National Work Group on Leak Detection Evaluations Meeting
Albuquerque, March 21-23, 2001

Welcome new members: Shaheer Muhanna, Mark Lenox
Attendees: work group members (Jon Reeder absent due to illness, participated by conference call in parts of the meeting.
Attendees list: Attached

Action Items:

1. Next meeting - Alabama, October 10-12, 2001 (fly to Pensacola) Note taker: John Kneece.
2. Work group to post policy memos on the EPA website.
3. Post the latest minutes on the web and in future include a separate reminder on the web regarding the time and location of the upcoming work group meeting.
4. Work group to communicate publication of the new list to ASTSWMO, Leaklist, Leakzone.com, and Dangerous Group web network.
5. Work group chair leader in the future to send email to ASTSWMO inviting state and federal UST staff to the work group meetings.
6. Dr. Quigly to post protocol review process information on the project-designated web site to solicit comments and keep vendors informed of the process.
7. Beth DeHaas to finalize new summary test reports for the third party evaluators to submit for ATG and Volumetric evaluations. The purpose of the new form is to make sure wait times between each test and each empty fill cycle are reported.
8. John Kneece will send a letter to a vendor regarding the use of electronic line leak detector as a line tester and include questions brought by the group.
9. Work group member Shahla Farahnak to keep work group members posted on the new information about discriminating sensors and California's concern about the performance of these sensors.
10. Target dates for the next list: Comments of the list to Curt by September 17th, Curt to email the draft list to the members by October 1st, comments on the draft list due to Curt at the meeting in Alabama, Curt to send the final list to Tim Smith by November 12th.
11. Curt and Tim work on revising the cover letter for future lists to clarify that when changes to the way a leak detection system detects or quantifies a leak are made, a re-certification or supplemental testing may be necessary.
12. Tim will send work group policy memos to the candidates that have volunteered to join the group. Curt will forward resumes to work group members for review.
13. Russ to follow up and find out if there is any market support for the Ainley tank test equipment.

<u>Review assignment of team members and reassign:</u>

ATG\Volumetric: Russ (lead), Beth, Jon Reeder
CITLDS: Shahla Farahnak (lead), Shaheer Muhanna
Non-Volumetric: John Kneece (lead), Mark Lenox
Pipeline: Mike Kadri (lead), John Kneece, Mark Lenox
SIR: Jon Reeder (lead), Shaheer Muhanna

Sensor and Vacuum test methods: Tim Smith (lead), Shahla Farahnak
List administration: Curt Johnson (lead), Tim Smith

Team leader updates:

Curt (list administration)

- New list, Edition 8 is ready
- Tim to send emails to ASTSWMO and Leaklist
- List is on the EPA web
- Minutes have been posted on the web

Shahla (CITLDS)

- Marley evaluation - Marley to submit a final revised report.
- Incon evaluation - Jennifer Bravinder (former work group member) had done a cursory review of the report and had a list of questions and issues. These were sent to Incon, Shahla, and Mike. Shahla to take over the responsibility from Mike (in order to transition to the new team member assignments) and to contact Incon to follow-up on the requested submittals.
- EBW - No submittal as of the date of the meeting. However, there have been on-going discussions regarding the collected data for the evaluation and how to augment the data.

Tim (Sensors)

- The polymer strip discriminating sensor by Beaudreau has been listed. There were concerns about the re-usability of the sensor and the State of California's limitations on not allowing use of non-reusable sensors. Currently the sensor is listed per initial manufacturer instructions recommending replacement upon exposure to fuel. Recovery time data obtained through third-party testing needs to be submitted before the information about the sensor can be updated on the list.
- Letter to the manufacturers in order to get more information about their polymer sensors, response times, and re-usability.

Russ & Beth (Volumetric)

Not much activity. One vendor is working on a third-party certification for their system at lower product levels. There is an on-going discussion among work group members and Ken Wilcox on the appropriate test matrix. Russ will be working on the group feed back and will discuss comments and issues further with the team members during the team meetings.

Russ & Beth (ATG)

- Four systems under review: One almost complete, for the other three there are issues with test times.
- Wait Time after emptying the tank - Beth recently noted that an evaluator, as a general practice, has allowed additional stabilization times after dropping the product level to 50% upon conclusion of the first test of each test set (95% level testing) but has not recorded that time in the summary information test

table included in the evaluation reports. The concern is whether that is an acceptable practice and whether that initiates a need for requiring back calculations on all of the previous evaluations in order to specify a wait time after dispensing as part of each system's specifications. Comments from the members included reference to the fact that emptying a tank down to 50% level as a one-time event may not be comparable to the dispensing activity at an operating station since dispensing 50% at an operating station generally takes place over a longer time span. Another issue brought up was that if the wait time after dispensing were to be calculated, how would that data be correlated to the wait times after dropping the product level to 50% as in the third-party evaluation. Team members to work on this issue and decide on the strategy to deal with it for the past evaluations and the future ones. Beth is also working on a new summary reporting sheet for evaluators to use so that any wait times after the product level drop can be documented.

- Probe comparison evaluation for Veeder-Root system just submitted and is under review.

Russ & Beth (Bulk Tank Volumetric)

- Third party evaluation protocol is completed (November 2000).
- Three previous evaluations need revised certification sheets before they can be listed. The evaluator and the companies have been informed.

John Kneece (Non-Volumetric)

- New Tanknology specifications sheet is completed and is part of the list.
- EZY 3 Locator Plus is done.
- Mass Tech is still pending submittal of a revised report with the US measurement units.

John Kneece (pipeline)

- Tanknology's TLD-1 Flexline testing supplemental report has been reviewed by John and Shahla. Shahla has prepared the spec sheet and John Kneece has forwarded it to Tanknology prior to his departure to the NWG meeting. Once they sign off on it, it will be forwarded to Curt for inclusion in the next list.
- AccuRite's flexline testing - The initial submittal they provided had limited documentation. John has instructed them on the documentation and type of certification needed for the system to get listed for flexline application.
- Fe Petro has submitted two new evaluations for review (HLC and HLD) to the team.
- Hydrant fueling system evaluation procedure and the results should be provided to the work group. It is also important to know which systems did not pass the testing.

Jon Reeder (SIR) - by conference call

- SIR Phoenix was just added to the list (last minute before publishing).
- There is only one evaluation in the works and John's quick evaluation is that it appears inadequate.
- Not much going on this area. Jon stated that SIR is moving more towards a site management tool and leak detection is just a side business.

Protocols under review:

- Manifolded ATG protocol not active.
- No other pending protocols.
- New protocols submitted from now on are subject to the new review and submittal procedure discussed in the work group policy memo.

Old Business:

- A manufacturer is advertising a currently listed electronic line leak detector as an upgrade to a line tester. The line tester is not in the list since the company did not pursue certification to resolve questions raised by the group during the review of that evaluation years ago. A workgroup member stated that testers as well as inspectors have been inquiring about the acceptability of this type of application. Line leak detection team leader will write a letter to the company and ask them to provide the following information: operating instructions for the electronic line leak detector as a line tester used to pressurize the chamber, minimum wait times after installing the system online, and an explanation on how the test results and the certification information (PD and PFA) could change by running a device that is certified to operate at the operating pressure in a line pressurized to 1.5 times operating pressure. Would a new threshold be used for "pass" or "fail"?
- Use of line tightness testers for flexlines without certification - The topic of discussion was whether the LLD team should send letters to the line test vendors and inform them that if they plan to market or use their system to test flexlines, they should have the supplemental third-party testing done. The group decided that it is not necessary for the group to solicit certifications. Those aware of the issue may want to notify their inspectors in the field to pay attention to this matter if they run across it. Once the inspectors question these invalid test results then vendors will seek updated listing.
- The recruiting efforts for new members still under way. Tim is sending policy memos to the candidates and Curt is to get resumes and send to everyone.

New Business

1. Tim will send the list to Leakzone.com and the chat group “Dangerous goods”
2. Everyone to think about a website for the group.
3. Certificate for Jeff Tobin - John Kneece in charge. Certificate is being circulated by mail to get member signatures.
4. Certificate for Jennifer Bravinder - Shahla has still not send it, waiting for Jennifer’s mail address. As of the date of this writing Jennifer has a framed certificate.
5. SIR and the listed products - gasoline and diesel are listed. For waste oil/used oil applications is it appropriate to list them? What procedures will be used to get the input and withdrawal data? Manual or metering devices? No conclusions in the meeting regarding this issue.
6. Leak Detector Testers - Shahla brought up the issue on the use of Leak Detector testers. A lot of questions from the inspectors in the field have been brought up recently. No standard method and whether these devices should go through

certification. John Kneece mentioned that Fe Petro has good guidelines for making a test kit. It is important that the test kit allow for calibration of the leak at 10 psi (as defined by EPA) when a quantitative test of the line leak detector is performed. California requires replacement of mechanical LLDs used for compliance if they do not pass the 3gph test.

7. Sammy Ng's suggestion to the group - mail out of a letter from the group to vendors reminding them of possible need for re-evaluation when leak detection devices are modified. The group decided to have the cover letter of the list reference this issues. Curt and Tim will work on the letter and send to the group for comments. Ultimately it is the regulatory oversight that could make vendors stay up-to-date on the third-party certifications for their systems as they are modified. Some changes may not bring about the need for re-certification and some may if they impact the leak detection algorithms or leak detection system hardware.
8. SoilTest, Inc. Ainley Tank "Tegrity" test - There was discussion on whether the company exists and if there is any claim of ownership on the equipment. Russ to follow up and find out if there is any market support for the equipment.

NOTES FROM THE OPEN MEETING WITH THE VENDORS

Open Meeting Presentations and Discussions

Dr. Jack Quigley - "Evaluation of the standard EPA protocols and the alternative protocol review process for the alternative and new protocols".

Summary of the comments provided to Dr. Quigley regarding the protocols were handed out. Jack is working on a report and recommendations to EPA. Jack also explained that they have not formed a committee to review new protocols as of the date of the meeting. Tim Smith explained the purpose of Jack's contract as well as the protocol review process. Tim also mentioned that OUST is considering having an outside standard writing committee take over the drafting of protocols. This will enable the organization to automatically review the protocols frequently and modify them as needed.

Dr. Mitchell commented that he would like to see an oversight of the adherence to the protocols.

Ev Spring commented that the scope of the protocols is missing the materials, installation, and follow-up & testing elements. He also suggested that OUST seek assistance from the Dept. of Defense and API for accomplishing these goals.

A suggestion was made and accepted by the group to have the outline of the new protocol review process posted on the web site that Dr. Quigley has created for the protocol evaluation project to allow receiving industry comments on the procedure.

Ev Spring - "To bridge the gap between the evaluation and field application"

Ev's presentation focused on the need for economical and effective improvement of compliance administration. Ev provided handouts of his ideas that he presented. The main point of his discussion was to provide owners with a checklist of the things they need to do on a daily, weekly, monthly, and annual basis to stay in compliance. These checklists would basically put the rules in front of the site owner/operator.

Discussions on the topic included the idea of having an equipment specific checklist and that vendors could provide the checklist and identify what needs to be done and at what

frequency. The point is whether the vendors or the regulators should put out the equipment checklist. There was also talk on whether the checklists should include initials and statements regarding perjury. John Kneece mentioned that in South Carolina owners could ask for a "Compliance Plan" from the UST program.

Ev Spring - Vacuum/Pressure Interstitial Monitoring
Ev talked about advantages of interstitial monitoring for double wall tanks and mentioned that in Europe use of vacuum/pressure in interstitial of tank and piping is common.
Comments - Vacuum monitoring has been used in Europe since 1960.
Vacuum systems may not be suitable for Fiberglass tanks.
Vacuum systems are difficult to have evaluation testing on them. Testing should be based on Poise's equation?
Continuous testing versus periodic testing needs to be clarified.
What criteria should be used for the testing.
German test house (TUV) has approved the method.

Ken Wilcox - Evaluation issues
Acoustic test methods third-party evaluation - Ken is wondering if during the evaluation the tester can tune into the evaluation tank and Ken is not sure how to resolve the bias that may be introduced into these evaluations because of this.
Manifolded tanks - they should be isolated by breaking the siphon and tested separately. The list should address this issue.
Large pipeline test issue - Will the hydrant fueling system line test evaluation be accepted by the group since it has been peer-reviewed?
Vista Research evaluation test - It would be submitted based on pipeline evaluation option 3.

Alan Porter from Tanknology raised the question of how do the vendors get third-party certification for a new system (he meant new in the sense of testing technology). Tim explained the protocol development and the review process and clarified that the Dr. Quigley's review team is one of the alternatives for getting new protocols peer-reviewed and is not the only option.
The question was also brought up on whether the new third-party evaluation protocols will trigger the need for re-certification of previously certified equipment. Tim explained that is not intended. basically once new protocols are prepared the old ones will be retired and may not be used. However, previous evaluations are valid and the group intends to maintain those on the list.

Shahla - Discriminating sensors
Shahla shared with the group California's concerns with discriminating sensors. Recent field testing of some of these sensors indicates that the sensor’s response time and the ability to differentiate between water and product may not be reliable. Another point of concern is about the polymer sensors' range of detection times and recovery times (measured) reported and listed for these sensors. They range from seconds to a day and sometimes days. For some sensors the detection time for the same product is not a set value and is reported as a range of seconds to hours! Shahla concluded with the

recommendation that if these sensors are to remain on the list or be added to the list in the future, it is urgent to have a third party certification protocol that is appropriate and considers the different technologies that may be used in making these sensors. The work group should also consider moving the polymer strip type of discriminating sensors to the under-review category until they are properly re-evaluated.

Further interactive discussions took place among attendees regarding the evaluation procedure before the open section of the meeting was adjourned.

Group discussions regarding the open meeting and individual team meetings continued on after conclusion of the open meeting.

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