NWGLDE MEETING NOTES
Mystic, CT October 5-7, 2005

Welcome Visitors: Beth DeHaas (Former NWGLDE Member), Anne MacKinnon (Nova Scotia, Environment Canada)

TEAM UPDATES

ATG AND VTT – John Cernero
L & J Technologies is the only ATG equipment currently under review. There are two evaluations: 15k gallons and 150k gallons. John C. indicates that there are several problems with the evaluation, including insufficient temperature changes and tanks filled to a maximum of only 71%. John also states that it has been difficult to get the required information from the vendor.

CITLDS – Shaheer Muhanna
New report submitted from Caldwell Systems (Tank Management w/ Continuous Monitoring). This is a qualitative system. Helen and Shaheer have reviewed it, and there are only minor errors in the evaluation and report. Caldwell Systems Corporation will revise the report after they submit the additional information requested. The system requires 15% tank capacity in order to generate a pass test result. This lead to discussion of the validity of ATG tests at levels lower than what was used during the evaluation. (This topic will be discussed during the "new business" portion of the meeting.)

NVTTT – John Kneece
There are two evaluations currently under review: Mesa Engineering and Engineering Design Group (EDG). John has asked for additional information from both of these vendors, but they have not responded. John will issue a deadline notice by which the vendors must supply the required information or be removed from the "under review" list.

PIPELINE – John Kneece
Tanknology has submitted an evaluation for a tightness test method intended for use on flexible / combination piping. Their review has the same issue discussed in the LLD section below.

Masstech has a pipeline testing method which is under review, lead by John C. John is waiting for more information from the vendor.

LLD – John Kneece
Two models of FE Petro LLD are under review. These evaluations were for flexible piping, but there was a short length of rigid piping in the test system. The vendor would like listing for line lengths up to 100 feet, but current data supports listing of only 94 feet. Listing is being held until the vendor either accepts listing at 94 feet maximum or submits additional test data to support a longer pipe length.

SIR – Jon Reeder
No activity in SIR in the past 6 months. Nothing is currently under review.

INTERSTITIAL MONITORING AND OUT-OF-TANK DETECTOR METHODS
- Tim Smith

Ameron International – Two evaluations were submitted for hydrostatic monitoring of Ameron coaxial piping. Review of the standard system has been completed and listed. The pressurized version is still under review. Ameron will be incorporating a pressure sensor into their hydrostatic monitoring system, but they do not want to commit to a specific make/model of pressure sensor. Another concern is the fact that the protocol used was developed for standard hydrostatic systems, not pressurized. Another protocol specific to pressurized hydrostatic systems could be needed. This will be discussed later, during the team meeting.

Beaudreau Electric E-site – Modified existing listing for model 404 and 406 sensors to include the e-site control panel. Lamar reviewed this evaluation. It is completed and the listing has been modified. Questions arose during this evaluation as to what is needed to have a new panel with sensors currently on the list.

Franklin Fueling System – The vacuum system uses a learn leak feature instead of limiting pump capacity to 85 liters per hour, as required by the protocol. FFS is conducting additional testing to prove functionality of the learn leak. We are expecting test data soon.

Diesel Vapor Sensors – All listings for vapor monitoring of diesel have been removed from the NWGLDE list. This included OPW's Site-Sentinel with Vapor Sensor Part # 30-3222, and Summit Holdings' (formerly listed as Phoenix Technologies Division of Phoenix Group, Arizona Instruments, and NESCO) Soil Snetry Twelve-X.

Process Analyzers – Process Analyzers bought HNU systems. Their vapor sensor evaluation is complete and ready to be listed for use w/ gasoline and other evaluated compounds, but not diesel. Tim will prepare a listing for this shortly.

Armstrong Monitoring – Vapor sensors to be evaluated for use with diesel. Tim will notify this vendor that there is no approved protocol for vapor monitoring of diesel, but that KWA is developing one diesel protocol.

Rietschle-Thomas – Models D9, 3F, and D8. Many documents have been submitted, but dates and certification do not match NWGLDE approved protocols. The vendor is having a new evaluation conducted per EN13160-2 by TUV.

Spring Patents, Vigilant ELD System – Development of an appropriate protocol is the primary issue with this system. The vendor has conducted additional testing and is

preparing a package for submittal. The new testing may address many of our concerns with the original protocol, but we must wait to see the new test data.

Veeder-Root – Two listings have been done. The mag sump sensor listing has been updated. Also, a new float switch sensor (Model 794380-430) has been added.

Xerxes – The vendor has requested an update to their existing listing. This system was originally listed as a tank tightness test, but they would like to be listed as a continuous monitoring system. This topic will be discussed during the "new business" portion of the meeting.

ABOVEGROUND STORAGE TANKS – Mike Kadri
Vista LDRP 24 and LDRP 24-n systems have been submitted for review. The evaluations for these systems do not conform to our recently approved AST protocol. Vista has submitted documentation explaining why they believe their evaluation is adequate even though it was not conducted according to our approved protocol. Mike has requested feedback from all group members on Vista's documents.

SECONDARY CONTAINMENT TESTING – Scott Bacon
No equipment is currently under review. Veeder-Root may be submitting their mag sump sensor for review as a secondary containment test method sometime soon, but nothing has been submitted yet.

ADMINISTRATION – Curt Johnson
Curt wants all members to update the list of what equipment we have reviewed. This list will be useful in the future when questions come up about a particular method. So far we haven't been good about doing this. Curt will send it around again and all are encouraged to fill it out.

At the last meeting in Seattle, it was decided that we would send a letter to each vendor on our list. There was some confusion on what was agreed upon at the meeting, and the letter was never sent out. This letter would let vendors know that their listing only applies to their method as tested, and does not cover subsequent changes. A disclaimer stating this has been added to each listing on the website. The group voted 7-3 to send the letter to each vendor. Helen has the letter Curt drafted, and Scott will mail it out to all vendors. Additionally, the group voted unanimously to add the web page disclaimer language to our "listing requirements" page.

Protocols Under Review – All protocols currently under review have been discussed already, during the team updates.

Canadian UST Regulations Update - Anne McKinnon
Anne provided an overview of UST regulations in Canada. Canada is in the process of adopting regulations for ASTs and USTs. Previously, Canada had a voluntary compliance program that was not widely effective. New rules will apply to most government-owned UST systems, airports, and businesses that cross provincial

boundaries. Some provincial governments have requirements covering retail fueling facilities. Regulations will cover tanks and closely associated systems such as piping and oil-water separators. The first step in the process is to report all tanks to Environment Canada. Tanks will receive an ID number from the government, and only tanks with an ID number can receive deliveries after a certain date. Exemptions are in place for those remote communities where survival may depend on heating oil supply. In the future, Canada will require double-walled tanks and piping with overfill prevention. Secondary containment will be required on piping up to 4 inches, since double-walled piping may not be available in larger sizes. An upgrade will be required such that spills during transfer to the tank will be contained. Leak detection is not included in the current draft of proposed regulations, but may be incorporated into future regulations. ASTs installed underground, USTs installed aboveground, and steel tanks with no CP system must be removed within 2 years. Canada has identified 10,000 tanks, but the actual number may be closer to 15,000. Typical UST systems in Canada have flexible piping. Steel and fiberglass tanks are about 50/50. Owners are responsible for costs associated with release, but there is no required remediation.

NEW BUSINESS

Xerxes' Request for Listing as Continuous Monitoring – There is some confusion as to how Containment Solutions DWT6 was evaluated, reviewed, and listed. Was an approved protocol used? Tim's team must review documents that lead to the Containment Solutions listing on page 64. Tim has volunteered to compare the Containment Solutions and Xerxes evaluations and decide whether to modify Xerxes listing to read as Containment Solutions (pg. 64) or modify Containment Solutions' listing as a result of re-reviewing their evaluation. Note: operating manuals for these systems should reflect their use as continuous monitoring if the manufacturer wants them to be used in that way.

Line Leak Detector Use with Diesel – John C. drafted a letter to MLLD manufacturers asking about which products (gas or diesel) were used for their third-party evaluation. So far, only FE Petro has replied. According to FE Petro, using a diesel MLLD on a gasoline product line will result in reduced sensitivity (approx. 4gph @ 10 psi) while using a gasoline MLLD on a diesel product line will result in increased sensitivity (approx. 2 gph @ 10 psi) but may also result in nuisance slow-flow conditions. At this time John C and John K do not believe any changes to the list are needed, but this may change as other MLLD vendors reply to John C's letter.

Next LUST-Line Articles
The following topics were discussed as being suitable for future LUST-Line articles:

1. Is it okay to use an ATG on a manifolded tank system?
2. What if the third-party evaluation report kept on-site by the UST owner has different results and limitations than the NWGLDE listing?
3. Can LLD's be used on manifolded lines? If so, how should the piping system be configured? (This topic could be combined with #1?)

4. Is a special model LLD required for diesel product lines? What about flexible lines?
5. Can valid ATG testing be done at levels below 50%? What minimum product level is required for a valid ATG test? (Discussion of this topic centered around a 1997 letter from Beth DeHaas instructing ATG vendors on how to get their listing amended to include levels lower than 50%. According to the EPA protocol, the evaluator must determine that test results at 95% and 50% are equivalent. The evaluator must also physically examine the probe and determine what physical dimensions would limit low level testing. If the evaluator provides this information to NWGLDE, the listing will be modified accordingly. Some manufacturers have done this, but many have not. Jon provided a copy of Beth's letter.)

The group decided to have the next article cover use of ATG systems in manifolded tanks, and at low levels (combination of #1 and 5). Helen and Shaheer volunteered to draft this FAQ and distribute it to the group for comment. John C. volunteered to draft the following article, covering LLD use on specialty applications such as diesel lines, flex lines, and manifolded lines.

NWGLDE Presentation at National UST-LUST Conference
We will discuss our presentation in further detail if/when we are granted a slot at the conference. Jon R. has volunteered to compile the powerpoint for this session, although content will be supplied by the various presenters. Most (preferably all) members should participate in the presentation.

"Former Under Review" List (Mike K)
Taking a look at our current policies for adding something to the "former under review" list. Mike points out that there are systems on the list that have not submitted full third-party evaluations and appropriate supporting documentation, while others were rejected for technical reasons. Maybe two lists are needed to separate the equipment into two categories. Also, maybe we can add equipment that we are aware of that has never been submitted to/reviewed by the group. At this time, the group has decided to simply update the reviewer matrix that Curt is putting together. By keeping this matrix updated, we can easily find out what happened with a given system by asking the reviewer.

Revision of Company Names on List (Jon R)
Jon indicates that changing company names is time consuming and poses technical problems for coding the website. Removing the "Previous Page" and "Next Page" function from the web page would make this easier for Jon. The group voted unanimously to remove the function from the website, since it makes things easier on Jon.

NWGLDE Participation in Dallas Inspector Workshop (John C.)
John C. expressed appreciation for NWGLDE participation at the workshop. NWGLDE presence was beneficial for the inspectors present. John would like members to attend

future workshops if possible. Similar workshops are coming up soon in Regions 1 and 10.

Team Assignments – No changes from existing team assignments.

Bulk Piping Listing – John K has proposed to add a sample value to each bulk tank/piping listing where the leak threshold is expressed as a calculation based on tank/pipeline capacity. The group voted unanimously in favor of this idea, so John K will come up with the sample values to add to each listing.

END OF WEDNESDAY MEETING

THURSDAY – October 6, 2005 (Open Portion of Meeting)

Attendance List for Open Portion of Meeting

Name	Company / Org.	Phone	E-Mail
John Kneece	South Carolina DHEC	803-896-6841	Kneeceje@dhec.sc.gov
Jennifer Szepanski	CCMI	413-467-1124	Jszepanski@compliancemgmt.com
Eb Kubinsky	Crompco Corp.	610-278-7203	Ed@crompco.com
Anne MacKinnon	Environment Canada	902-426-5104	Anne.mackinnon@ec.gc.ca
Shaheer Muhanna	Georgia EPD	404-362-2579	Shaheer_muhanna@mail.dnr.state.ga.us
Pete Cochefski	OPW Fuel Management	708-489-4200	Pcochefski@opwfms.com
Scott Bacon	California SWRCB	916-341-5873	Sbacon@waterboards.ca.gov
Skip Phelps	Hansa Consult	603-422-8833	Sphelps@hansa-tcs.com
Ken Wilcox	Ken Wilcox Associates	816-305-4642	Kwilcox@kwaleak.com
Beth DeHaas	Maine DEP	207-287-4860	Bdehaas@maine.gov
Lamar Bradley	Tennessee DEC	615-532-0952	Lamar.bradley@state.tn.us
Douglas Mann	Vista Leak Detection	937-669-5875	Dmann@vistald.com
Kent Reid	Veeder-Root	860-651-2710	Kreid@veeder.com
Don Halla	Veeder-Root	860-651-2789	Dhalla@veeder.com
John Cernero	U.S. EPA / Region 6	214-665-2233	Cernero.john@epa.gov
Jon Reeder	Florida/Manatee County	941-742-5980	Jon.reeder@co.manatee.fl.us
Tim Smith	U.S. EPA / OUST	703-603-7158	Smith.timr@epa.gov
Curt Johnson	Alabama DEM	334-271-7986	Cdj@adem.state.al.us
Mike Kadri	Michigan DEQ	517-335-7204	Kadrim@michigan.gov
Helen Robbins	Connecticut DEP	860-424-3291	Helen.robbins@po.state.ct.us
Tom Monroe	Adv. Analytical Systems	562-822-8610	Tom@customdatasystems.com
Bill Jones	Warren Rogers Assoc.	800-972-7472	Wjones@warrenrogersassociates.com
Warren Rogers	Warren Rogers Assoc.	800-972-7472	Wrogers@warrenrogersassociates.com

Vendor Presentations

1. **Kent Reid, Veeder-Root.** This presentation covered a proposed method of hydrostatic testing of sumps and under dispenser containment. This method is being developed to satisfy testing requirements in California, but similar requirements are (or soon will be) in effect in other areas. Veeder-Root's test method utilizes a mini mag probe (a miniature version of their ATG probe) that is permanently installed in the sump. The probe provides interstitial monitoring of the sump (discriminating),

but will also have the ability to run precision hydrostatic tests. The probe has been third-party evaluated but the protocol has not been reviewed/accepted by the work group. Will the work group review and list secondary containment (sump) test methods? If so, what protocol should be used? What leak rate is acceptable? What outside interferences should be taken into effect? The probe is already listed and in use at many facilities as an interstitial monitor. It has also been third-party evaluated per KWA's non-approved secondary containment testing evaluation protocol. After the presentation, NWGLDE notified Veeder-Root that they would review third-party evaluations for secondary containment testing methods in the same way that they review evaluations for other types of test methods. In the near future, Veeder-Root will submit an evaluation protocol to the NWGLDE for review.

2. **Bill Jones, Warren Rogers Associates.** This presentation covered field implementation of the Petronetwork S3. The Petronetwork S3 has been on the NWGLDE list for over 2 years. It is listed for use at high throughput UST systems with large tanks, and is in use at many large truck stops and similar facilities. Typical truck stop installations include 3-5 manifolded USTs, 60-80k gallons tank capacity, 30-80k gallons daily sales, and 4-12 daily deliveries. In addition to monthly monitoring, this system can help detect meter calibration problems, identify dispenser flow rate problems, and detect product theft from dispensers and deliveries. Over the past several months ethanol and biodiesel use has increased, as have theft at dispensers and during delivery.

3. **Ken Wilcox, Ken Wilcox Associates.** This presentation covered evaluation protocol issues. KWA would like to discontinue the practice of substituting letters from the evaluator for actual testing of listed equipment that has been modified from the version originally tested. KWA will only issue letters when company names change and no changes to the equipment have occurred. Any changes to leak detection equipment hardware or software will require at least minimal testing before KWA issues a letter stating that the new version is equivalent to the version originally evaluated. Ken wants guidance from the Work Group on what kind of testing is appropriate for changes to currently listed equipment, and also on how to extend parameters of equipment currently on the list (e.g. line capacity, test time, etc.). In discussion following this presentation, the Work Group indicated that there is a difference between re-evaluating a method that has been modified and extending limitations (line capacity, test time, etc.) imposed from a previous evaluation.

Open Discussion – General Questions

Groundwater in the backfill when testing single-walled tanks (Topic brought up by Ed Kubinsky, Crompco Corporation.) When conducting a tank tightness test, how important is it to determine the groundwater level in backfill? The answer depends on the method being used, but it is typically very important. Many overfill methods do not require groundwater level determination. Non-volumetric test methods have to account for the presence of groundwater, but different models do so in different ways. Some tests require groundwater level determination, others have alternate procedures depending on whether the groundwater level is known or unknown.

END OF OPEN SESSION

Closed Meeting Session – Thursday Evening

New Business, continued

Listing of Sensors with or without Control Panels
Some sensors are listed for use with specific control panels. Others are listed generally, with no reference to control panel make/model. In the past it was the NWGLDE's policy to list components. Recently, the decision was made to list systems (for example, ATG probe and panel are listed together). To add a panel to a sensor that is already listed, some documentation from the third-party evaluator would be required. This may be a simple letter or a full evaluation, at the discretion of the evaluator. The work group reserves the right to request additional documentation or information to validate the claim. This will be done on a case-by-case basis.

Definition of "Third-party evaluator"
The group would like to add a definition of the term "third-party evaluator" to the glossary. Scott also suggested that the definition be added to our "listing requirements" document. The original EPA protocols include a definition of the term that the group may wish to incorporate. However, the term "nationally recognized" may present problems. Curt will e-mail the definition to the group for review and comment, with the goal of working toward a definition that can be added into the glossary and listing requirements.

Discussion of Evaluator Presentations
Ken Wilcox: Whether a complete evaluation of a revised/modified system is needed should be left up to the third-party evaluator. NWGLDE may ask for additional documentation if needed. John Kneece will let Ken know the answer.

Kent Reid: NWGLDE will review protocols for secondary containment integrity testing methods. The protocol should be written, peer reviewed, then submitted to the work group for acceptance. Qualified individuals, including equipment manufacturers, may be used for peer review. Scott will communicate this to Veeder-Root.

Warren Rogers: There were no questions asked of the work group during this presentation. The group seemed to be impressed with the information presented, and feedback about use of the Petronetwork seems positive.

OLD BUSINESS
Definition of Throughput
At the last meeting it was decided that the definition of "Throughput" should be added to our glossary. Shaheer started this process after the last meeting, but it was never added to the glossary. The definition of "throughput" in the CITLDS protocol reads as follows: *"Throughput is the volume of product dispensed from a tank in a month."* There is some

confusion with how to apply this definition to manifolded tanks. To resolve this, the group decided to change the word "tank" to "tank system". Curt will add this definition to the glossary.

File Retention Committee Update
Beth Dehaas has provided Curt with 7 boxes of her old reviews. Although we would like to have old files accessible electronically, there are no good options for getting old files scanned. John K points out that the responsibility is on the manufacturer to maintain old evaluations. Curt Johnson added that member files also contain notes concerning the evaluation review and valuable correspondence that may not be available from the manufacturer.

Electronic Copies of Protocols
The group had decided at a previous meeting to add copies of all approved protocols to our website. Tim was looking in to this, but did not get far in the process. Jon Reeder has added links on the NWGLDE website to some protocols already on other websites (KWA, BSI, EPA, etc.). Jon will post electronic copies of protocols that anyone provides him. All members should search their records for electronic copies of protocols and provide them to Jon for posting. Scott and others will scan hard-copy protocols into PDF format as time allows.

Discuss Location of Next Meeting
Several states were discussed as possible locations for our Fall 2006 meeting: Michigan, Georgia, Florida, New York, South Carolina, and California. These were narrowed down to Michigan, Florida, and California. After a close vote, Michigan was selected. After further discussion with some members following the meeting, Curt Johnson believes the final vote should have been conducted for 2 sites, not three. There should have been a vote to break the 2nd place tie before a final vote was taken. Therefore, Curt will ask Mike conduct a new vote by e-mail to determine the site of our Fall 2006 meeting.

Note Taker for Next Meeting
John Cernero.

END OF THURSDAY MEETING

FRIDAY – October 7, 2005

Visits to Leak Detection Vendors

Beaudreau Electric / Fibrelite Factory Tour (Pawcatuk, CT)
The combined Beaudreau and Fibrelite factory houses manufacturing and quality testing operations for Beaudreau leak detection equipment, Fibrelite dispenser containment boxes (single and double-walled), and lightweight composite manway lids. The tour included a working display of Beaudreau's E-site control panel connected to several EOS-100 discriminating liquid sensors and the SystemOne vacuum monitoring system.

To conclude the tour, Beaudreau demonstrated the remote monitoring capabilities of their E-site system by logging into the control panel at an operating UST facility in San Diego, CA.

Warren Rogers Associates, (Middletown, RI)
Warren Rogers spoke to the Work Group about the history of UST leak detection, including his involvement in the 60-Minutes story on leaking UST systems that prompted development of the federal UST program. Warren also talked about how statistical analysis can be used to differentiate between leaks and other anomalies like meter calibration problems, inaccurate tank charts, and delivery over/under volume. The Work Group had an opportunity to meet some of WRA's analysts and see sample data from clients using traditional monthly SIR as well as real-time data from facilities equipped with Petronetwork S3.

END OF MEETING