NEWSLETTER

May 2016
Year IV - Edition LIV

INSPECTION & ENGINEERING - SOLUTIONS & TRENDS

▸ SPECIAL EDITION

Industry Conferences

▸ EDITORIAL

Dear readers this time we want to highlight the importance of sharing lesson learned, industry best practices and specific experiences of owner / users and vendors. Here in Inspfalca we see this monthly newsletter as the venue and vehicle to exercise more sharing with you our community of knowledge.

In this issue we are including interesting information from industry conferences that occurred during the second quarter of 2016; the American Petroleum Institute (API) Spring Meeting on Refining Standards (May 16 - 19 / Chicago, IL); the American Fuel & Petrochemical Manufacturers (AFPM) National Safety Conference (Mayo 17 – 18 / San Antonio, TX) and the International Liquid Terminal Association (ILTA) 36th Annual International Operating Conference and Trade show (May 23 - 25 / Houston, TX)
In our effort to keep our team and our readers current with the new technology, all the discussions and the sharing that occur in these conference; we maintain active presence in these conferences sending our very own representatives and also activating our consultant affiliates.

The more we engage with new technology, the more we participate in industry discussions, the more we share, the more we learn, the more we improve toward excellence in safety and quality.

Francesco Solari
Inspfalca President.

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ILTA 2016 Conference and Trade show

By Rosa Solari
Inspfalca Vice President

In my consecutive forth year, last May I attended again the ILTA Conference in Houston. I really enjoy this conference and appreciate all the value that ILTA creates for us as members, for the vendors, for the owner / users and in general for everyone that attend this great, professional and fun event.

In Inspfalca we see our relationship with ILTA beyond our membership, being very active in the conference advisory committee, promoting the ILTA Spanish Sessions in Latin America, serving as session moderators and having the privilege to have Inspfalca representatives as speakers in several ILTA conferences.

This year I had the opportunity to serve as moderator in the Spanish Track, which as always was a great experience. Some of the highlights of the conference follow.

I would like to start talking about the plenary session with a powerful safety message "Just a Second Ago" intensively delivered by Brad Livingston famous speaker survivor of an explosion in the Oil & Gas industry; the key note speaker presentation experience, which provided very interesting information about the Oil & Gas industry trends and very specifically the opportunities and challenges in the today's Mexico's oil market.

My focus in the annual ILTA conferences has been the Spanish Sessions, where we collaborate in the definition of content, topics, speakers selection and also we participate as session moderators and speakers, this year we had interesting topics and different perspectives; from topics on normalization of deviation to experiences of owner / users and technology vendors on tank floating roof seals inspections.

Among the general conference topics I would highlight topics on Hydrostatic Test Exemptions, Storage Tank Lifecycle Management, the CSB Incident Report on the Caribbean Petroleum Incident, etc.
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Last but not least I would like to emphasize the value of attend the trade show, there are so many opportunities to interact with vendors owners of new technology and new processes, discuss implementation opportunities, pilot projects and specific solutions.

In general I personally recommend the ILTA conference as great experience and an opportunity to continue working in the direction to take our tank terminals to the next level in safety, mechanical integrity and efficiency.

For more information about ILTA visit:
http://www.ilta.org/CalendarofEvents/AOCTS/2016/2016info.htm
and / or contact us at Inspfalca and we will be glad to introduce you to this great organization.

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LESSONS LEARNED

Learning from a Tank Cleaning Severe Incident

This is an incident that occurred in USA back in October 2014 and was recently presented and discussed at the AFPM Conference in May 2016.

A gasoline tank was being degassed when a flash fire / explosion occurred. The consequences were devastating; during the first flash fire one contractor employee was severely burned when his chemical resistant suit melted onto him increasing the burns and was needed to be airlifted to Lubbock Burn Center. After the first flash fire subsequent ignitions and explosions caused severe damages to the tank, roof peeled back and top two courses compromised along with ladder, the internal floating roof was destroyed and the tank moved from its foundation.

The sequence of events could be summarized as follows:

- Contractor got equipment staged on day shift
- Contractor started process for installing water cannon at night after tank pumping completed
- Gas and diesel generators were positioned in front of trailer for power to trailer and other equipment (had five gas monitor but were not at the tank)
- Two persons were opening the manway under supplied air and wearing chemical resistant suit over FRC
- The manway was opened and lowered to ground and vapors started to accumulate around south side of tank – undiscovered due to no meter
- The water cannon was moved into position at manway
- The first bolt was attached to water cannon when the vapors found a source of ignition and flash back to tank
- The first flash fire occurred
- The tank reignites three times before final explosion

A summary of findings follows:

- Safety/PSM not consulted for sitting of equipment
- Night crew doing installation was not normal – behind schedule due to extended pumping of tank so opted for night crew to perform job
- Contractor did not follow policies and procedures (own and plant) and was rushing to start
  - o No engines were supposed to be running during water cannon installation on manway
  - o Five gas detector was to be at manway not on lull
  - o Using truck for lighting – plant lights available
  - o Wearing chemical suit on outside of FRC
- Complacency - contractor successfully completed job on other tanks – should have conducted separate pre-job meeting prior to starting
- Fatigue of personnel working extended hours (driving to site and then working)

Lessons Learned

- Safety / PSM needs to be consulted for facility setting – set up a safe work area
- Follow API best practices in staging equipment for degassing / cleaning
- Timing of critical jobs needs to coincide with day shift - water cannon should be installed on day shift with crew that normally does that task even if it means delay
- Perform job hazard analysis and mitigate all risks
- Be aware of changing conditions (wind, vapors, etc.)
- Require at least one tank entry supervisor (TES) in contractor crew

Tank isolation, degassing and cleaning are the most dangerous activities in tank maintenance; special emphasis and safety focus is required to avoid severe incidents like this one.

The Latest on API Mechanical Integrity Standards and API Certifications

Every year in Spring and Fall the API refining standards committees meet to analyze and discuss changes and improvements to the standards. This is a summary of the work completed by the API Subcommittee on Inspection (SCI) and some updates from the last Spring meeting held in Chicago this year, including information from the API Inspection Certification Program (ICP) Task Group.

Started with the newest, I would like to highlight the new standard API RP 586 on NDE Techniques that will provide the inspector with information on which NDE techniques are best able to find the different kinds of damage the inspector expects in different types of equipment and different locations per API-571. The TG anticipates that it will eventually be a fairly large document that other API standards will refer to for information on NDE techniques for inspection plans. It will cover what each NDE technique can and cannot do, and the various advantages of limitations of each technique and its effectiveness to evaluate different damage modes with different attack morphology and distribution. This document will also address how effective is the NDE technique to provide reasonable coverage and access to the areas where the damage is expected, which is particularly important for screening techniques. One of the first priorities is going to be the section on heat exchanger tubular inspection techniques to help inspectors understand the various pros and cons of the multitude of techniques available for inspection for corrosion and cracking in exchanger tubes. A draft of this section is due for discussion at the Fall API Standards Meeting.

The other new document to mention is API Publication 587 – Guidance for the development of UT Examiner Qualification Program is in the works. The purpose of this publication is to outline the program that would be necessary for owner-users to create their own program for angle beam examiners if they choose not to use API qualified industry examiners. Another ballot anticipated before the Fall meeting. No anticipated publication date yet.

On the area of existing documents here are few updates:

Work has begun on the 11th edition of API 510 which is not due until 2019; but several ballot items were discussed and passed. Details of those issues and ensuing discussions are available in the minutes of the meeting posted on the API SCI SharePoint site.

The 4th edition of API 570 was published in February, 2016. There are a very large number of changes and improvements in technology and methodology in this new edition. The wording of the deferral section 7.13 had intense discussion again and will be the subject of another ballot this summer. Details of those issues and ensuing discussions are available in the minutes of the meeting posted on the API SCI SharePoint site.

A new task group has been formed within the SCI to update and improve the inspection section of each damage mechanism article in API RP 571. The format will remain the same, but the inspection guidance will be updated relative to many new NDE techniques and methodologies in use today. At this meeting numerous volunteers offered to draft various sections for review and comment at our next API Standards meeting in New Orleans in November. The next edition of 571 is expected to be released in 2018.

The 4th edition of API RP 576 on Inspection of Pressure Relieving Devices has been approved and is now in its final proof-reading stages. It should be published 3Q/16.

The 3rd edition of API RP 577 on Welding Inspection and Metallurgy was published December, 2013. A newly formed TG for the 4th edition will meet at the November API Standards meeting to begin work on updating it for its due date in 2018.

API RP 578 is in the early stages of being updated for the 3rd edition. One major change is that the document will be expanded beyond just alloy piping to all types of fixed equipment, including some non-alloy piping e.g. carbon steel for residual elements. New title proposed: Guidelines for a Material Verification Program for New and Existing Assets. A few emerging PMI technologies will be added as well as a section on radiation safety for XRF analyzers. The first ballot with multiple revisions was discussed at the spring meeting. Much more work to do on it. Publication is expected before EOY/17.
The 3rd edition of API RP 580 on RBI was published in February. The major change in this document is that some 40+ "shoulds" have been changed to "shalls", such that for those sites using RBI, there is now a number of issues in the RBI work process that are mandatory.

API RP 581 3rd edition was published in April. This document also has a large number of changes included. Work is underway on for 206 more suggested revisions for the 4th edition.

Another new document is underway API RP 970 on Corrosion Control Documents (CCD's). It will describe the work process to create a comprehensive CCD if and where a site wants to create them. CCD's will not be mandatory – just a recommended practice.

API Inspection Certification Program (ICP) Task Group

Over 23,000 certified inspectors now exist in 118 different countries worldwide. There are now more than half of those certified from counties outside of the USA. 80% of those certified are non-API members at this stage. Nearly 75% of those certified are non-owner users (i.e. contract inspectors). Last year, over 11,500 candidates took examinations at about 360 different exam sites. The most candidates tested in the USA, followed by Saudi Arabia, India, South Korea, and Canada respectively. For the first time in the history of the API ICP, the number of applicants for certifications began to diminish over the last 12 months.

Over the last two years the numbers of individuals passing the exams are in the range of: 55-62% for API 510; 49-57% for API 570; 47-60% for API 653; 42% for API 571; 42-55% for API 577; and 47-55% for API 580. As you can see, these exams are not easy to pass and considerable study is needed before sitting for the exams.

The ICP TG has decided to focus its attention on creating new specialty certifications like we have already for API 571, 577 and 580. These programs have proven to be very popular with engineers as well as inspectors who want to show they have gained considerable expertise in each of the subject matters. Consideration is now being given to creating the next program for API 576 on Inspection of PRD's and/or API 573 on Inspection of Heaters and Boilers.

Understand the direction that industry certifications are taken help our organization to better develop our inspectors aligned with the way experience, skills, qualifications and certifications are being required.

energy API
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upcoming events:

- **2016 API Fourth Annual Center for Offshore Safety Forum September 20, 2016 to September 21, 2016 Westin Houston Memorial City, Houston, Texas.**
- **2016 API Tanks, Valves, and Piping Conference & Expo October 10, 2016 to October 13, 2016 Aria Hotel, Las Vegas, Nevada.**
- **2016 API Pipeline Information eXchange and Pipeline Integrity Workshop October 11, 2016 to October 12, 2016 Hyatt Regency Houston Galleria, Houston, Texas.**
- **NACE Corrosion And Technology Week 2016 September 25 - 29, Royal Sonesta Houston, Texas.**
- **AFPM Cat Cracker Seminar 2016 August 23 - 24, Royal Sonesta Houston ,Texas.**