AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

Air Pollution Control Board
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Air Pollution Control District
R. J. Sommerville Director

May 21, 1998

Tom Cackette, Chief Deputy Executive Officer
Air Resources Board
P.O. Box 2815
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AGREEMENTS REACHED ON MAY 8, 1998

It is our hope that significant improvements to the vapor recovery program will occur as a result the May 8, 1998, meeting. The following is our understanding of what was stated and agreed to in the meeting.

An executive committee will be formed in the near future. The committee will identify issues and track solutions regarding the vapor recovery program. We anticipate this will include certification processes and procedures, test procedures for initial installation and ongoing compliance, inspection procedures, maintenance requirements, and new technologies to improve system reliability such as your suggestion for a self-diagnostic testing system.

It is my understanding you will chair the committee and that the Chair, CAPCOA Vapor Recovery Committee, and I will be members. The first meeting should be scheduled in the near future.

The following is a summary of what our understanding in regard to the CAPCOA recommendations, which are still pending resolution. Our understanding is enumerated below.

I(c) asks ARB to prohibit further installation of hoses with internal vapor tubes that are prone to kinking. Aside from prohibiting the "curly-Q" hose loops on bootless nozzle system dispensers, ARB is not sure what to require at this stage but is working with hose manufacturers.

I(d) requests ARB add a requirement to the applicable Executive Orders that no dispenser be used following a drive-off until the dispenser hose passes an ARB-approved vacuum test or the hose is disassembled and inspected for damage, reassembled and the hose and dispenser piping checked for leaks. ARB agreed to language in the Executive Orders addressing the problem of drive-offs but was not sure yet what the language would entail. We can provide suggestions.

I(e) requests that industry adopt the "bag test" to verify that air is not being ingested into the nozzles. ARB agreed to add the bag test to the Executive Orders. No completion date was established.

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I(f) recommends that ARB require systems to be installed and maintained gas-tight between the nozzle spout and the vacuum pump. Leaks can be detected using soap solution backed by a system pressure of 10 inches of water column gauge (wcg) pressure or an equivalent vacuum test approved by ARB.

Because the issue is technical, the CAPCOA Vapor Recovery Committee recommended that the matter be settled by a third party of engineering experts. San Diego recommended the third party be chemical engineering professors from the University of California. You objected to an independent party solution, indicating this should be addressed within ARB. Jim Morgester stated he would fix the problem. No date was given as to when a decision would be made.

San Diego and Monterey support the concept of vacuum tests over static pressure tests, especially at 27-inch wcg vacuum, as suggested by ARB Compliance. However, a detailed test proposal needs to be presented for peer review before reaching a decision. In addition, if a 27-inch wcg vacuum test shows the presence of a leak, the contractor is likely to pressurize the system (likely beyond 10 inches) and use soap solution to find the leak. Assuming that's the case, why go through the first step?

I(h) requests ARB to require the primary system manufacturers develop a "pressure drop budget" for their systems at a standard flow rate determined by ARB, CAPCOA and industry. Although the concept was considered appropriate, there was no decision on the mechanism for requiring the manufacturers to come up with pressure drop budgets. No time frames were established. ARB Compliance, citing limited resources, promised to look into it.

I(i) is a recommendation dealing with manufacturers' installation guidelines, industry-trained installation and service contractors, and on-going maintenance programs. It was recommended the maintenance programs be referenced in the applicable Executive Orders. It was agreed that state and/or local certification programs would not likely be useful. ARB Compliance stated they didn't have staff available to review the proposed maintenance programs and follow-up on the training of installation and service contractors. Previously (April 28), ARB did commit to place a list of individuals who have received manufacturer training on the ARB internet site. No implementation date was discussed.

I(j) requests ARB prohibit the draining of liquid from vapor return hoses prior to conducting A/L or A-V/L vacuum tests. It is suggested that this requirement be added to TP-201.5.
Mr. Morgester said this would be included in the Executive Orders. No date was given for completing this request.

I(k) recommends that ARB require maintenance logs be kept. Mr. Morgester stated ARB will work with WSPA to implement maintenance logs for a selected set of facilities to see if the data collected is useful. He also agreed to include a requirement for a maintenance log in the executive orders. The implementation schedule and specifics of this project need to be defined.

I(l) requests that ARB prohibit further installations of retrofit vacuum assist systems that manifold the storage tank vapor spaces through the atmospheric vents. Mr. Morgester said he needed further information. It was agreed that such information would be provided (Attachment A).

I(m) requests the decertification of p/v valves that are prone to leakage. There was agreement that ARB needs more data on the problem.

Part II of the CAPCOA recommendations, long-term compliance, was briefly discussed and ARB agreed to the concept of a committee of ARB, CAPCOA, industry members for the purpose of reconsidering all test procedures to improve the certification process and the ongoing

maintenance/reliability of systems. ARB agreed to the need for long-term warrantees. However, ARB Compliance cited limited resources regarding a possible product recall procedure.

The May 8 meeting concluded with a brief discussion on the proposed test procedures that are on the May 21-22, 1998, state board agenda. San Diego and Monterey had planned to oppose the 2-inch test before the state board. But that doesn't appear to be necessary given your assurances to work with the districts to resolve the issues presented to you.

Currently, static pressure decay leak tests are conducted to locate leaks that have a significant impact on Phase I and Phase II efficiencies. Not all leaks significantly impact transfer efficiencies because of where they are located in the system. However, for ORVR purposes, all leaks, regardless of location, will affect the assumptions found in ARB's proposals. Unless existing sites are re-engineered to be gas tight, the equipment will have no effect on controlling emissions after a few months of operation. An exception is the nozzle spout which, of course, has to be compatible with the fuel tanks of ORVR vehicles.

Please lets us know whether our perceptions of the meeting are the same as yours. We agree with Jim Morgester, we must work together as partners to solve these problems.

R. J. SOMMERVILLE, Director
Air Pollution Control District

RJS:BM:nt

Attachments

cc: Michael Kenny, ARB Executive Officer
✓Jim Morgester, Chief, ARB Compliance Division
William Luscutoff, Chief, ARB Monitoring and Laboratory Division

ATTACHMENT A

EXPLANATION OF IMPACTS OF ATMOSPHERIC TANK VENT MANIFOLDS ON PHASE II EFFICIENCIES

Attached is a drawing showing three underground tanks. In a worst case, gasoline vapors are sent to Tank 1. Meanwhile, liquid is being pumped out of Tank 3 while air is drawn in to replace the liquid through leaks in the Phase I fittings on Tank 3 and from a leaking pressure/vacuum (p/v) valve. The vapors sent to Tank No. 1 cannot return to replace the liquid in Tank 3 because of the ingestion of air. Instead, the vapors go out leaks in the Phase I fittings of Tank No. 1. In this worst case example, the potential Phase II efficiency is less than 30% because the vapors displaced from vehicle tanks with liquid from Tanks 2 and 3 never replace the liquid drawn from those tanks. Instead, all of those vapors go out the Phase I leaks of Tank 1. The air ingested into Tanks 2 and 3 causes vapor growth.

San Diego observed this problem using explosimeters at three Mobil sites with retrofit WayneVac systems. The Phase II efficiency couldn't be determined because it is relative to the sizes of the Phase I fitting and p/v valve leaks which were unknown, but the potential was there for substantial Phase II efficiency losses. ARB should prohibit the piping configuration shown in the drawing, especially given the system leakage rates reported by ARB and the districts.

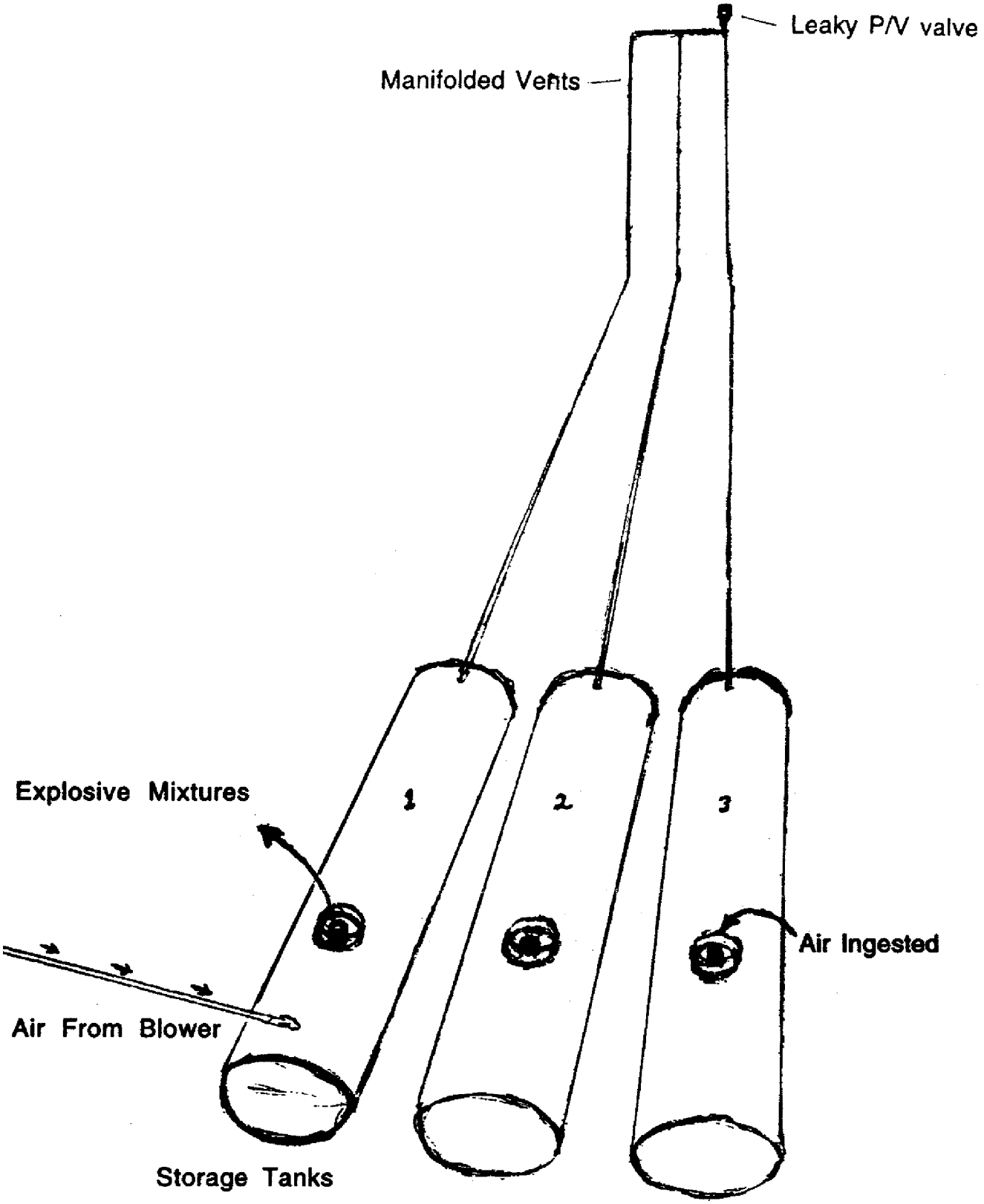
Leaky P/V valve
Manifolded Vents
Explosive Mixtures
1
2
3
Air Ingested
Air From Blower
Storage Tanks

Figure 1