Ventura County Air Pollution Control District
FINAL STAFF REPORT – February 9, 2009

REVISIONS TO RULE 70
STORAGE AND TRANSFER OF GASOLINE

BACKGROUND

Rule 70, first adopted on June 25, 1974, regulates the storage and transfer of gasoline at bulk plants, terminals, and vehicle dispensing facilities (service stations). The rule has been amended several times since then. The last revision, adopted on November 11, 2003, corrected a deficiency noted by EPA.

The primary revision proposed in this rule action is also based on EPA input. In December, 2006[1], EPA released guidance on the removal of "Stage II gasoline vapor recovery systems" for specific portions of the motor vehicle fleet with at least a 95% penetration of Onboard Refueling Vapor Recovery (ORVR) systems (see Appendix 1). These included:

1. Initial fueling of new vehicles at automobile assembly plants.
2. Refueling of rental cars at vehicle rental facilities.
3. Refueling of flexible fuel vehicles at E85 dispensing pumps (85% ethanol fuel).

In November, 2007[2], corporate fleets were added to the list of applicable fleet situations (see Appendix 2). The Air Resources Board followed up on this guidance in February, 2008[3], by encouraging local air districts to modify their gasoline dispensing facility (GDF) rules to exempt specific ORVR fleets from Phase II vapor recovery requirements (see Appendix 3). This rule action proposes just such an exemption.

Other revisions to various subsections of the rule are also proposed, including annual testing for Phase I vapor recovery systems. These revisions are discussed below.

PROPOSED RULE

To implement an exemption from the Phase II vapor recovery requirements for fleets with ORVR systems, a new exemption is proposed as Subsection F.8:

8. The requirement for Phase II vapor recovery in Subsection B.9, as well as the applicable testing requirements in Section H, shall not apply to any gasoline or E85 storage container with 250 gallons or more capacity that is used to fuel a motor vehicle fleet where no less than 95 percent of the motor vehicles fueled are equipped with Onboard Refueling Vapor Recovery (ORVR) systems. To qualify, the storage container must be owned by the vehicle fleet operator. This exemption shall not apply to facilities required under state law to have Phase II vapor recovery.

As noted above, EPA's guidance on ORVR exemptions discussed four specific fleet operations; automobile assembly plants, vehicle rental, E85 dispensing, and corporate fleets. The proposed exemption is more general, allowing other operations to qualify for an exemption. This is consistent with rules already in place at the Bay Area AQMD, the San Joaquin Valley APCD, and the Monterey Bay Unified APCD.

Note that the proposed exemption conflicts with the state Airborne Toxics Control Measure (ATCM), which requires Phase II controls on all retail stations that dispense more than 480,000 gallons of gasoline per year. The last sentence in proposed Subsection F.8 clarifies that the exemption does not override this or any other applicable state requirement.[4]

To augment the exemption in Subsection F.8, the following recordkeeping requirements are recommended as new Subsection G.3:

3. Any person claiming an exemption from the provisions of Subsection B.9 of this rule, based on the provisions of Subsection F.8 of this rule, shall keep the following records to substantiate the exemption:

a. Name, address, type of facility, and permit number (if applicable); and

b. Records showing the make, model year, vehicle identification number, and license plate number (if available) of each motor vehicle fueled from the applicable gasoline storage tank and a statement certifying that an ORVR system is in place and functional on each vehicle.

At this time, it is unlikely that CARB will certify a Phase II system for E85 fuel in the near future. Therefore, staff proposed the following exemption as Subsection F.9:

9. The requirement for Phase II vapor recovery in Subsection B.9, as well as the applicable testing requirements in Section H, shall not apply to any storage container with 250 gallons or more capacity that is used to distribute E85 fuel.

In addition, definitions of "E85 fuel," "Fleet" and "ORVR" are recommended in Section J as follows:

7. "E 85 Fuel": A motor fuel that contains 85 percent ethanol and 15 percent gasoline.

8. "Fleet": A group of vehicles under common operation and control by a person, company, business, corporation, organization, public entity, or any combination thereof, and are dispatched from at least one location within the District. For the purpose of this rule, each of the following facilities shall be considered a fleet:

a) Port-related new vehicle processors
b) New and used automobile and light truck dealers
c) Automobile and light truck rental facilities

19. "Onboard Refueling Vapor Recovery (ORVR)": a system built into a motor vehicle to recover and contain gasoline vapors before they reach the fuel filler spout, as required by California Code of Regulations, title 13, section 1978, or 40 Code of Federal Regulations Part 86.

Other Revisions

In addition to the above amendments, staff is proposing a number of minor revisions to various subsections of Rule 70, as described below.

Section B, Requirements

Staff is proposing to add two provisions to Rule 70, Section B, to enhance reactive organic compound (ROC) emission reductions and aid rule enforcement. New Subsection B.17 is being added to codify a requirement prohibiting standing gasoline in the spill boxes that surround gasoline delivery connectors on underground storage tanks.

17. Standing gasoline in Phase I spill containment devices is prohibited.

Rule 70 currently requires a record of repairs made to Phase II vapor recovery equipment (Subsection G.4). However, there is no requirement to inspect Phase II hardware on a regular basis. Daily equipment inspections are required by many corporate owners for their own protection. Staff proposes to codify a requirement to inspect Phase II hardware daily, as follows:

18. The hanging hardware on Phase II vapor recovery systems, which includes, but is not limited to, coaxial hose, nozzles, retractors and hose castings, shall be inspected daily.

Section G, Recordkeeping

To augment the daily inspection requirement, new Subsection G.6 is being added to require a record of the daily inspections.

6. Records of daily inspections required in Subsection B.18 shall be maintained. Records shall include the date and time of the inspection, the equipment inspected, and the signature of the person conducting the inspection.

Also, Subsection G.1 has been rewritten for clarity. The function of the subsection is unchanged.

Section H, Testing and Test Methods

Compliance Division has occasionally had problems getting final test reports from operators or testing contractors. As a result, new Subsection H.11 will

require final written reports no later than 14 days after the date of the tests.

11. The results of any test required by either this rule or a CARB executive order shall be delivered by the permittee to the District, in final written report format, no later than 14 days after completion of the subject testing.

Section J, Definitions

In addition to the new definitions noted above, the definition of "Major Modification" (renumbered Subsection J.16) is being revised to clarify the requirements for Phase II systems. Subsection J.16.b) is proposed to read:

b) Either the replacement of the Phase II system or the modification ~~Modification~~ of the Phase II system that involves the addition, replacement or removal of 50 percent or more of the buried vapor piping, or the replacement of dispensers, is considered a major modification of the Phase II system. The replacement of a dispenser is not a major modification when the replacement is occasioned by end user damage to a dispenser.

This definition applies only to Subsection B.7 and Section H of this rule and does not supersede the definition of major modification in CARB document D-200.

This revision clarifies that the replacement of a Phase II system is a major modification and, as such, will require a complete round of Phase II testing. The new final statement clarifies that this definition does not supersede the CARB definition.

DISCUSSION

EPA has provided guidance on the removal of "Stage II gasoline vapor recovery systems" for motor vehicle fleets with at least a 95% penetration of ORVR systems. These included:

1. Initial fueling of new vehicles at automobile assembly plants.
2. Refueling of rental cars at vehicle rental facilities.
3. Refueling of flexible fuel vehicles at E85 dispensing pumps.
4. Corporate fleets.

In December, 2006, EPA provided the following analysis of their decision to recommend exemption from Phase II requirements of ORVR.

> Various metrics have been studied for demonstrating widespread use of ORVR in motor vehicle fleets. One metric focuses on the percentage of vehicles in service that are ORVR-equipped. Based on our preliminary analysis, this metric seems to track fairly closely with the percentage of vehicle miles traveled (VMT) from ORVR-equipped vehicles, and with the percentage of gasoline sold which is dispensed to ORVR-equipped vehicles. In fact, since newer vehicles tend to be driven more miles than older models, VMT traveled by ORVR-equipped vehicles and gasoline dispensed to ORVR-equipped vehicles may exceed 95 percent in a 95 percent ORVR-equipped fleet.
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> Another metric that EPA considered is when VOC emissions resulting from the application of ORVR controls alone equal the VOC emissions when both Stage II vapor recovery systems and ORVR controls are used, after accounting for incompatibility excess emissions. The incompatibility excess emissions factor relates to losses in control efficiency when certain types of Stage II and ORVR are used together. Studies conducted in three northeastern states indicate that when the percentages of motor vehicles in service with ORVR, vehicle miles traveled by ORVR-equipped vehicles, or gasoline dispensed to ORVR-equipped vehicles are above 95 percent, then the widespread use metric based on comparable VOC emissions will likely have been reached. For this reason, EPA believes that if 95 percent of the vehicles in a fleet have ORVR, then widespread use will likely have been demonstrated.

Since the year 2000, all passenger cars have been required to have ORVR. Since 2006, all light duty trucks, SUVs and medium duty vehicles have been required to have ORVR. As a result, it is not difficult to assume that automobile assembly plants, rental

cars, and corporate fleets have a high penetration of ORVR-equipped vehicles and that it is reasonable to exempt these fleets from Phase II vapor recovery requirements.

In the proposed rule, staff has taken this concept one step further by proposing an exemption for any fleet that can demonstrate a 95 percent or greater penetration of ORVR-equipped vehicles. Although record-keeping will be required, we believe that, based on the EPA analysis, the proposed exemption is reasonable and will not impact air quality in Ventura County.

E85 dispensing

E85 is a blend of no more than 85 percent ethanol and at least 15 percent gasoline. It can be used only in specially designed flexible fuel vehicles (FFVs). Due to the high alcohol content, existing conventional Phase II equipment may not work properly; different construction materials may be required. As a result, no California certified Phase II vapor recovery systems are currently available.

At this time, the Navy is building the county's first E85 dispensing station in Port Hueneme. Although a Phase II system was designed into the project, CARB has decided to suspend certification testing on the system. Subsection F.9 is proposed to exempt from Phase II requirements all E85 dispensing tanks. Although ethanol is no longer the fuel of choice to reduce both foreign oil imports and greenhouse gas emissions, it is possible that E85 will become more prevalent in the County in the future.

According to EPA estimates, 59 percent of the FFVs in current use are equipped with ORVR. All FFVs built today have ORVR, so this percentage is likely to increase. EPA's willingness to exempt E85 dispensing from Phase II vapor recover requirements is based in an assumption that "the air quality impact of allowing E85 refueling facilities to operate without Phase II controls would likely be minimal in most non-attainment areas." Since FFVs currently comprise about 2 percent of the total US vehicle fleet, and non-ORVR FFVs are less 1 percent of that, the impact assumption is probably good.

In their guidance letter, EPA further states that "if an area can demonstrate that any increase in emissions caused by operating E85 fueling facilities without Phase II controls is so small as to clearly not interfere with attainment of the ozone standard ... , then EPA expects it could find that ORVR is in widespread use for FFVs when refueling at E85 facilities in this area." According to the California Department of Motor Vehicles[5], there are 528,000 automobiles registered in Ventura County. At one percent of this total, the number of non-ORVR FFVs is 5,280. It is likely that a demonstration of insignificance could be made for fueling these FFVs. To provide the exemption, EPA also requires the District to remove E85 from the definition of gasoline for the purposes of Phase II vapor recovery. Such a definition has been added to Rule 70 as Subsection J.7.

Staff assumes that, based on the EPA justification above, the fueling of FFVs without Phase II vapor recovery will not significantly impact attainment of state and federal ozone standards. For details on the E85 exemption in Subsection F.9, see page 1.

EMISSION REDUCTION / COST EFFECTIVENESS

Emission Reduction

The proposed exemption for ORVR will result in no measurable increase or reduction in ROC emissions in Ventura County. As quoted above from the EPA December, 2006, guidance letter, EPA assumes that, when ORVR penetration is above 95 percent, ROC emissions from the two systems will be comparable and consistent with the "widespread use metric" in federal law. In addition, as noted below, the ROC emission reduction expected from other proposed revisions to Rule 70 is considered unmeasurable.

Cost-Effectiveness

Health & Safety Code §40703 states that the district must consider, and make public, “the cost-effectiveness of a control measure.” The proposed revisions to Rule 70 are not included in an AQMP control measure. Therefore, it is not necessary to calculate the cost-effectiveness of the proposed revision. Furthermore, the lack of a measurable ROC emission reduction makes it impossible to calculate cost-effectiveness.

SOCIOECONOMIC IMPACT

Health & Safety Code § 40728.5 requires the Air Pollution Control Board consider the socioeconomic impact of any new rule or amendment to an existing rule if air quality or emission limits are significantly affected. The proposed revisions to Rule 70 involve no measurable ROC emission reductions. However, Rule 70 imposes emission reduction requirements on gasoline dispensing facilities in Ventura County, which affects air quality. Therefore, the requirements of § 40728.5 must be evaluated.

The Board must evaluate the following socioeconomic information on new Rule 70:

(1) The type of industries or business, including small business, affected by the rule or regulation.

Rule 70 affects all gasoline dispensing facilities in Ventura County. The rule requires Phase I and Phase II vapor recovery equipment at all facilities and specifies maintenance and testing requirements. Reverification test frequency for Phase I EVR will increase from every three years to annual (see Table 1, page 5).

(2) The impact of the rule or regulation on employment and the economy of the region affected by the adoption of the rule or regulation

. The adoption of revisions to Rule 70 is expected to have no impact on employment in and the economy of Ventura County. While the proposed rule will increase reverification test costs countywide, this additional expense is expected to have no effect on either employment in or the economy of the region.

(3) The range of probable costs, including costs to industry or business, including small business, of the rule or regulation.

The proposed rule increases annual reverification test costs from an estimated $290,798 per year countywide to an estimated $337,598 per year countywide, assuming 100 percent of individual tests are observed by District personnel.

(4) The availability and cost-effectiveness of alternatives to the rule or regulation being proposed or amended.

EPA Region IX and ARB have requested the proposed ORVR exemption from Rule 70. Other revisions are proposed by staff. No alternatives to these revisions are available.

(5) The emission reduction potential of the rule or regulation.

The estimated total ROC emission reduction for the proposed revisions to Rule 70 cannot be quantified. The proposed ORVR exemption is expected to neither increase nor decrease ROC emissions. It is possible that increased Phase I EVR testing will increase compliance with the rule. However, any reduction resulting from this additional compliance is not verifiable.

(6) The necessity of adopting, amending, or repealing the rule or regulation in order to attain state and federal ambient air standards pursuant to Chapter 10 (commencing with Section 40910).

The ROC emission reductions inherent in Rule 70 appear as implemented measures in the 2007 *Air Quality Management Plan* and assist in the District's progress towards attainment and maintenance of the federal and California ambient air quality standards. No additional credit for ROC emission reductions will appear in the AQMP as a result of the proposed revisions to Rule 70. The proposed revisions do not appear in any AQMP control measure.

ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE / CEQA

Methods of Compliance

California Public Resources Code § 21159 requires the District to perform an environmental analysis of reasonably foreseeable methods of compliance if the proposed rule requires "the installation of pollution control equipment, or [specifies] a performance standard or treatment requirement..." The proposed revisions to Rule 70 involve no additional pollution control equipment. Therefore, no analysis is required.

CEQA

Staff has determined that adoption of the proposed revisions to Rule 70 is exempt from the requirements of the CEQA under Section 15307 and 15308 of the CEQA Guidelines, which involves actions by regulatory agencies for the protection of natural resources or the environment. No exceptions to the exemptions apply.

ANALYSIS OF EXISTING FEDERAL AND DISTRICT REGULATIONS

California Health & Safety Code Section 40727.2(a) requires districts to provide a written analysis of existing regulations prior to adopting, amending or repealing a regulation. Section 40727.2(a) states:

> In complying with Section 40727, the district shall prepare a written analysis as required by this section. In the analysis, the district shall identify all existing federal air pollution control requirements, including, but not limited to, emission control standards constituting best available control technology for new or modified equipment, that apply to the same equipment or source type as the rule or regulation proposed for adoption or modification by the district. The analysis shall also identify any of that district's existing or proposed rules and regulations that apply to the same equipment or source type, and all air pollution control requirements and guidelines that apply to the same equipment or source type and of which the district has been informed pursuant to subdivision (b).

Rule 70 involves the operation and maintenance of equipment used for the storage and transfer of gasoline, including vapor recovery systems. These systems constitute the emission control equipment required by the rule. No additional emission control equipment is proposed. The proposed revisions involve an exemption for ORVR equipped fleets, the frequency of Phase I EVR tests, and other revisions.

No federal requirements are sited in the EPA Gasoline Vapor Recovery Guidelines; therefore, no federal requirements apply.

In addition, APCD Rule 71.2, Storage of Reactive Organic Compound Liquids, regulates gasoline storage containers of more than 40,000 gallons.

INCREMENTAL COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires the performance of an incremental cost-effectiveness analysis for a regulation that identifies more than one control option to meet the same emission reduction objectives. Incremental cost-effectiveness is defined as the difference in costs divided by the difference in emission reductions between one level of control and the next more stringent level of control.

Rule 70 regulates gasoline dispensing facilities in Ventura County by requiring Phase I and Phase II vapor recovery equipment. Although various styles and designs are available, no alternative emission control equipment is available.

MEETINGS AND COMMENTS

Workshop
November 11, 2008

No interested parties attended this workshop and no discussion occurred.

Air Resources Board
January 6, 2009

In Subsection C.2.c, ARB recommends changing the reference to ARB Test Method TP 203 to TP 203.1. The method is used to determine terminal emission factors. There is no TP 203, only TP.203.1. This change appears in the January 7, 2009, draft rule.

Western States Petroleum Association
January 27, 2009

Affiliates of WSPA contacted staff by telephone and email with comments on the proposed rule. Comments are italicized, followed by staff response.

BP-ARCO – January 27, 2009

BP-ARCO appreciates the opportunity to submit comments on the proposed rulemaking to amend Rule 70. Unfortunately, we did not receive notice of these proposed changes until last week. We have submitted the notice to the Western States Petroleum Association and have found that we are not alone in this late receipt of the notice. The following comments are based on a rapid review and evaluation of the proposed amendments and the draft Staff Report. We would very much appreciate an extension of the comment period to allow for a more through review/analysis and perhaps some discussion with Staff.

It is very discouraging that an air district would increase the frequency of any vapor recovery related testing given the enhanced nature of the vapor recovery equipment and the implementation of in-station diagnostics (ISD). Such requirements should be going in the other direction. In the Staff Report on this rulemaking, the agency claims that the "compliance staff has seen an increase in problems with Phase I equipment," but the Report does not give any specifics relative to these "problems." BP-ARCO is not aware of any recent "problems" with EVR Phase I equipment. The agency further claims that "the proposal will result in no measurable reduction in ROC emissions." If the staff observed "problems" were properly identified, one would think that this should provide enough information to quantify potential increased emission problems. BP-ARCO objects to the agency imposing an additional cost of about $100 per facility for testing that will not result in any further emission reductions.

The amendment of the "major modification" definition is of concern given that the multihose dispenser exclusion that is integrated into the CARB EVR program is part of this definition. The agency's rationale behind the amendment is to be able to require a full round of Phase II testing following the installation of EVR Phase II. We would want some assurance that this amendment will not affect the multihose dispenser exclusion as provided by state regulations. BP-ARCO suggests that there should be a more direct way to amend the Rule to require a full round of Phase II testing without modifying a definition that is uniformly written and applied throughout the state.

Again, we have not had adequate time to fully evaluate the totality of this proposed rulemaking and we respectfully request an extension in time to comment for further consideration of this rulemaking.

In a teleconference on January 27, 2009, between District staff, BP-ARCO, Chevron Global Downstream Marketing, and other WSPA affiliates, staff agreed that In-Station Diagnostics (ISD) could help reduce the number of ongoing Phase I compliance problems. Of particular concern are Pressure/Vacuum (PV) valves, which fail at a particularly frequent rate (estimated to be about 50%). As a result, staff will not pursue additional Phase I compliance testing at this time. The Phase I testing proposal was removed from the draft rule considered by the Advisory Committee. Discussion of this issue now appears in Appendix 4 of this staff report.

In addition, the proposed revision to the definition of "major modification' was discussed. Staff assured WSPA that the proposed revision will not impact the "multi-hose dispenser exclusion" and agreed to add clarification of this issue to the staff report.

Chevron Global Downstream Marketing – January 27, 2009

Per H(8), Chevron is strongly opposed to this increase in performance testing as all of the facilities have been recently 'upgraded' to EVR Phase II and In Station Diagnostics. With the addition of this expensive monitoring why would the district be imposing additional performance testing. Further, additional emissions are emitted each time performance tests are conducted. Given the economic conditions as well as the recent station upgrades, it would be better to maintain the existing testing requirements.

Per J(17), I am unclear as to the thought process on the change to the definition? Will upgrading stations to EVR and ISD be considered a major modification?

Regarding your question on Subsection J.17, if upgrading to Phase II EVR and ISD involves either of the stated criteria (a change in 50% or more of the underground piping or replacement of the dispensers), then the upgrade would be a major modification. This is not changing. With the proposed change, we wish to clarify that replacing a Phase II system is also a major modification. The

definition [of "major modification" used in the rule] appears in ARB document D-200.

BP-ARCO – January 29, 2009

The manner in which the Ventura County APCD proposes to amend the definition of "major modification" would seem to be an attempt to override the "grandfather" exemption provided under the EVR regulations as cited under CP-201 - 4.10. This exemption was provided as a result of a CARB Resolution signed on 07/22/04. The Western States Petroleum Association (WSPA) requests that the proposed amendment be revised to make sure that this exemption remains under Rule 70 consistent with CP-201. We would also appreciate clarification in the Staff Report associated with this rulemaking.

AIR RESOURCES BOARD / Resolution 04-21 / July 22, 2004 /WHEREAS, the Board's staff has proposed revisions to section 4.11 of CP-201 that will allow upgrades to ORVR compatible systems without triggering the unihose requirement and thus reduce costs to station operators;

CP-201 - 4.10 / Unihose MPD Configuration / There shall be only one hose and nozzle for dispensing gasoline on each side of a multi product dispenser (MPD). This shall not apply to facilities installed prior to April 1, 2003 unless the facility replaces more than 50 percent of the dispensers. Facility modifications that meet the definition of "major modification" for a Phase II system in D-200 trigger the unihose requirement as the facility is considered a "new installation". Exception: dispensers which must be replaced due to damage resulting from an accident or vandalism may be replaced with the previously installed type of dispenser. [as revised on 05/26/06]

We also appreciate your agency's withdrawing the proposal to increase the testing frequency for EVR I from 3 years to annual. With the introduction of in-station diagnostics (ISD), this is just counter productive to the intent of ISD. With increased confidence in the abilities of ISD, we hope that air districts will begin to relax the periodic testing requirements associated with EVR I & II. We stand ready to further discuss any issues your agency has related to EVR I & II.

The proposed revision to the definition of "Major Modification" in Subsection J.16.b) reads as follows:

b) Either the replacement of the Phase II system or the modification ~~Modification~~ of the Phase II system that involves the addition, replacement or removal of 50 percent or more of the buried vapor piping, or the replacement of dispensers, is considered a major modification of the Phase II system....

This definition applies only to Subsection B.7 and Section H of this rule and does not supersede the definition of major modification in CARB document D-200.

The proposed revision clarifies that replacing a Phase II system, without regard to the status of the dispensers, is a major modification and will require compliance testing. As such, the revised language enables the "multi-hose dispenser exclusion" by acknowledging that dispenser replacement may or may not occur and establishing a criteria for each case. The new final statement clarifies that this definition does not supersede the CARB definition.

As noted above, ARB document CP-201, *Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities*, states that "facility modifications that meet the definition of "major modification" for a Phase II system in D-200 trigger the unihose requirement as the facility is considered a 'new installation'." This means that use of the "multi-hose dispenser exclusion" is controlled by the definition of "major modification" in ARB document D-200, not by a local agency definition. Therefore, application of the "multi-hose dispenser exclusion" is not effected by the proposed revisions to Rule 70.

As noted above, staff agreed to remove from the revised rule the proposal to increase Phase I testing from three years to one year. As a result, the proposed amended rule language and the discussion and analysis of the proposal have been removed from the body of the staff report and moved to Appendix 4. An additional statement was added to Subsection J.16 as noted above. No other changes to the proposed rule were made as a result of the discussions with WSPA.

Advisory Committee
January 27, 2009

The Advisory Committee discussed various aspects of the draft amended rule, including the advantage of

the proposed exemption from Phase II vapor recovery for ORVR fleets. Public attendees discussed issues relating to the function and availability of the Enhanced Vapor Recovery (EVR) Phase II systrems that are due to be in place by April 1, 2009. Staff verified that the dispensing of E85 fuel is proposed for exemption from Phase II requirements. The Committee recommended an improved definition of E85. With that change, the Committee recommended unanimously adoption of the amended rule by the Air Pollution Control Board.

REFERENCES

1. EPA Memorandum: *Removal of Stage II Vapor Recovery in Situations Where Widespread Use of Onboard Refueling Vapor Recovery is Demonstrated,* Stephen D. Page, Director, Office of Air Planning and Research, and Margo Tsirigotis Oge, Director, Office of Transportation and Air Quality, December 12, 2006 (Appendix 1)

2. EPA Memorandum: *Removal of Stage II Vapor Recovery from Refueling of Corporate Fleets*, Stephen D. Page, Director, Office of Air Planning and Research, and Margo Tsirigotis Oge, Director, Office of Transportation and Air Quality, November 28, 2007 (Appendix 2)

3. Letter to "All Local Air District Air Pollution Control Officers" from James N. Goldstene, Executive Officer, California Air Resources Board, February 20, 2008 (Appendix 3)

4. *Proposed Amendments to BAAQMD Regulation 8, Rule 7: Gasoline Dispensing Facilities, Draft Staff Report*, Bay Area Air Quality Management District, October 2002, page 6

5. *Estimated Fee Paid Vehicle Registrations By County For The Period Of January 1 Through December 31, 2007,* California Department Of Motor Vehicles, March, 2008

Appendix 1
USEPA Memo on ORVR and Stage II Vapor Recovery

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

DEC 12 2006

MEMORANDUM

OFFICE OF
AIR OUAUTY PLANNING
AND STANDARDS

SUBJECT: Removal of Stage II Vapor Recovery in Situations Where Widespread Use of Onboard Refueling Vapor Recovery is Demonstrated

FROM: Stephen D. Page, Director
Office of Air Quality Planning and Standards

Margo Tsirigotis Oge,
Director Office of Transportation and Air Quality

TO: Regional Air Division Directors

The purpose of this memorandum is to provide guidance to States concerning the removal of Stage II gasoline vapor recovery systems, where States demonstrate to EPA that widespread use of onboard refueling vapor recovery (ORVR) has occurred in specific portions of the motor vehicle fleet. The specific fleets addressed here include:

1. initial fueling of new vehicles at automobile assembly plants
2. refueling of rental cars at rental car facilities
3. refueling of flexible fuel vehicles at E85 dispensing pumps

Background

Stage II vapor recovery systems are required to be used at gasoline dispensing facilities located in serious, severe, and extreme non-attainment areas for ozone under section 182(b)(3) of the Clean Air Act (CAA). States have included these control measures in their federally-approved state implementation plans (SIPS) in the form of generally applicable regulatory requirements governing all gasoline dispensing facilities that exceed the relevant gasoline dispensing throughput criteria. However, section 202(a)(6) of the CAA allows EPA to revise or waive the section 182(b)(3) Stage II requirement for these ozone non-attainment areas after the Agency determines that ORVR is in widespread use throughout the motor vehicle fleet.

CAA section 202(a)(6) does not specify which motor vehicle fleet must be the subject of a widespread use determination before EPA may revise or waive the section 182(b)(3) Stage II requirement. Nor does the CAA identify what level of ORVR use in the motor vehicle fleet must be reached before it is "widespread." EPA expects the possibility of different rates of the

implementation of ORVR across different geographic regions and among different types of motor vehicle fleets within any region. Given this, EPA does not believe that CAA section 202(a)(6) must be read narrowly to allow a widespread use determination and waiver of the Stage II requirement for a given area or area's fleet only if ORVR use has become widespread throughout the entire United States, or only if ORVR use has reached a definite level in each area. Rather, EPA believes that section 202(a)(6) allows the Agency to apply the widespread use criterion to either the entire motor vehicle fleet in a State or non-attainment area, or to special segments of the overall fleet for which ORVR use is shown to be sufficiently high, and to base widespread use determinations on differing levels of ORVR use, as appropriate. Moreover, a single national rulemaking is not needed to grant such a waiver for a specific area. Instead, EPA believes that the Act allows the Agency to use an area-specific rulemaking approving a SIP revision to issue the section 202(a)(6) waiver for a relevant fleet in a non-attainment area, where a State meets the recommended criteria discussed below.

Various metrics have been studied for demonstrating widespread use of ORVR in motor vehicle fleets. One metric focuses on the percentage of vehicles in service that are ORVR-equipped. Based on our preliminary analysis, this metric seems to track fairly closely with the percentage of vehicle miles traveled (VMT) from ORVR-equipped vehicles, and with the percentage of gasoline sold which is dispensed to ORVR-equipped vehicles. In fact, since newer vehicles tend to be driven more miles than older models, VMT traveled by ORVR-equipped vehicles and gasoline dispensed to ORVR-equipped vehicles may exceed 95 percent in a 95 percent ORVR-equipped fleet.

Another metric that EPA considered is when VOC emissions resulting from the application of ORVR controls alone equal the VOC emissions when both Stage II vapor recovery systems and ORVR controls are used, after accounting for incompatibility excess emissions. The incompatibility excess emissions factor relates to losses in control efficiency when certain types of Stage II and ORVR are used together. Studies conducted in three northeastern states indicate that when the percentages of motor vehicles in service with ORVR, vehicle miles traveled by ORVR-equipped vehicles, or gasoline dispensed to ORVR-equipped vehicles are above 95 percent, then the widespread use metric based on comparable VOC emissions will likely have been reached. For this reason, EPA believes that if 95 percent of the vehicles in a fleet have ORVR, then widespread use will likely have been demonstrated.

1. Initial Fueling at Automobile Assembly Plants

Based on our preliminary analysis, EPA expects that if a State's submission of a SIP revision shows that 95 percent of the new vehicles fueled at an automobile assembly plant are equipped with ORVR, and that this level of ORVR use would not decrease, the Agency can determine that widespread use of ORVR has been achieved for the fleet of motor vehicles that are fueled at that facility.

Since model year 2000, all passenger cars have been required to have ORVR. Also since 2006, all light duty trucks, SUVs and medium duty vehicles are required to be equipped

with ORVR. There may be a few situations, such as the chassis for motorized mobile homes, which still do not have ORVR. However, the number of these would be small. It is apparent that at most automobile assembly plants greater than 95 percent of the vehicles manufactured would have ORVR. Many assembly plants manufacture 100 percent ORVR equipped vehicles. Only such new vehicles are expected to be fueled at the automobile assembly, plants.

States desiring to remove the Stage II requirement for these facilities would need to submit a SIP revision that EPA would evaluate through notice and comment rulemaking. The SIP would need to demonstrate that the widespread use benchmark has been achieved and provide assurance that any facility wishing to remove Stage II equipment maintains its eligibility for its motor vehicle fleet. Any EPA SIP approval would also be subject to the CAA section 110(1) requirement that the revision not interfere with any applicable requirement concerning attainment and reasonable further progress, or any other requirement of the CAA.

2. Refueling of Rental Cars at Rental Car Facilities

Similarly, EPA expects that if a SIP revision submission demonstrates that 95 percent of the vehicles in an automobile rental fleet refueling at a rental car facility are equipped with ORVR and that this level of ORVR use would not decrease, then widespread use of ORVR could be found for the motor vehicle fleet refueling at that facility. Most large rental car companies rent current model vehicles that would all have ORVR. There may be truck rental companies which have older vehicles which do not have ORVR and that would not be able to demonstrate widespread use of ORVR for their fleets. As discussed above, any SIP revision would be subject to CAA section 110(1) and other applicable requirements, and State and local agencies should consider any potential transportation conformity impacts if Stage II is currently included in a SIP's on-road motor vehicle emissions budget.

3. Refueling Flexible Fuel Vehicles at E85 Dispensing Pumps

E85 is a motor vehicle fuel that is a blend of as little as 15 percent gasoline and up to 85 percent ethanol. (In wintertime applications, the ratio may be 30 percent gasoline and 70 percent ethanol.) Ethanol is ethyl alcohol, a type of alcohol which can be produced from renewable resources such as corn. Based on the agency's survey of existing SIPS, EPA believes that most States have defined "gasoline" (for purposes of controlling emissions of VOC from refueling activities) to include gasoline/alcohol blends that have the same volatility as E85. EPA's guidance for States in developing their Stage II SIPs in the early 1990s suggested that States use the same definition of "gasoline" as the one found in EPA's Standards of Performance for Bulk Gasoline Terminals at 40 C.F.R. 60.501, which includes "any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (kPa) or greater which is used as a fuel for internal combustion engines." EPA recommended using this definition to most broadly reach situations in which refueling of motor vehicles results in evaporative VOC emissions that contribute to ozone non-attainment concentrations, and to avoid a narrow interpretation of what is "gasoline" that would allow significant VOC emissions from motor vehicle refueling activities in non-attainment areas to go uncontrolled.

E85 can only be used in specially designed flexible fuel vehicles (FFVs), which have mostly been manufactured since 1998. Since these are newer vehicles, most of them are equipped with ORVR, and every FFV built today has ORVR. Thus, most vehicles refueling at E85 dispensing pumps are already having their evaporative emissions captured, as in the cases of late model rental cars refueling at rental car facilities and newly manufactured cars being fueled for the first time at automobile assembly plants. EPA estimates that 59 percent of FFVs in current use are equipped with ORVR. The percentage of FFVs with ORVR will continue to climb as older vehicles are taken out of service and new models join the fleet. Across different ozone non-attainment areas and between States, these percentages may vary.

EPA believes that encouraging the use of E85 as a motor vehicle fuel reduces emissions of other air pollutants such as CO and benzene, a known human carcinogen, and reduces emissions of greenhouse gases. In addition, based on available information, the Agency is concerned that there is currently a lack of certified Stage II equipment for E85 (which may require different materials of construction than conventional Stage II equipment), and that the timing for when certified E85-compatible equipment will become widely available is uncertain. This may unnecessarily hinder E85 distribution in areas that now require Stage II.

Unlike in the cases of automobile assembly plants and rental car facilities, EPA is not recommending a specific percentage of the FFV fleet that should have ORVR before widespread use could be determined. This is because most E85 compatible vehicles are already equipped with ORVR and this percentage is increasing over time, whereas for automobile assembly plants and car rental facilities very high percentages of ORVR use have in most cases already been reached and are not expected to further increase significantly. The general use of ORVR in FFVs, instead, is expected to significantly increase, as are the miles driven by and amount of fuel dispensed to recent ORVR-equipped FFVs compared to those manufactured before 2000 without ORVR.

Moreover, we believe that in determining whether widespread use of ORVR has been demonstrated, it is reasonable under section 202(a)(6) to consider the VOC emissions impacts of removing Stage II, and that those impacts may inform the percentage of ORVR-equipped vehicles that would need to be achieved for a specific motor vehicle fleet or in a specific non-attainment area. EPA expects that the air quality impact of allowing E85 refueling facilities to operate without Stage II controls would likely be minimal in most non-attainment areas. FFVs currently comprise about 2 percent of the total US fleet. Non-ORVR FFVs are less 1 percent of the total U.S. vehicle fleet. EPA estimates that non-ORVR FFVs participate in only about 0.5 percent of all refueling events. Furthermore, because of the relatively small number of stations that offer E85 (around 1,000 out of 170,000 total refueling stations) EPA believes that very few of these non-ORVR refueling events actually occur at E85 pumps.

Considering the factors discussed above, if an area can demonstrate that any increase in emissions caused by operating E85 fueling facilities without Stage II controls is so small as to clearly not interfere with attainment of the ozone standard or reasonable further progress or any other applicable CAA requirement, then EPA expects it could find that ORVR is in widespread use for FFVs when refueling at E85 facilities in this area. These areas could then allow E85 facilities to operate without Stage II controls, after modifying their SIPs such that E85 is not

included within the definition of "gasoline" for purposes of Stage II vapor recovery controls (or after taking other necessary SIP revision action). As discussed above, States would need to submit SIP revisions affecting this change to their current Stage II SIPs, which EPA would evaluate through notice and comment rulemaking, subject to the provisions of CAA section 110(1). In addition, State and local agencies should consider if there are any transportation conformity impacts related to removing Stage II, if emissions reductions from Stage II are included in a SIP's on-road motor vehicle emissions budget. Due to the expected rapid growth of E85 installations, EPA will explore the development of ways to expedite the SIP revision process for States which are dealing with the E85 issue.

General Exclusions from Widespread Use Determinations

States in the ozone transport region (OTR) are still required to apply Stage II, or a comparable measure, in all areas under 184(b)(2) of the CAA. This requirement is not affected by any widespread use determination or waiver of the section 182(b)(3) requirement granted under section 202(a)(6). For the independent section 184(b)(2) "comparable measure" requirement to not prevent an appropriate removal of Stage II controls, OTR States may want to revisit their previously approved comparable measure SIPS to consider substituting available non-Stage II measures for the Stage II controls they currently require.

Also, some States have chosen to add Stage II vapor recovery system requirements in their SIPs for ozone nonattainment areas that are classified in a category lower than "serious." While it is not necessary for States to demonstrate ORVR is in widespread use in moderate or cleaner ozone non-attainment areas, a revision of previously adopted SIP requirements to specifically waive Stage II requirements in such areas would need to comply with the provisions of CAA section 110(1) and, as described above, consider any transportation conformity impacts as applicable.

This guidance for widespread use determinations for special sectors would not necessarily apply to widespread use determinations for the general motor vehicle fleet. Within the overall motor vehicle fleet, the rate of penetration of ORVR-equipped vehicles has not advanced at the same rapid rates as for the fleets discussed in this memorandum. EPA is still considering the possible criteria for determining widespread use for the general fleet.

Appendix 2
Second USEPA Memo on ORVR and Stage II Vapor Recovery

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

NOV 28 2007

OFFICE OF
AIR QUALITY PLANNING
AND RESEARCH

MEMORANDUM

SUBJECT: Removal of Stage II Vapor Recovery from Refueling of Corporate Fleets

FROM: Steven D. Page, Director
Office of Air Quality Planning and Research

Margo Tsirigotis, Director
Office of Transportation and Air Quality

TO: Regional Air Division Directors

The purpose of this memorandum is to provide guidance to States concerning the removal of Stage II gasoline vapor recovery systems at gasoline refueling facilities exclusively dedicated to refueling "corporate" or "commercial" fleets, where States demonstrate to the Environmental Protection Agency (EPA) that widespread use of onboard refueling vapor recovery (ORVR) has occurred in such fleets. Corporate or commercial fleets include vehicles owned by corporations, governments, universities or other organizations which use the vehicles for business purposes and typically fuel the vehicles at fueling pumps owned and operated by the fleet owner and exclusively dedicated to fueling the fleet.

On December 12, 2006, EPA issued a memorandum, "Removal of Stage II Vapor Recovery in Situations Where Widespread Use of Onboard Refueling Vapor Recovery is Demonstrated," (attached) which discussed how States may explore amendments to their State Implementation Plans (SIPs) to allow Stage II gasoline vapor recovery to be removed from specific fleet situations, namely:

1. initial fueling of new vehicles at automobile assembly plants;
2. refueling of rental cars at rental car facilities; and
3. refueling of flexible fuel vehicles at E85 dispensing pumps.

The December 12, 2006, memo states that widespread use of ORVR will likely have been demonstrated if 95 percent of the vehicles in a fleet have ORVR. In today's memorandum, EPA is indicating that it believes that if a -State demonstrates that 95 percent of the vehicles in a corporate or commercial vehicle fleet are equipped with ORVR and that this level of ORVR use would not decrease, then widespread use of ORVR could be found for the corporate or

commercial motor vehicle fleet, such that Stage II controls could be considered for removal from a refueling facility that is exclusively dedicated to refueling that fleet.

States desiring to remove the Stage II requirement for these facilities would need to submit a SIP revision that EPA would evaluate through notice and comment rulemaking. The SIP would need to demonstrate that the widespread use benchmark has been achieved and provide assurance that any facility wishing to remove Stage II equipment maintains its eligibility for its motor vehicle fleet. Any EPA SIP approval would also be subject to the Clean Air Act (CAA) section 110(1) requirement that the revision not interfere with any applicable requirement concerning attainment and reasonable further progress, or any other requirement of the CAA. In addition, State and local agencies should consider if there are any transportation conformity impacts related to removing Stage II, if emissions reductions. from Stage II are included in a SIP's on-road motor vehicle emissions budget(s).

As mentioned in the December 12, 2006 memorandum, this guidance for widespread use determinations for corporate fleets would not necessarily apply to widespread use ' determinations for the general motor vehicle fleet. Within the overall motor vehicle fleet, the rate of penetration of ORVR-equipped vehicles has not advanced at the same rapid rates as in some corporate and rental fleets. EPA is still considering the possible criteria for determining widespread use for the general fleet.

In addition, the December 12, 2006, memorandum explained that widespread use determinations would not affect separate requirements applicable to States in the ozone transport region. This exclusion would also apply in the case of corporate or commercial fleets with. widespread use of ORVR.

If you have questions about this recommendation, you may contact William L. Johnson in EPA's Office of Air Quality Planning and Standards by telephone at (919) 541-5245 or by e-mail at johnson.williamL@epa.gov.

Attachment

NOV 28, 2007 EPA Memo

Attachment 2

Estimated ROG Emission Increases From Removal of Stage 2 Vapor Recovery from E85 Fuel Dispensers

Year	Non-ORVR flex fuel vehicle population[1] (1,000's)	Annual VMT per vehicle[2], (1,000's)	% VMT fueled with E85[3]	E85 fuel economy[4] (miles per gallon)	Annual E85 used per vehicle[5], (gallons)	Total E85 used daily[6], 1,000's (gallons)	ROG emissions[7], statewide (tons per day)
2005	110	13.5	0	14.8	0	0	0
2010	95	11.4	5	14.8	38.5	10.0	0.035
2015	67	10.3	15	14.8	104	19.1	0.073
2020	34	9.3	25	14.8	157	14.6	0.055

Notes:

1. Based on data provided to ARB by automobile manufacturers of flex fuel vehicles (FFVs) sold in California 1997 -2005, for which nearly all FFVs were light-duty trucks. Annual number of FFVs is estimated using survival fraction of vehicles as a function of vehicle age. Assumes all FFV light-duty trucks equipped with onboard refueling vapor recovery (ORVR) starting with MY2003. Average age of vehicles in 2005 non-ORVR FFV fleet is 4 years.

2. Annual vehicle miles traveled (VMT) data for light-duty trucks based on EMFAC2007.

3. Assumes increase in E85 refueling over time as number of E85 pumps increase and motorists become aware that E85 costs less than reformulated gasoline. The assumed percentages in each of the three years are estimates based on these factors.

4. Assumes:

   - Fuel economy of FFVs operating on E85 based on U.S. EPA Fuel Economy Guides;
   - Fuel economy does not decline with vehicle age for newer model year vehicles equipped with advanced on-board diagnostics.

5. Calculated: annual VMT X % fueled with E85 / fuel economy in miles per gallon.

6. Calculated: vehicle population X annual gallons E85 / 365 days per year.

7. Calculated: daily gallons of fuel used X evaporative emissions in pounds TOG per gallon of fuel throughput X 0.92 (ratio of ROG/TOG).

Assumes:

- E85 evaporative emissions factor same as emissions factor for reformulated gasoline. (Source: Full Fuel Cycle Assessment Well to Tank Energy Inputs, Emissions, and Water Impacts, CEC-600-2007-002-D, February 2007, pp. 5-30 to 5-35);

- Reformulated gasoline evaporative emissions factor 7.6 pounds TOG per 1,000 gallons of fuel throughput (Source: "Uncontrolled Vapor Emission Factor at Gasoline Dispensing Stations," January 5, 2000.)

Appendix 3
Air Resources Board Letter on ORVR and Phase II Vapor Recovery

Air Resources Board
Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812

February 20, 2008

Addressees: All Local Air District Air Pollution Control Officers (APCO)

Dear APCO:

I am writing to encourage you to revise your district's vapor recovery rules as outlined by the U.S. Environmental Protection Agency (U.S. EPA) in the attached memoranda (Attachment 1). U.S. EPA is encouraging states to eliminate the requirement for Phase II vapor recovery systems on gasoline refueling dispensers for certain motor vehicle fleets in light of the growing use of Onboard Refueling Vapor Recovery (ORVR) systems in those fleets.

The fleets at issue are new vehicles initially fueled at motor vehicle assembly plants, late model rental cars refueled at rental car facilities, corporate fleets refueled at corporate-owned pumps, and flexible fuel vehicles (FFVs) refueled at E85 fuel dispensers.

Section 202(a)(6) of the federal Clean Air Act (Act) allows U.S. EPA to remove the requirement for vehicle refueling gasoline vapor recovery systems in ozone nonattainment areas after determining that ORVR systems for motor vehicles are in widespread use. For new vehicles initially fueled at motor vehicle assembly plants, late model rental cars refueled at rental car facilities, and corporate fleets refueled at corporate-owned pumps, U.S. EPA has defined widespread use as 95 percent of the vehicles equipped with ORVR. By virtue of being made up of new late-model vehicles, these fleets have met this criterion.

For FFVs, U.S. EPA is recommending that states show that any increase in emissions caused by operating E85 refueling dispensers without vapor recovery systems is so small as not to interfere with ozone attainment. ARB staff has estimated the emissions to be less than 0.10 tons per day of reactive organic gases statewide in 2015 (see Attachment 2) and believes that it is reasonable to conclude that there is no impact on ozone attainment.

The process for revising a district's vapor recovery requirements is the same as for any other district rule State Implementation Plan (SIP) submission: adopt the amended rules at a public hearing and transmit the amended rules to ARB for processing as a SIP revision and submittal to U.S. EPA. ARB staff is available to assist you with rule review

or in doing additional analysis before proceeding, including more specific emissions assessment and attainment impacts, impact on progress toward state standards, and any possible toxic air contaminant issues.

If you have any questions or need further information regarding vapor recovery requirements, please contact Cindy Castronovo of the Monitoring and Laboratory Division at (916) 322-8957. For questions regarding the emissions impact analysis, please contact Dean Simeroth, Chief of the Criteria Pollutants Branch, at (916) 322-6020.

Sincerely,

James N. Goldstene
Executive Officer

Attachments

cc: Dean Simeroth, SSD
Kurt Karperos, PTSD
Cindy Castronovo, MLD

Appendix 4
Removed Proposal to Revise Phase I Test Frequency

Proposed new Subsection H.8 (removed from consideration on January 27, 2009):

8. After the initial test at the following facilities, the Phase I Enhanced Vapor Recovery (EVR) system tests referenced in the CARB executive order shall be performed annually.

a. Facilites with balance Phase II vapor recovery equipment and a throughput of more than 100,000 gallons per year.

b. Facilities with vacuum assist Phase II vapor recovery equipment.

Phase II vapor recovery equipment is tested annually at the same frequency. The proposal was made because compliance staff had seen an increase problems with Phase I equipment. The cost of these additional tests is discussed below.

A reference to new Subsection H.8 was recommended for renumbered Subsection H.9 in the event that ARB someday requires Phase I EVR reverification testing more frequently than once per year.

Table 1
Gasoline Dispensing Facility Inspection Schedule Changes
Assuming 141 Balance Stations and 99 Vacuum assist Stations
and Accounting for 100,000 Gallon Per Year Threshold

96 Balance >= 100,000	Rule 70 Subsection	Existing Schedule	Average Tests/year	New Schedule	Average Tests/year	Percent Increase
Static Pressure	H.1	Annual	96	Annual	96	
Dynamic Pressure	H.2	Annual	96	Annual	96	
Liquid Removal Rate	H.3	Annual	1,152	Annual	1,152	
Phase I EVR (3 Grades)*	H.4	3 years	96	Annual	288	
TOTAL			1,440		1,632	13.3
45 Balance < 100,000						
Static Pressure	H.1	2 years	23	2 years	23	
Dynamic Pressure	H.2	4 years	11	4 years	11	
Liquid Removal Rate**	H.3	4 years	135	4 years	135	
Phase I EVR (3 Grades)	H.4	3 years	45	3 years	45	
TOTAL			214		214	0.0
BALANCE TOTAL			1,654		1,846	11.6
99 Vacuum assist						
Static Pressure	H.1	Annual	99	Annual	99	
Dynamic Pressure	H.2	Annual	***	Annual	***	
Air To Liquid Vol. Ratio	H.7	Annual	99	Annual	99	
Phase I EVR (3 Grades)	H.4	3 years	99	Annual	297	
VACUUM Asst TOTAL			297		495	66.7

* One test for each of three grades ** Assumes a conservative 12 nozzles per station *** Done as a "wet" A/L test at no additional cost

Additional Phase I Testing

As noted above, new Subsection H.8 will require the Phase I vapor recovery equipment at the following gasoline dispensing facilities to be tested annually.

- Facilites with balance Phase II vapor recovery equipment and a throughput of more than 100,000 gallons per year
- Facilities with vacuum assist Phase II vapor recovery equipment

Annual testing is proposed because compliance staff has seen an increase in problems with Phase I equip-ment. An estimate of the increase in individual tests and the precent increase in test frequency appears in Table 1. While an increase in test frequency may result in fewer breakdowns, or breakdowns of shorter duration, the proposal will result in no measurable reduction in ROC emissions.

To measure the effectiveness of the proposed revision, defects must be counted. It is not possible to know the number of additional defects that will be found under the proposed rule. Furthermore, the District has no comparable data on past defects. In addition, GDF operators are allowed to conduct pretests, where many defects are fixed before the District inspector arrives. Even of we start now counting defects, we will never know the effect of the proposed rule. It is for this reason that the ROC emission reduction expected from the proposed revisions is considered unmeasurable.

No additional credit for ROC emission reductions will appear in the AQMP as a result of any proposed revision to Rule 70.

Cost Increase for Phase I Testing

In calculating the annual cost of testing and District observation, certain assumptions were made. To determine the cost of each of five typical GDF tests (static, dynamic, liquid removal, air to liquid ratio, and Phase I EVR), several testing companies were polled and nominal estimates were made. These estimates appear in Table 2. District costs are from Rule 47.

The greater number of reverification tests shown in Table 1 will increase both the cost of testing and the cost of District test observation. Table 3 summarizes the increase in test costs expected from increased annual Phase I testing. The estimates assume 100 percent District observation.

According to compliance staff, District observation of reverification tests is close to 100 percent. At this rate, balance system reverification test costs will increase about 14 percent countywide, from $169,028 to $192,068 per year. On an annual per station basis, balance station costs increase about 16 percent, from $1,490 per year to $1,730 year.

For vacuum assist systems at a 100 percent observa-tion rate, annual countywide costs increase 19.5 percent to $145,530 per year. On an annual per station basis, costs increase the same percentage to $1,470. While the testing company will charge for the additional Phase I EVR tests, no additional travel or per-diem fees is expected because Phase II testing will occur at the same time. Staff considers the increases noted in Table 3 to be reasonable.

Details from the analysis of current and future reverification test costs for both balance and vacuum assist systems appears in Appendix 4. The chart presents costs on an annual per-station and county-wide basis. As noted above, balance systems with a thoughput of less than 100,000 gallons per year will not change. Full Phase I EVR implementation is required by April, 2009.

Table 2
Cost Assumptions

Balance	Test Cost	District Cost
Static	$250	$210
Dynamic	$250	$150
Liquid Remove	$30 per nozzle	$150
Phase I Tank 1	$70	$150
Phase I Tank 2	$70	$0
Phase I Tank 3	$70	$0

Vacuum Assist	Test Cost	District Cost
Static	$250	$210
Wet Air / Liquid	$500	$150
Phase I Tank 1	$70	$150
Phase I Tank 2	$70	$0
Phase I Tank 3	$70	$0

Table 3
Average Reverification Test Cost Annual Summary
At 100% District Test Observation

Balance Systems

	Each Station				Countywide	
	Existing >=100,000	Revised >=100,000	Existing <100,000	Revised <100,000	Existing	Revised
Testing	$930.00	$1,070.00	$347.50	$347.50	$104,918	$118,358
District Observation	$560.00	$660.00	$230.00	$230.00	$64,110	$73,710
Total	$1,490.00	$1,730.00	$557.50	$557.50	$169,028	$192,068
Increase (%)		16.1		0.00		13.6

Vacuum Assist Systems

	Each Station		Countywide	
	Existing	Revised	Existing	Revised
Testing	$820.00	$960.00	$81,180	$95,040
District Observation	$410.00	$510.00	$40,590	$50,490
Total	$1,230.00	$1,470.00	$121,770	$145,530
Increase (%)		19.5		19.5

Analysis for Increasing Phase I VR Testing from Every 3 Years to Annual

(August 19, 2008)

>=100,000 gal/yr			Countywide	Per Station			Countywide	Per Station
Balance Stations - Old	96	**Test/yr**	**Cost/Yr**	**Cost/Yr 1**		**District**	**Dist/Yr**	**Dist/Yr 1**
Annual	Static	96	$24,000.00	$250.00		$210	$20,160	$210
Annual	Dynamic	96	$24,000.00	$250.00		$150	$14,400	$150
12 Nozzles	LR	1152	$34,560.00	$360.00		$150	$14,400	$150
Regular - 3 years	Phase I	32	$2,240.00	$23.33		$150	$4,800	$50
Mid-Grade - 3 years	Phase I	32	$2,240.00	$23.33		$0	$0	$0
Supreme - 3 years	Phase I	32	$2,240.00	$23.33		$0	$0	$0
		1,440	$89,280.00	$930.00		$660.00	$53,760	$560.00

Balance Stations - New	96	**Test/yr**	**Cost/Yr**	**Cost/Yr 1**		**District**	**Dist/Yr**	**Dist/Yr 1**
Annual	Static	96	$24,000.00	$250.00		$210	$20,160	$210
Annual	Dynamic	96	$24,000.00	$250.00		$150	$14,400	$150
12 Nozzles	LR	1,152	$34,560.00	$360.00		$150	$14,400	$150
Regular - Annual	Phase I	96	$6,720.00	$70.00		$150	$14,400	$150
Mid- Grade - Annual	Phase I	96	$6,720.00	$70.00		$0	$0	$0
Supreme - Annual	Phase I	96	$6,720.00	$70.00		$0	$0	$0
		1,632	$102,720.00	$1,070.00		$660.00	$63,360	$660.00

<100,000 gal/yr			Countywide	Per Station			Countywide	Per Station
Balance -Stations - Old	45	**Test/yr**	**Cost/Yr**	**Cost/Yr 1**		**District**	**Dist/Yr**	**Dist/Yr 1**
Every 2 years	Static	22.5	$5,625.00	$125.00		$210	$4,725	$105
Every 4 years	Dynamic	11.25	$2,812.50	$62.50		$150	$1,688	$38
12 Nozzles	LR	135	$4,050.00	$90.00		$150	$1,688	$38
Regular - 3 years	Phase I	15	$1,050.00	$23.33		$150	$2,250	$50
Mid-Grade - 3 years	Phase I	15	$1,050.00	$23.33		$0	$0	$0
Supreme - 3 years	Phase I	15	$1,050.00	$23.33		$0	$0	$0
		214	$15,637.50	$347.50		$660.00	$10,350	$230.00

Balance Stations - NEW	45	**Test/yr**	**Cost/Yr**	**Cost/Yr 1**		**District**	**Dist/Yr**	**Dist/Yr 1**
Every 2 years	Static	22.5	$5,625.00	$125.00		$210	$4,725	$105
Every 4 years	Dynamic	11.25	$2,812.50	$62.50		$150	$1,688	$38
12 Nozzles	LR	135	$4,050.00	$90.00		$150	$1,688	$38
Regular - 3 years	Phase I	15	$1,050.00	$23.33		$150	$2,250	$50
Mid-Grade - 3 years	Phase I	15	$1,050.00	$23.33		$0	$0	$0
Supreme - 3 years	Phase I	15	$1,050.00	$23.33		$0	$0	$0
		214	$15,637.50	$347.50		$660.00	$10,350	$230.00

Balance - Countywide	Old	Total	$104,917.50		$64,110.00
	New	Total	$118,357.50		$73,710.00

			Countywide	Per Station			Countywide	Per Station
Vapor Assist Old	99	**Test/yr**	**Cost/Yr**	**Cost/Yr 1**		**District**	**Dist/Yr**	**Dist/Yr 1**
Annual	Static	99	$24,750.00	$250.00		$210	$20,790	$210
Annual (Wet A/L every 4th yr)	W A/L	99	$49,500.00	$500.00		$150	$14,850	$150
Regular – 3 years	Phase I	33	$2,310.00	$23.33		$150	$4,950	$50
Mid-Grade - 3 years	Phase I	33	$2,310.00	$23.33		$0	$0	$0
Supreme - 3 years	Phase I	33	$2,310.00	$23.33		$0	$0	$0
		297	$81,180.00	$820.00		$510.00	$40,590	$410.00

Vapor Assist New	99	**Test/yr**	**Cost/Yr**	**Cost/Yr 1**		**District**	**Dist/Yr**	**Dist/Yr 1**
Annual	Static	99	$24,750.00	$250.00		$210	$20,790	$210
Annual	W A/L	99	$49,500.00	$500.00		$150	$14,850	$150
Regular - Annual	Phase I	99	$6,930.00	$70.00		$150	$14,850	$150
Mid- Grade - Annual	Phase I	99	$6,930.00	$70.00		$0	$0	$0
Supreme - Annual	Phase I	99	$6,930.00	$70.00		$0	$0	$0
		495	$95,040.00	$960.00		$510.00	$50,490	$510.00