Introductions

Team Leader Updates

ATG and VTTT Methods- Mike Juranty

ATG Completed Reviews:

- OMNTEC Manufacturing- Omntec OEL-8000 Series (Proteus B, K, and X Consoles)

Combined revised listing with accompanying sensors on June 1, 2016. Statistical bias with 4-hour delivery time addressed by extending delivery time on listing to 8 hours for the Proteus B, K, and X Consoles. Reduction of the 8 hour listed idle time for these consoles would require further evaluation that supports that reduction.

Final discussion and approval to standardize procedure for naming consoles series in a single listing, software changes will require new reviews. Will be implemented during policy review at future meeting.

ATG Under Review:

- None at this time.

VTTT Completed Reviews:

- None at this time

VTTT Under Reviews:

- None at this time

CITLDS Completed Reviews:

- Simmons Clearview CITLDS with ATG consoles approved and listed May 31, 2016

- Franklin Fueling CITLDS for TS-5 Series Consoles (SCALD 3). Revised listing approved September 9, 2016

CITLDS Under Review:

- None at this time

NVTTT Under review:
• None at this time

NVTIT Completed Reviews:

• Relisting for Triangle Manufacturing

Interstitial Monitoring Under Review

• Beaudreau Electric, Inc.- name change under review and potential issue with link to Franklin Fueling on one listing.

• OPW, iSite, iTouch, and EECO Series Fuel Management Systems with various sensors evaluated early 2012.
  o Completed partial listing posted on April 9, 2012 for the iSite, iTouch, and EECO Series Fuel Management Systems with various sensors - mainly float switches.
  o Reached out to OPW through KWA. Offered to do same as for FFS that tested other non-float type sensors with E85, and the following water/ethanol mixtures: 20%/80%; 30%/70%; and 70%/30%.
  o Testing with pure product and various representative water/product mixtures is designed to determine what, if any, effects water interferences might have on sensor performance.
  o Current test procedure is inadequate with evaluation in a pure ethanol blend such as E85.

• SGB (Sicherungsgeratebau GmbH) Vacuum Leak Detection System Model VLR CONTINUOUS INTERSTITIAL TANK SYSTEM MONITORING METHOD (PRESSURE/VACUUM)
  o Apparently the original submittal for the VL Models included information on the VLR Models. Company omitted request to include the VLR model on NWGLDE’s listing(s).
  o Missing official request from SGB. Request made by Fuels Management Service – an end-user
  o IMOTD Methods Team has not received any additional information. Team will send a letter or e-mail to company that requested this addition and establish time period to provide needed information or action will be terminated in accordance with NWGLDE policy and procedures.
Steel Tank Institute
- The submittals have been returned to STI for rework since April 2013. The Work Group has answered subsequent questions from STI in correspondence dated April 15, 2013, May 1, 2013, and December 12, 2013. As of late 2016, STI still expressed interested in completing this effort but no further information has been received.
- Revise the listing for Permatank Interstitial Monitor for Detection of Air and Liquid Leaks – Interstitial Tank Tightness Test Method
- Add a new combined listing for the STI-P3® Act-100® and ACT-100U® Double Wall Steel Underground Tanks Interstitial Monitor for Detection of Air & Liquid Leaks

Tank Tech, Inc.
- Review Braddock Method using vacuum on the interstice of an In-situ Upgraded Tank
- Method was evaluated using Non-Volumetric Tank Tightness Test Method (Vacuum). Tank Tech (Braddock Method).
- Misunderstanding on inches of mercury vacuum and Tank Tech will meet with KWA.
- The manufacturer and the third-party evaluator have been informed that this discrepancy will need to be resolved before NWGLDE can take further action.

IM/Out of Tank Methods Review Completed:
  - Received clarification from Omntec that the consoles that comprise the OEL 8000 III Series are the: Proteus B, K, and X Consoles.
  - Posted on NWGLDE Website July 18, 2016.
- Revised PermAlert’s listings to reflect new address.

Aboveground/Bulk Storage Completed Reviews:
No additional listings or new activity

Secondary/Spill Containment Completed Reviews:

No additional listings or new activity

Other Activity

Veeder-Root DPLL D combination flex/rigid listing- in future, if appropriate, will only list total combined capacity, not broken out by flexible/rigid. Listing format requested by vendor.

Steel Tank Institute comments for Batelle VTTT protocol revisions, orifice size for 0.1 GPH evaluations.

NEIWPCC Webinar on SIR and CITLD on November 7th

Upcoming meeting with KWA and Tank Tech/3rd party listing, IM sensor protocol

Vista Research (upcoming revisions to listing, discuss with Doug Mann following presentation)

Collect internet fee ($17.00 each) at next meeting (readyhosting.com)

Mass Technology- originally planned to submit evaluation, no response from follow ups.

Will develop formal response letter for unresponsive listings.

NWGLDE discussed development of a position on listing remanufactured equipment. The group anticipated having at least one of the companies present that more recently inquired about whether NWGLDE will or will not list such equipment. NWGLDE has unresolved issues, including potential impacts to intellectual property rights for remanufactured equipment. NWGLDE will reach out to the companies that have contacted the group in the past and formally invite each to attend an upcoming group meeting to discuss our issues. (Greg) Recommended revising NWGLDE review checklists to include specific make/model of alternate device. Franklin Fueling wants to list sensors with Veeder-Root consoles for compatibility.

Listing series with console, team leader should review listings for each method for incomplete series numbers. Shaheer will lead. Console listings for sensors, probes, ELLDs, from the same manufacturer will be in listing header (owner of intellectual property rights). Teams will decide if given information is acceptable, consult manufacturer if necessary. Complete project before next meeting.
Threshold for large diameter piping. Requiring calculations for percent by volume to be included in each existing listing. Doug Mann (Vista Research) will speak on two pressure step increases for bulk piping at open session. Revision of listings with mathematical volume calculations for consistency with new federal regulations.

Re-organization of Bulk Piping/Airport Hydrant System Testing Methods

Policies and Procedures Manual update: SOP’s updates and checklists to be reviewed by team leaders

File retention update- California will be turning over historical NWGLDE paper records for archiving. All reports/hard copies will be shipped to David. Helen and David will lead with conversion of documents to electronic format.

Logistical issues and time, some documents will need priority over others. Project does not have mandatory timeline for completion.

File retention policy, publishing of annual PDF list will be discontinued after 2017. Electronic version on website will be the final and current version. Begin publishing two separate lists, one of which will only contain general information (listing additions/listing changes, etc will be documented in an annual what’s new. Each year before the “what’s new” is cleared from the webpage, a copy will be saved so that we can reference what changed each year).

Revision PDF files for each section will be published annually. The private/archive section of the web page will contain original listing prior to revision if possible.

Removal of fuel disclaimer done

Lead for Policy and Procedure Manual overview

NEW BUSINESS

New leak detection protocols are going to final stages of development. EPA is reviewing them for language and completeness. Comments and responses have been reviewed and incorporated as needed. Guidance documents for the protocols borrow language from the EPA Suitability Assessment which identified “red button” issues which needed to be addressed with the original protocols. Examples of these issues included discriminating conductivity sensors and ATG probes which can detect the presence of water with reformulated fuels (density
Faster response times for continuous monitoring systems to alert operators was also identified in the suitability assessment. The revised protocols will also include updated verbiage and technical definitions. The EPA contract for Batelle to complete this project officially expires at the end of November 2016. This 5-year process encouraged participation and comments.

Travel/Meeting Agenda Issues. Afternoon break on 2nd day is negotiated with NEIWPCC to allow vendors to leave and conduct additional meetings in the late evening. NEIWPCC reminds us that meetings are a privilege and asked the group be reasonable about future accommodations.

National Tanks Conference could move to a Tuesday-Thursday format. If that happens, we will need to decide how to schedule vendor sessions and avoid weekend work and/or travel if possible. Schedules look good for last week of March or first week of April. Group reviewed CONUS rates and flight costs to select a site for Spring 2017 meeting. Three possible meeting locations to submit to NEIWPCC are:

Jacksonville, Florida- tour airport hydrant fueling system???
Raleigh, North Carolina- possible visit to OPW facility in Smithfield.
Albuquerque, New Mexico – Kohlhaas Manufacturing AST system

**VENDOR SESSION**

**Doug Mann, Vista Research**

- ATG Team (and WG) should consider developing policy for listings when new equipment is evaluated vs. comparisons. Can be a topic for full group discussion at this meeting if desired. Has been discussed at past meetings and some members have concerns.

Vista Po/PFa – 97/3 Volumes up to 3400 gal. 0.000916% LDT @ 95/5.

- New federal rule – max leak detection rate.
- Max LDR equates to 0.002% per test section, except larger than look.
- Test length – 3 hours, 10 minutes
- Issues: air pockets, isolation
- Limit leak rate to 0.1 GPH floor

**Kevin Keegan, Tanknology**

- ADC (OPW Flexworks) Loop System, Sump wet testing not required??
- Howard Dockery expressed concern that federal rule requires simulated 0.2 GPH leak for ELLD.
- ELLD/MLLP – replace with IN 2 positive shutdown.
- Sump wet testing (above 1 “ sensor acceptable)?
- Removal of overfill for testing (OPW2 – can test in ground).
- Greg – PERIO CITY

**Sam Gordji, SSG Associates**

- Generating and Understanding Theoretical and Experimental Leaks

**Business (Continued)**

Listings for Airport Hydrant System

- Can max capacity be expressed as a percentage per volume of pipe line.
- Will be changing the listings to show the gph leak rates rather than expressing it as a percent of volume, so that it corresponds with the established leak rates in the new rule.
- Vendors will be asked to conduct the conversions. A third party evaluation will not be listed unless they actually want to change the listed threshold.
- Those methods not meeting at least 3.0gph will be put in a separate place, as they don’t meet any of the newly established leak rates for this system.
- The name of the method needs to change- it is not based on diameter. And the first category is 0-50,000 gallons, so bulk piping method does not appear correct either. As such, the name of the method will be directly linked to airport hydrant fuel distribution and field constructed tank system piping.
- Sliding scale to adjust variable volumes for each site.
- Listings are separated.
- SPCC rules address release prevent from tanks and portions of aboveground systems.
- Tank system volume is only used to calculate total for 10% portion to determine regulation.
• DOD guidance same? – Used to define evaluation process and testing criteria.
• 0% will assess regulatory status before end of seven (7) year window.
• Additional modifications to field cons.

Protocol Update –

• 2000-2002 Quigley study was basis for protocol revisions.
• Batelle contractor (2012).
• Ethanol issues – Included impact on functionality of water sensor for ATG’s.
• Literature, field study or lab – suitability assessment developed targeted objectives.
• Stakeholder groups, EPA covered each protocol revision by conference calls and made style revisions.
• Non-Volumetric/Volumetric.
• STI – Requested during later review and comment period quantify sensor in a predetermined office leak.
• Early (January – March 2017).
• Some states still use VM/GWM (MS?) protocols were excluded, original will still be used.
• Final comment period ended last Friday.

Discussion of Sam Gordji Presentation:

• List of changes for each protocol to be released at the same time.
• Told Batelle not to address issues other than those targeted in Quigley report.
• E15 Mandate sooner than later, protocols.
• Distinguish E10 from E15 for compatibility with leak.
• Readers will not need to re-evaluate equipment.
• Some states want ethanol rating compatibility on NWGLDE listing.
• New protocol for sensors will include compatibility.

Discussion of Vista Research Presentation:

• Heather will notify all parties/vendors on large pipeline list, Mike will begin LUST Line article on method.
• Include examples.

Discussion of Tank Tech Presentation
• No response needed from workgroup, may need to ask ASTSWMO for state responses.
  Sam Gordji – didn’t tie together. Concluded with Howard to comment on Dr. Gordji’s presentation did not request anything from the workgroup.

***UST Inspector webinar – Marcel Moreau/Howard Dockery/Bill Jones/Tim Smith.
  - Date/time not yet announced.
  - LUST Line – CITCOS article for LUST Line.

Next:
  Review policy #1 at next meeting.
  Heather will draft policy to reflect change to policy #3.

1st Article- AHS and FCT piping method- Mike first draft.
2nd Article – Helen and Shaheer will draft.

RP100 committee changes.

  1. Venting STP sumps (active systems)

Other issues
  • FRP tanks/vapor recovery issue, product standing in drop tube affecting CSLD and SIR.
  • CARB problem.
  • 4” High water vacuum will increase fuel column 2-3 Inches.
  • Mainly found at high throughout sites with SIR and CSLD.
  • By passing Stage I EVR
## ATTENDANCE LIST
National Work Group on Leak Detection Evaluations
San Diego, CA
October 3, 5, and 6, 2016

<table>
<thead>
<tr>
<th>Name</th>
<th>Representing</th>
<th>Phone Number</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter Relle</td>
<td>NUC/DOE/DARIC</td>
<td>362-375-2500</td>
<td><a href="mailto:Peter.Relle@stoe.de.us">Peter.Relle@stoe.de.us</a></td>
</tr>
<tr>
<td>Shabair Mahanna</td>
<td>NWGL/DOE</td>
<td>404-367-2579</td>
<td><a href="mailto:Shabair.Mahanna@dnr.ca.gov">Shabair.Mahanna@dnr.ca.gov</a></td>
</tr>
<tr>
<td>Mike Jones</td>
<td>NREL/DOE/NH</td>
<td>603-271-6058</td>
<td><a href="mailto:Michael.jones@des.nh.gov">Michael.jones@des.nh.gov</a></td>
</tr>
<tr>
<td>Wesley McGain</td>
<td>NREL/DOE/MS</td>
<td>662-296-3400</td>
<td><a href="mailto:wmcgain@nrel.gov">wmcgain@nrel.gov</a></td>
</tr>
<tr>
<td>Tim Smith</td>
<td>NREL/DOE/PA</td>
<td>202-564-6443</td>
<td><a href="mailto:Smith.Time@epa.gov">Smith.Time@epa.gov</a></td>
</tr>
<tr>
<td>Heather Peters</td>
<td>NREL/DOE/MDNR</td>
<td>513-757-7877</td>
<td><a href="mailto:heather.peters@doe.gov">heather.peters@doe.gov</a></td>
</tr>
<tr>
<td>Helen Robbins</td>
<td>NREL/DOE/CT DEEP</td>
<td>860-424-3291</td>
<td><a href="mailto:helen.robbins@ct.gov">helen.robbins@ct.gov</a></td>
</tr>
<tr>
<td>Marcia Foxson</td>
<td>NREL/DOE/MI</td>
<td>517-548-3965</td>
<td><a href="mailto:foxson.m@michigan.gov">foxson.m@michigan.gov</a></td>
</tr>
<tr>
<td>Jason Cooke</td>
<td>WA Dept of Ecology</td>
<td>509-359-3405</td>
<td><a href="mailto:jcoo@cew.wa.gov">jcoo@cew.wa.gov</a></td>
</tr>
<tr>
<td>Don Taylor</td>
<td>TDEC-UIST</td>
<td>423-854-5591</td>
<td><a href="mailto:don.taylor@tn.gov">don.taylor@tn.gov</a></td>
</tr>
<tr>
<td>David Wilson</td>
<td>Utah DEQ</td>
<td>201-536-4138</td>
<td><a href="mailto:dwilson@utah.gov">dwilson@utah.gov</a></td>
</tr>
<tr>
<td>Greg Barofka</td>
<td>WDATCP</td>
<td>608-224-5150</td>
<td><a href="mailto:greg.barofka@wi.gov">greg.barofka@wi.gov</a></td>
</tr>
</tbody>
</table>
# ATTENDANCE LIST
National Work Group on Leak Detection Evaluations
San Diego, CA
October 4th and 6, 2016

<table>
<thead>
<tr>
<th>Name</th>
<th>Representing</th>
<th>Phone Number</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas Mann</td>
<td>VPSI</td>
<td>509.943-2489</td>
<td>dmann@vista膳</td>
</tr>
<tr>
<td>Craig Wilcox</td>
<td>Ken Wilcox Assoc.</td>
<td>816.683.9295</td>
<td><a href="mailto:cwilcox@kwaltek.com">cwilcox@kwaltek.com</a></td>
</tr>
<tr>
<td>Jane Emrickson</td>
<td>VPSI</td>
<td>916.638.2066</td>
<td>jemrickson@vista膳</td>
</tr>
<tr>
<td>Howard Dickey</td>
<td>Simmons</td>
<td>772-497-7007</td>
<td><a href="mailto:Howard.Dickey@Simmons.com">Howard.Dickey@Simmons.com</a></td>
</tr>
<tr>
<td>Tom Gordy</td>
<td>SSGA Assoc.</td>
<td>662-202-5357</td>
<td><a href="mailto:sgordy@sgaegreene.com">sgordy@sgaegreene.com</a></td>
</tr>
<tr>
<td>David Robb</td>
<td>Leak Detection Technology</td>
<td>865-255-5825</td>
<td><a href="mailto:David@MDIleak.com">David@MDIleak.com</a></td>
</tr>
<tr>
<td>Bill Jones</td>
<td>Warren Rogers</td>
<td>480-346-4747</td>
<td><a href="mailto:wijones@warrenrogers.com">wijones@warrenrogers.com</a></td>
</tr>
<tr>
<td>William Linstin</td>
<td>VPSI</td>
<td>509.943.2489</td>
<td>wliestin@vista膳</td>
</tr>
<tr>
<td>Kevin Keegan</td>
<td>Technology</td>
<td>817.420.3860</td>
<td><a href="mailto:kkeegan@Technology.com">kkeegan@Technology.com</a></td>
</tr>
<tr>
<td>Randy Burcher</td>
<td>FFS</td>
<td>207.571.1137</td>
<td><a href="mailto:rburcher@FranklinEnergy.com">rburcher@FranklinEnergy.com</a></td>
</tr>
<tr>
<td>Charles Fenton</td>
<td>HCNA</td>
<td>603.828.1670</td>
<td><a href="mailto:fenton@chna-hc.com">fenton@chna-hc.com</a></td>
</tr>
</tbody>
</table>