

NATIONAL WORK GROUP ON LEAK DETECTION EVALUATIONS
Policy Memorandum #3
Summary of Work Group Procedures

November 29, 1999; Revised May 1, 2000

Work Group Team Procedures

I. Team third-party leak detection system **evaluation** review process:

- A. The team leader receives evaluation information from vendor.
- B. The team leader, upon receipt of the evaluation, shall survey the material in accordance with the "Leak Detection System Review-Document List" (refer to the front of the List) and if incomplete, request the additional information in a timely manner.
- C. After a complete submittal is received, the team leader shall send notice to the "List Administration" team leader to add the leak detection system to the "Under Review" section of the List.
- D. The team leader may review the evaluation or may designate one or more team members to review each evaluation. If more than one member is designated to review the evaluation, the team leader shall designate one of the members as the lead member for the review. The full team should review evaluations containing complex issues.
- E. The team leader shall distribute a copy of the complete evaluation to the designated member(s).
- F. Team member(s) shall review the evaluation in accordance with Work Group review criteria and try their best to complete the review within 3 months. If necessary, the lead member must notify the vendor of any concerns that must be addressed.
- G. 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 shall notify the vendor by certified letter that the system will be removed from the "Under Review" section of the list. The "List Administration" team leader will be notified to delete it from the "Under Review" section.
- H. When all concerns are resolved, the lead member will prepare a draft leak detection system data sheet in accordance with Work Group policies and submit a copy to the vendor for review and comment. The data sheets must be stamped "draft" before any data sheets are sent out. Send the draft data sheet using a method which will verify receipt by the vendor. The vendor will be asked to approve the draft data sheet in writing. Verbal approval should not be accepted.
- I. The lead member will finalize the data sheet and e-mail it to the team leader for final review. The team leader will make sure the data sheet is correct and then e-mail the final data sheet to the "List Administration" team leader who will add the leak detection system to the List and remove it from the "Under Review" section.
- J. The "List Administration" team leader makes all necessary editorial changes and finalizes data sheet. If necessary, the team leader sends changes by e-mail to the lead member, and gives the lead member 10 days to review.
- K. After 10 days, the "List Administration" team leader will add the new data sheet to the List.
- L. The lead member reviewing the evaluation needs to keep an official Work Group file of information used during the evaluation review process.

II. Team third-party leak detection test method **protocol** review process:

- A. The team leader receives an outline of the draft protocol from a peer review committee summarizing the results of the committee's review of a draft protocol.
- B. The team leader immediately submits the outline to the team for its review.
- C. The team leader collects comments from the team and submits a written summary of the team comments to the peer review committee chairperson within the time frame indicated by the peer review committee.
- D. The team leader receives a final draft protocol from a peer review committee.
- E. The team leader, upon receipt of the final draft protocol, shall survey the material and if incomplete request the additional information in a timely manner.
- F. After a complete submittal is received, the team leader shall designate one of the members as the lead member for the review. All final draft protocols shall be reviewed by all members of the team.
- G. Team member(s) shall review the final draft protocol in accordance with Work Group review criteria and try their best to complete the review within 3 months. If needed, team members should seek input from outside experts, which may extend the time necessary to complete the review.
- H. The lead team member must provide written comments to the peer review committee explaining any concerns that must be addressed.
- I. The peer review committee shall submit to the Work Group a final protocol that includes a written response to each of the written comments submitted by the Work Group team.
- J. All team members, including the team leader, shall review and discuss the final protocol to assure that the team's concerns have been adequately addressed. Team members must concur on whether or not the final protocol addresses the concerns or meets the standards of the Work Group.
- K. If the final protocol addresses the concerns or meets the standards of the Work Group, the lead team member shall e-mail the final protocol name, author, and date to the "List Administration" team leader who will add it to the "Acceptable Test Protocols" section of the List.
- L. If the final protocol does not address the concerns or meet the standards of the Work Group, it will be returned with written comments to the peer review committee for reevaluation and/or redesign and the process starts over again at Item H above.
- M. The lead team member who reviews the listed final protocol needs to keep an official Work Group file of information used during the review process. The Work Group Chairperson and all team members who will be reviewing third party tests using the protocol shall keep a copy of the listed final protocol.

III. Work Group leak detection system data sheet revision process:

- A. The team member shall revise data sheets, as necessary, in a manner that makes the corrections clearly discernable, and send them to the "List Administration" team leader.
 1. If necessary, the team member should provide a cover memo with explanation(s) of revisions.
 2. The team member needs to clearly indicate on data sheet if it is new or revised.
- B. "List Administration" team leader will revise and, if necessary, make editorial changes to the revised data sheets, send by e-mail to the team member, giving the team member 10 days to review them.
- C. After 10 days, the "List Administration" team leader will add the revised data sheet to the List.

Work Group Review Policies

I. Work Group third-party leak detection system evaluation review criteria:

- A. All leak detection systems must be third-party evaluated with simulated leak rates blind to the equipment manufacturer's representative.
- B. In order for an evaluation to be listed, third-party evaluation reports must clearly state which previous approved protocol was used to conduct the evaluation. The Work Group will not review any evaluations that do not follow either:
 - 1. A Standard EPA protocol, or
 - 2. An alternative protocol reviewed and accepted by the Work Group.
 Acceptance must be obtained before the Work Group will begin the evaluation review. Changes to an existing protocol must be discussed with and accepted by the Work Group before testing, or before continuing testing if the evaluator identifies concerns during testing. Regular communication with Work Group members can expedite the review. For planning purposes, anticipate at least a six-month review process for a complete evaluation package.
- C. The evaluation must confirm that the system meets minimum EPA and/or other regulatory performance standards.
- D. Listing of system(s) which are identical to evaluated leak detection system requires:
 - 1. Submittal by the evaluator of a detailed letter verifying that the system is identical to the evaluated system and describing how the determination was made, and
 - 2. A finding by the Work Group that the information is complete and acceptable. (If information is not complete and/or acceptable, the leak detection system will be listed as "under review" for the other vendor or vendors until the Work Group receives written confirmation from the third-party evaluator that the system is identical to the evaluated system.)
- E. When special clarification is desirable, system data sheets should comment on the source of data used during the evaluation.
- F. A vendor desiring to list their system as a continuous or automated leak detection system should submit an evaluation package for the system which followed the Continuous In Tank Leak Detection System (CITLDS) or equivalent protocol. If modifications to the CITLDS or equivalent protocol are used, Work Group approval of the protocol must be obtained before the third-party testing occurs. Data used within this type of system must be automatically gathered and transmitted for analysis and monitoring.
- G. If a problem is discovered with a third-party test after a system data sheet has been added to the List, the vendor shall be given a reasonable time period to provide information clarifying the test. The data sheet listing will be removed from the List and instead listed in the "Under Review" section if: 1) the vendor must re-test the system to correct the problem; 2) the vendor provides an unsatisfactory response to this request; 3) the vendor fails to respond to this request. The system data sheet may be reinstated on the List after all third-party test concerns are resolved. If concerns cannot be resolved or if there is no response from the vendor, the system will be removed from the list.

II. Work Group third-party leak detection "system specific" evaluation review criteria:

- A. Automatic tank gauges (ATG's):
 - 1. For mass measurement systems, waste oil may be listed as an applicable fluid if indicated by the third party test.
 - 2. New probes used with ATG's that were previously evaluated must be reviewed using either "Test Procedures for Comparison of Different ATG Probes" or an equivalent protocol approved by Work Group.
 - 3. Only ATG's that have completely followed the Volumetric Tank Tightness Test protocol, including providing a method to adequately determine and compensate for groundwater, may be listed as a Volumetric Tank Tightness Test Method. Otherwise, ATG's evaluated at 0.1 GPH will be listed in the ATG category.

II. Work Group third-party leak detection "system specific" evaluation review criteria (continued):

4. If information is not included in the evaluation on frequency of calibration and maintenance of temperature and level sensors, or if "never" is marked on the evaluation sheets, the data sheet should state that the sensors shall be checked and calibrated in accordance with the manufacturers instructions.
5. Based on a standard evaluation under the ATG protocol, the minimum product level for a valid test shall be listed as 50% of the tank volume. Additional calculations may be performed by an evaluator to determine if product level affects a system's performance (see Section 7.3.5 of the EPA ATG protocol). After review and acceptance of an amended evaluation by the Work Group, the ATG data sheet may be revised to list lower test levels for specific tank sizes.
6. The data sheet comment section shall include the following statements:
 - a) Tests only portion of tank containing product.
 - b) As product level is lowered, leak rate in a leaking tank decreases (due to lower head pressure).
 - c) Consistent testing at low levels could allow a leak to remain undetected.

B. Sensors

1. Cable sensors will be listed separate from point sensors. The format will be similar to liquid point sensors.
2. Float Switch and GC evaluations will be reviewed and listed by Work Group.
3. Do not include the protocol that each sensor was evaluated under on the list.
4. Do not list accuracy for qualitative sensors.
5. Do not list activation height, just lower detection limit.
6. List as many similar sensors on one sheet as possible.
7. For liquid sensors, whether or not the sensor discriminates between water and hydrocarbons needs to be noted.

C. Volumetric tank tightness tests (underfill)

1. The data sheet comment section shall include the following statements:
 - a) Tests only portion of tank containing product.
 - b) As product level is lowered, leak rate in a leaking tank decreases (due to lower head pressure).
 - c) Consistent testing at low levels could allow a leak to remain undetected.
2. List tank product test levels that are consistent with the protocol. Additional testing at lower tank levels may be performed by the evaluator. All test results should be reviewed by the evaluator to determine if product level affects a system's performance (see Section 7.3.5 of the EPA ATG protocol). After review and acceptance of the evaluation by the Work Group, the Volumetric data sheet may list lower test levels.

D. Non-volumetric tank tightness tests (ullage)

1. The test cannot be conducted on an empty tank unless groundwater is monitored.
2. Non-volumetric vacuum decay tests may be affected by vaporization of lighter end hydrocarbons. Therefore, evaluation tests must include a series of tests on gasoline. If not, the specification sheet should not list the lighter end hydrocarbons.

E. Statistical inventory reconciliation (SIR)

1. List all leak rates evaluated on the evaluation summary.
2. Indicate on SIR system data sheets if manifold tank data was or was not used during evaluation. If evaluation was performed using the NWGLDE SIR protocol for manifolded tanks, state that the evaluation for the manifold tank system was performed using an acceptable protocol. Also, indicate the percent of manifolded tank data used during the evaluation.
3. SIR vendors may add manifolded tank data to existing evaluation data to meet the requirements of the SIR protocol for manifolded tanks.
4. Indicate on the data sheet the source of data used in evaluation (ATG, manual, etc.).

F. Hybrid SIR

1. Do not require evaluation of electronic stick and point of sale equipment.
2. List combined hybrid SIR systems that are third-party evaluated using an acceptable protocol.

III. Work Group third-party leak detection test method protocol review criteria:

- A. All leak detection test method protocols must be written by a third-party.
- B. All leak detection test method protocols must be peer reviewed by a peer review committee.
- C. Protocols must meet all EPA requirements listed under "Alternative Test Procedures Deemed Equivalent to EPA's" which is included in the Foreword to all EPA "Standard Test Procedures for Evaluating Leak Detection Methods".

Work Group List Procedures

I. List Availability:

- A. The List shall be available to all state UST contacts, vendors, evaluators, EPA Regional Offices, local government and tribal contacts and to all other interested parties via the EPA web site on the internet and any and all other web sites that wish to make the List available.

II. List Format:

- A. The List should initially be formatted basically the same as the California List.
- B. First, a summary of leak detection systems is included listed alphabetically by method, and then vendor. Following this are individual data sheets describing each system listed alphabetically by vendor and then by method.
- C. There shall be an "Under Review" section included in the List which should contain:
 - 1. Leak detection test method in the first column,
 - 2. Vendor name, address and phone number in the second column,
 - 3. Leak detection system model in the third column,
 - 4. Third-party evaluator name and date of evaluation in the fourth column.
- D. A questionnaire concerning the usefulness and utilization of the list by field inspectors shall be included in the List.
- E. Sample maintenance checklists shall be included in the List as they are developed.
- F. All pages of the List must have the following:
 - 1. A disclaimer,
 - 2. A revision date,
 - 3. A page number.
- G. The summary section of the List shall have tank and piping capacities listed.
- H. The List shall include only acceptable peer reviewed third-party test method protocols and will not include protocols under review.
 - I. A glossary of technical terms shall be included in the List.
- J. The List shall include the third-party evaluator's phone number.
- K. The List shall not cross reference identical leak detection systems marketed by more than one vendor unless requested to do so by all vendors who market the system.
- L. All evaluation dates and evaluation revision dates should be shown on the List.
- M. When the Work Group is made aware, the List includes information concerning status of the vendor such as "no longer in business" and/or "no longer provides technical support".
- N. The List disclaimer shall include a statement that says equipment should be installed and operated in accordance with all applicable laws and regulations.
- O. All applicable data sheets should indicate that a tank system should not be declared tight if a loss or gain equals or exceeds the threshold.