

Minutes
National Work Group on Leak Detection Evaluations (NWGLDE)
Meeting
Mobile, Alabama, March 24-26, 2010

Wednesday, March 24, 2010

A complete list of meeting attendees for the sessions is included at the end of these minutes.

ANNOUNCEMENTS

WELCOME VISITORS

- No visitors attended.

DISCUSSION

Joe Carvetti of Battelle will be leading a discussion with us on Thursday morning about a protocol for biofuels and fuel blends. No vendors have volunteered their equipment to date. They would still have to have Ken Wilcox or other third party evaluation performed to be listed with NWGLDE. The best the work group can offer them is the possibility of being listed if the Battelle experiments go well. Also, if equipment failed the Battelle experiments, they would not be listed and states might not allow the equipment. There have been reports of phase separation of ethanol blends and this probably is attributed to the inability to get water readings.

TEAM UPDATES

ATG TEAM – Lamar Bradley

Completed Reviews:

- **OPW EECO System 1000, 1500, 2000, 3000 and Galaxy ATGS Systems (Q0400-4xx Magnetostrictive Probe) CITLDS listing:** Added OPW 924/B TLM-B Magnetostrictive probe to existing EECO system CITLDS listing effective November 13, 2009. This was based on probe comparison evaluations.

Under Review:

- **USTest 2000/P List modification:** Jon Reeder drafted revisions in January 2008. Reply received from James Mitchell in January 2009. Documents requested from Michael Gibson, Southwest Environmental February 12, 2009, awaiting response.
- **Franklin Fueling Colibri ATG Controller:** Franklin wants to add new controller to existing probe listings. There is currently no protocol for this. Bill Moore reviewed documents submitted and determined the controller could be listed, and the team agreed to do this pending receipt of a short proposed protocol for console comparisons. This was conveyed in an e-mail dated February 2, 2010. Awaiting a response from Franklin.

VTTT TEAM – Lamar Bradley

Under review:

- **Mass Technology Corporation CBU 1000D:** Tank tightness test documents received February 2010 for tank capacity of 50,000 gallons. Mike Juranty is the lead reviewer on this. Effects of groundwater not considered in evaluation. Mike requested response from Mass Tech and KWA in March 2010 and is awaiting response.

Other Activity:

- October 2009 discussed low level ATG testing concerns with Russ Brauksiek, Beth DeHaas, and Jon Reeder. All agreed that previous vendors had submitted necessary documentation justifying listing for low level testing in ATG listings. Future evaluations will need to submit information showing that they have complied with April 28, 1997 NWGLDE guidance for low level testing before listing for testing below 50% full.
- October 12, 2009 letter was sent to Michael Gibson concerning removal of UST 2001/P as VTTT. No reply received as of November 10, 2009, so recommended dropping UST 2001/P from VTTT list.
- November 9, 2009 discussed lack of “console comparison” protocol with Jon Reeder. The VTTT Team has agreed to accept the Franklin Colibri console request above pending the receipt of a short proposed protocol for console comparisons.
- November 17, 2009 e-mail from Greg Young with letter dated November 6, 2009 saying leave listing for UST 2000/P as VTTT. E-mail reply to Greg November 18, 2009 asking for more information.
- January through February 2010 Bill Moore discovered Third Party Evaluation for Auto Stik as he was going through files for Archive project. Drafted listing for this in February. Also modified listings for EBW showing Franklin Fueling now owns this company’s models including probes, SCALD, sensor listings. Bill Moore will forward to Curt Johnson the requested changes.
- February 2010 information received regarding new product from British company – Multi-Pod (remote limited ATG console for unmanned facilities). Reviewing literature for leak detection implications, will discuss with ATG Team and if leak detection implications, will contact vendor with instructions. Multi-Pod only does overfill and may be able to just tie into designated outputs. The company is not asking the work group to be listed; they just need permission by other vendors to tie into their existing equipment. The team will ask for more information if necessary.
- March 5, 2010 received e-mail from Ken Wilcox proposing “float comparison” testing for 2” floats. ATG Team recommended developing a “float comparison addendum to the ATG Protocol according to Policy #3. They are awaiting response from KWA.

- The team still plans to contact ATG vendors relative to providing documentation that they used 0.05 leak rates in evaluations to be listed for 0.1 gph tests. This is part of an action plan developed earlier. Draft letter written, but not yet circulated for review.

NVTTT TEAM– Helen Robbins

Completed Activity:

- **EZ3 Locator Plus:** The EZ3 Locator Plus listing was amended to make the test period read “at least 2 minutes to run the test after desired vacuum is reached” to be consistent with the evaluation.

Under Review:

- **Tanknology VacuTest listing:** Kevin Keegan asked for a revision to the Tanknology VacuTest listing to reflect a lower vacuum to be used exclusively for PHS or any other TTI installed containment systems, because the inner tank can not handle the original pressure listed. Mike Juranty has written them a letter requiring third party testing to demonstrate the minimum leak rate, PD and PFA for PHS and specific TTI installed containment systems before the listing can be revised.

LLD TEAM – Greg Baretta

Under Review:

- **Vista Research, Inc.:** The team received the “Evaluation of the HT-100 Pipeline Leak Detection System, Version 2.1 for Bulk Piping and Hydrant Fuel Systems Including Monthly Monitoring and Line Tightness Tests.” This is a mass based pressure sensing system; Greg Baretta and Mike Juranty will be doing the review.

SIR TEAM – Lamar Bradley

Completed Reviews:

There are none at this time.

Under Review:

- **Victoria Automotive Chamber of Commerce Fuel Manager SIR v.1.5:** Australian company draft listing developed and sent August 1, 2008. Method has been evaluated and can be listed pending agreement to use one-half performance standard as leak threshold instead of performance standard. Awaiting reply from vendor. (No change since August 2008). Will send reminder letter or e-mail and if no response, will put on “Not Listed” list. Company had hired statisticians to look at this.

INTERSTITIAL MONITORING METHODS TEAM – Tim Smith

Completed Reviews and Activities:

- **Cambria Corporation** Models EOS80, EOS100, and EOS120 Discriminating Sensors with Beaudreau Electric, Inc.’s Models 522 Remote Monitoring System and Model 522T Monitoring System, and Cambria Mark I Monitoring System added to listing February 8, 2010

- **Ameron International** Dualoy 3000/LCX and MCX Pipe Monitoring System Liquid Filled Interstitial Space revised listing February 10, 2010
- **Ameron International** Dualoy 3000/LCX and MCX Pipe Monitoring System Liquid Filled Pressurized Interstitial Space – Revised listing February 10, 2010

Under Review:

- **Veeder-Root:** Newly received request to update 301 and 303 sensors to include Propylene Glycol Results.
- **OMNTEC Mfg., Inc.’s LWF sensor: Company** wants sensor included on its current Interstitial Detector listing. Company has results sheet signed by KWA that lists 1993 as original date of evaluation but also indicates a revision in 1998. Team asked for complete evaluation, but company is unable to provide. Unsure how the sensors were evaluated and what is the applicable performance data. Working on resolution of this issue.
- **OPW SiteSentinel Console:** Completed review of OPW’s comparison of performance of its SiteSentinel Console with and without the Intelligent Sensor Interface Assembly. Although evaluation confirms no appreciable degradation of performance with The Intelligent Sensor Interface using a “representative” sample of a number of types of sensors, team is unable to complete requested listing due to incomplete analysis of full range of applicable systems. Notified John Zheng by e-mail on November 17, 2009. There has been no reply.

ABOVEGROUND AND BULK STORAGE TANK METHODS TEAM – Peter Rollo

Completed Review:

- **Alternative Test Procedures for Evaluating Leak Detection Methods: Volumetric Leak Detections Systems for Aboveground Storage Tanks:** This protocol was reviewed and approved by Peter Rollo, Marcia Poxson, Greg Bareta and Curt Johnson. Mr. Theumling at Varec submitted this to us at the last meeting and they now have clients evaluating their equipment with this approved protocol.

SECONDARY AND SPILL CONTAINMENT TEST METHODS TEAM – Bill Moore

- No protocols have been submitted to date.
- Side discussion - Vacuum Pressure and Hydrostatic for interstitial, vacuum and liquid fill. It is anticipated that there will be more requirements for interstitial monitoring in the upcoming revised federal regulations. The team discussed 29 liter/hour and 15 minutes for a test.

ADMINISTRATION TEAM – Curt Johnson

- The group settled up with Curt Johnson for the website costs.

- Marcia Poxson is doing a great job with the website.

PROTOCOLS UNDER REVIEW

- **Effects of Biodiesel Blends on Leak Detection for Underground Storage Tanks and Lines:** Draft Final Report – this is the white paper, not a protocol. Submitted by Steve Howell of the National Biodiesel Board.
- **Modifications to the existing protocol for pipeline tightness testing:** Calabria is requesting modifications to the existing protocol for pipeline tightness testing. They are using the same algorithms, just new hardware and want to show it is the same. There needs to be a standardized addendum as is the case with probe comparisons. The flexibility allowed so far to the pipeline testing protocol is the change in the number of tests for flexible piping from 26 to 6 tests. Greg Bareta is going to ask Ken Wilcox to document his justification for reduced testing using the line tightness test protocol.
- **ATG testing in tanks with low fuel levels has several problems:** One being the head pressure effects on leak rates and another being that only the portion of the tank containing product is tested and this can vary over the month with portions of the tank not being tested at all.

REVIEW OF TEAM ASSIGNMENTS

No changes were made to team assignments.

NEW BUSINESS

- **Rockland County:** We talked about Rockland County requiring hearing tests for operators of the NVTTC. The work group decided Greg Bareta is going to contact the vendors for their input.
- **ETV Project:** UST Leak Detection Technical panel meetings with Battelle have been phone meetings with panel and Joe Carvitti and Anne Gregg of Battelle. Now the technical panel including Ken Wilcox and Joe Maresca will work with Battelle on what should be included in the test plan which is different than a protocol. The vendor panel will work out the technical issues with the specific equipment and proprietary information. The ETV is currently centered on automatic tank gauging magnetostrictive probes. After enough information is gathered, the other protocols will be addressed. Questions include what blends the protocols should include. The testing will probably not include the aggressive ethanol blends. EPA labs are gathering data on long term material compatibility and will merge this data with the testing data. The test plan will be evaluated in conjunction with the biodiesel white paper. The ETV project is vendor specific and is best to have at least three vendors. Joe Carvitti anticipates the test plan to be out and the work group will have an opportunity to comment on it. Once the

testing of the ATGs is underway, Battelle can work on new or other test plans for other release detection methods.

- **National Biodiesel Board:** Steve Howell is expected to scan through the biodiesel white paper in his presentation on Thursday. Currently there is no ASTM standard for B21 to B99. B100 is not sold because it is considered blend stock; however, it is typically stored in underground tanks at truck stops.
- **Further discussion on alternative fuels:** Curt Johnson brought up B20 compatibility issues, AL DOT using B20 and filters are being clogged and the interior of FRP tanks are degrading. Some of these tanks are relatively new. Steve Howell is looking into this and is working with AL DOT. The filters are clogged and it is the FRP fibers that are clogging the filters, fouling of diesel engines, and the interior walls of FRP tanks are failing, getting thinner. The National Biodiesel Board heard about the issues during a workshop at the San Antonio Tank Conference. Rebecca Richardson is their main contact for this issue. The white paper addresses clogging associated with mobilizing sediment on page 8. The paper notes that if the fuel meets the specifications then the feed stock doesn't matter.
- **ULSD:** PEI had a survey about a coffee grind-like sludge in the filters associated with ultra low sulfur diesel. This issue was originally brought up by Virginia. PEI is in the information gathering phase and regulators were asked by ASTWMO to complete the survey along with PEI members, manufacturers, and truck stop organizations. The work group will be looking to see if there are any effects from ULSD on leak detection methods.

Thursday, March 25, 2010

INTRODUCTION OF MEMBERS AND VISITORS

An Attendance Sheet is attached at the end of the minutes.

- **ETV Project** (Joe Carvitti)

Joe Carvitti with Battelle (a contractor to EPA's Office of Research and Development) provided a status report of the Environmental Technology Verification (ETV) project designed to evaluate existing leak detection equipment for use with biofuels. ETV invited vendors to submit their equipment to be tested. A working draft of the test plan may be presented to EPA in the next week or so and then be reviewed by the technical panel and the vendor panel. There are two issues here, the fuel gauge part of the ATG and the water gauge part. The water studies are going to be done in a simulated tank, in a scaled see through tank, fuel gauging done in a normal tank. The equipment is being tested not compared. The work group will have the opportunity to comment on the test plan and suggest changes in hopes that the test plan will become a protocol that will be acceptable to the work group. It is important to ETV that the test plan is consistent and that

all equipment is evaluated according to the same plan. There will be four to six weeks for comments and also vendors who have requested their equipment be evaluated will get a draft copy of the test plan. Once the ATG test plan is approved, ETV expects to begin drafting additional test plans maybe by late spring or early summer. ETV typically only tests equipment that is offered by the vendors. Everything that is performed by ETV will be published on their website. The evaluation reports probably won't be posted for 6 to 8 months after the tests are completed. The protocol/work plan however, will be posted as soon as it is finalized.

- **National Biodiesel Board (NBB)** (Steve Howell)

Steve Howell gave a summary of the white paper he previously submitted to NWGLDE. The renewable fuel standard requires that 1 billion gallons of biodiesel be available in 2010 which is the equivalent of B5 in 20 billion gallons. About 30 billion gallons of diesel are used yearly. The oil heat industry has embraced B100 by 2050. There are currently 173 plants with 2.7 billion gallons per year capacity. ASTM, PEI and EPA are investigating increased corrosion seen with ULSD; the NBB doesn't think this is associated with biodiesel. B5 is now considered standard diesel. Biodiesel must meet product specifications, B6 to B20 have the same specs as diesel fuel with additional specifications to ensure it is stable. The evaluation applies only to biodiesel meeting ASTM D6751 and blends made with D6751. It doesn't include hydro treated animal fats or vegetable oils, pyrolysis oils, emulsions, turkey guts and municipal wastes. Some concerns for biodiesel over 20% are; will the product dissolve some types of rubber, will it seep through, and will metals cause the fuel to degrade and clog filters. The white paper makes recommendations for leak detection. Questions raised included what provisions were being taken to prevent other fuels from being called biodiesel and Steve responded that two activities were ongoing; the first, education that biodiesel must meet specs and the second, efforts with weights and measures departments to ensure the fuels have met the specs. The work group then discussed options for including different blends of biodiesel in the listings and at what blend would additional testing be required. NBB hopes to finalize the report and establish a target for industry so they can have listings before the July 1, 2010 start date of the U.S. EPA's requirement under the Renewable Fuels Standards to use the EPA Moderated Transaction System (EMTS) to manage renewable fuel transactions.

- **Veeder-Root** (David Emmington)

Veeder Root is requesting the listing for sensor 344 be expanded to include additional uses. The proposed language is "The sensor is designed for use in contained risers, contained enclosures, containment sumps, and the interstitial space of double-walled tanks." This includes vapor pots as vapors condense into liquid and the sensor would then let operator know. The size of these vapor pots are 30 gallons to 500 gallons. The California regulations require liquid sensors.

- **Veeder-Root** (Kent Reid)

Veeder-Root is in the final stages of a new sensor that can be retrofitted on existing probes for E10 Phase Separation Detection.

- **Veeder-Root** (Ken Cornett)

Ken Cornett and Jerry Flora, consulting statistician, are working on a modified test protocol that better reflects the physical characteristics of actual phase separation layers for leak detection and monitoring to be used with ethanol-blended fuels. They hope to formalize the protocol in spring 2010, and then have a third party test their equipment.

- **Ken Wilcox Associates** (Ken Wilcox)

Ken Wilcox is working on a new protocol to add to the probe comparison protocol. A vendor wants to substitute a 2 inch float for a 4 inch float and want to see if the 2 inch float has more adhesiveness.

Ken has done a lot of tests for Mass Technology that did not include measuring water in the bottom of the tanks. They need to know if increase is water or fuel due to a leaky valve or such. Ken does not know of anyone who will let him add water to a tank for additional tests.

Ken led a general discussion, including visitors, about the need for the leak detection protocols to be updated. Tim responded that the Battelle ETV project is the first step to develop new test plans and that the results are applicable not only to current release detection but also impacts from increases in ethanol. After the project EPA will compare the test plans with existing protocols and go from there. Also discussed was the status of E15 or E20 that is being proposed. The Administrator stated she was postponing her decision until June and was looking to OUST and the ETV for additional information.

Vendor portion of the meeting ended.

New Business (continued)

The work group discussed getting equipment donated to the ETV for testing in the event vendors do not volunteer their equipment.

The work group discussed that some National Biodiesel Board situations still require testing. The group discussed the options for listings to include B1 to B20 and B100 and the options for including B21-B99. Requests for listing B21-B99 would need to include letter regarding materials compatibility, include third party testing if recommended by Ken Wilcox Associates report and add exact biodiesel blends covered to the existing set of fuels covered for the individual listing. Some materials may be OK for B50 but not B100. The group discussed putting this statement from Steve Howell in the disclaimer, "For listings that include diesel fuel, those listings are also applicable for biodiesel blends up to 20%, providing the blends meet their respective ASTM fuel specifications and the B100 used for the blend meets ASTM D6751." The work group's comments on the white paper will be coordinated by Curt Johnson.

The Veeder-Root request that the listing for sensor 344 be expanded to include additional uses will be addressed by adding the proposed language, or similar language, that includes vapor pots to the comment section of the listing.

The work group reviewed and discussed the test triangle from Ken Cornett's presentation. Lamar Bradley suggested the work group's review of Veeder-Root's modified protocol be done in conjunction with the group's review of Battelle's ETV test plan.

Mass Tech is looking at changing program language and changing the water height. They need to test at 50 and 90% full to show the system is sensitive enough and specify up to 74,000 gallons. Ken and Mass Tech will get back to us with this.

Greg Baretta talked to Kevin Keegan and John Bracknell from Crompco and they told him one can easily hear a leak in liquid, but sometimes hard to hear in the ullage and that a hearing test is part of the DOT physical. For large tanks, the microphones must be within a certain range of the tank and is specified by the vendor. They have conductivity water sensors for E10 tanks that have to be calibrated. Any additional questions should be addressed to Greg Baretta.

The next article in LUSTLine will inform readers about the new statement in the disclaimer and the data sheets. Followed by an article that informs readers that the work group includes aboveground tank testing methods and secondary and spill containment test methods. Peter Rollo is going work on this last one.

Friday, March 26, 2010

Old Business

Under ATG/VTTT listings there are new developments in the business relations between Vaporless Manufacturing and USTest. The work group is looking for an evaluation for UST 2001/P (VTTT) which is the method being used by VMI. Changes in the information on the other 5 USTest methods must be requested by Michael Gibson of USTest.

Glossary Terms

Mike Juranty put together a definition for alternative fuels for our glossary and disclaimer. Mike is suggesting putting a definition in our glossary that references our disclaimer so users are aware of how the work group deals with alternative fuels. The work group agreed with Option A which reads: "A fuel or petroleum fuel blend containing any amount of non-petroleum ingredients, including but not limited to ethanol, methanol, or animal/vegetable oil."

The biodiesel definition will include "providing the blends meet their respective ASTM fuel specifications and the B100 used for the blend meets ASTM" and use the definition on page 2 of the NBB White Paper. The definition will be finalized after the white paper is finalized.

SOP Manual Progress

Lamar Bradley and Peter Rollo have provided some comments. Tim Smith is still working on it. Tim Smith is going to work with Bill Moore and test out the manual when Bill receives some anticipated protocols for testing of secondary containment.

Reviews Status

Lamar Bradley passed out copies of Equipment Not Listed and Reviews Completed from the Under Review tables. Work group members will update the Under Review table and it will be forwarded to Marcia Poxson who will convert it to Excel and put it on the protected part of the website. Lamar Bradley will be the gatekeeper and make the changes to the lists. The Under Review list will be an agenda item that will be addressed during the team updates part of the meeting. It was suggested that we include a specific reason for reviews on the Not Listed table for reference. It was agreed to keep the reason within the 250 character limit of Access.

File Retention Committee

Bill Moore has been scanning with OCR all the evaluations he has for two months. He breaks it down, take binders off, and it is all scanned into the State of Utah public information system. Bill is close to running out of evaluations and will accept additional documentation. Curt Johnson has 5 boxes from Russ and 3 boxes from Jon Reeder. Lamar Bradley asked if Tim Smith could find interns or senior environmental employees to do this for the work group. It was discussed that Bill Moore would write a procedures manual (SOP) and Tim Smith might be able to buy the edocs program for all the states on the work group. Bill Moore will send Tim Smith a suggested scanner and the computer software to make the pdf files OCR. Marcia Poxson is going to make sure she gets Mike Kadri's files before he retires. Shahla Farahnak's files are gone and Scott Bacon's files have been archived.

Policy Memo Reviews

Everyone is ok with how Policy Memo #1 reads.

Everyone is good with Policy Memo #3. The group reviewed the language of 1. H that reads "If it becomes obvious that all concerns cannot be resolved, or if the vendor has taken no action to resolve the concerns within 12 months, the lead member of the team shall notify the vendor by certified letter that the Work Group has discontinued review of the system." This will be necessary before or as the equipment is being removed from under review.

Everyone is ok with Policy Memo #4.

Next Meeting

The fall meeting will be in conjunction with the National Tanks Conference in Boston, Massachusetts. The meeting will start Wednesday morning to make up for the time lost ending the meetings at noon on Friday for travel purposes. The work group is asking Marcia Poxson to take the minutes for the fall meeting.

Preliminary plans were made to hold the spring 2011 meeting in Sedona, Arizona with the fall 2011 meeting in Portsmouth, NH.

Group Meeting Adjourned

Begin Team Meetings

Attendance List

See below. Also, please note the Attendance List for Friday, March 26 is the same as the list for Wednesday, March 24.

ATTENDANCE LIST
 National Work Group on Leak Detection Evaluations
 Mobile, Alabama
 March 24-26, 2010

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