

Distribution Date  
December 5, 2003

**Meeting Minutes  
Subcommittee on Pressure Relieving Systems  
September 17, 2003, 8:00 A.M. - 12:00 P.M.**

- I. Introductions and registration of attendance**  
See Attachment 1 for the meeting attendance sheets.
- II. Appointment of Secretary to record minutes**  
Mohammad Ali of ConocoPhillips was appointed to take the meeting minutes.
- III. Approval of minutes from the Spring 2003 meeting**  
Minutes were approved as distributed on June 9, 2003.
- IV. Task Force reports**

Document Status Summary

API Document	Current Published Year	Due	Current Status	Target First Ballot	Target Published Year
520 Part I	2000	2005	reviewing		2005
520 Part II	1994	1999	published		2003
521	1997	2002	getting ready for ballot	4Q2003	2004
526	2002	2008	published		
527	2002	2008	published		
2000	1998	2003	to be reaffirmed	3Q2003	2003

A. TF 520 - Phil Henry (Attachment 5)

- o 25 attendees
- o Reviewing Part I. The key items for Part I revision will include:
  - Appendix D,
  - 2-phase flow,
  - 1 vs. 2-part Omega method and
  - accessories of pilot operated relief valves
- o 10 technical inquiries reviewed and responses are being progressed.
- o Excellent 'k' value work by Berwanger.
- o Discussion on allowable backpressure of >10% on conventional valve, which may lead to valve instability.

## B. TF-521 - Ed Zamejc

- 28 attendees
- 6 technical inquiries progressed.
- Most of the time was spent on the review of RP 521 revision. Some further work is required to be carried on:
  - the flare section,
  - thermal expansion equation and
  - vapor depressuring section.
- First ballot is expected before the end of 2003. List of voters established.
- Will let API highlight changes (with side bars) from previous editions and will review before committing to publishing with changes highlighted

## C. TF 526/527 - Roger Danzy

- 24 attendees
- No new business.
- No old business.

## D. TF 2000 – Chris Buxton

- 25 attendees
- Chris Buxton of Tyco Valves provided temporary leadership in the absence of the chairman designate, Dave Paradis.
- Std. 2000 will be reaffirmed in 2003 **(post meeting note: we can incorporate the errata and reaffirm the document if no other substantive technical changes are made. We still have to ballot the reaffirmation to the committee.)**
- Several technical inquiries progressed – also received 2 consulting inquiries.
- Other issues progressed included:
  - Sizing of PV valves – airflow or actual gas flow.
  - Why RP 521 does not match Std. 2000
  - Inconsistencies and definitions.
  - Comparison of Std. 2000 with European Standards.
  - Requirement of installing flame arrestors on PV valves.
  - Vapor collection systems and the effect of backpressure on PV valves.
- to elect task force chairman in Spring 2004

## E. TF PRV Inlet Loss/Stability - Ed Zamejc

- Completed Phases I, II & III last year.

- Tyco and Dresser volunteered to carry out test work – probably 4Q 2003.
- Awaiting completion of contracts before proceeding.
- Berwanger and Sunoco have applied to join.
- Spreadsheets developed for equations, which can predict valve stability.

## V. Status updates on other activities and issues

### A. ASME/API Task Force: Block Valves within the Relief Path - Brad Otis

Task force has revised the Code language proposal to address negative ballots received last March. Will be re-issuing to ASME in December. If it passes the three committees in December it will be on the ballot in January 2004. If it fails to pass the December committee meetings, progress could be delayed by at least 3 months. **Brad Otis will monitor progress and keep subcommittee informed.**

### B. PRV Backpressure Issue Raised by the Dossena Paper - Ed Zamejc

Action plan is one or more of the following: invite Dossena to make presentation at API, have BP/Amoco representatives in Italy to meet with Dossena, communicate via phone/email, have Pat Berwanger visit Dossena to discuss research and results. **Ed Zamejc to manage the action plan in order to get answers for the Spring 2004 meeting.**

### C. Pressure Vacuum Vent Flame Arresting Capabilities Issue – Chris Buxton

Extensive discussions took place and presentations made on this topic during the previous meeting. No conclusions yet. To be reviewed at the next meeting. Shell to determine what conditions (release scenarios that could create a flammable cloud covering a tank vacuum vent) are required that would cause sufficient explosion overpressure to push the flame through a vacuum vent. This could be useful in assessing the likelihood of a deflagration in a tank due to flame propagation through a pressure vacuum vent. **Brad Otis has action.**

### D. ASME Code Exchanger Tube Rupture Interpretation of 2/3rds Rule – Brad Otis

About a year ago an ASME Code inquiry was received that asked several questions that ultimately focused on the application of the 2/3rds rule. The initial proposed response from one of the ASME subcommittees would essentially have made the application of the 2/3rds rule as it is practiced today to be non-compliant with the Code. Some in the ASME Code committees are sympathetic with the petrochemical industry's view of the 2/3rds rules, so in August 2003, the API/ASME task force was given an opportunity by the ASME Code committee to propose a Code interpretation.

That task force has submitted a response. It will not be known until December if the Code committee accepts the task force's proposed interpretation. If it doesn't then one option is the API/ASME task force would work on new Code language that would permit use of the 2/3rs rule. If the propose interpretation is accepted by the Code Committee, there is risk that additional Code inquiries on the same subject would be submitted asking for clarification. If that happens, then there is increased likelihood that either we change Code language or change API language. **Brad Otis has the action to keep the API subcommittee informed on developments.**

E. Other ASME Code Committee Issues of Interest – Denis DeMichael

No other items on the radar.

## VI. Old Business

A. Pressure relief issues in other API documents

Denis Demichael described his investigations of the pressure relief issues that are in the mechanical equipment API standards. He surfaced issues where there is incomplete data and inconsistent practices. Denis proposed that standard paragraphs be developed for those standards so that pressure relief issues are properly covered. He will present proposed standard paragraphs for the Spring 2004 meeting. **Denis Demichael has the action.**

Berwanger did a search under "pressure relief" and found a number of API documents. The group discussed the results of the search and concluded that it would be best if the search results be grouped by PRS task forces and those task force chairpersons would be responsible for addressing. **Pat Berwanger has the action.**

It was discussed that getting CRE sponsorship for us working this issue across all of the API subcommittees may be important. CRE will be advised of issue after collecting the results of investigations after the Spring 2004 meeting. **Brad Otis has the action.**

B. Presentation/Discussion: Going ISO – (1.5 hours)

Paul Eichamer gave an overview of the ISO standard work process (see Attachment 2), some background of why API is interested in doing this, and what API's experience has been. After Paul's presentation, the PRS subcommittee listed and discussed the advantages of our task force going ISO and the disadvantages.

Benefits of Going ISO	Regrets of Going ISO
<ul style="list-style-type: none"> <li>• leveling playing field world wide</li> <li>• uniform application of technical requirements IF they are accepted world wide</li> <li>• get more participation</li> <li>• broader acceptance in developing countries</li> <li>• more efficient operation of engineering design</li> <li>• learning opportunity since we can now consider opinions and issues raised by others</li> <li>• could look at creative ways to work (e.g., net meetings)</li> <li>• should cost less globally and less for international and national companies</li> <li>• prevents someone else to drive the effort and leave us out</li> <li>• may give leverage to challenge some of the EU directives/interpretations</li> <li>• New ISO format would an improvement</li> <li>• If petrochemical application could get more chemical industry participation</li> <li>• If we initiate it we have more control.</li> <li>• ISO is the wave of the future</li> <li>• Gives us an opportunity to dump historical baggage</li> <li>• Opportunity to clearly establish one global standard</li> <li>• Key is working together</li> </ul>	<ul style="list-style-type: none"> <li>• concern on how we would get consensus in a timely manner</li> <li>• additional travel</li> <li>• resolving preferences vs. requirements</li> <li>• concerned about veto</li> <li>• may not get what we want</li> <li>• concerned that others may be overly conservative on some issues and force costly modifications</li> <li>• difficulties in incorporating wishes and requirements of different regions</li> <li>• extensive coordination requirements (logistics of developing the standard)</li> <li>• concern about European dominance. European countries already have 2/3's of the P countries</li> <li>• potential conflict with European directives which may result an EN, or ISO version</li> <li>• how to get the concerns of the US group when meeting is held outside US (not all of us will be able to attend)</li> <li>• time commitment increase</li> <li>• loss of control of the document</li> <li>• already stretched to work API issues</li> <li>• security in other countries</li> <li>• for US companies it might cost more if having to incorporate mandatory items from outside of US and vice-a-versa</li> <li>• Extra time required to manage the "regrets"</li> <li>• Document may become too generic or include details to accommodate local requirements</li> <li>• If CEN document already exists there might be resistance to accept an ISO standard on same topic.</li> </ul>

Assuming the CRE maintains their support of the ISOization of API standards and based on the above benefits and regrets the subcommittee members voted whether this subcommittee should put "going ISO" on the front burner (i.e., a priority) or not.

17 voted going ISO should be a high priority  
 Nobody voted that going ISO should be a low priority

CRE developments and our subcommittee's forward plan to be discussed at the Spring 2004 meeting. **Brad Otis has the action.**

## VIII. New Business

### A. API Business - Brad Otis

With Jerry Kubic leaving we will need a new Vice Chairman

- Submit names before Spring 2004 meeting. Will elect at next meeting. **Brad Otis has the action.**
- Criteria – must be from an operating company

#### Technical Inquiries

- Concurrence: Task Force Chairman must assure that at least one person from an operating company concur with the written response to the inquiry.
- Filtering: Roland is acting as a filter but has forwarded some as a courtesy
  - Will not advance inquiries that ask “how” to do something
  - Will not advance inquiries that ask about issues that are not in the API document
- Inquiry Responses: Concern that there is too much detail in the responses which is tying up resources. If a detailed response is necessary then we should be asking ourselves why isn't the API document addressing the issue in more detail. API legal is concerned about situations where there is more technical detail in the interpretations than in the base document. OK for the task force to rephrase the question so that it can be answered yes or no.

#### RP vs. Standard

- Standard 537 was balloted as an RP but published as a Standard
- API staff and Legal applied current API criteria to assess whether it was a Standard or RP
  - Substituting “should” for “shall” was viewed as a substantive change.
  - Substituting “Standard” for “Recommended Practice” was not viewed as a substantive change.
  - The HT Chairman reviewed the API criteria and agreed that it met the definitions of a standard and agreed that this was not a substantive change

- From legal point of view, “shalls” in a Standard or an RP are equivalent in terms of RAGAGEP.
- **See the attached link to understand requirements for API standards:**  
<http://committees.api.org/standards/cre/ref/docs/apistndrdsdevlpmntpcdrs.pdf>

B. Presentation: Survey Results with small PRV and Package Unit PRV Testing – Phil Henry (30 minutes)

Phil Henry presented initial survey results (Attachment 3). He would like more surveys completed and returned to him. Final result to be presented at the Spring 2004 meeting. **Phil Henry has the action to update presentation.**

C. Presentation: Flare System Studies – Ed Zamejc (30 minutes)

This presentation was deferred to the Spring meeting because of a full agenda

D. Presentation: Modulating Performance Data for PRVs – Chris Buxton (15 minutes)

Chris presented results of flow tests of pressure relief valves at overpressures less than 10% (Attachment 4). The results indicate that use of required relief load instead of relief device capacity may be appropriate.

**IX. Next Meeting - Spring 2004 meeting will be May 17-19 in Atlanta Georgia.**

**X. Adjourn**

Respectfully submitted,



Roland Goodman for Brad Otis, Chairman