Technical Committee on Liquefied Natural Gas

Minutes

Bechtel Oil, Gas, & Chemicals Inc.
3000 Post Oak Blvd.
Houston, TX 77056
March 11-12, 2014

Part I, Attendance:
Principal Members and Staff:
  Jay Jablonski, Chairman, HSB PLC, CT
  Richard Hoffmann, Secretary, Hoffmann & Feige, NY (via teleconference)
  Denise Beach, NFPA, MA
  Jeffrey Beale, CH-IV International, MD
  Leon Bowdoin, MA (Rep NFPA Industrial Section)
  Jeffrey Brightwell, Trunkline LNG, LA (rep AGA) (via teleconference, 3/11 only)
  David Butler, City of Everett Fire Department, MA (via teleconference, 3/11 only)
  Don Coers, Coers and Company, IL
  Brian Eisentrount, CB&I, IL (rep Steel Tank Institute/Steel Plate Fabricators)
  Mark Fessenden, Tyco Fire Suppression & Building Products, WI
  Filippo Gavelli, GexCon US, MD
  Ben Ho, TX
  Frank Katulak, Distrigas of Massachusetts, MA
  Joel Madison, Ebara International Corporation, NV
  Kenneth Paul, Chart Industries, Inc., NH
  Gil Poe, ExxonMobil Production Company, TX (rep API)
  Phani Raj, US DOT Railroad Administration, DC
  James Regan, Starr Technical Risks Agency Inc., IL
  Kevin Ritz, Baltimore Gas & Electric Co, MD
  Thomas Rodante, Baker Engineering & Risk Consultants, TX
  Jeffrey Sawchuk, BP Corporation, TX

Alternates, Non-voting members, and guests:
  John Blanchard, CB&I, IL (alt rep Steel Tank Institute, Steel Plate Fabricators)
  Steve Clay, US DOT Railroad Administration (guest) (3/12 only)
  Pat Convery, Cornerstone Energy Services, MA (rep NFPA Industrial Section)
  Scott Delmotte, Dresser-Rand (guest)
  Adnan Ezzarhouni, GTT (Gaztransport & Technigaz SAs), TX (guest)
  Andrew Kohout, Federal Energy Regulatory Commission, DC
  Kenneth Lee, US DOT PHMSA (guest)
  Bernard Leong, Chevron, TX (guest)
  Roy Lucas, ORNL (guest)
  Matt Martingaj, Chart Inc. (guest)
Part II, Minutes:

1. The meeting was called to order at 8:00 a.m. CDT. Chairman Jablonski welcomed the committee members to the meeting and thanked them for their service.

2. The committee members and guests introduced themselves.

3. The minutes of the pre-First Draft meeting held in October 2013 in Washington DC were accepted as written.

4. The NFPA Staff Liaison reviewed the new document revision process and tools, including the new terminology, the revision cycle timeline, and the online public input submittal process. (Attachment A)

5. **New Business.** Document Revision. Committee actions related to document revisions and public input will be available in the First Draft Report, which will be posted on the NFPA 59A document information page no later than Sept. 5, 2014.

   **A.** A task group was created to recommend requirements for membrane tank systems. B. Eisentrout reported that a Canadian task group has created standards on membrane tanks that could provide guidance. European code EN 14620 could also serve as a resource for the task group. The task group members are: A. Ezzarhouni (chair) (GTT), J. Blanchard, D. Coers, B. Eisentrout, R. Hoffmann, and A. Kohout.

   **B.** A task group was created to review section 5.3 to recommend performance-based requirements, rather than prescriptive. The task group members are: P. Raj (chair), D. Coers, F. Gavelli, and J. Sawchuk.

   **C.** Committee member Phani Raj made a brief presentation on LNG applications within the jurisdiction of the Federal Railroad Administration, including the use of LNG as motive fuel for locomotives. The committee didn’t identify any specific course of action, however, NFPA staff noted that LNG vehicle fuel systems and refueling stations fall under the scope of NFPA 52, Alternative Vehicular Fuel Systems.

6. **Old Business**

   **A. Chapter 5 Task Group.** The committee established a task group to identify uncertainties in chapter 5, identify the “single leakage source” and recommend additional coverage or requirements to address both. The task group reported progress on a flow chart and gap analysis (Attachment B). A research request was submitted to the FPRF on single leakage source, but the awards have not yet been made. The task group members are L. Bowdoin (chair); J. Brightwell, P. Convery, B. Eisentrout, F. Gavelli, A. Hatfield, F. Katulak, B. Leong, P. Outtrim, K. Paul, G. Poe, T. Turpin, and J. Wilson.
B. **Chapter 15 Task Group.** The committee expanded the scope of the task group to perform a complete review of chapter 15 including tables for errors and omissions, and to perform a gap analysis. The task group should also recommend revisions to clarify the requirements for executing a quantitative risk assessment. The task group members are: F. Gavelli (chair); L. Bowdoin, P. Convery, A. Nicotra, P. Outtrim, G. Poe, T. Turpin, P. Raj, and J. Wilson.

C. **Fire Analysis for Roof Loss Task Group.** The committee established a task group to review current fire analysis requirements for roof loss and develop recommendations to differentiate between steel and concrete construction. The task group has developed a draft TIA and is in the process of reviewing it. Task group members are: J. Blanchard – Chair, J. Beale, D. Coers, C. Hanskat, R. Hoffmann, F. Katulak, A. Kohout, B. Leong, J. Lewis, and A. Nicotra.

The committee did not have time to discuss the additional task groups. However, an interim in-person task group meeting was requested to allow task groups to further discuss the tasks and deliverables. NFPA staff will schedule a multi-day meeting so that task groups can meet consecutively for approximately a half day each.

D. **Fire Protection Task Group.** The committee established a task group to review other NFPA documents and recommend revisions to the definition and annex material on Fire Protection. Several Public Inputs (formerly proposals) were acted upon to update existing standards, identify new standards, and update the requirements in chapter 12. The actions of the committee will be available in the First Draft Report, posted on the NFPA 59A document information page no later than Sept 5, 2014. The task group members are: Andrew Kohout – Chair; Dale Edlbeck, Jay Jablonski, Bernard Leong, Ian Queen, James Regan, Kevin Ritz, and Jenna Wilson.

E. **Chapter 13 Task Group.** The committee established a task group to review chapter 13, including reviewing the scope, performing a gap analysis, and recommend additional requirements or refinements based on the analysis, recognizing that not all LNG facilities are under federal jurisdiction. The members of the task group are Jeffrey Beale (chair); Alan Hatfield, Dick Hoffmann, Frank Katulak, Glenn Mahnken, Ken Paul, Pat Outtrim, and Kevin Ritz.

F. **Referenced Standards.** The committee requested that NFPA 3 and NFPA 110 be added to the committee documents download page because these are now being referenced by action in First Revision 107 and First Revision 113.

G. **Offshore LNG Facilities Standard.** NFPA staff submitted a memo to the Standards Council requesting that the work item be closed. The Standards Council reviewed the request in their March 3-4, 2014 meeting and submitted the item for public comment through NFPA News. The Standards Council will review any comments received in their August 2014 meeting.

H. **Code Fund Project.** NFPA staff submitted a code fund research request on the development of a source term model for input into DEGADIS. Research Foundation awards will be announced late first quarter 2014.
I. Compressed Natural Gas. On behalf of the LNG committee, NFPA staff submitted a request to the Industrial and Medical Gases technical committee to expand and clarify coverage of Compressed Natural Gas in NFPA 55. NFPA staff will update the committee on the IMG committee efforts.

J. NFPA 56. The committee reviewed two Public Inputs related to NFPA 56. The actions of the committee will be available in the First Draft Report, posted on the NFPA 59A document information page no later than Sept 5, 2014.

7. Other Items.

A. Small, non-storage LNG Plants. Scott Delmotte of Dresser-Rand made a brief presentation on Dresser-Rand’s small scale, modularized, LNG manufacturing plant producing 6,000 gallons per day. More information on this system is available from the Dresser-Rand website, http://www.dresser-rand.com/markets/smallscalelng.php. The applications for this type of small scale LNG are anticipated to continue to grow. The committee did not establish any specific actions that would need to be taken to address these applications, but noted that they should comply with chapter 13, assuming that the LNG manufacturing plant would ultimately be connected to a site-supplied storage container.

9. Date/Location of Next Meeting. The Second Draft meeting is tentatively scheduled for March 2015. Several committee members offered to host the meeting. NFPA staff will conduct a poll of the committee to determine a preference.

10. Adjournment. The meeting was adjourned at 5:40 pm CDT on March 12, 2014.
Attachment A:
NFPA Staff Presentation
Welcome TC on
Liquefied Natural Gas

March 11-12, 2014
Bechtel Oil, Gas, & Chemicals Inc.

At this and all NFPA committee meetings we are concerned with your safety. If the fire alarm sounds, please proceed to an exit.

Use of tape recorders or other means capable of reproducing verbatim transcriptions of this or any NFPA meeting is not permitted.

Guests
- All guests are required to sign in and identify their affiliations.
- Participation is limited to those individuals who have previously requested of the chair time to address the committee on a particular subject or individuals who wish to speak to Public Input they have submitted.
- Guest chairs are located around the room as a courtesy.

Members categorized in ANY interest category who have been retained to represent the interests of ANOTHER interest category (with respect to a specific issue or issues that are to be addressed by a TC/CC) shall declare those interests to the committee and refrain from voting on any Public Input, Comment, or other matter relating to those issues.
**General Procedures**
- Follow Robert's Rules of Order.
- Discussion requires a motion.

**Committee member actions:**
- Member addresses the chair.
- Receives recognition from the chair.
- Introduces the motion.
- Another member seconds the motion.

**Committee chair actions:**
- States the motion.
- Calls for discussion.
- Ensures all issues have been heard.
- Takes the vote.
- Announces the result of the vote.

**Motions for Ending Debate Previous Question or “Call the Question”**
- Not in order when another has the floor
- Requires a second
- This motion is not debatable and **DOES NOT** automatically stop debate
- A 2/3 affirmative vote will immediately close debate and return to the original motion on the floor. Less than 2/3 will allow debate to continue.
New Process Overview

- Still basically 4 steps:
  - First Draft (Report on Proposals)
  - Second Draft (Report on Comments)
  - NITMAM/CAM
  - Issuance

- NEW opportunities to skip steps:
  - If no public comments are received, the committee can request immediate issuance
  - NITMAMs will only be certified based on public comments.

NFPA First Draft Meetings
New Process – What’s New?

- Changes in Terms:

<table>
<thead>
<tr>
<th>New Term</th>
<th>Old Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment Stage</td>
<td>ROC Stage</td>
</tr>
<tr>
<td>Public Comment</td>
<td>Public Comment</td>
</tr>
<tr>
<td>Second Draft Meeting</td>
<td>ROC Meeting</td>
</tr>
<tr>
<td>Committee Comment</td>
<td>Comment that Failed Ballot (Second Revision that failed ballot)</td>
</tr>
<tr>
<td>Second Revision</td>
<td>Committee Comment or Accepted Public Comment</td>
</tr>
<tr>
<td>Second Draft Report</td>
<td>ROC</td>
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<tr>
<td>Second Draft</td>
<td>ROC Draft</td>
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NEW Committee Actions and Motions:
- Resolve Public Input
- Create a First Revision
- Create a Committee Input (Trial Balloon)
• **Resolve a Public Input (PI)**
  - Committee develops a Committee Statement (CS) to respond (resolve) a Public Input.
  - Committee must clearly indicate reasons for not accepting the recommendation in CS and/or point to a relevant First Revision
  - PI does not get balloted

• **Create a First Revision (FR)**
  - Committee wants to make a change to a current section or add new text.
  - Committee develops a Committee Statement (CS) substantiating the change. (do not refer to PI as the reason)
  - Ensure any associated PIs get a committee response, often simply referring to the relevant FR.
  - Each FR gets balloted

• **Committee Statements (Substantiation):**
  - All Public Input must have a Committee Statement
  - Must include a valid technical reason
  - No vague references to “intent”
  - Explain how the submitter’s substantiation is inadequate

• **Create a Committee Input (Trial Balloon)**
  - Committee wants to receive Public Comment on a topic, but not ready to incorporate it into the draft
  - Need to have a Committee Statement
  - Does not get balloted
Committee Statements (Substantiation):
- Should reference the First Revision if it addresses the intent of the Submitter’s Public Input.

Formal voting:
- Voting during meeting is used to establish a sense of agreement (simple majority).
- Secured by letter ballot (2/3 agreement).
- Only the results of the formal ballot determine the official position of the committee on the First Draft.

Ballots are on the First Revisions (FR) ONLY
- Public Input and Committee Input not balloted.
- Reference materials are available:
  - First Draft, PI, CI, CS, etc.

Ballot form allows you to vote:
- Affirmative on all FR.
- Affirmative on all FR with exceptions specifically noted.

Ballot form provides a column for affirmative with comment:
- Note: This box only needs to be checked if there is an accompanying comment.

Reject or abstain requires a reason.

Initial ballot
- Circulation of negatives and comments.
- Members may change votes during circulation.
- First Revision that fails letter ballot becomes Committee Input (CI) – just like the trial balloon version of CI – so as to solicit Public Comment.
First Draft
New Process

- Balloting
  - Ballots will be an online format
  - Alternates are strongly encouraged to return ballots

NFPA First Draft Meetings

- No New Material after the Public Input Stage
- What constitutes new material is to some extent a judgment call
- Online submittal of comments through Terra

NFPA New Process Overview

- Comment phase works similar to old process
- HOWEVER, comments that do not contain specific action will no longer be accepted
  - NO – “Reverse committee action”
  - NO – “I agree with the committee action”
  - NO – “Use submitter’s original material”
- No new material after the Public Input Stage
  - What constitutes new material is to some extent a judgment call
- NITMAMs will be certified ONLY on comments
  - “Nitmammers” must participate in the entire process

Legal

- Patent: Disclosures of essential patent claims should be made by the patent holder, but others may also notify NFPA if they believe that a proposed or existing NFPA standard includes an essential patent claim.
- Antitrust: the single most important provision - Federal law prohibits contracts, combinations, or conspiracies which unreasonably restrain trade or commerce.  Section 1 of the Sherman Act
Legal

- Activities Disapproved by the Courts
  - Packing meetings
  - Hiding commercial interest throwing the committees out of balance
  - No final decision-making authority to unbalanced Task Groups; include all interested parties.
  - Hiding scientific or technical information from committees

NFPA First Draft Meetings

Thank you for participating!

Any questions?
Attachment B:
Flow Chart Related to Chapter 5 Task Group