**Western States Petroleum Association**
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Steven Arita
Director of Operations & Cross Regional Issues

May 24, 2006

Clerk of the Board
Air Resources Board
1001 I Street, 23rd Floor
Sacramento, California 95814

Electronic Submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

**Subject:** **Western States Petroleum Association Comments on Title 17, Test Procedure for Pressure/Vacuum Vent Valves, and Proposed Amendments to the Regulations for Certification of Vapor Recovery Systems at Gasoline Dispensing Facilities.**

**Submittal of Concerns Related to the ARB Enhanced Vapor Recovery (EVR) Program**

Dear Clerk of the Board,

The Western States Petroleum Association (WSPA) is a non-profit trade organization representing companies that explore for, produce, refine, distribute and market petroleum and petroleum products in California and in five other western states. WSPA members own and operate gasoline dispensing facilities throughout California and therefore have a direct and vested interest in the proposed Title 17 Enhanced Vapor Recovery (EVR) regulatory changes.

This letter contains our comments on the proposed EVR regulatory changes that are scheduled for adoption at the May 25, 2006 ARB Governing Board meeting. Also, we are identifying additional related concerns that WSPA is currently working to resolve with ARB staff.

## I. Proposed Regulatory Amendments to Section 94011, Title 17, CCR and Certification and Test Procedures.

WSPA supports the proposed amendments to Section 94011, Title 17 as well as changes to Certification and Test procedures by staff. However, given the ARB EVR program continues to be a very complex and challenging program to implement, WSPA reserves the right to address and comment on any issues that may arise related to implementation of the EVR regulation.

## II. Additional Comments on EVR program issues and concerns:

We would like to take this opportunity to note for the record related EVR issues and concerns that we are actively working on with ARB staff.

### 1. Applicability of Existing EVR-Certified Phase II System

The current EVR-certified Phase II system is intended to be applicable to a wide range of existing gasoline dispensers, but many of the older dispenser types—including the dispensers upon which the EVR Phase II certification testing was conducted—were not included in the Executive Order. Until this omission is corrected, many facilities subject to EVR Phase II requirements will be required to remove and replace existing dispensers, which is an expensive undertaking not considered in developing ARB's cost analysis of the EVR program. ARB staff has indicated that this omission was due to a lack of operating and maintenance (O&M) manuals for older dispensers, and is working with WSPA to allow the use of the EVR-certified Phase II system with more of the existing dispenser types.

In addition, we will request staff to also include the multi-hose dispensers that were grandfathered in pursuant to Section 4.10 of the proposed amendments to the regulation.

### 2. EVR-Certified Phase II Systems for Balance-Type Dispensers

The majority of dispensers in California currently in use are pre-EVR Phase II balance systems. In fact, many facilities converted dispensers from vacuum-assist to balance for purposes of complying with an earlier EVR program requirement for "ORVR compatibility". To comply with EVR requirements using the single vac-assist system currently certified, existing balance systems will have to convert to the vacuum-assist system. This cost of conversion was not considered in ARB's cost analysis of the EVR program. WSPA will be submitting a written request to ARB staff to evaluate the cost effectiveness of pre-EVR balance system conversion to EVR vac-assist.

### 3. Requirement for Additional Control Systems for Balance Vapor Recovery Systems:

Recently, staff released a study concluding that yet-to-be-certified balance-type EVR Phase II systems will be required to have a "pressure management system" to meet EVR requirements. WSPA is looking forward to receiving and evaluating the test data results from the test "Balance Challenge" program that lead to this conclusion.

### 4. In-Station Diagnostics (ISD) Data Interpretation and Enforcement

The EVR program includes a requirement for vapor recovery systems to install In-Station Diagnostics (ISD) monitoring equipment. ISD is a diagnostic tool to monitor vapor recovery system performance. ARB staff is currently conducting an 18-month cost and an 18-month in-use evaluation of ISD systems installed in several air districts. These evaluations will assess the operating cost and the technical accuracy of the ISD system under real world application.

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WSPA submitted letters to ARB staff dated February 1, 2006, and February 15, 2006, requesting clarification of the data that was generated during the initial ISD certification testing (see attached copies). WSPA is working with staff to clarify and better understand the way ISD systems operate and how the information will be used to determine compliance. In addition to the technical issues raised in our letters, WSPA also remains concerned how local air districts intend to use ISD data for compliance. We look forward to working with staff and CAPCOA members to resolve this important issue.

We appreciate the opportunity to provide these comments and will continue to work with staff on these issues. Additionally, we urge staff to facilitate the certification of additional commercially available Phase II vapor recovery systems to help resolve some of the issues noted above. Please feel free to contact me at (916) 498-7753 if you have any questions or comments regarding this letter.

Sincerely,

cc: Mr. Bill Loscutoff – ARB
Mr. George Lew – ARB
Ms. Cindy Castronovo – ARB
Ms. Kathleen Tschogl – ARB Ombudsman
Mr. Jay McKeeman – CIOMA
Ms. Catherine H. Reheis-Boyd - WSPA

Attachments

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Steven Arita
Environmental Coordinator

February 1, 2006

Mr. Alex Santos
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Subject: Western States Petroleum Association Comments on ARB Draft ISD In-Use Evaluation Protocol

Dear Mr. Santos:

The Western States Petroleum Association (WSPA) is a non-profit trade organization representing companies that explore for, produce, refine, distribute and market petroleum and petroleum products in California and in five other western states. WSPA members own and operate gasoline dispensing facilities throughout California and therefore have a direct and vested interest in the draft ARB protocol for the in-use evaluation of ISD.

WSPA very much supports ARB's willingness to conduct an 18 month ISD In-Use Evaluation program to ensure that the ISD system operates in accordance with ARB certified guidelines and requirements. We also support the fact that ARB is planning to test multiple sites and has developed the draft protocol with some degree of detail.

Based on a review of the draft in-use evaluation protocol, WSPA would like to submit the following comments:

## I KEY ISSUES OF IMPORTANCE:

### *1. Formation of a Joint ARB/CAPCOA/Industry ISD Evaluation Task Force:*

WSPA noted in Section 3 of the draft evaluation protocol, ARB states that: "*Any changing or refining of the protocol will be done during this time jointly with ARB and CAPCOA*", additionally, it states that "*The study will be a collaborative effort between the ARB and CAPCOA*". While we certainly appreciate and support the fact that ARB is working closely with CAPCOA, we strongly believe that it is also critically important that the regulated industry have the opportunity to be involved in every step of the ISD evaluation during the 18 month testing period.

The proposed ISD in-use evaluation protocol will be the best opportunity to determine whether the system operates accurately and precisely under real world conditions, and more importantly how the results and information will be used by air districts in determining compliance with EVR certified equipment.

In that regard, given the importance of this effort, WSPA strongly recommends ARB and CAPCOA form a joint Industry/ARB/CAPCOA ISD Task Force that will meet on a regularly scheduled basis during the 18 month in-use testing period, to review the information and data generated and at the conclusion of this assessment, develop an agreed upon statewide Enforcement Policy on how the ISD information will be used by Districts in determining compliance with ARB EVR certified equipment.

2. ***Need for an Interim (during the Evaluation Period) and Final (after the Evaluation period) Statewide ISD Enforcement Policy:***

In the past, WSPA has commented on the need for a statewide ISD Enforcement Policy, in fact in a letter dated September 23, 2005 to ARB, we stated the following:

> *"WSPA's member companies would like to see all air districts implement ISD throughout the state with a uniform enforcement policy. In that regard we are asking for your assistance and support in working with CAPCOA and the regulated industry in developing a formal ISD enforcement policy and guidance document.*
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> *"To address the preliminary implementation of ISD systems, WSPA would like to see an ISD enforcement policy that becomes effective immediately and runs through the end of the 18-month technical ISD evaluation. The policy should specify that air district enforcement actions may be taken if the owner/operator resets the ISD system without adhering to the permit conditions."*

WSPA noted in Section 4 of the draft protocol, ARB stated that: *"Enforcement will be handled in accordance to local District policies and procedures"*. While we understand that enforcement of vapor recovery regulations are the responsibility of individual Air Districts, WSPA believes ARB plays an important role toward ensuring that any interim and final enforcement policies are based on the data and information developed during the EVR certification process conducted last year as well as the data that will be generated during the in-use evaluation period. Any enforcement policies that are developed need to take into account the level of accuracy and precision of the data, and more importantly, all parties fully understand the technical limitations of the equipment that ARB is ultimately responsible for certifying.

In that regard, WSPA urges ARB work with CAPCOA and the regulated industry to develop an interim ISD enforcement policy that will ensure operators will not be penalized unnecessarily during the 18 month "in-use evaluation" testing period.

Finally, as noted above, upon completion of the 18 month ISD in-use evaluation process, WSPA recommends the ISD Task Force develop an agreed upon statewide Enforcement Policy on how the ISD information and data will be used by Districts in determining compliance with ARB EVR certified equipment

## II. TECHNICAL ISSUES OF CONCERN:

WSPA has identified two key technical issues of concern that we believe need to be included in the draft Protocol.

The first issue is the fact that the protocol is focused on the detection of ORVR versus non-ORVR vehicles, the measurement of V/L ratios (including the measurement of vapor flow), and the testing of UST pressures, without consideration of pressure tightness testing.

As WSPA has pointed out repeatedly in the past, the UST pressures depend heavily on the degree to which the UST (and vapor recovery system) is pressure-tight, and it is much easier to comply with the EVR UST pressure requirements with a leaky system than with a pressure-tight system.

The second key issue is the fact that although one of the stated focuses of the protocol is to "determine whether V/L...criteria for...failures...can be tightened without compromising the reliability of the assessment," the protocol does not identify how this will be determined.

Described below are specific concerns around each technical issue:

## 1. ISD Leak Rate System

ARB's ISD certification regulations also require that ISD systems calculate leak rates and trigger alarms as appropriate.[1]

Based on the certification testing data that has been provided by ARB to date, indicate that the majority of the ISD failures and warnings were associated with leak rate monitoring, i.e., 33 of the 44 days of system failure and 21 of the 43 days of warnings were associated with the ISD system monitoring the leak rate.[2] Also, in the alternate test procedure that was developed for this system, the system vendor noted that leak rate data from the ISD system over the course of the 180+ day operational test identified an average leak rate of 2.0 ± 1.5 cfh, but that this was considered a bias because the system passed TP-201.3 pressure tests before and after the operational test and therefore the true leak rate was zero.[3] This is not consistent with what was recorded in the excerpts of the test report: i.e., ARB testing personnel found the following results for pressure decay tests conducted during the 2004 operational test (after shutting down operations at the station and pressurizing USTs to 2.00" wc):[4]

- June 3 – no pressure decay (final pressure 2.00" wc)
- July 14 – after approximately 30 minutes of pressures increasing at a rate of 0.04-0.07" per 5 minutes, pressure decayed from 2.00" to 1.99" wc, identified as corresponding to 0.34 cfh leakage[5]
- July 22 – pressure decay to 1.99" wc, identified as corresponding to 0.45 cfh leakage
- August 3 – pressure increase to 2.03" wc
- August 24 – pressure decay to 1.91" wc, corresponding to 5.23 cfh leakage (failure); retest showed pressure decay to 1.98" wc, corresponding to 1.14 cfh leakage
- September 1 – pressure decay to 1.93" wc, corresponding to 5.61 cfh leakage (failure); retests showed pressure decay to 1.97" wc, corresponding to 2.38 cfh leakage

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[1] ARB, "Test Procedure for In-Station Diagnostic Systems," TP-201.I, Sections 7.5 and 9.11, October 8, 2003.
[2] This information is identified on page 293 of the excerpts from the "Veeder-Root ISD Certification Test Results and Performance Calculations" transmitted from ARB to WSPA on December 9, 2005.
[3] See pages 34-35 of the "Test Procedure for Evaluating the Veeder-Root TLS-ISD System for Compliance with CP-201 In-Station Diagnostic System Requirements," 4th revision (July 14, 2004), transmitted from ARB to WSPA on November 16, 2005.
[4] This information is identified on pages 17-35 of the excerpts from the "Veeder-Root ISD Certification Test Results and Performance Calculations" transmitted from ARB to WSPA on December 9, 2005.
[5] All leakage rates listed here are as shown in the test report; it is unclear whether these rates were calculated as per TP-201.2F or an alternate procedure.

- September 8 – no pressure decay (final pressure 2.00" wc)

Furthermore, although it appears that the ISD leak rate system was able to identify gross leak rates (10-11 cfh) resulting from the opening of an orifice on a pressurized system at a shutdown station, it did so with substantial bias (recording leak rates of 13-16 cfh).[4] More importantly, the system does not appear to have any capability of being able to identify when a leak occurs at an operating station, at pressures closer to 0" wc, and leaks can themselves cause pressures to be closer to 0" wc.

WSPA recognizes the technical challenges associated with developing a reliable leak rate system, particularly given the demonstrated problems with being able to even obtain reliable reference test method results; however, WSPA does not believe that the certified ISD leak rate system meets the intent of TP-201.2I. ARB's ISD In-Use Evaluation Protocol needs to include an evaluation of whether or not the ISD leak rate system is adequate for detecting leaks from an operating EVR Phase II system.

## 2. Vapor / Liquid (V/L) Performance Criteria

With regard to V/L performance criteria, WSPA believes that ARB should first consider the A/L measurement data taken during the ISD certification testing, at twelve fueling points (see Figure 1). Of the A/L data reported by the ISD system during certification testing, 17% of the values were outside the 0.95-1.15 range identified in the Executive Order. In most cases, it appears that A/L values outside the range returned to being within the range without further adjustment. However, if ARB's (or Districts') expectations are that all fueling points should be able to demonstrate A/L values between 0.95 and 1.15 continuously, then clearly the system whose performance is documented in Figure 1 does not meet that criterion and could result in violations. Additionally, if ARB is considering tightening the V/L criteria for the ISD's recording of failures (as mentioned in the draft protocol); ARB needs to reconcile the new criteria with the certification data

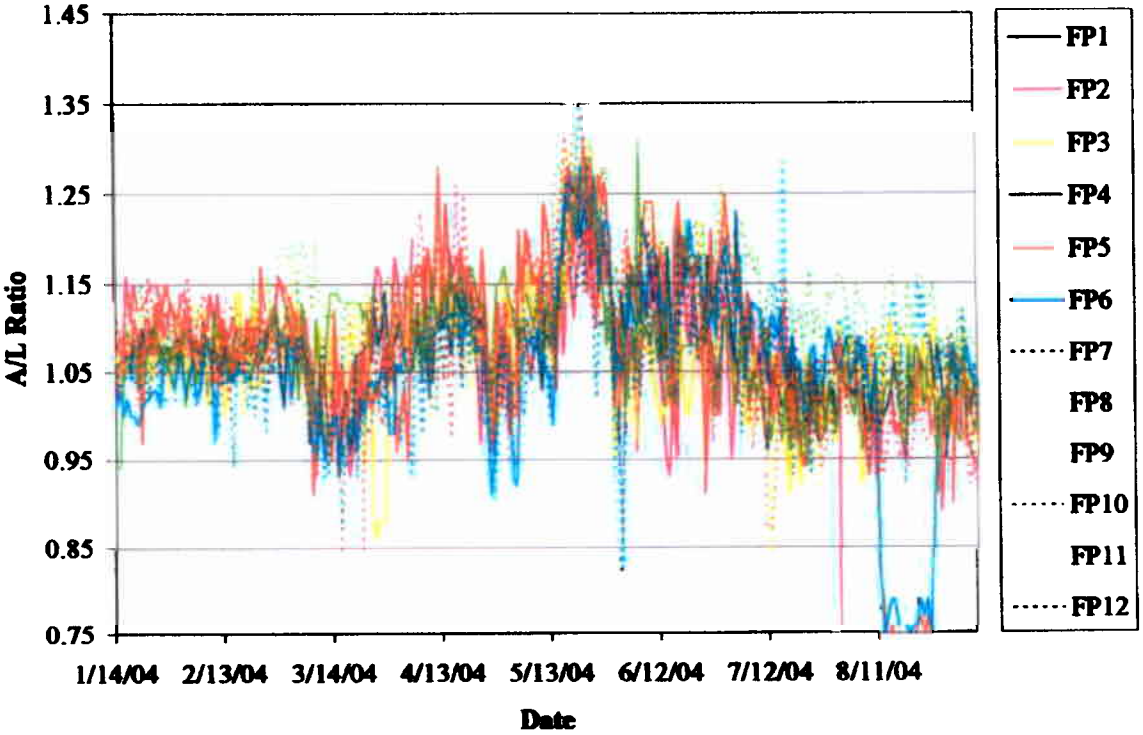


**Figure 1. A/L ratios recorded by the ISD system during certification testing, at a facility with 12 fueling points all equipped with the Healy EVR-certified Phase II system (data from Daily Details**

Report Listing, shown in excerpts of the certification testing report). (In some cases, A/L ratios were not recorded at all; information for these days is not shown.)

**Summary**

In summary, WSPA would like to see ARB attend to the following:

- WSPA requests a joint ARB, CAPCOA and Industry ISD Task Force be formed to review on a regularly scheduled basis the ISD in-use monitoring data and develop agreed upon recommendations and criteria on how the ISD information will be used by Districts in determining compliance with ARB EVR certified equipment after the 18 month in-use evaluation period.

- WSPA requests that ARB amend the protocol to encourage and support the development of an interim (during the 18 month evaluation period) and final (upon completion and review of the information and data generated during the evaluation period) statewide enforcement policy.

- ARB's ISD In-Use Evaluation Protocol needs to include an evaluation of whether or not the ISD leak rate system is adequate for detecting leaks from an operating EVR Phase II system.

- If ARB is considering tightening the V/L criteria for failures, ARB needs to reconcile the new criteria with the certification data.

In closing, WSPA appreciates ARB's consideration of these comments. Please feel free to contact me at (916) 498-7753 if you have any questions or comments regarding this letter.

We look forward to hearing from you.

cc: Mr. Bill Loscutoff – ARB
Mr. George Lew – ARB
Ms. Cindy Castronovo - ARB
Ms. Kathleen Tschogl – ARB Ombudsman
Mr. Brian Aunger – Chair, CAPCOA Vapor Recovery Committee, San Luis Obispo, APCD
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Mr. Paul Frech – Auto-CAL
Mr. Dennis Decota – CSSARA
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Steven Arita
Environmental Coordinator

February 15, 2006

Mr. Joe Guerrero
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Subject: Follow-up Request for Information Regarding ISD Certification Testing

Dear Mr. Guerrero,

On behalf of WSPA, we appreciate the ARB responding to our requests for information and data the collected during the certification testing of the In-Station Diagnostics (ISD) system (ARB issued Executive Order VR-202-A on August 31, 2005).

While the information that you have provided to date has been helpful, WSPA remains concerned about the relatively low percentage of "EVR/ISD pass time" that was recorded during the certification testing that occurred last year, as well as the quantity of A/L data that were outside of the 0.95-1.15 range identified in ARB's Executive Order. Although we recognize that some data may have been a result of failure mode or challenge mode testing, it does not appear that this was the case for all (or even the majority) of the data, and ARB has not clearly identified the periods of normal facility operation during which the systems were evaluated. The information provided also did not clearly identify *what* maintenance or corrective actions were taken during the testing.

Finally, based on a review of the information that you have provided, it does not appear that the leak rate measurement system has the capability of checking for leaks at normal operating pressures, and the system showed significant bias relative to the standard test procedure when artificially pressurized with nitrogen. The leak rate measurement system was also the system that triggered the majority of the ISD warnings and failures during certification testing. We would like to understand more about the basis that ARB is using to certify leak rate measurement systems.

With regard to these concerns, WSPA has identified specific additional data requests below.

## 1. Failures and Failure Mode Testing

Based on the information we have received from ARB to date, it appears that the combined Healy/ISD system was not tested over a 180-day operational period of essentially normal operations. Instead, it appears that "failure mode" testing—or other testing that is not typical of normal operations—was occurring during most of the 180-day period (see Figure 1).

This approach is contrary to CP-201, which indicates that the 180-day operational test should involve only normal operations, with the exception of periodic TP-201.3 pressure testing. In the most recent adopted version of CP-201,[1] Section 13.3 states:

> "no maintenance shall be performed other than that which is specified in the operating and maintenance manual. Such maintenance as is routine and necessary shall be performed only after notification of the Executive Officer."

In ARB's most recent proposed revisions to D-200,[2] the agency's definition of the "operational test" has more specifically clarified that

> "The term "operational test" is intended to imply certification tests conducted on a normally operating GDF. This definition excludes vapor recovery equipment defect, challenge mode, and bench tests conducted as part of a system certification."

We recognize that not all of the components of the ISD system are necessarily affected by a given challenge mode test, and therefore the existence of challenge mode testing on a given day does not appear to have necessarily resulted in the exclusion of all data for that day.

In ARB's letter to WSPA dated February 9, 2006 (see attached copy), ARB asserts (p. 2) that "most, if not all, of the Healy A/L certification test data outside of the allowable range in the WSPA graph is due to challenge mode testing". The test report and ARB's

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[1] This reference is to the most recent adopted version of CP-201; i.e., the February 9, 2005 revision.
[2] Revisions posted to ARB's vapor recovery website in early February 2006 (for the February 16, 2006 EVR Rulemaking workshop).

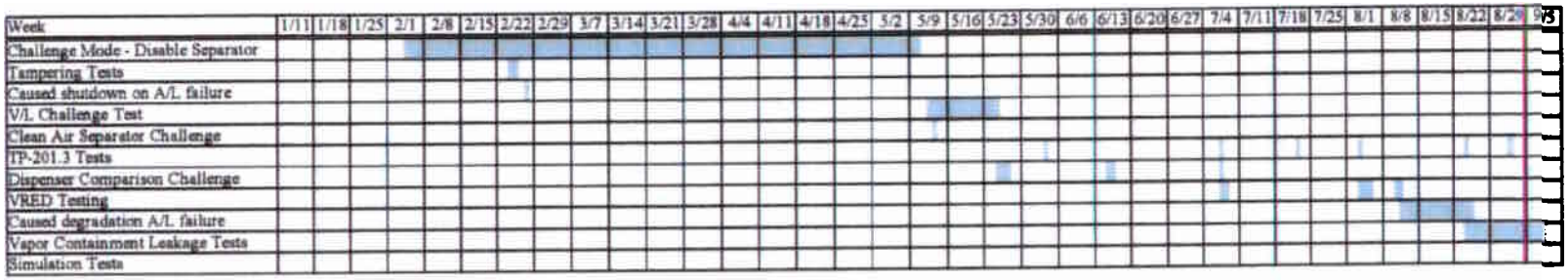


**Figure 1. Periods of challenge mode testing and/or intentional abnormal operation identified in ARB's Certification Summary.**

Certification Summary do not indicate that this is the case. Specifically, on page 3 and page 292 of the 532-page test report, the vendor noted that there were 3,435 tests between January 15 and September 7, excluding field challenge mode test periods.[3] Given that a total of 3,555 tests could have been conducted over that 237-day timeframe—i.e., 12 daily A/L tests per dispenser, two daily over pressure tests, and one daily vapor leakage test, as identified on page 3 of the vendor's test report—less than 4% of the data points were excluded due to challenge mode testing.

It is not clear exactly which data points were excluded due to challenge mode testing. The Certification Summary indicates that ARB staff tabulated ISD alarms during periods of normal operation, but these tables were not included with the Certification Summary.

Additionally, statistics on page 292 of the vendor's test report indicate that of the 3,435 valid tests—i.e., those not affected by challenge mode testing—there were 44 days of failures and 45 days of warnings; none of which are shown in the summary statistics on p. 3 of the test report or in ARB's Certification Summary.

As WSPA stated in our February 1, 2006 letter to ARB regarding ARB's draft in-use ISD evaluation protocol, 17% of the A/L data points shown on pages 282-292 of the test report were outside the 0.95-1.15 range identified in ARB's Executive Order. Although this does not trigger an ISD warning, WSPA is concerned that these data indicate that the system did not in fact maintain A/L values within the range required by the Executive Order.

**Request:**

Based on the above concerns, WSPA is requesting that ARB identify exactly which test periods the monitored information is representative of "normal operation".

## 2. Maintenance/Corrective Actions

ARB's Executive Order (VR-202-A, Exhibit 2, pp. 27-28) requires that weekly and quarterly inspections and testing of the Phase II system be conducted, and Section 13.3.2 of CP-201 specifically states that no other maintenance shall be performed during the 180-day operational test. WSPA is therefore requesting documentation showing what maintenance activities and/or corrective actions took place during the testing.

## 3. Leak Rate Measurement

WSPA has already submitted detailed technical comments regarding the leak rate measurement system in our February 1, 2006 comment letter on ARB's draft in-use ISD evaluation protocol (see attached copy), which appears to exclude the leak rate measurement system from evaluation. The vendor's certification test report shows that this system was responsible for the majority of ISD warnings and failures identified earlier. The vendor's alternative test procedure raises questions with regard to the capability of the system to detect leaks at normal operating

[3] ARB identified 3,425 test points after excluding the challenge mode test periods (p. 14 of the Certification Summary).

pressures. In addition, test results show that when the system is pressurized with nitrogen, the ISD leak measurement system showed a significant positive bias relative to the reference test procedure (TP-201.3). The vendor's alternative test procedure—which was approved by ARB—also states (p. 35) that

> "[leak tests] were conducted with the vapor containment system in the tight condition as documented by TP-201.3 testing before, during, and after this period. Consequently, the measured values of leak rates produced by the ISD system during this period can be considered to be representative of those measurements with a true leak rate of zero."

Although WSPA does not necessarily disagree with this assumption, this appears to directly contradict ARB Test Procedure TP-201.2F, which requires vendors to assume the maximum possible leak rate even for a system that is determined to be tight using TP-201.3. WSPA therefore requests more clarification as to the basis on which the ISD leak rate measurement system was certified.

In closing, WSPA looks forward to hearing ARB's responses to these requests. Please feel free to contact me at (916) 498-7753 if you have any questions or comments regarding this letter.

We look forward to hearing from you.

cc: Mr. Bill Loscutoff – ARB
Mr. George Lew – ARB
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February 1, 2006

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WSPA very much supports ARB's willingness to conduct an 18 month ISD In-Use Evaluation program to ensure that the ISD system operates in accordance with ARB certified guidelines and requirements. We also support the fact that ARB is planning to test multiple sites and has developed the draft protocol with some degree of detail.

Based on a review of the draft in-use evaluation protocol, WSPA would like to submit the following comments:

## I *KEY ISSUES OF IMPORTANCE:*

### *1. Formation of a Joint ARB/CAPCOA/Industry ISD Evaluation Task Force:*

WSPA noted in Section 3 of the draft evaluation protocol, ARB states that: "*Any changing or refining of the protocol will be done during this time jointly with ARB and CAPCOA*", additionally, it states that "*The study will be a collaborative effort between the ARB and CAPCOA*". While we certainly appreciate and support the fact that ARB is working closely with CAPCOA, we strongly believe that it is also critically important that the regulated industry have the opportunity to be involved in every step of the ISD evaluation during the 18 month testing period.

The proposed ISD in-use evaluation protocol will be the best opportunity to determine whether the system operates accurately and precisely under real world conditions, and more importantly how the results and information will be used by air districts in determining compliance with EVR certified equipment.

In that regard, given the importance of this effort, WSPA strongly recommends ARB and CAPCOA form a joint Industry/ARB/CAPCOA ISD Task Force that will meet on a regularly scheduled basis during the 18 month in-use testing period, to review the information and data generated and at the conclusion of this assessment, develop an agreed upon statewide Enforcement Policy on how the ISD information will be used by Districts in determining compliance with ARB EVR certified equipment.

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In that regard, WSPA urges ARB work with CAPCOA and the regulated industry to develop an interim ISD enforcement policy that will ensure operators will not be penalized unnecessarily during the 18 month "in-use evaluation" testing period.

Finally, as noted above, upon completion of the 18 month ISD in-use evaluation process, WSPA recommends the ISD Task Force develop an agreed upon statewide Enforcement Policy on how the ISD information and data will be used by Districts in determining compliance with ARB EVR certified equipment

II. TECHNICAL ISSUES OF CONCERN:

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The first issue is the fact that the protocol is focused on the detection of ORVR versus non-ORVR vehicles, the measurement of V/L ratios (including the measurement of vapor flow), and the testing of UST pressures, without consideration of pressure tightness testing.

As WSPA has pointed out repeatedly in the past, the UST pressures depend heavily on the degree to which the UST (and vapor recovery system) is pressure-tight, and it is much easier to comply with the EVR UST pressure requirements with a leaky system than with a pressure-tight system.

The second key issue is the fact that although one of the stated focuses of the protocol is to "determine whether V/L...criteria for...failures...can be tightened without compromising the reliability of the assessment," the protocol does not identify how this will be determined.

Described below are specific concerns around each technical issue:

1. **ISD Leak Rate System**

ARB's ISD certification regulations also require that ISD systems calculate leak rates and trigger alarms as appropriate.[1]

Based on the certification testing data that has been provided by ARB to date, indicate that the majority of the ISD failures and warnings were associated with leak rate monitoring, i.e., 33 of the 44 days of system failure and 21 of the 43 days of warnings were associated with the ISD system monitoring the leak rate.[2] Also, in the alternate test procedure that was developed for this system, the system vendor noted that leak rate data from the ISD system over the course of the 180+ day operational test identified an average leak rate of 2.0 ± 1.5 cfh, but that this was considered a bias because the system passed TP-201.3 pressure tests before and after the operational test and therefore the true leak rate was zero.[3] This is not consistent with what was recorded in the excerpts of the test report: i.e., ARB testing personnel found the following results for pressure decay tests conducted during the 2004 operational test (after shutting down operations at the station and pressurizing USTs to 2.00" wc):[4]

- June 3 – no pressure decay (final pressure 2.00" wc)
- July 14 – after approximately 30 minutes of pressures increasing at a rate of 0.04-0.07" per 5 minutes, pressure decayed from 2.00" to 1.99" wc, identified as corresponding to 0.34 cfh leakage[5]
- July 22 – pressure decay to 1.99" wc, identified as corresponding to 0.45 cfh leakage
- August 3 – pressure increase to 2.03" wc
- August 24 – pressure decay to 1.91" wc, corresponding to 5.23 cfh leakage (failure); retest showed pressure decay to 1.98" wc, corresponding to 1.14 cfh leakage
- September 1 – pressure decay to 1.93" wc, corresponding to 5.61 cfh leakage (failure); retests showed pressure decay to 1.97" wc, corresponding to 2.38 cfh leakage

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[1] ARB, "Test Procedure for In-Station Diagnostic Systems," TP-201.1, Sections 7.5 and 9.11, October 8, 2003.
[2] This information is identified on page 293 of the excerpts from the "Veeder-Root ISD Certification Test Results and Performance Calculations" transmitted from ARB to WSPA on December 9, 2005.
[3] See pages 34-35 of the "Test Procedure for Evaluating the Veeder-Root TLS-ISD System for Compliance with CP-201 In-Station Diagnostic System Requirements," 4th revision (July 14, 2004), transmitted from ARB to WSPA on November 16, 2005.
[4] This information is identified on pages 17-35 of the excerpts from the "Veeder-Root ISD Certification Test Results and Performance Calculations" transmitted from ARB to WSPA on December 9, 2005.
[5] All leakage rates listed here are as shown in the test report; it is unclear whether these rates were calculated as per TP-201.2F or an alternate procedure.

- September 8 – no pressure decay (final pressure 2.00" wc)

Furthermore, although it appears that the ISD leak rate system was able to identify gross leak rates (10-11 cfh) resulting from the opening of an orifice on a pressurized system at a shutdown station, it did so with substantial bias (recording leak rates of 13-16 cfh).[4] More importantly, the system does not appear to have any capability of being able to identify when a leak occurs at an operating station, at pressures closer to 0" wc, and leaks can themselves cause pressures to be closer to 0" wc.

WSPA recognizes the technical challenges associated with developing a reliable leak rate system, particularly given the demonstrated problems with being able to even obtain reliable reference test method results; however, WSPA does not believe that the certified ISD leak rate system meets the intent of TP-201.2I. ARB's ISD In-Use Evaluation Protocol needs to include an evaluation of whether or not the ISD leak rate system is adequate for detecting leaks from an operating EVR Phase II system.

## 2. Vapor / Liquid (V/L) Performance Criteria

With regard to V/L performance criteria, WSPA believes that ARB should first consider the A/L measurement data taken during the ISD certification testing, at twelve fueling points (see Figure 1). Of the A/L data reported by the ISD system during certification testing, 17% of the values were outside the 0.95-1.15 range identified in the Executive Order. In most cases, it appears that A/L values outside the range returned to being within the range without further adjustment. However, if ARB's (or Districts') expectations are that all fueling points should be able to demonstrate A/L values between 0.95 and 1.15 continuously, then clearly the system whose performance is documented in Figure 1 does not meet that criterion and could result in violations. Additionally, if ARB is considering tightening the V/L criteria for the ISD's recording of failures (as mentioned in the draft protocol); ARB needs to reconcile the new criteria with the certification data

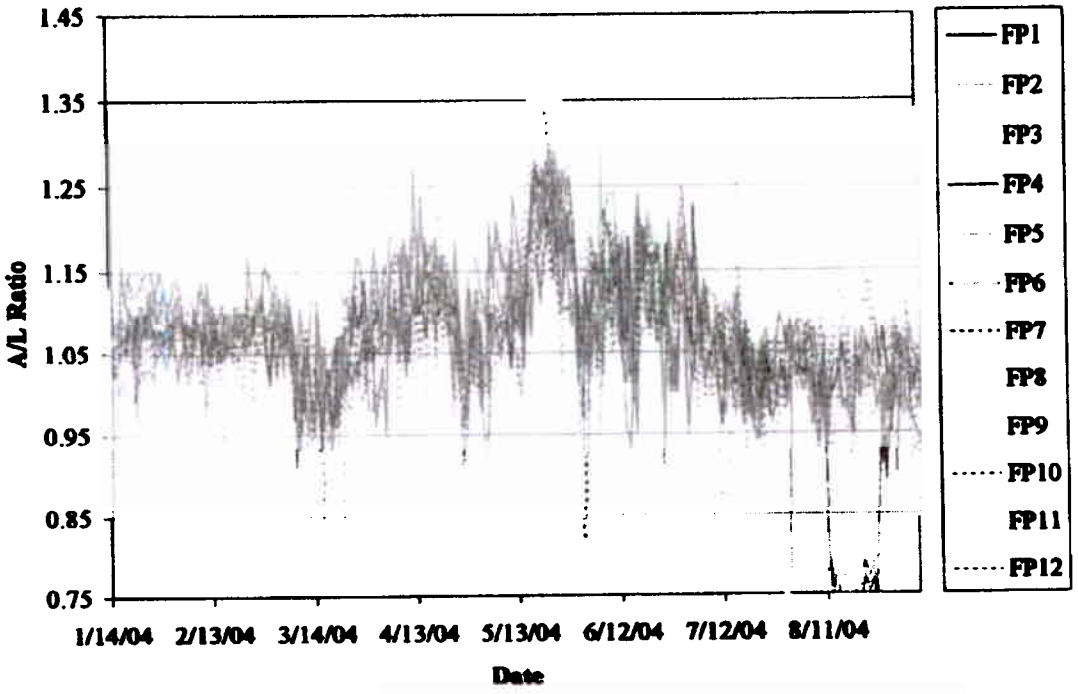


**Figure 1. A/L ratios recorded by the ISD system during certification testing, at a facility with 12 fueling points all equipped with the Healy EVR-certified Phase II system (data from *Daily Details*)**

Report Listing, shown in excerpts of the certification testing report). (In some cases, A/L ratios were not recorded at all; information for these days is not shown.)

**Summary**

In summary, WSPA would like to see ARB attend to the following:

- WSPA requests a joint ARB, CAPCOA and Industry ISD Task Force be formed to review on a regularly scheduled basis the ISD in-use monitoring data and develop agreed upon recommendations and criteria on how the ISD information will be used by Districts in determining compliance with ARB EVR certified equipment after the 18 month in-use evaluation period.

- WSPA requests that ARB amend the protocol to encourage and support the development of an interim (during the 18 month evaluation period) and final (upon completion and review of the information and data generated during the evaluation period) statewide enforcement policy.

- ARB's ISD In-Use Evaluation Protocol needs to include an evaluation of whether or not the ISD leak rate system is adequate for detecting leaks from an operating EVR Phase II system.

- If ARB is considering tightening the V/L criteria for failures, ARB needs to reconcile the new criteria with the certification data.

In closing, WSPA appreciates ARB's consideration of these comments. Please feel free to contact me at (916) 498-7753 if you have any questions or comments regarding this letter.

We look forward to hearing from you.

cc: Mr. Bill Loscutoff – ARB
Mr. George Lew – ARB
Ms. Cindy Castronovo - ARB
Ms. Kathleen Tschogl – ARB Ombudsman
Mr. Brian Annger – Chair, CAPCOA Vapor Recovery Committee, San Luis Obispo, APCD
Mr. Dick Smith – APCO, SDAPCD
Mr. Jay McKeeman – CIOMA
Mr. Paul Frech – Auto-CAL
Mr. Dennis Decota – CSSARA
Ms. Catherine H. Reheis-Boyd - WSPA

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February 9, 2006

Mr. Steven Arita
Western States Petroleum Association
1415 L Street, Suite 600
Sacramento, CA 95814

Dear Mr. Arita:

Thank you for your January 26, 2006, letter providing comments on our draft plan to review the cost-effectiveness of in-station diagnostics (ISD). Our responses to your four areas of concern are provided below.

1 Cost-Effectiveness – Need to update and account for emission reductions

Cost-effectiveness is calculated by dividing the projected cost to comply with a regulation by the estimated emission reductions and is commonly reported as the dollar cost to reduce one pound of emissions ($/lb). WSPA agrees with the Air Resources Board (ARB) draft plan to obtain real-world cost data for ISD equipment, installation, testing and other costs. However, WSPA requests that the calculation of ISD emission reductions also be revisited as part of the plan. Specifically, WSPA points out that previous ISD cost-effectiveness values were based on emission reductions for pre-enhanced vapor recovery (EVR) systems and that it is more appropriate to apply estimated emission reductions for EVR systems. Further, WSPA suggests that since the only certified EVR Phase II system is a vacuum assist system, then the emission reductions claimed for balance system should not be considered as part of the revised cost-effectiveness calculation.

ARB Staff Response

We agree to revisit emission reductions claimed for ISD as part of the ISD cost-effectiveness update. We agree that emission reductions for EVR Phase II systems are more appropriate than for pre-EVR systems, although additional field data will need to be collected. We would appreciate any data from WSPA member companies on the performance of EVR Phase II systems. We disagree that balance system emission reductions be disregarded as our understanding is that the great majority of existing gasoline stations now have balance systems, thus it is necessary to estimate the ISD cost-effectiveness for these facilities as well. We will consider updating the pre-EVR balance system emission data assuming that future EVR balance system performance mirrors EVR assist system performance.

2. Dependence of costs on ISD Data Interpretation

WSPA is concerned that districts will issue notices of violation (NOVs) for ISD measured parameters that exceed the allowable range in the EVR Executive Order. Specifically, WSPA provided a graph of air-to-liquid ratio (A/L) data from the Healy EVR Phase II system certification test where some data were outside the allowable range, yet did not trigger ISD alarm limits. WSPA suggests that the ISD system coupled with the Healy EVR Phase II system will record A/L values outside the allowable range "relatively frequently" and that this data could be used for district NOVs. WSPA requests that costs due to district enforcement actions related to ISD data be included in the ISD costs.

ARB Staff Response

Most, if not all, of the Healy A/L certification test data outside of the allowable range in the WSPA graph is due to challenge mode testing. Some of this testing, such as the adjustment to the maximum A/Ls for every nozzle for 12 days in May 2004, was discussed in the Certification Summary for Executive Order VR-202-A. This certification summary was provided to WSPA with the certification test data. ARB staff also explained the reasons for the A/L values to WSPA's consultant.

However, we agree that ISD systems may record some A/L values outside the allowable range that do not trigger ISD alarms. We agree with WSPA that this type of ISD data should not be used as the basis for enforcement action and have expressed this view repeatedly to the CAPCOA Vapor Recovery and Enforcement Committees. We continue our offer to facilitate agreements between districts and gasoline station operators for fair ISD enforcement policies.

We do not plan to incorporate costs due to district NOVs into the cost analysis. ISD warnings should trigger repairs and should not result in district enforcement action unless the ISD alarms are ignored or district ISD policy is not followed. The ISD alarms allow identification of vapor recovery system problems in advance of district inspection and testing, and thus could result in cost savings to the station operator.

3. Costs associated with Maintenance and Dispenser Downtime

WSPA believes that the A/L excursions during the certification test period demonstrate that EVR systems may require more maintenance than pre-EVR systems. WSPA requests that costs associated with maintenance and dispenser downtime be included in the cost-effectiveness analysis.

ARB Response

As explained in the previous response, the A/L excursions during the certification test period were due to challenge mode tests. ARB staff believes that the stringency of the EVR certification process produces Phase I and Phase II systems that are more reliable and effective than pre-EVR systems. Unless field data for EVR systems demonstrates otherwise, staff does not plan to include costs associated with EVR system maintenance and dispenser downtime.

4. Include higher throughput gasoline dispensing facilities (GDFs)

WSPA requests that ARB recalculate cost-effectiveness for the higher throughput categories (GDF4 and GDF5) in addition to the lower throughput categories identified in the draft plan.

ARB Staff Response

We agree to recalculate the ISD cost-effectiveness for all the GDF throughput categories (GDF1 through GDF5).

As always, we appreciate your suggestions and ideas for improving the vapor recovery program. Changes to draft ISD cost-effectiveness review plan will be discussed at the ISD update meeting to be held on February 16, 2006, in Sacramento. Please contact me at (916) 322-8957 or ccastron@arb.ca.gov if you would like to discuss this letter or the upcoming ISD meeting.

Sincerely,

Cynthia L. Castronovo
Staff Air Pollution Specialist
Monitoring and Laboratory Division

cc: Bill Loscutoff
Monitoring and Laboratory Division

George Lew
Monitoring and Laboratory Division