October 1, 1996

TO: Fellow Work Group Members

FROM: Ellen Van Duzee

SUBJECT: Minutes from National Work Group on Leak Detection Evaluations meeting in Traverse City, MI (September 26 & 27, 1996)

MEMBERS PRESENT

Curt Johnson (ADEM)
Mike Kadri (MI State Police)
Beth DeHaas (MEDEP)
Russ Brauksieck (NYDEC)
David Wiley (EPA-HQ)
Tom Springer (OKCC)
Ellen Van Duzee (EPA-IOO)
Shahla Farahnak (CAWRCB)
Lamar Bradley (TNDEC)
Billy Faggart (EPA-HQ)

SEPTEMBER 26TH MINUTES

NEW WORK GROUP MEMBER: Curt welcomed Billy Faggart from EPA's Office of Underground Storage Tanks to the Work group.

ALTERNATIVE (OTHER) PROTOCOL LIST: Shahla proposed a motion that each alternative protocol team leader send the following information to Curt by **October 15th** (title of protocol, date protocol completed, protocol author with address & phone number). Those protocols which are still under review by the Work Group will be included in the Table, but it will be indicated that they are still in a review status. The motion was passed by the Work Group.

LIST REVISIONS: Curt distributed revised & non-revised pages to applicable team leaders. Team leaders need to review these pages and get back to Curt **by October 15th** with any changes/comments.

MEMO TO VENDORS & 3RD PARTY EVALUATORS: Curt distributed a memo he prepared which he would like to send out to vendors and third party evaluators inviting them to our future meetings. Work Group members were asked to review the memo and submit any comments on it to him **by October 15th.**

LIST INFORMATION/ADVERTISEMENT PAGE: Curt distributed a page he prepared on the List which discusses what's included in the List and how you can obtain or access it. Work group members were asked to review this writeup and submit their comments to Curt **by October 15th**.

LIST USER SURVEY: The User Survey which was prepared by Ellen last spring and handed out at last year's National Conference will be reformatted and attached to the National List for national distribution in November.
Approximately 15 user survey responses have been received to date. Respondent comments were discussed.
One respondent suggested that the theory of operation of each technology be included in the List. The Work Group agreed that the List glossary could be expanded upon to provide some of this information. **Each team leader will prepare writeups for the glossary which briefly define relevant technological terms. These writeups will be submitted to all fellow Work Group members at least 2 weeks before the next meeting so that members can discuss new glossary inclusions at the next meeting.**
A suggestion was made that the specification section include more information especially with regards to the liquid and vapor sensors. David will look into expanding upon the existing liquid and vapor sensor writeups.

ADDITIONAL EVALUATOR INFO: It was suggested that the List include the third party evaluator's address and phone number. It was agreed (?) that we will include the evaluator's phone number unless we get objections from the evaluators on this. I am unclear on whether we are going to try to include phone numbers for the November printing or for a later date.

WHO (WHICH TEAM MEMBER) DID THE THIRD PARTY EVAL. REVIEW?: Curt suggested that team member initials be included on each specification page so that it is clear who is/was responsible for the review. Work Group members did not concur on Curt's suggestion but did agree to put more effort into assuring Curt is clear on who conducted the review.

TEAM MEMBER TABLE REVISIONS: Harold Scott and Randy Nelson need to be removed from the Team member Table.

NEW PROTOCOL TABLE REVISIONS:
* We will delete the Liquid Point Sensor, the Cable Sensor, and the Vapor/Radian Sensor Protocols.
* "Continuous ATG Protocol" will be deleted from the New Protocol Table and will be renamed "Continuous In-Tank Leak Detection Systems" (CITLDS) since this is the protocol title. This protocol will be added to the Team Member Table.
* "Large Tank ATG" will be deleted from the New Protocol Table and added to the Team Member Table under the ATG team.
* "Large Tank Volumetric" will be deleted from the New Protocol Table and added to the Team Member Table under the Volumetric team.
* "Maintaining Pressure or Vacuum on Double walled Tanks" will be deleted from the New Protocol

Table and added to the Team Member Table under the Vapor/Liquid/**Interstitial** team.

* "Large Pipeline" will be deleted from the New Protocol Table and added to the Team Member Table under the Pipeline team.
* The "Other" category in the Team Member Table will be revised to read **List Administration/Other Methods.**

WORKLOAD ALLOCATION: Individual team workloads were discussed resulting in the following leader/member teams.

Volumetric Team - No changes (workload is manageable). Beth remains team leader with Russ remaining as team member.
Non-Volumetric Team - Shahla remains team leader, Russ will be added as a team member, may add newly elected member also to replace Tom Springer.
ATG Team - Ellen remains team leader, Russ remains as team member, need to add Beth as team member since she has been assisting with the reviews for quite a while.
SIR Team - Lamar remains team leader. Mike remains as team member. Billy Faggart needs to be added as team member. Beth will be deleted as a team member but she will complete the SIR review work she has been doing.
Vapor/Liquid/Intstit Team - David remains team leader. Ellen will be deleted as a member. Mike Kadri will be added as a team member.
Pipeline Team - Mike remains team leader. Tom will be deleted as a team member. Shahla will remain as a team member. Should the newly elected member be added here?
CITLDS Team - Shahla is the team leader. Billy and Mike are the team members

NEW MEMBER ELECTION:
The qualifications of the following 7 candidates were discussed.

Ian Bingham (AZ)
Beth Endersve (MN)
Kevin Henderson (MS)
Jeff Tobin (MT)
Eddy Hales (NC)
John Wietfeld (WA)
Farid Maghadam (FL)

After careful consideration of the candidates qualifications, the members voted. Jeff Tobin was elected to be the new member with Beth Endersve as a backup should Jeff decline.

LD EQUIPMENT MAINTENANCE CHECKLISTS: Shahla wants comments on the ATG and mechanical line leak detector checklists **by early November** so that they can be included in the November printing. David will begin to develop a similar maintenance checklist for vapor, ground water, and interstitial monitors which will be incorporated into the November 1997 printing.

TEAM LEADER UPDATES:

SIR - Lamar discussed the new SIR Protocol for Manifolded Tanks which was largely developed by

Jerry Flora and Arron Rambach. Since a good deal of the document was adapted from the CITLDS protocol, Shahla stated that she felt credit for the CITLDS Protocol should be mentioned in the new Sir protocol. Lamar briefly discussed the throughput concern associated with the SIR protocol. A review of the SIR methods which have undergone third party review reveals that these methods were evaluated using a wide variety of throughputs. It is unclear at this time whether or not throughput is an important factor in evaluating SIR methods. Once the SIR Protocol for Manifolded Tanks is finalized (Lamar would like to finalize the protocol as soon as possible), Lamar plans on sending the Protocol to SIR vendors on the List. He will ask them to do the additional work required in this Protocol if they want to appear on the List as systems capable of testing manifolded tanks.

CITLDS - Shahla has concerns with the addendum to the CITLDS Protocol which requires 1 month of field verification in addition to the facility testing. She explained that the Protocol went through a public comment period and that Mike and Randy added the addendum after the public comment period. She contends that there was no public comment on the addendum and that vendors are now complaining about the need for the field verification as well as the added costs. She would like to see the addendum go through public comment before it is considered final. Mike stated that he felt the field verification was very important especially with regards to evaluating whether a CITLDS can accurately detect leaks on high throughput tanks. The following motion was made.
MOTION: The protocol addendum will be put out for public comment. CITLDS's which have followed the 1995 Protocol but which have not done the field verification will be included on the List with a comment that no field verification has occurred. If the addendum is accepted, all CITLDS's will have to conduct the field verification testing to remain on the list. A memo will go out to all CITLDS vendors explaining this.
The motion passed with unanimous approval.

VOLUMETRIC - Beth stated that large tank volumetric tests are pretty much all that is coming in now and that the work load is relatively light.

LIQUID/VAPOR/INTERSTITIAL - No news on the liquid/vapor front. David discussed bladders briefly and mentioned he had some concerns associated with interstitial monitoring of double wall bladder tanks. Bladder wall permeation was also discussed. Mike was concerned with air quality emissions from double wall bladder systems which vent the interstitial space to the atmosphere. It was mentioned that Mallory is no longer manufacturing Pollulert liquid & vapor sensors. David will add this information to the comments section in the applicable specification sheets.

NON-VOLUMETRIC - There are 2 methods currently under review.

SIR - Lamar brought up the issue of electronic gauge sticks and asked the Work Group whether they felt these needed certification. There were dissenting opinions and no decision was made.

ATG - Beth discussed her concerns with ATG vendors who wish to be listed as volumetric tank tightness testers after certifying their methods to 0.1 gph following the ATG protocol. She explained that the ATG protocol is not as rigorous of a test especially with regards to the methods ability to

compensate for tank end deflection and temperature changes. It was agreed that only ATG's which have followed the Volumetric Protocol will be listed as volumetric tank tightness test methods. Most of the ATG backlog has been addressed. ENRAF's Stic 818 is the only system at this time which needs to be reviewed. A final contact will be made with Alert to see where they stand with the 2000X and 2000XB. If the concerns have not been addressed they may be dropped from the list. Incon is currently performing .05 leak testing so they will remain under review. All other Under Reviews have been addressed, and 3 new ATG writeups will be included in the November printing.

HYBRID SIR - These systems tie automatic/electronic liquid level gauges into SIR software and are the direction that SIR seems to be heading. David posed the question: Should there be a requirement for testing the precision of the electronic liquid level data? It was stated that if we do nothing with these systems there may be increased inconclusives being found in the field. Again, no decision was made on how or even if the Work Group should address this issue.

FUTURE WORK GROUP FUNDING - It was decided that there is sufficient funds available for meeting twice a year.

NEXT MEETING - The next meeting will be held in conjunction with the 1997 National Conference in Charlotte, NC. We will have a two-day meeting beginning on March 12th. March 13th will be dedicated to vendors with some time devoted to a Work Group wrap up meeting. David will arrange for a meeting room. Shahla will take the minutes.

WORK GROUP LEADER - Once again, Curt was voted in for another year of heading up the Work Group. Congratulations Curt!

WORK GROUP MEMBER LIST UPDATES - When team members change or their addresses &/or phone numbers change they need to let Curt know as soon as possible. Curt will update the team member list when any changes occur and send hard copies of the revised list to all Work Group members so that they are always current on how to contact fellow Work Group members.

ACCESS SUMMARY - Billy discussed conclusions drawn from 20 state databases. The information was obtained when OUST downloaded the state's data into ACCESS. From the data it was concluded that ATG's are the main leak detection method being used on newer tanks and SIR is the main method being used on older tanks.

SEPTEMBER 27TH MINUTES

This was the Work Group's first "Vendor's Day"; a day dedicated to listening to and discussing leak detection issues from the vendor's and third party evaluator's perspective. All Work Group members were present and the following vendors and third party evaluators attended:

Sam Gorgi (SSG Assoc) Jerry Flora (MRI)

Warren Rogers (WRA)
Howard Dockery (Simmons Survey)
Clifton Miller (USTMAN)
Ken Wilcox (KWA)
Bob Hart (Veeder-Root)
Jack Horner (Horner Prod)
Randy Nelson (Watson Sys)

RANDY NELSON'S PRESENTATION

Randy provided an overview of Tank Control, a software system which his company markets to tank owners. The software can be tied into any equipment with a modem. It allows the user to dial into several remote locations and access onsite tank inventory data, leak detection equipment data, delivery info., etc.

KEN WILCOX'S PRESENTATION

Ken briefly discussed his new test facility which is now complete and allows him to test leak detection equipment on 20,000 gallon tanks. He also discussed his concerns and opinions on third party certification of leak detection equipment. He feels that when we do a third party certification we should preset the PD and Pfa and then calculate the minimum detectable leak rate from the data. We then would not have to worry about things like throughput, tank size, and whether or not the system can be used on manifolded tanks because decisions would be made based on the quality of the data. He feels that we need a clear definition of what a hybrid SIR system is so it is clear how these systems differ from CITLDS's.

JERRY FLORA'S PRESENTATION

Jerry feels that leak detection technologies have improved but that the protocols have not. Perhaps we need protocol revisions to reflect the leak detection improvements. He cited the example that the tank tightness testing, the ATG, and the SIR protocols were all developed for single wall tank applications, not for manifolded tanks. He also feels the Work Group should have procedures in place for more quickly reviewing new protocols. He discussed his concerns with SIR's ability to find line leaks on pressurized piping. On low use tank systems (i.e., the pump is only used 2 hours a day) you may not pick up a piping leak with SIR.

JACK HORNER'S PRESENTATION

Jack discussed his new electronic tank gauge which ties into the Horner SIR PRO system. The ultrasonic sensor is lodged into a tank just offset from the fillpipe by a spring mechanism. A coaxial cable runs up through the fillpipe to an interconnection box which runs to a PC. The SIR PRO software runs tests every day with the previous 30 days of inventory data. The question was posed, Does this system now need to be recertified as a hybrid SIR system?

BOB HART'S PRESENTATION

Bob provided a detailed discussion on his concerns related to SIR. He feels throughput is an important factor which must be considered to assure you are getting accurate SIR leak detection results. He has obtained data which shows that as throughput goes up, dispenser meter error goes up which contributes to inaccurate SIR results. Inaccurate tank charts also contribute to inaccurate SIR results which increase as throughput increases. The thermal expansion properties of petroleum also contribute to inaccurate leak detection results which increase as throughput increases. As fuel

travels through piping, it can heat up, expand, and throw inventory readings off. Vapor loss is another factor which can throw inventory readings off. The higher the throughput (the more fuel dispensed), the more vapor loss, and the more error. Vapor loss error is less of a factor on systems with stage 2 vapor recovery. Bob conducted an analysis of monthly throughputs for tanks across the country and from this data concludes that more than half of the tanks in the country have monthly throughputs in excess of 50,000 gallons which may have significant SIR error problems. He has concerns with the SIR third party evaluations which were all done on monthly throughputs of 45,000 gallons or less.
Warren Rogers and the other attending SIR vendors did not concur with Bob Hart's findings.

THUR. PM WORK GROUP FOLLOWUP MEETING

The Work Group reconvened following the vendor/evaluator presentations to discuss followup issues.

SIR PROTOCOL CHANGES - Lamar discussed the changes he would be making to the SIR Protocol for Manifolded Tanks after his discussions with Mike, Beth, Jerry Flora, Ken Wilcox, and Billy. Ken felt we should not go back to previously certified SIR vendors and recertify them following the new protocol for manifolded tanks. Beth made the following motion:

> All SIR vendors that wish to be on the List as being able to test manifolded tanks must follow the new SIR Protocol for Manifolded Tanks.

The Work Group unanimously approved the motion with the exception of Mike who abstained from voting.

THROUGHPUT - Mike made the following motion:

> Eliminate all statements regarding throughput on the List.

The motion was dropped.

LONGER MEETINGS - Lamar proposed that we have longer meetings and that the vendor's meeting be limited to half a day. It was decided that our next meeting will be 2 days long. The first day will be a closed Work Group meeting. The morning of the second day will be devoted to vendors/evaluators. In the afternoon, the Work Group will reconvene to discuss followup issues.

VENDOR/EVALUATOR SESSION - Curt will collect all the responses from the vendors and evaluators who wish to attend our next meeting. He will provide a summary of the responses to all Work Group members and we will collectively decide who will make presentations at our next meeting.