



Alan C. Lloyd, Ph.D.
Agency Secretary

Air Resources Board

Cindy K. Tuck, Chair
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov



Arnold Schwarzenegger
Governor

August 10, 2005

To: All Phase I and II Enhanced Vapor Recovery (EVR) Stakeholders

California Air Resources Board (ARB) staff would like your input on the enclosed protocol for conducting a challenge mode test on balance-type vapor recovery systems undergoing enhanced vapor recovery (EVR) certification. The purpose of the challenge mode test is to ensure that balance type systems, when subjected to certain operating conditions such as nightly shut downs or winter fuel, can still meet the EVR pressure profile and fugitive emissions specifications as outlined in Certification Procedure 201 (CP-201). Please note that the enclosed protocol is not all inclusive and that ARB staff may develop further challenge mode tests as ARB gains more knowledge about the balance vapor recovery system during the certification evaluation.

ARB staff would appreciate your comments and suggestions regarding the enclosed draft balance challenge protocol. Please provide a written response by no later than August 30, 2005. Written comments should be submitted by mail, email, or fax to:

Lou Dinkler
Engineering and Certification Branch
Monitoring and Laboratory Division
Air Resources Board
P.O. Box 2815
Sacramento, California 95812
Email: ldinkler@arb.ca.gov
Fax (916) 322-2444

A copy of this letter, as well as a summary of comments and our responses, will be posted on the ARB Vapor Recovery Website at <http://www.arb.ca.gov/vapor/vapor.htm>.

If you have questions or need further information, please contact Lou Dinkler at (916) 322-8949 or via email at ldinkler@arb.ca.gov.

Sincerely,

George Lew, Chief
Engineering and Certification Branch
Monitoring and Laboratory Division

Enclosure

cc: See next page.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

All Phase I and II EVR Stakeholders
August 10, 2005
Page 2

cc: Richard Smith
San Diego County Air Pollution Control District

Sam Oktay
Mojave Desert Air Quality Management District

Tania Leisten
Monterey Bay Unified Air Quality Management District

Randy Smith
San Diego County Air Pollution Control District

Draft

Balance Station Challenge Test Protocol

08/10/05

Test Conditions:

- 30-day test period to be conducted outside of operational test (shorter test period may be considered, subject to ARB approval)
- Site location in southern California
- Winter fuel (uncontrolled RVP)
- Daily station shutdown of at least 9 hours
- Phase I and II EVR equipment installed
- Gasoline throughput greater than 150,000 gal/month
- Minimum ullage of 50% during test period
- Nozzles locked out during shut down

Pre-Test Procedures:

- a. Install data acquisition system (DAS) per TP-201.7: Continuous Pressure Monitoring
- b. Conduct TP-201.3: Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities
- c. Conduct TP-201.3C: Determination of Vapor Piping Connections to Underground Gasoline Storage Tanks (Tie-Tank Test)
- d. Conduct TP-201.4: Dynamic Back Pressure
- e. Conduct TP-201.6: Determination of Liquid Removal of Phase II Vapor Recovery Systems of Dispensing Facilities
- f. Sample RVP

Test Procedures:

- a. Daily
 - Print product and ullage volumes from ATG system
 - Lock out nozzles at closing
 - Ensure nozzles are hung properly
- b. Weekly
 - Verify data acquisition system
 - Gather RVP samples
 - Drain hoses per TP-201.6C: Compliance Determination of Liquid Removal Rate
 - Fuel delivery at closing and vent station to simulate bad delivery (may be conducted more frequently)
 - Download data from data acquisition system

- c. Bi-Weekly
 - Conduct system integrity test per TP-201.3

Post-Test Procedures:

- a. Conduct TP-201.3
- b. Conduct TP-201.4
- c. Conduct TP-201.6
- d. Sample RVP
- e. Download pressure data from the data logger

Data Analysis:

1. Calculate the daily average ullage pressure, daily high pressure, and rolling 30-day average of each using section 4.6.3 through 4.6.5 of CP-201 "Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities"
2. Calculate pressure related fugitives per TP-201.2F: Pressure Related Fugitive Emissions

Pass/Fail Criteria:

1. Successful pass of all tests
2. 30-day rolling average for the following (section 4.6 of CP-201)
 - daily average pressure $\leq +0.25$ inches H₂O
 - daily high pressure $\leq +1.5$ inches H₂O
3. Pressure-related fugitives ≤ 0.19 pounds/1,000 gallons