noted, and will be incorporated by API staff.

7. Monogram Update – Definition of a Manufacturer is work that still in development and ballot is expected soon. Action Item (08-27-15): API Staff to send the comment-only ballot (SC18-TG3; Definition of a Manufacturer) to SC17 when available.

8. The ballot for the withdrawal of 17C passed with 79% responding and no negatives. The document has moved the “historical documents” part of API.
9. API SRRRs were reviewed for 17D (next edition), 17H (next edition and 17TR15 for Hot stab clarification, 17TR8 (next edition)

10. API Consideration for Extreme/Survival Condition (Attachment 05)
    - Update report given by Bruce Witwer
    - The term “worst case discharge” appears in BSEE and BOEM regulations
    - Will be a work item in the 17TR8 revision
    - Work to define factors for extreme and survival events
    - Work to define probability of occurrence
    - Work to define function/performance in the post extreme or survival scenarios
    - Work to define impact on fatigue life
    - Will include participants/input from 17D, 16A, 17G as well.

11. 18LCM Update (Attachment 06)
    - Update report given by Peter Moles
    - Goal to maintain conformance of product to original or current product definition.
    - Can impact both upstream and downstream
    - Unclear as to what equipment is impacted – potential for most SC17 documents to be affected
    - Action Item (08-27-15): SC17 to develop comments to SC18 and CSOEM identifying concerns; Peter Moles to coordinate and ensure SC17 leadership review.

12. Material & Material Characterization (Attachments 07)
    - Update report given by Bruce Witwer and Rob Hilts
    - CSOEM has MARG (Materials Advisory Resource Group). Made up of operators, designers, manufacturers. The group has been reorganized as the new Subcommittee 21. New work to be submitted to SC21 and the group reviews and ranks the proposal.
    - SC21 is a resource to materials issues that goes across all subcommittees.
    - Provides a means to publish technical reports to the upstream standards groups
    - Increase visibility to SCs for cross-SC issues
    - SC Affiliation for materials resources
    - Proposal made to seek the assistance of SC21 in the development of materials issues problematic to 17G and 17TR8.

13. Task Group / Project Lead Reports
    a. API 17G: Completion/Workover Risers
        - The Task Group report was given by Ray Stawaisz
        - Working Draft 6 sent for comment-only ballot May 5 with close on July 8, 2015 (Over 2000 comments returned)
        - Result of the comment-only ballot was a demonstration to the task group that a change is needed in the development of the document.
        - Largest number of comments from Clause 5 (Functional Requirements, mainly editorial); Clause 6 (Design with many technical comments); Clause 7 (Materials) and Annex I (Connectors; many technical comments based on validation testing).
        - Proposal to restructure the document in order to clarify and simplify: either as a Part 1 and Part 2 (or more) of the same document; or as two separate document.
Annex I (Connector Validation). Providing a great deal of problems because SSTA and CWOR connectors cannot reach agreement. May need to break up into parts.

Proposal for overall restructuring of the document to be given in mid-September and the final timeline for ballot of the document by the end of September.

The SC17 leadership team requests the TG to focus on Part 1 of the restructuring (the manufacturing, design and testing of the equipment).

**Action Item (08-27-15):** API Staff to explore the possibility of technical support for Part 1 of 17G.
**Action Item (08-27-15):** 17G TG Chair to approach SC21 TG Chair for materials support.

b. 17TR8: High-Pressure High-Temperature (HPHT) Design Guidelines (Attachment 08)
- The Task Group report was given by Man Pham, Jim Kaculi, Nigel McKee and Chris Kocurek.
- Effort under way to define testing protocols for material properties for use in design verification in 17TR8 (tensile and fatigue properties)
- For fatigue input parameters, the intent is not to work this as a “worst case” scenario but to better define a baseline set of data
- DeepStar Project on 20ksi equipment covers the hydrostatic pressure tests study that includes reviewing the strain limit damage/equivalent plastic strain and its effects on fatigue life estimation and environmental cracking resistance. Studies include validation testing program of the analytical results.
- The service criteria needs to include load bearing interfaces (and use of elastic-perfect plastic material model).

c. API 17D: Subsea Production System (Attachment 09)
- The Task Group report was given by Ross Frazer
- Addendum 1 will be the removal of PSL 3G for wellheads. Nearing completion and will be released
- Proposed addendum to define a cycle for testing of valves and actuators. Ballot failed. Issue will now be worked in the next edition.
- 17D, 3rd edition to begin work in October.

d. API 17Y: Chemical Injection (Attachment 10)
- The Task Group report was given by Farah Saidi
- TOC is developed and group working to that TOC
- A lead for each section is responsible for the development of the document for that section.
- Monthly updates review the progress of each section.
- The first draft is expected in early 2016.

e. API 17A: Design & Operation of Subsea Systems (Attachment 11)
- The Task Group report was given Ed Knerr
- 17TR13 and 17TR14 are derivative documents with the expectation to remove some of the bulk of the document as standalone documents.
- Comments from initial review will be worked and final revision to be ready by the end of the year.
• 17TR13 – Balloted and passed. Most comments are addressed. Working toward publication. Drawings are being redone.
• 17TR14 – Ballot and passed. However TG feels that the information is too dated and provides no value. There are better, more current (independent) documents published. So the 17TR14 document project should be terminated. Proposal will be made at the January meeting to end the project.

f. API 17E: Subsea Umbilicals (Attachment 12)
• The Task Group report was given by Daniel Harries
• The next edition to include medium voltage umbilicals.
• The revised document will be ready for ballot in late 2015.

g. API 17H: Remotely Operated Tools and Interfaces on Subsea Production Systems (Attachment 13)
• The Task Group report was given by Ed Baniak
• Two initiatives are under way: revision of 17H to the 3rd Edition and the development of 17TR15 to address interchangeability.
• The 17TR15 document is nearing completion and will go to ballot in September.
• The 3rd edition is in development to update materials section, include AUV (DeepStar) and will eventually include 17TR15 as an annex.

h. API 17N: Subsea Production System Reliability and Technical Risk Management
API 17Q: Subsea Equipment Qualification (Attachment 14)
• The Task Group report was given by Don Wells
• The 17N document (2nd Edition) ballot opened in April and closed in June; 184 comments were issued and 2 negatives
• Completion date is the end of 2015
• Negatives were based on it being too wordy and too prescriptive
• All future work to be funded by volunteers; Annex F to be pulled from 17N and be the basis of 17Q
• Task group waiting on feedback from negative voters
• The 17Q document was determined to be a standalone document and not be incorporated into 17N.
• Need to find the optimum level of detail for 17Q; detailed enough to be practical.
• 17Q: safety case type approach suggested
• Still need to address if 17Q is fully standalone or tied to 17N
• Subject Qualification versus Technical Qualification
• Need for the development of the difficulty in assessing the advancement of the qualification level.

i. API 17X: Subsea Boosting (Attachments 15 & 15a)
• The Task Group report was given by John Vicic
• Project started July 2013; with about 40 participants
• Goal is to create a platform for standardization which current does not exist
• Proposal to have comment-only ballot ready for SC17 review by end of 2015.
• Document is not intended to be a manufacturing document.

j. API 17Z: Bonded Composite Pipe (Attachments 16 & 16a)
• The Task Group report was given by Ed Baniak
• JIP Kick-Off
• Draft by 3Q2015

k. API 17TR7: Connectors (Attachment 17)
   • The Task Group report was given by Jim Kaculi
   • Scope of the document includes all connectors on the vertical line from the
     wellhead to the surface.
   • Task Group has been waiting on the 17G, Annex I to be completed.
   • First meeting on July 30, 2015 with 30 attendees.
   • Types include Hydraulic, Flanged, Radial Bolt, Collet and Segmented Clamp
     connectors
   • Threaded and welded connectors are not in the scope
   • External pressure is not in the scope of the document (see 17TR12)
   • Goal is to have the document ready for ballot by summer 2016.

l. API 17TR11: Pressure Effects on Subsea Hardware during Flowline Pressure Test in
   Deep Water (Attachment 18)
   • The Task Group report was given by Man Pham
   • Initiated by report by BSEE (Jan 31, 2013) on Guidance on Hydrostatic
     Deepwater Oil and Gas Pipelines; BSEE does not allow variable design pressure
     in a flowline/riser.
   • The basis for the document: the need to account for the ambient seawater head
     in the design parameters and understanding the pressure gradient in the riser.

14 Action Items (today’s action items [see blue highlights above] were reviewed by the
   SC17 chair.

15 Upcoming Meetings:
   a. 2016 SC17 Committee Winter Meeting – Houston, Texas TBD January 2016
   b. Summer Standards Conference in Washington, DC (June 27-July 1, 2016)

16 The meeting adjourned at 2:30 PM