National Work Group on Leak Detection Evaluations Meeting
Dearborn, MI, October 4-6, 2006

Welcome new member: Greg Bareta
Attendees: Work group members and see attendee's list attached.

Team Leader Updates:

Volumetric TTT Method Team (Mike Kadri)

- The team is sorting out intellectual property ownership related issues pertaining to three Vista Research, Inc.'s bulk tank systems.
  - LRDP-10
  - Update of LRD-24/24-n/10/10-n
  - Update of LRD-24
- Jon Reeder raised the issue of data averaging – cautioned on its use.

ATG Team (Mike Kadri)

- Completed evaluations of L&J Engineering, Inc. for two different sized tanks.
  - Small tank evaluation accepted (i.e., 15,000 gallons)
  - Large tank evaluation not accepted. Large temperature changes have not been taken into consideration.
- Listed L&J Engineering, Inc.'s "MCG 1100/MCG 8100 (Magnetostrictive probe)" ATG method

AST (Mike Kadri)

- The AST protocol has been accepted.
  - Some changes are still desired / required.
    - Remove "Mass Based" in the title to enable use of protocol for various detection methods.
    - Jon Reeder pointed out that temperature conditions will need to be recorded and addressed – add temperature of product to the evaluation sheet.
    - Group / Mike to speak with KWA Associates about further revising the recently revised and adopted AST protocol to become more applicable to other technologies (not only mass based leak detection systems). In addition, group / Mike will talk with KWA about temperature affects on large bulk ASTs.

CITLDS Team (Shaheer Muhanna)

- Incon has updated software and algorithms of its T1 Series SCALD to the new Model T5 Series SCALD.
- Hectronic GmbH's Optilevel CITLDS was reviewed and listed.
  - During the review process, the issue of adding metric measurements being added to the listings was raised. NWGLDE's position is to use English measurements

for the listings that appear on its List of evaluations. The group discussed the issue further, later in the meeting. Reference the "New Business" section below.

- Also, the listing has recently been corrected. Initial posting stated that the equipment had been evaluated to 95 – 5. It now correctly states 99 – 1.
- Petronet S3
  - Company wants to add on an ATG. They will need at least a probe comparison.
- John Kneece requested that method teams and the group as a whole be kept informed of information received from vendors as well as given to vendors in order to make the team/group aware of current discussions for consistency in interaction with the company.

NVTTT (John Kneece)

- No new listings have been added during this period.
- Messa Engineering – 2D was removed from under review – no activity.
  - Shortly after this was done however, the company developed a water sensor. John anticipates that they will submit appropriate documentation to continue the review. At that time, it will be added back to the "Under Review" list and subsequently reviewed.

Pipeline (John Kneece)

- Reviewing Praxair's SeeperTrace™ method.
  - A sample collecting sled is dragged over the surface of the ground above the pipeline.
  - Awaiting legal documentation from the company.
- Franklin Fueling Systems has continued to test its LS500 system and plans to submit replacement test results for the listing.
- The pipeline team has completed review and listed Incon Intelligent Controls, Inc.'s TS LS 500 Series, electronic line leak detector.
- The latest on Mass Tech's line tightness test method is that there has not been a response as yet from the company to the team's request for supporting documentation.
- Eastabrook's line tightness test system has been tested for flex and rigid pipelines and is pending listing.

SIR Team (Jon Reeder)

- SIR International's method is currently listed.
  - Total SIR wants to purchase this method.
  - The team is anticipating receiving appropriate documentation (authorization, etc.) for changing the listing.

Sensor Team (Tim Smith)

- Ameron – Brine Filled Piping Standard was reviewed by Jon Reeder and Scott Bacon and listed under: Continuous Interstitial Pipeline Monitoring Method (Liquid-Filled)
- Shaheer Muhanna completed review and listing of three Veeder-Root Liquid-Phase Interstitial sensors: 1) Position Sensitive Sensor – 794380-323; 2) Micro Sensor – 794380-344; and 3) an optical interstitial sensor – 794380-345.

- There are currently three evaluations under review: 1) Raychem Corp.'s LS-3 Sensor, 2) Veeder-Root's request to revise listing of its Mag Sump Sensor; and 3) Veeder-Root's Float Sensor – 794380-430.

Secondary Containment Test Methods (Scott Bacon)

- Comments that Scott has received from group members that reviewed Veeder-Root's Vacuum protocol have been addressed by the company. The second draft of the test protocol is under review and addresses an issue raised by Jon Reeder regarding scaling.

Administration Team (Curt Johnson)

- Jon Reeder is working on uploading the new website.
  - It is ¾ complete.
  - Due January – 2007.
- Projected publication of hard copy of the 14th Edition of the List is in early January of 2007.
- All listings, updates, and other changes that are desired to be included in the 14th Edition are due by Friday December 1, 2006.
- The protocol e-posting effort is still underway.
  - There are 2-3 protocols that the group may still be able to make available on the website.
  - Jon will try to link to those sites where the protocol must be purchased.

<u>Updated Team Assignments</u>:

TEAM	LEADER	MEMBERS
Automatic Tank Gauging (ATG) and Volumetric Tank Tightness Test (VTTT) Methods	Jon Reeder	Lamar Bradley Greg Bareta
Continuous In-Tank Leak Detection Methods	Shaheer Muhanna	Helen Robbins
Non-Volumetric Tank Tightness Test Methods	John Kneece	Scott Bacon
Line Leak Detection Methods	John Kneece	Greg Bareta
Statistical Inventory Reconciliation (SIR) Methods	Jon Reeder	Lamar Bradley
Interstitial Monitoring and Out-of-Tank Detector Methods	Tim Smith	Scott Bacon Helen Robbins Mike Kadri
Aboveground Storage Tank Methods	Mike Kadri	Jon Reeder
Secondary Containment Test Methods	Scott Bacon	Shaheer Muhanna Tim Smith
List Administration and Surveys	Curt Johnson	Tim Smith Jon Reeder Scott Bacon

<u>New Business</u>:

1. Modification of the CITLDS Protocol

Sam Gordji pointed out a discrepancy with two equations used in the January 7, 2000 version of the protocol. The equations are on pages 39 and 40. The problem appears to be a misuse of the

"-" sign. It is used instead of the multiplication sign "*." NWGLDE is willing to make the change. Ken Wilcox and Jerry Flora need to initiate the change.

2. Alternative Fuels

The group discussed two main issues of concern related to alternative fuels:

1) Compatibility – What should the group do when a manufacturer / vendor wants the group to add E85, etc., to its listing – what should the manufacturer/vendor do? Should the manufacturer/vendor have its equipment completely reevaluated with the alternative fuel or what?
2) Functionality – Although the device may be tested using these alternative fuels, it may show a decrease in functionality, or false readings after long-term exposure. Should this be required or not?

The group discussed enhancing its disclaimer statement regarding compatibility. The group was generally troubled with the prospect of holding E85 to a higher standard than gasoline. We agreed that long term testing, as we went over during a portion of the discussion, would not be a good idea to require since we do not hold gasoline sensors and equipment to such long term evaluation.

After continued discussion, it seems that, at least for sensors, the group unanimously felt that these should be completely retested. However, for other components/detection devices, the group did not reach any consensus on how to deal with or address the issue. The group did agree to speak with Ken Wilcox and would decide on a position to take after discussion(s) with Mr. Wilcox and most likely, gathering additional information.

3. Candidate Members

The group discussed ways of handling the selection of candidates to be evaluated to fill future vacancies. Some suggestions included: 1) once a candidate expressed an interest in joining, the group could invite him/her to attend at least one meeting to gauge both the interest of the potential member and how well the potential member might fit into the group; and 2) also a suggestion to invite up to three potential members during the meeting held in conjunction with the National Conference meeting. Curt will work on modifying the meeting "Invitation Letter" to focus on soliciting new members. Currently the invitation letter is a general invitation to states to attend our meeting to gain a better understanding of leak detections issues that the group addresses.

4. Update on California's Studies

Scott Bacon presented results from California's ATG and ALLD project. Scott indicated that California is planning to present final results from the project at the upcoming National Conference in San Antonio, TX.

5. **Possible Appeals Process for Vendors**

The group discussed a number of issues related to potentially establishing an appeals process.

One way could be to establish an appeals board that could be made up of x number of vendors to y number of group members. The group also discussed names for such a body that included: Arbitration Panel, Grievance Board; Advisory Panel.

Another possible way is to make the statement that any concerns should be directed to the Chair. This could be done during each of our future meetings, especially before vendor presentation segments. Following this process, the group might have to bring in individuals to speak with the group. There would need to be a statement somewhere that says something to the effect: We have an Advisory Review Process whereby you can come to us to discuss any issues of concern. This would require written review and the group would come to consensus and vote on the decision. This process seemed to be the most workable approach. The group will need to establish a policy memo or update an existing policy memo. The group looked at revising Policy memo #3 at two specific locations: under sections "I. G"; and "II. M."

- A draft will be routed to the group by Curt to add information on the process at the two sections in Policy Memo#3

6. NWGLDE's New Website

Jon Reeder identified the navigation structure for the new website. He talked about a number of concerns with the existing website that include all graphics pages are currently affected by manipulating merely one page. This issue will be corrected in the new website. Another main benefit of the new website will be access to the search engine from each page.

7. Discussion of LUSTLINE Articles

Jon Reeder has posted previous articles submitted by the group on NWGLDE's website under the "Library" section. The group discussed topics for future articles that included: 1) S.I.R. thresholds; 2) broader material compatibility not addressed by our current listing process – what does the "applicability" section of the listings identify; 3) a discussion of how NWGLDE handles E85; and 4) the group's disclaimer statements.

8. E-Mail Correspondence

To avoid problems that have been experienced with sending information unexpectedly outside the work group, members are encouraged to use his/her own work group email list instead of using the forwarding feature. Additional names of intended recipients can be added as needed.

9. Use of Metric Units

The group further discussed the issue of metric units related to listings appearing on the List of evaluations. The group agreed that if the third-party evaluation provides data in metric units, then that information will appear on the List. However, at a minimum, English units will be

listed. If they are not provided in the evaluation, they will be requested for inclusion on the listings by the NWGLDE team reviewing the evaluation or protocol.

NOTES FROM THE OPEN MEETING WITH THE VENDORS

Open Meeting Presentations and Discussions

Ken Wilcox – Issues Concerning Protocols

AST Protocol

Ken Wilcox suggested using data from vendors versus running leak simulations.
Mass Tech was consulted:

- Data points with ≥ 10 gallons loss were removed, others were kept.
- Mike Kadri has received a test proposal, but has not yet seen results.

There is a general concern with dissimilar systems needing evaluation.

- Vacuum decay vs. small leak (an issue with a U.K. company)
- Has a pressure switch monitoring system that can be integrated with automatic tank gauge system.

The group also discussed modifying the test protocol to be technology neutral by removing the term "Mass Based" from the title and within the body of the protocol.

Bulk Scale Protocol For Pipelines

Ken Wilcox asked whether a bulk scale protocol needs to be written. He cited Vista as having one in the works. Also, he noted that there are two systems that are already listed on NWGLDE's List:

- EFA, and
- The MALTA (A Vista method) that both used a 1996 KWA proposed protocol.

Mr. Wilcox also noted that Kansas City Airport has a couple lines in place that can be used for testing. The length of which is approximately 5 miles. It is a by-product of the API/ATA sponsored study.

Mr. Wilcox generally called for a bulk line protocol. In response, the group asked Mr. Wilcox for a copy of the February, 1996 proposed protocol for its website. Mr. Wilcox agreed to provide a copy of the Vista protocol (for large line volume). There is a concern related to using the protocol however. The concern is with the potential for scaling the data set obtained from small pipe leaks to apply to large leaks.

CITLDS

Ken Wilcox talked about running the leak simulation. The step function is a linear outlay of comparable statistics. Leaks can be introduced as a step function.

Probe Comparison

Ken Wilcox stated that an often heard concern with the comparison is not whether it works or not, it does. However, it is how long it will take to determine a leak.

Miscellaneous Issues

An impromptu survey was taken to determine which states require:

A) The annual line leak detector test to be at the 3 gallon per hour leak rate. Members and participants in attendance knew of the following states that require the test at this leak rate: Maryland, Delaware, Florida, and New Hampshire.
B) Testing of secondary containment. California and Florida.
C) When using an Automatic Tank Gauge - the tank must be filled at a specific level when performing the leak test. General thought was that states required O/O to fill the tank at levels that the system routinely contained product. However, no particular level has been identified by individual states.

Old Business:

1. The inquiry Concerning Xerxes' Tanks

Group discussion on the inquiry concerning listing Double Wall Brine Tank (Xerxes corp.) concluded that the equipment needs to be listed twice as separate listings. It should be similar to Ameron International's recent addition. The last sentence of the description of the "operating principle" on the Ameron listing should be modified and used for the Xerxes listing. Then add the listing under the recently added category: "Continuous Interstitial Tank Monitoring (Liquid-Filled)."

2. Upper and Lower Limits For Large Line Leak Detection Methods

The group discussed upper and lower limits of large line leak detection methods. Group will review minutes from meeting in Memphis regarding line capacity limits – For now, the group will put the issue to rest. Numbers have been added in order to provide a greater feel for the effectiveness of the method. Nothing else is required at this point.

3. File Retention Committee Report

Curt has John Cernero's files. Protocols are being added, where available, to the website. Tim will send Jon the protocols from Carnegie Mellon he obtained from Mike to add to those already made available on the website.

4. The Vendor Letter has been Posted

The group has received inquiries from a few vendors asking if they need to send any thing to the group in response to recent mailings by Scott. Curt has informed inquiring vendors that it's simply a notification. Scott has initiated updates on vendor listings based upon other efforts he had underway and the returned mailings he received.

The group agreed that it does not assume any responsibility to update vendor contact information. However, when information becomes available regarding changes, it makes every effort to confirm necessary changes with the manufacturer/vendor and update affected listings accordingly.

Next Meeting in San Antonio, Texas

The group has not submitted a NWGLDE presentation. A room has been requested for the semiannual meeting in conjunction with the conference though. Greg Bareta has agreed to take minutes for the meeting.

Location for Fall/2007 Meeting

Members agreed upon Cocoa Beach, Florida as the site of the Fall/2007 meeting.

Dearborn, MI - National Work Group Attendees

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