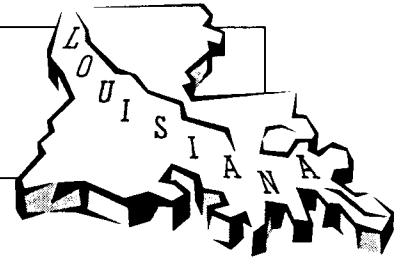


**CRE SUBCOMMITTEE CHAIR'S
ORAL REPORT
NEW ORLEANS, LOUISIANA**



SUBCOMMITTEE: Heat Transfer Equipment

DATE: October 13, 1999

MAJOR ISSUES THE SUBCOMMITTEE IS ADDRESSING

Personnel and Communication

1. *SCHTE Vice-Chairman Ed Shepherd of Chevron and Secretary Dennis Gelfand of Mobil* have been appointed. Both individuals have been provided SCHTE information, CRE Policy and Procedures, and assigned tasks to become quickly assimilated in their roles.
2. *SCHTE WebPages* has been an excellent communication source for SCHTE members. Webpages include draft documents, task force membership rosters, WebPages for each task group, discussion pages for technical subjects, ISO documentation, meeting minutes, and status synopsis of each SCHTE task.
3. *Conduct Roundtable discussions* on Fired and Unfired Heat Transfer Equipment. Roundtables have been well-received by the SCHTE membership. Steering Committee has endorsed continuing these sessions. Roundtables have led to development of new SCHTE Standards such as Flare RP537 and Post Combustion NOx Control RP 536. Topics for New Orleans meeting are:
 - a) Roundtable regarding Brazed Al Plate Heat Exchanger; it is anticipated that a Project Justification Request and an ISO NWI will follow this roundtable.
 - b) Roundtable regarding Shell and Tube Heat Exchanger- Field Problems
 - c) Roundtable regarding Electronic Data Exchange on Tuesday morning. This Roundtable will have the Technical Director for PDXI describe development of electronic specification sheets.
 - d) Roundtable for Fired Heater Refractories - design choices, installation, operations
4. *Appointed API Liaison to National Fire Protection Agency* regarding burner management systems.
5. *Appointed SCHTE Vice-Chairman as liaison coordinator.* SCHTE has liaison contacts with other API Subcommittees that produce documents which affect SCHTE work and with other industry groups. Such groups include International Standards Organization, ASME, Process Industry Practices, and the National Fire Protection Agency.

Joint SCHTE/ISO Standards

1. SCHTE and ISO have jointly developed ISO Standards equivalent to API STDs for
 - *Calculation of Heater Tube Thickness 530*
 - *Fired Heaters for General Refinery Service 560*
 - *Air Cooled Heat Exchangers 661*
 - *Plate Type Heat Exchangers 662*
2. *ISO CD 13706 (analogous to STD 661)* was issued for DIS vote. Comments received from delegates were reviewed at the Chicago API meeting in April. The FDIS is available on SCHTE Webpage. Planned ISO release date is 1999.
3. *ISO DIS 15547 (analogous to STD 662)* has passed vote by 91% favor. DIS comments were reviewed at Chicago API meeting. Comments are posted on SCHTE Webpage. Finalized ISO 15547 available shortly. Anticipate Standard publication by year-end 1999.
4. *ISO CD 13705 (analogous to STD 560)* has been approved. Posted to SCHTE Webpage. DIS document prepared by ISO. Voting comments solicited.
5. *ISO CD 13704 (analogous to STD 530)* has been approved. Posted to SCHTE Webpage. DIS document prepared by ISO. Voting comments solicited.
6. *ISO WI 16812 Shell and Tube Heat Exchangers (analogous to STD 660)* being jointly developed by SCHTE and ISO. ISO convenor R. Berryman and API STD 660 chairman J. Petigara are co-chairs to develop this ISO Standard. Initial ISO meeting held June 24/25 1999 in Reading, UK. Publish ISO Standard during year 2001.

SCHTE Standards

1. *API Flare Recommended Practice 537* covers areas not addressed by Pressure Relieving subcommittee. First draft of entire document has been posted to SCHTE Webpage. Webpage contains Task Group assignments, schedule, rosters, the RP537 Outline, Project Justification requirements, Meeting minutes. Publish Recommended Practice by February 2001.
2. *API STDs 560 and 530* reaffirmation work continues at New Orleans meeting. Reaffirmation planned by 2000 and 2001 respectively to meet API's 5-year schedule. Dennis Gelfand will be STD 530 chairman, replacing Arthur Tso. Interface with API 579 Fitness for Service Group arranged. Discussion of common notes with API 530 to be done.
3. *API STD 660* reaffirmation work continues at New Orleans meeting. First draft has been developed. Publish Standard during year 2000.
4. *API TP 534 Heat Recovery Steam Generators and TP 535 Burners* have been approved by CRE for reissue as RPs. RP535 Project Justification form submitted to CRE. Initial RP535 meeting being held at New Orleans meeting. Dan Batten is chairman. Publish Recommended Practice by February 2002.
5. *API TP 534 Heat Recovery Steam Generators* conversion to RP534 will be deferred until SCHTE resources are available. Resources expected during 2000-2001 time period.
6. *API RP 579 Fitness for Service* chairman presented a status report to SCHTE at Chicago meeting. Dave Osage and Garrett M. Buckheim will be liaisons to API 530 from API 579. SCHTE's Dan Loveless coordinating work between STD 530 and RP579. SCHTE reviewing RP579 calculation procedure for remaining life calculations. As RP579 will be submitted to CRE during 1999 without creep calculations, SCHTE does not support including RP579 procedure within STD 530.

MAJOR CONCERNS OF SUBCOMMITTEE AND PROPOSED REMEDIES:

1. *SCHTE has need for additional Owner participation*; CRE has been asked to assist recruitment.
2. *Mergers may affect number of representatives participating at API meeting*; CRE has been asked to assist recruitment.
3. *Ensure that Flare RP 537 scope does not infringe on RP 521*. SCHTE publishes all work to the Webpage and RP521 members are participating in RP537 development.
4. *Interface with ISO Working Groups*
 - ⇒ Review ISO DIS while still completing API specific work.
 - ⇒ Determine when API standards are equivalent to ISO Standard; concurrent with ISO Standard development, SCHTE is reviewing API Standards 530, 560, 660 for reaffirmation. Revisions will become part of ISO NWI which will ultimately align API and ISO Standards.
 - ⇒ Future work with ISO after ISO standards are published; SCHTE will initiate ISO New Work Initiatives after ISO documents are published.

CHANGES IN REVISED STANDARDS THAT COULD HAVE SIGNIFICANT BUSINESS IMPACT ON USERS

1. *Developing Flare Recommended Practice 537* will provide guidance for specifying a flare's mechanical components. This RP 537 addresses flare components not addressed by other industry source or RP 521 Guide for Pressure Relieving and Depressuring Systems. Such guidance will directionally decrease reportable environmental incidents and increase time between necessary flare turnarounds.
2. *Burner Recommended Practice 535 will directly reflect business needs*. Burner regulations specify *performance* requirements for emissions. So *performance* requirements can be met, this RP's focus will include Mechanical Description, Operations Description, and Maintenance for burner components. Manufacturers input from within and outside the SCHTE has been sought so the final document reflects prevailing technology expertise. Reliable burner operations in a fired heater are necessary to assure safe combustion and reliable heat transfer in an environmentally acceptable manner in petroleum refineries and chemical plants. RP535 burners will communicate proven, sound engineering, design, manufacturing, construction, installation, testing and operating practices within the petroleum refining industry. API Technical Paper 535 Burners addressed these issues in 1995. But burner design is a steadily changing technology field influenced by changing fuels and changing environmental regulations. Those changes require updating the document, which will be done via an API Recommended Practice that can be updated and/or reaffirmed periodically.
3. *Jointly developing Industry Standards with ISO* will result in worldwide standards that incorporate most features of API Standards that are now used as worldwide de-facto standards. This alignment between API and ISO Standards will incorporate best learnings into the new ISO standards and will avoid significantly changing how users of current API Standards conduct business.
4. *Issuing ISO documents affect other work on complementary API STDS and RPs*. Dual work tasks stretches API volunteers from doing other API work task.

CONFIRM PUBLICATION DEVELOPMENT/REVISION

API Document	Status since Chicago Meeting
STD 530 Tube Design for Fired Heaters	<p>ISO CD 13704 (analogous to API 530) has been approved. Posted to SCHTE Webpage. DIS document prepared by ISO. Voting comments solicited.</p> <p>Reaffirmation for API STD 530 progressing. Publish Standard during year 2001</p> <p>Dennis Gelfand will be chairman, replacing Arthur Tso.</p> <p>Interface with API 579 Fitness for Service Group arranged. Discussion of common notes with API 530 to be done.</p>
STD 560 Fired Heaters for General Refinery Services	<p>ISO CD13705 (analogous to API 560) has been approved. Posted to SCHTE Webpage. DIS document prepared by ISO. Voting comments solicited.</p> <p>Reaffirmation for API STD 560 progressing. Publish Standard during year 2000.</p> <p>Appendices C and G have been converted to electronic format</p>
STD 662 Plate-Frame Heat Exchangers	<p>ISO DIS 15547 (analogous to API 662) has passed vote by 91% favor. DIS comments were reviewed at Chicago API meeting. Comments are posted on SCHTE Webpage.</p> <p>Finalized ISO 15547 available in New Orleans</p> <p>Publish Standard by year-end 1999.</p>
Braze Aluminum Plate- Fin Heat Exchanger	<p>ISO New Work Initiative to be prepared by H. Joshi who will co-chair with S. Victor</p>
STD 660 Shell and Tube Heat Exchangers	<p>Reaffirmation for API STD 660 progressing. Publish Standard during year 2000.</p> <p>First draft of reaffirmation has been developed.</p> <p>SCHTE and ISO will jointly develop an ISO equivalent to API STD 660 Shell and Tube Heat Exchangers. ISO convenor R. Berryman and API STD 660 chairman J. Petigara are co-chairs to develop this ISO Standard Initial ISO meeting held June 24/25 1999 in Reading, UK Publish ISO Standard during year 2001.</p>

STD 661 Air-Cooled Tube Heat Exchangers	ISO CD 13706 (analogous to STD 661) was issued for DIS vote. Comments received from delegates were reviewed at this Chicago API meeting FDIS available on SCHTE Webpage ISO release date = Mid 1999
TP 534 Heat Recovery Steam Generators	API CRE has approved that this Technical Publication should become a Recommended Practice. Timing and available resources to make this change will set work schedule. Probable start will follow RP535 Publication.
TP 535 Burners for Fired Heaters in General Refinery Services	API CRE has approved that this Technical Publication should become a Recommended Practice. RP535 Project Justification form submitted to CRE Initial RP535 meeting being held at New Orleans meeting. Dan Batten is chairman Publish Recommended Practice by February 2002
RP 536 Post-Combustion NOx Control for Fired Equipment in General Refinery Service	Published April 1998. Complementary copies should have been sent to Task Group members.
RP 537 Flare Details for General Refinery and Petrochemical Service	First draft of entire document has been posted to SCHTE Webpage. Webpage contains Task Group assignments, schedule, rosters, the RP537 Outline, Project Justification requirements, Meeting minutes Publish Recommended Practice by February 2001
RP 556 Fired Heaters and Steam Generators	Published May 1997 by Instrumentation Subcommittee of the CRE. SOICS and the SCHTE should determine whether the next revision should be jointly developed. Ray Raparelli, Dan Loveless, Ed Shepherd follow-up
RP 573 Inspection of Fired Boilers and Heaters	Published October 1991 by Inspection Subcommittee of the CRE. SOI and the SCHTE should determine whether the next revision should be jointly developed. Ray Raparelli, Dan Loveless, Ed Shepherd follow-up
RP 579 Fitness for Service	Developing a working arrangement with this Task Force. RP 579 chairman presented a status report to SCHTE at Chicago meeting. Dave Osage and Garrett M. Buckheim will be liaisons to API 530 from API 579. Dan Loveless coordinating work between STD 530 and RP579

SUBMITTED BY: Paul D. Eichamer

ENDORSED BY: Dave Wilson

Subcommittee Chair

Subcommittee Sponsor