

**CRE SUBCOMMITTEE CHAIR'S
ORAL REPORT OUTLINE**

SUBCOMMITTEE: Aboveground Storage Tanks
MEETING: 2006 API Fall Refining Meeting
CHAIRPERSON: Carl Mikkola
DATE: Wednesday, Nov 1, 2006

ATTENDANCE:

SUNDAY	Owner/Operators	Manufacturers/Contractors	Visitor	Total
Design	3	9	4	16
Fabrication	8	10	3	21

TUESDAY	Owner/Operators	Manufacturers/Contractors	Visitor	Total
Design	10	21	9	31
Fabrication	11	14	2	27

WEDNESDAY	Owner/Operators	Manufacturers/Contractors	Visitor	Total
Joint Meeting	19	18	12	49

SUBGROUP MEETING STATUS:

Design Subgroup

Chairperson: Phil Myers
 Vice Chairperson: Alan Geis
 Secretary: John Lieb

Fabrication Subgroup

Chairperson: Larry Foster
 Vice Chairperson: Jeff DeArmond
 Secretary: Jim Johnston

Inquiries

Total: 13
 New Agenda Items Required: 0

Inquires

Total: 6
 New Agenda Items Required: 2

Subcommittee Letter Ballots

Total: 19
 Passed to Publication: 10
 Working or Hold: 1
 Drop: 0
 Reballot: 8

Subcommittee Letter Ballots

Total: 11
 Passed to Publication: 7
 Working or Hold: 3
 Drop: 2
 Reballot: 4

New & Working Items

Total: 8
 Passed to SCLB: 2
 Working or Hold: 4
 Drop: 2

New & Working Items

Total: 25
 Passed to SCLB: 6
 Working or Hold: 17
 Drop: 2

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MAJOR ISSUES THE SUBCOMMITTEE IS ADDRESSING:

The Task Group on PIP/API 650 Merge (Chair: Bruce Roberts, George Morovich).

This TG has completed its work. The agenda item passed to publication. Bruce Roberts has been working under contract to API to format the draft of API-650 to make it suitable for formal editing by the API editor. The editor now has that draft. What's next? Publish as the 11th Edition of API 650 in late-2006. Fall 2005 approved items have been included. This effort combines PIP (Process Industry Practices) requirements with API 650 – a merged document. This will: 1. Reduce tank inspection, 2. Reduce specification requirements, 3. Reduce communication between purchaser and manufacturer, and 4. Reduce tank life cycle costs. The task group should be disbanded after the 11th Edition publishes. The task group is currently waiting for API editor to release the "proof copy" of the 11th Edition of API 650. The task group and SCAST will review the proof copy and reply back to API. API staff advises that their editor has not been able to assemble/complete the proof copy on the predicted schedule. The work is 4-6 months late. It is recommended that API arrange for the services of a more responsive technical editor. The SCAST expects its work to be published faster than is presently being done. The publication of the 11th edition of API 650 will likely be in the 2nd quarter of 2007.

The Task Group on Seismic Revision (Chair – Phil Myers).

New seismic rules are being issued by IBC and NFPA. Fire marshals and building code officials will enforce these rules. The result is that PVT had to rewrite its Seismic Appendix, which will now be up to date. The Task Group has completed its work and the SGD has voted to approve to pass this agenda item to publication. The SGD also voted to approve to keep the existing Appendix E as a publication.

The Task Group on Stainless Steel (Chair – Doug Miller)

This TG consists of 10 members (1 Owner/Operator and 9 M&C) and is working on several Agenda Items to incorporate mixed-materials carbon steel and stainless steel) and duplex stainless steel into API 650. Agenda Item 650-568, which would add, mixed-material (carbon steel and stainless steel) to API Std 650 was approved for publication at the Spring '06 Meeting. Agenda Item 650-536, which would add duplex stainless steels, was recently balloted, revised, and will be reballoted over the Summer '06. The impact to industry is that SS is common in the tank building industry. Given the fact that there are no other SS tank standards, the impact to API is that more tank manufacturers would use API Standards. Agenda item 536 was approved for publication at the Fall 2006 Meeting. Next steps: 1) Revise API 650 mixed material appendix to cover duplex stainless steel. 2) Create a new appendix to API 620 to cover duplex stainless steel. 3) Create a new appendix to API 653 for mixed materials.

The Task Group on Metrification (Chair – Larry Hiner)

This TG has completed its metrification guidelines and is posted on the API website. The guidelines use dual units, SI and in-lbs. There are several action items regarding this agenda item, 1) obtain funding to metricate API Standards, and 2) the Task Group needs to continue to maintain the guideline and 3) all agenda items should start using the metrification guideline. The impact of this effort is that it will make API 650, 653 and 620 international standards making API more marketable worldwide. This Task Group consists of 5 members, 0 Owner/Operator, 3 M&C and 2 Others. The Task Group on

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Seismic has completed its work. API 650 and API 653 have been metricated. However, there is remaining work necessary to comply with the new guidelines. It is recommended that funding be made available to metricate API 620 using guidelines established by the Metrication Task Group. The Task Group met at the Spring '06 Meeting. Prior to the Spring '06 Meeting, an Agenda Item was taken out to fix metrication of API 650. The TG worked this Agenda Item 650-620 which was approved in the Design Subgroup to go to Subcommittee letter ballot. That Agenda Item incorporates the previously approved guide document provisions for metrication. Agenda item 650-620 covering API 650 "metrication fix" was balloted for the Fall 2006 meeting. All comments were addressed and the 1 negative vote was withdrawn. The task group will recommend to the SGD that 650-620 be passed to publication. The dual unit guide document requires some minor revisions based on the issues contained within. Funding continues to be requested for metrication of API 620 and API 653. Also funding is needed for "non-dimensional" formula creation in API 650.

The Task Group on Frangible Roofs (Chair - George Morovich)

This TG has investigated the relative strengths of the roof-to-shell and shell-to-bottom joints, with the goal of providing suggestions for frangible roof design criteria applicable to smaller tanks. Thunderhead Engineering, a company hired to assist in this work, submitted a final report of its work. The report documents an evaluation of the relative strengths of the roof-to-shell and shell-to-bottom joints in API 650 cone roof tanks. An update to the "SafeRoof" program is also provided. The information was supplied to the American Petroleum Institute as background material for development of design rules that govern frangible roof joints for API 650 tanks. API 650 (American Petroleum Institute, 2001) provides design criteria for fluid storage tanks used to store flammable products. Due to filling and emptying of the tanks, the vapor above the product surface inside the tank may be within its flammability limits. Ignition of this vapor can cause sudden over pressurization and can lead to the catastrophic loss of tank integrity. To prevent shell or bottom failure, the rules in API 650 are intended to ensure that the frangible roof-to-shell joint fails before failure occurs in the tank shell or the shell-to-bottom joint. Failure of the frangible roof-to-shell joint provides a large venting area and reduces the pressure in the tank. Although the criteria in API 650 function well for large tanks, small tanks designed to the API 650 rules have not always functioned as intended. Morgenegg, 1978, provides a description of a 20-foot diameter by 20-foot tall tank in which the shell-to-bottom failed. Other such failures have been noted by API, providing the incentive for this study. As presently written, the API 650 rules do not address the strength of the shell-to-bottom joint directly. Instead, the present rule is intended to ensure that the roof-to-shell joint fails at a pressure lower than that required to lift the weight of tank. It is assumed that with no uplift, the shell-to-bottom joint will not have significant additional loads and that failure of the shell-to-bottom will be avoided. A study of roof-to-shell joint failure (Swenson, et al., 1996) showed that for large tanks, the roof-to-shell joint did indeed fail before tank uplift, but that for smaller tanks uplift would occur before roof-to-shell joint failure. Since uplift occurs for small tanks, this increases the possibility of shell-to-bottom joint failure. Agenda Item 650-506 was established to address options to achieve frangibility for the small tanks. The PVT sent this agenda item for letter ballot (from Spring 2005 meeting) and there were no negative and 7 affirmative comments. Resulting changes (from the fall 2005 meeting) were re-balloted and there were no negative and four affirmative comments. These comments were addressed and

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Agenda Item 650-506 was passed for publication at the Spring 2006 meeting. The only remaining item will be to insert resulting changes for API 653. There will be no need for another Task Group meeting and we shall disband the Task Group.

The Task Group on Similar Service – (Chair: Carl Mikkola)

Similar Service is of major financial significance. According to API Standard 653, Owner/Operators are required to have corrosion rates established for the bottom and shell of each tank. With increased regulatory authorities mandating compliance with API Standard 653, there is an increased need to use “similar service” as a means of establishing these corrosion rates. Industry is in vital need of guidance to correctly conduct such “similar service” assessments. A task force group was formed to define similar service; suitability requirements for performing a similar service assessment; and develop a non-mandatory appendix for performing the assessment. The Task Group met for the first time during the Spring '04 Meeting. The Task Group drafted a new API 653 Appendix and reviewed it at the Fall '04 Meeting. The Appendix was then sent to Subcommittee letter ballot (SCLB) for the Spring '05 Meeting. The Task Group met on April 20, 2005 to resolve comments from the ballot. Substantive changes were made to the Appendix and it was consequently re-balloted to both the PVT and SCI for the Fall '05 Meeting. The results of the re-ballot showed consensus, e.g., a 64% response rate and a 84% approval rating. The Task Group met at the Fall '05 Meeting to resolve comments. A total of 20 people attended the Task Group meeting. These people represented Owners, Operators, Manufacturers and Contractors. The ballot item was amended to incorporate several comments with no substantive changes to the item. The Task Group sent out the amended ballot item for comment and the comment resolutions. Prior to the Spring '06 Meeting, the Task Group worked successfully to resolve and have withdrawn 3 of the 10 negative ballots with no change to the ballot item. The Task Group then met at the Spring '06 Meeting where it successfully worked to resolve and have withdrawn 4 additional negative ballots with no change to the ballot item. The Task Group continued to work to resolve the remaining 3 negative ballots. The effort to resolve the 3 remaining negative ballots continued until the Fall '06 Meeting. 2 of the 3 members who voted negative did not attend the Spring '06 and Fall '06 Meetings. The 3rd member who voted negative was attempted to be contacted on several occasions in hopes of resolving their negative. Unfortunately, these attempts were unsuccessful. After discussion with group members and in consultation with API, the decision was made at the CRE Meeting on Wednesday, November 1, 2006 to inform the SCAST and SCI of the 3 remaining negative ballots, the 3 members who voted negative, and everyone's rights according to API Standards Development Procedures.

The Task Group on Risk Based Inspection Intervals – (Chair: Jeff DeArmond)

Based on inquiries and general discussion there is concern that RBI, as it presently appears in API 653, could be misused or abused especially with regard to determining internal inspection intervals. The intended scope is to further develop Section 6.4.3 in API 653 to provide reasonable assurance that RBI principles are applied consistently and appropriately. This effort will likely result in a rewrite of Section 6.4.3. The potential exists for users of API 653 to apply RBI inappropriately and / or misconstrue the intent of the methodology. A Task Group was formed to address this issue. It is anticipated that the product of this project will provide users of API 653 with information needed to make informed decisions regarding the appropriate use and application of RBI principles. This

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effort will result in a reference to API 580, development of a risk matrix, establishment of maximum inspection intervals, and listing of likelihood and consequence of failure variables. This work will result in a more consistent application of the methodology and provide users with an effective tool they can potentially use to manage aboveground storage tanks. The Task Group consists of 8 members; 4-owner/operators, 3 M&C, and 1 regulator. The Task Group met during the Fall '05 meeting. The meeting was well attended with a total of 25 attendees. The TG is currently working on fairly significant revisions to Table 6-1 and these were discussed at length during the meeting. Another item discussed at length was a 'Minimum Inspection' required to establish bottom corrosion rates /inspection intervals. Both of these items need further development, which the Task Group hoped to accomplish during conference calls prior to the Spring '06 meeting. It was the intent to be able to present the item for SCLB in the Spring '06 meeting. At the Spring '06 Meeting, the Task Group reported having had 5 conference calls since the Fall '05 Meeting to further discuss/develop this agenda item. The current status of the item is a fairly extensive rewrite of section 6.4.2 'Inspection Intervals'. The Task Group is proposing to move the RBI section from 6.4.3 and incorporate it into 6.4.2, and include Similar Service as both have to do with establishing internal inspection intervals. The basic premise the Task Group is trying to incorporate in the item is providing additional in-service periods (years) based on what it is calling 'tank safeguards (i.e RPB, linings, enhanced inspection and CP). The RBI rewrite has not changed that much from last meeting. During the Spring '06 Meeting, the Subgroup agreed to pass this item to subcommittee letter ballot. The item addresses initial internal inspection intervals for new tanks, including references to similar service assessment and RBI assessment. Additionally, the RBI section appears in section 6.4.2, as it relates to establishing internal inspection intervals. Table 6-1 will remain the same, but for clarity will be moved into Section 4.4.7, as it relates to minimum allowable thickness for bottom plates. The task group will continue work on and further develop how internal inspection intervals are established for existing tanks. Agenda Item 653-167, RBI Internal Inspection Intervals, was balloted for the Fall '06 Meeting. The item received 50 affirmative ballots and 11 negative ballots, 4 abstentions and 17 did not vote. The ballot results were available on October 26, 2006. The Task Group held 2 conference-calls prior to the Fall '06 Meeting to review comments and prepare proposed responses. A Task Group meeting was held during the Fall '06 Meeting on Monday, October 20, 2006. The agenda of this meeting included a review of all comments, both affirmative and negative, in an attempt to bring the item to a point where it could be re-balloted. While several negative ballots were resolved during the Task Group meeting, there were still outstanding negative comments that needed to be resolved or withdrawn before this item could be re-balloted. With additional input from some of the negative balloters, the item was reworded and presented at the Subgroup Fabrication meeting. During this meeting, further discussion took place to try and resolve and/or compromise the negative comments. The SGF voted to send this item to SCLB, pending some proposed changes to the item. The item will be routed through the SCASST for comments prior to being sent to SCLB for the Spring '07 Meeting.

Load Combinations on for Cable Suspended Floating Roofs - Ken Erdmann

Description- This task group was created to develop new rules in API-650 Appendix H which will provide guidance for the design and construction of internal floating roofs supported by cables suspended from the fixed roof. The task group is charged with

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developing load combinations for IFR supports. Load combinations for fixed roof supporting floating roofs are also addressed. Critical details of suspended floating roofs are being addressed. The definition of floating roof external pressure that must be considered when designing bleeder vents is also being addressed. Retrofit of suspended floating roofs will now utilize API 650 as a guide to check fixed roof capacity. Status- The latest ballot resulted in negative comments related to some of the required details of suspended floating roofs and the loads applied to IFR's. One load (load from trapped product) was dropped as other live loads were found to provide sufficient magnitude to address this load. Some required details of cable suspended roofs were changed to options. All negative comments were addressed in the task group meeting. Due to the significance of the changes the item will be re-balloted. Future Work- It is expected that this re-ballot will not solicit comments significant enough for another re-ballot in the fall of 2006. The task group met to resolve any comments. The task group has completed its objective and is recommending that the ballot go to publication.

Incorporate ASME B96.1 as a new Aluminum Appendix in API 650 - Randy Kissel

All task group objectives have been met. The aluminum tank appendix to API 650 has been completed and voted to be published in API 650. There were no negatives and no comments in the ballot.

Standards for Low Temperature and Cryogenic Tanks - Doug Miller

Most new construction of low temperature and cryogenic tanks are full containment type. Currently, API Standards do not address these types of tanks. There is a need for a new Standard, especially with the current boom in LNG work. The task group has already had 1 telephone conference-call and 2 meetings. Currently, an outline of a new standard is partially done. It will address the entire low temperature tank as a single tank system and will refer to API 620 for steel tank and ACI 376 for concrete. There has been some difficulty in getting all participants to attend meetings at one time. Having some meetings in Houston will help with this. There is no API funding required for this work. It is planned to be done by volunteers. The aim is to pass a document to publication by end of 2008.

MAJOR CONCERNS OF SUBCOMMITTEE AND PROPOSED REMEDIES:

Out-Of-Plane Settlement – (Agenda Item Champion – Carl Mikkola)

There are several serious issues regarding API Std 653 Section B.3.2 and the analysis methodology for computing the maximum allowable out-of-plane deflection. The present methodology is incorrectly applied. It does not differentiate between EFRT and IFRT, it does not account for tank diameter, it assumes that all tanks that settle in an out-of-plane fashion (regardless of diameter) attenuates a sinusoidal curve with a phase shift. This is totally false. Furthermore, Section B.2.2.4 states "The optimum cosine curve is only considered valid (i.e., accurately fits the measured data) if the value R^2 is greater than or equal to 0.90." This criterion was introduced in the 1998 addendum. With the exception of the R^2 criteria, the methodology for assessing out-of-plane tank settlement and the equation used to compute the maximum permissible out-of-plane deflection has not changed since API Std 653 was originally published in 1991. Consequently, a tank that was previously found to have acceptable out-of-plane settlement prior to 1998 may now

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be deemed unacceptable because it does not meet the R^2 criteria even if it has not undergone any additional settlement. This retroactively subjects tanks previously deemed OK to a new more stringent requirement. This has both compliance and financial implications to the industry. This has been an issue for many years. Numerous papers and articles have been written on this subject. Research is presently underway to reduce industry's exposure by finally developing a proper method of analyzing out-of-plane deflection that is consistent with the advancements in analysis methodology and that properly takes into account the various types of out-of-plane settlement (not all tank settlement attenuates a sinusoidal curve), the type of tank (EFRT vs. IFRT) and tank diameter. Value to Industry: Releveling AST's are a huge dollar expense to industry. In 1999, the DOT adopted as matter of reference 9 API Standards. Included among them was API 653. With a growing increase by State and Federal for industry to comply with API 653, owners will be subject to the settlement requirements presently in API 653 Section B.3.2. The result of this research will save industry substantial dollars by providing proper method of analyzing out-of-plane deflection that is consistent with the advancements in analysis methodology? E2G was contracted to evaluate the current API 653 Appendix B Shell Settlement procedures and develop improvements that would differentiate types of tank designs, eliminate relationships to data spacing and differentiate out-of-plane shapes. E2G has completed review of key parameters by initial FEA (i.e., diameter, height, roof construction, shapes (Malik, Morton, Ruiz): Local, Fold, Twist and other sensitivities such as soil and foundation stiffness. E2G has completed its work to improve the out-of-plane settlement rules in API 653. The report provides detail of the methodology and assumptions used in the FEA modeling, a summary of the results, and a discussion of other shell settlement issues, such as settlement measurement, and proposed API 653 Appendix B revisions including solved examples. A ballot ready agenda item was presented to the PVT at the Fall '05 Meeting. The PVT agreed to pass the agenda item onto Subcommittee letter ballot. At the Spring '06 Meeting, Joel Andreani presented the results of the ballot to the PVT during the Joint Meeting. The ballot did not receive the minimum number of votes. A meeting was scheduled during the Fall '06 meeting for members to facilitate discussion on ways to increase voter participation, resolve technical issues, and better communicate information contained in the ballot. Members recommended to Joel Andreani that he incorporate the comments received from the members into the ballot. Carl Mikkola recommended that these ballot changes be presented to the SGD and a recommendation that this agenda item be rebalotted for the Spring '07 Meeting.

New STI SP001 Tank Inspection Standard

Compliance with the new EPA SPCC Rule for Petroleum Storage Tanks. Inspection of aboveground storage tanks is currently required by state regulation in only a handful of cases. Indirectly, however, there are many drivers for setting up a robust AST inspection program such as the Spill Prevention Control and Countermeasures Plan (SPCC) as well as RCRA, OSHA, CERCLA. Recognized and generally accepted good engineering practice also drives inspections because it is the benchmark by which a company or facility is judged when incidents occur. The next major incentive for having a corporate tank inspection program is the revised (new) SPCC Rule. The Rule requires compliance by October, 2007.

Much of the debate and dispute over tank inspection compliance revolved about how to inspect small "shop fabricated tanks" versus field erected tanks. The industry complaint

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is that compliance with API 653, which is designed for large field erected tanks, is “overkill” for shop tanks. The complaint also involves the relatively high costs per tank using the API 653 tank inspection standard for shop tanks. EPA supported the development of a new standard, which was specifically designed to meet the tank integrity-testing requirement in the Rule. Under request from EPA, the Steel Tank Institute (STI) drafted a first edition of a shop fabricated tank inspection standard STI SP-001 with input from various regulatory authorities. When the current draft hit the streets in September 2000, it was immediately recognized by some authorities and by some sectors of the shop built universe, but it was also ignored by other sectors because they felt it was either too onerous or insufficient for their particular needs. It was revised in January 2003. However, the revision process did not include important stakeholders from larger companies who own a significant population of shop-fabricated tanks. For these reasons, a major new revision effort that uses a broad base of stakeholders is now in progress. The first meeting was held on July 14, 2004. The second meeting was held on August 23-24, 2004 in Chicago. A relatively high intensity effort will be made by the STI to create a new, high quality tank inspection standard which can be used by those who have small and shop built petroleum AST’s. It should be more efficient and cost effective than API 653 for this purpose. It is expected that acceptance and use as well as the number of states adopting STI SP001 could increase at a rate greater than API 653. There are already a handful of states (approx. 6), which have adopted the current edition of STI SP001, and another half dozen that are actively supporting its use. Because of this, it is important to ensure that the document is consistent with the petroleum industries concept of inspection principles for small tanks. API does not feel that this standard competes directly with API 653. However, a number of API tank people have expressed concerns with the content and conservativeness of this standard. For this reason, there was an effort to revise the Standard to offer a much more balanced approach and was pivotal in establishing the STI Standard as a key industry tank inspection standard. The 3rd Edition of SP001 was issued in the Fall of 2005. At the Fall '06 Meeting in San Francisco, Dana Schmidt of STI informed everyone on the 4th Edition of SP001. The 4th Edition of SP001 was issued in July 2006 and completes the revision cycle for the SP001 committee. The 4th Edition is a clean-up of the 3rd Edition and addresses: 1) secondary containment definition, 2) double-wall tank inspection, 3) paint failure clarification, and 4) changes to certification requirements (e.g., tank "system" certification, API 653 adjunct certification (web-based)).

What is the life of a lining?

An important component in determining the next inspection interval is whether or not a tank has an internal lining and if it has an internal lining, the expected life of that lining. It is proposed that a task group be formed to provide guidance on determining the expected life of a lining. Many people feel that a major function in determining the life of a lining is based on inspection or QA/QC during the installation of the lining. Five members have already agreed to be actively involved in this new task group.

Sloshing Waves Research - Selection of Floating Roof Designs to Resist Damage from Seismic Sloshing Waves.

A significant number of floating roofs sink each year as a result of operations, which result in gas under to roofs as well as during seismic events. It has been proposed that funding be made available to develop the theory of stability of floating roofs and floating

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roof stability with gas under the roof as well as the stability of floating roofs during seismic events, which could have liquid on the roofs. This work would be leveraged by work already completed by ChevronTexaco and partial funding by the Japanese Institute. The SCAST has proposed research funding to design and select aboveground storage tank floating roofs to withstand sloshing waves resulting from seismic events. The benefit will be reduced number of floating roof failures that occur during seismic events. This work will allow users to upgrade or install floating roofs that will not collapse or sink during seismic events. Based on special help by CRE after the Spring '06 Meeting, this project was approved as proposed as a 2-year project. The project is scheduled to begin in 2007 and complete in 2008, year-end. The project contractual details are still being resolved between API and the PAJ (Petroleum Association of Japan) which is co-funding this project. We are changing the name of this work from "Seismic Sloshing Waves" to "Static and Dynamic Performance Characteristics of Floating Roofs" because this more accurately reflects what is being done. There is also a requirement of the CRE that the final deliverables of the work include: 1) An understanding of the ability of both annular pontoon floating roofs and double deck floating roofs to meet the design conditions specified by API 650 and reported in a simple and easy to use way. 2) An understanding of the ability of floating roofs to withstand various loads including sloshing waves which can cause floating roofs to sink during earthquakes. The primary technical consultant will be SRT (Structural Research Technologies) who has also done much of the work for the API 579 Fitness for Service documents. A kick off meeting will be held in February, 2007 to initialize the work.

Jacking and Releveling of Tanks Research

The SCAST has proposed funding to develop optimal methods and requirements for jacking of tanks using air bags, steel jacking systems and mud pumping. This work will also include lifting of tanks. The results of this research will provide the basis for rules for lifting and re-leveling tanks and will minimize the possibility of damage to the tanks during lifting and re-leveling. This proposal seeks to use the same methodology used for settlement to assess the problems and risks associated with re-leveling of AST's. This common practice often leads to failures of tank bottoms resulting in leaks or in worst case, catastrophic bottom failures. This work will help reduced number of tank bottom leaks and catastrophic failures resulting from jacking, lifting and re-leveling of aboveground storage tanks.

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

1. The CRE is looking for a brief description (1-2 paragraphs) of any forthcoming changes to standards that should be highlighted to company management because they may:
2. Incur a significant cost or savings to equipment cost or repair; Require a significant addition or allow for a reduction in engineering effort necessary to design or specify equipment procurement;
3. Noticeably improve equipment reliability or safety

1. PIP/API 650 Merge.
2. Out of Plane Settlement (Appendix B).
3. Similar Service Assessment (new Appendix).

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4. Appendix E - Seismic.
5. RBI Inspection Intervals
6. API 650 Load Combinations.

NEEDED OR SUCCESSFUL WORK PROCESS IMPROVEMENTS (OPTIONAL)

The SCAST and SCI created a new SCAST/SCI Coordination Committee to facilitate the discussion and coordination of items of mutual interest to both subcommittees. The committee had its first meeting during the Fall '05 Meeting. The committee had its fourth meeting during the Fall '06 Meeting. The chairman of both SC's provided a brief explanation of the rationale for the committee, its membership and objective. The membership includes the leadership teams of both the SCAST and SCI, e.g., Chairs, Vice Chairs, SC Chairs, API Representatives.

The Committee reconfirmed the following items as being of common interest to both Subcommittees:

- Risk Based Inspection Interval, and RBI Checklist
- Inspector Certification Program
- Similar Service
- MFL Tank Bottom Certification/Performance
- Steel Tank Institute (STI)
- Cross Participation, e.g., ballot resolution, inspection, repair, etc.

The following is an explanation of the status of the common interest items and/or reasons why they are of common interest:

- Cross Participation – There is a need to have more members from PVT and SCI participating in each others meetings.
- Risk Based Inspection Interval – The TG on RBI has had several meetings. The purpose of the TG is to address section 6.1 regarding maximum inspection intervals for RBI and Similar Service and qualification requirements for persons performing RBI and Similar Service and to refine the existing table and establish consistency with 510 and 570.
- Inspector Certification Program - There is a need to ensure that inspections are being carried out in accordance with Appendix D. Another concern is STI encroachment on ICP, e.g., STI endorsement of API 653 inspectors to inspect tanks using SP001.
- Similar Service – The TG on Similar Service completed its 2nd ballot of items agenda item. The agenda item was balloted to both the SCAST and SCI. The ballot item received a great response rate and a tremendous approval rating. The TG will be working to address the comments and attempt to resolve negatives on Wednesday during its TG meeting.
- Magnetic Flux Leakage – This agenda item is divided into 3 areas: a UT prove up contract being handled by Frank Furrillo; a written test being handled by Nelson Acosta;

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and work on Appendix G to integrate other requirements for MFL certification/performance.

- Steel Tank Institute – On July 17, 2002, the United States Environmental Protection Agency (USEPA) published the final Oil Pollution Prevention and Response rule revising the federal Spill Prevention, Control and Countermeasure (SPCC) Plan regulation (40 CFR Part 112). The revised SPCC final rule became effective on August 16, 2002. Based on the August 11, 2004 deadline extensions, facilities in operation prior to August 16, 2002 must prepare amended SPCC Plans by February 17, 2006 and be fully implemented as soon as possible, but no later than August 18, 2006. Facilities that became operational between August 16, 2002 and August 18, 2006 must prepare and implement an SPCC Plan by August 18, 2006. Facilities that become operational after August 18, 2006 must prepare and implement an SPCC Plan before commencement of operations. On February 16, 2006, the EPA issued a rule to extend the deadline for facilities to have plans in place from February 2006 to October 31, 2007. The deadline for facilities to have implemented their plans was extended from August 2006 to October 31, 2007. The SPCC regulations apply to “non-transportation-related” facilities that:

- Store or use oil
- Have the potential to discharge into “navigable waters of the United States or adjoining shorelines”
- Have aboveground oil storage capacity of 1,320 gallons
- Have buried oil storage capacity of 42,000 gallons or greater, but not regulated under 40 CFR Part 280 or 281

One of the requirements of the new SPCC regulations is tank integrity testing on a regular schedule. API submitted a letter to its members that the Steel Tank Institute (STI) had issued SP001 Standard for the Inspection of Aboveground Storage Tanks, 3rd Edition. This Standard was issued July 2005 and covers both the inspection of shop fabricated and field erected tanks. As API committee members, who may be affected by this revised standard, there are two issues that require attention. The scope of STI SP001 overlaps with API Standard 653 with regard to tanks 30 feet or less in diameter. In addition, API AST inspectors will be required to complete an STI training module before they are permitted to inspect tanks using SP001

The Committee agreed that in order to help identify available times for members to meet and discuss items of mutual interest, e.g., ballot resolution, each Subcommittee would share its meeting schedules and agendas with each other. The Chairman of each Subcommittee will also work together to help foster and encourage and support ways of improved coordination on items of mutual interest. Each Chairman would also communicate to their respective Subcommittees the potential need to start having members meet on Sunday to resolve ballots and on Thursday to meet and discuss ongoing agenda items that are of mutual interest.

The following were identified as other initiatives of common interest:

- RBI 581 Appendix O
- API Publication “Managing Systems Integrity of Tanks and Terminal Facilities”

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The Chairmen of both the SCAST and SCI agreed to work together to prepare minutes from the SCAST/SCI Coordination Committee and present a Joint Report to the CRE on Wednesday afternoon.

CONFIRM PUBLICATION DEVELOPMENT/REVISION SCHEDULE

API Standards 620, 650 and 653 are revised each year by addendum. All are on schedule.

SUBMITTED BY: Carl Mikkola **ENDORSED**

BY: _____

Subcommittee Chair Subcommittee Sponsor:

Please provide the CRE Secretary with a copy of this report for the minutes.