OVERVIEW

The Santa Barbara County Air Pollution Control District (APCD) Rule 316, Storage and Transfer of Gasoline, implements several control measures identified in the APCD Clean Air Plans. Rule 316 requires the use of Phase II vapor recovery systems when fueling motor vehicles. Phase II vapor recovery systems (VRS) work in parallel with the gasoline pumps and are designed to capture vapors during refueling.

Newer passenger cars (model year 2000 and newer) have Onboard Refueling Vapor Recovery (ORVR) systems. Use of ORVR systems on these vehicles negates the need to use Phase II VRS. The U.S. Environmental Protection Agency and California Air Resources Board have developed guidelines to authorize the removal of the Phase II VRS when the vehicles being refueled have ORVR systems.

OBJECTIVES

Staff proposes to amend Rule 316 to exempt the following from the requirement to use Air Resources Board-certified Phase II VRS (Rule 316, Section C.3):

1. Non-retail motor vehicle fueling facilities where 100 percent of vehicles refueled are equipped with ORVR provided that the Phase II vapor recovery system, if previously installed, has been properly removed in a manner approved by the Control Officer.

2. Transfer of E85 from any storage tank into a Flexible Fuel Vehicle fuel tank at any retail service station or non-retail motor vehicle fueling facility.

Minor revisions to the Rule 102 definitions are also proposed to update the gasoline definition and the ASTM references.

IMPLICATIONS TO THE REGULATED COMMUNITY

Gasoline and E85 dispensing facilities serving newer fleet vehicles will be exempt from the requirement to use the Phase II VRS. Other than incidental permitting fees to authorize the removal of Phase II VRS, the facilities claiming the new exemptions will reduce the costs associated with maintaining and upgrading the Phase II VRS. For the gasoline dispensing facilities subject to the exemption, there will be additional recordkeeping and/or other compliance verification methods to ensure that only ORVR-equipped vehicles use the station.

The sources with non-retail gasoline dispensing facilities that may take advantage of the new exemption (Section I.7.a) include governmental agencies, car rental agencies, and corporations.

The regulated community has requested that the APCD incorporate the exemptions into the rule now due to a pending state mandate. The Air Resources Board (ARB) is requiring that a new generation of clean nozzles and other Phase II VRS components be installed on facilities with underground tanks by April 1, 2009. These Enhanced Vapor Recovery (EVR) Phase II VRS upgrades will not be required for facilities exempt from Rule 316.

1 The specific control measures are: R-PM-1, R-PM-2, and R-PM-3. Rule 316 also implements the benzene Airborne Toxic Control Measure for Retail Service Stations (California Code of Regulations, Title 17 §93101).

2 Many newer trucks have ORVR as well (e.g., model year 2003 and newer light duty trucks, sport utility and similar vehicles, and most model year 2003 and newer medium duty and heavy duty trucks with Gross Vehicle Weight Rating less than 10,000 pounds are equipped with ORVR).

3 "E85" is an ethanol-gasoline blend. There is no ARB-certified Phase II vapor recovery system for E85 dispensing facilities. However, in general, "Flexible Fuel Vehicles" are newer and expected to be equipped with ORVR systems.

4 Including mobile refueling operations.
COMPARISONS TO ADJACENT LOCAL AIR POLLUTION CONTROL DISTRICTS

Air districts adjacent to the Santa Barbara County APCD include the San Joaquin Valley APCD, the Ventura County APCD, and the San Luis Obispo County APCD. The Ventura County APCD and the San Luis Obispo County APCD have not yet added the E85 and ORVR exemptions, although they are considering them.

The San Joaquin Valley APCD has added a general exemption to Rule 4622 that covers both E85 and ORVR fueling. The Rule 4622 exemption requires that 100 percent of vehicle fleets be equipped with ORVR systems. The 100 percent requirement is similar to the provision proposed in the revised Santa Barbara County APCD Rule 316.

EMISSION REDUCTIONS, COST EFFECTIVENESS, AND INCREMENTAL COST-EFFECTIVENESS

Cost-effectiveness and incremental cost-effectiveness calculations are a function of emission reductions and equipment costs associated with the control measure. There will not be any additional emission reductions associated with the proposed exemptions. Further, the ORVR equipment costs are already included in the motor vehicle costs. Thus, cost-effectiveness and incremental cost-effectiveness analyses are unnecessary and inappropriate for this rule revision.

ANALYSIS OF EXISTING FEDERAL AND DISTRICT REGULATIONS

The following information is included to comply with the California Health & Safety Code Section 40727.2 requirements.

Staff has identified federal air pollution control requirements for vehicle refueling emissions in 40CFR, Part 86, Control of Emissions from New and In-Use Highway Vehicles and Engines. This federal law has numerous provisions regarding controls on refueling emission. 1 In general, the requirements apply to the vehicle manufacturers. 2

Existing Santa Barbara County APCD rules that apply to the same equipment or source type include: 3

- Rule 201. Permits Required
- Rule 202. Exemptions to Rule 201
- Rule 210. Fees
- Rule 301. Circumvention
- Rule 303. Nuisance

Staff was unable to find any emission control standards constituting best available control technology for this source type.

IMPLICATIONS TO THE APCD WORK LOAD AND BUDGET

There may be a small increase in APCD permitting activities to ensure that:

1) Qualifying facilities remove their Phase II VRS equipment properly. 4
2) The permit's equipment description is updated, and
3) The permit conditions are revised accordingly.

Current APCD staffing levels and budget are sufficient to address the increased activities associated with the revised rule.

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1 Including Subparts A, B, and S (e.g., Sections 86.001-9, 86.004-9, 86.099-8, 86.1811-01, 86.1812-01, 86.1813-01, and 86.1816-05). The 40CFR Part 86 refueling emission limits are provided in units of gram per gallon and gram per liter of fuel dispensed (or grams hydrocarbon per gallon of fuel dispensed). The APCD Rule 316 specifies the Phase II VRS limit in units of percent (i.e., “… 95 percent effective when used in conjunction with an ARB-certified Phase I vapor recovery system.”).

2 Section 202(a)(6) of the federal Clean Air Act (CAA) was the genesis of the 40CFR, Part 86 refueling emission limits. The CAA provision specifies the control limit in units of efficiency (i.e., “The standards shall require that such systems provide a minimum evaporative emission capture efficiency of 95 percent.”).

3 The rules within Regulation VIII, New Source Review, may also apply depending on a source’s Net Emissions Increase.

4 There may also be an increase in inspection activities to verify that the Phase II VRS removal is done in a manner approved by the APCD.

Santa Barbara County APCD
PUBLIC PROCESS

On September 17, 2008, the APCD mailed letters to facilities that may qualify for one of the proposed exemptions. This advisory letter:

1. outlined the project objectives,
2. mentioned the availability of proposed amended rules and a background paper,
3. indicated the public will have an opportunity to provide input at the October 22, 2008 Community Advisory Council (CAC) meeting, and
4. invited the submittal of written comments on the project.

A public notice on the January 15, 2009 Board Hearing to consider adoption of the revised rules is scheduled to be published on December 7, 2008.

No public comments outside of the original request for this rulemaking have been received to date.

ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE AND CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Methods of Compliance

California Public Resources Code Section 21159 requires the APCD to perform an environmental analysis of the 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 revised Rule 316 will not 1) require the installation of pollution control equipment, 2) specify a performance standard, or 3) specify a treatment requirement. The modified rule will provide an exemption from Phase II VRS requirements for facilities refueling ORVR-equipped vehicles only and facilities dispensing E85. (Manufacturers install ORVR systems on new motor vehicles at their plants to comply with federal requirements.)

Therefore, the project does not trigger the need for an environmental analysis under California Public Resources Code Section 21159.

CEQA Requirements

Pursuant to State CEQA Guidelines, CEQA documentation is under development.

APPENDICES

Appendix A: Proposed Amended Rule 102.
Appendix B: Proposed Amended Rule 316.
Appendix A
Santa Barbara County
Proposed Amended Rule 102, Definitions


These definitions apply to the entire rulebook. Definitions specific to a given rule are defined in that rule or in the first rule of the relevant regulation. Except as otherwise specifically provided in these Rules where the context otherwise indicates, words used in these Rules are used in exactly the same sense as the same words are used in Division 26 of the Health and Safety Code.

[...]

“Gasoline” means any organic liquid (including petroleum distillates and methanol) having a Reid vapor pressure, as measured using ASTM Method D 323-82, “Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method),” ASTM International, of 4.0 pounds per square inch absolute or greater and used as a motor vehicle fuel or any fuel which is commonly or commercially known or sold as gasoline, including aviation gasoline.

[...]

“Organic Solvents” means organic materials, including diluents and thinners which are liquid at standard conditions and which are used as, dissolvers, viscosity reducers or cleaning agents, except that such materials which exhibit a boiling point, as measured using ASTM Method D-1078-9505, “Standard Test Method for Distillation Range of Volatile Organic Liquids,” higher than 220°F at 0.5 millimeter mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 220°F.

A. Applicability

The provisions of this rule shall apply to the storage and transfer of gasoline.

B. Definitions

For the purposes of this rule, the following definitions shall apply:

1. "Bottom loaded": A gasoline delivery vessel shall be considered to be bottom loaded when the fuel transfer and vapor return lines have separate, independent, and dedicated attachments on the delivery vessel, when the inlet is flush with the bottom of the storage device, and when the delivery vessel hatches remain closed during fuel transfer.

2. "CARB Air Resources Board-certified vapor recovery system": A vapor recovery system which has been certified by the CARB Air Resources Board pursuant to Section 41954 of the Health and Safety Code.

3. "Existing": Any gasoline storage and transfer facility operating, constructed, or under construction as of July 10, 1990.

4. "E85": A petroleum distillate/alcohol blend having a Reid vapor pressure of 4.0 pounds per square inch or greater and meeting the requirements of Title 13 California Code of Regulations, Section 2250 et seq., and as further defined in Title 12 California Code of Regulations Section 2250(b) and containing a minimum 15 percent of petroleum distillate and a maximum 85 percent of ethyl alcohol.

5. "Flexible Fuel Vehicle": A vehicle specially designed and manufactured to operate on either gasoline or on E85.

6. "Gasoline bulk plant": An intermediate gasoline loading facility where delivery to the facility's storage containers and delivery from the facility is by truck.

7. "Gasoline delivery vessel": A truck, trailer, or railroad car with a storage device containing gasoline, or gasoline vapors, used to transport fuel or other petroleum products.

8. "Gasoline terminal": A gasoline loading facility where delivery to the facility's storage containers is by means other than truck.
"Gasoline vapors": The reactive organic compounds in the displaced vapors including any entrained liquid gasoline.

"Leak free": A leak rate of three (3) drops per minute or less of a liquid containing reactive organic compounds.

"Mobile vehicle fueling facility": A gasoline container equipped with a dispensing nozzle or nozzles mounted on a truck, trailer or other conveyance and used to fill motor vehicle fuel tanks.

"Motor vehicle": A vehicle as defined in Section 415 of the Vehicle Code.

"Motor vehicle fueling facility": A facility where gasoline is transferred directly into the fuel tanks of motor vehicles.

"Onboard Refueling Vapor Recovery": A motor vehicle-based vapor recovery system required by Title 13 California Code of Regulations, Section 1978, or 40 Code of Federal Regulations Part 86.

"Phase I vapor recovery system": A gasoline vapor recovery system or equipment which recovers the vapors generated during the transfer of gasoline from gasoline delivery vessels into gasoline storage containers.

"Phase II vapor recovery system": A gasoline vapor recovery system or equipment which recovers the vapors generated during the fueling of motor vehicles from gasoline storage containers.

"Retail service station": Any new or existing motor vehicle fueling facility subject to payment of California sales tax on gasoline sales.

"Submerged fill pipe": Any fill pipe or discharge nozzle which meets any one of the following conditions:

a. If the storage container is filled from the top, the discharge opening must be entirely submerged when the liquid level is 6 inches above the bottom of the container.

b. If the storage container is filled from the side, the discharge opening must be entirely submerged when the liquid level is 18 inches above the bottom of the container.

"Storage container replacement": Replacement of one or more gasoline storage containers or excavation of 50 percent or more of an existing facility's total underground liquid piping from the gasoline storage containers to the gasoline dispensers.

"Switch loading": The loading of organic liquids with a Reid vapor pressure of less than 4.0 pounds into a delivery vessel where the previous load was gasoline.

"Vapor tight": An emission of gaseous organic compounds which causes an appropriate analyzer sampling at a distance of one (1) centimeter from a source to register less than 10,000 parts per million, as methane, as determined by EPA Reference Method 21 (Determination of Volatile Organic Compound Leaks).
C. Requirements - Gasoline Storage Containers

1. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline into any gasoline storage container which has 250 gallons or more capacity shall use a permanently installed submerged fill pipe for such transfer.

2. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline from a gasoline delivery vessel into any storage container with 250 gallons or more capacity shall use a permanently installed CARB Air Resources Board-certified Phase I vapor recovery system.

3. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline from any container with 250 gallons or more capacity into any motor vehicle fuel tank with more than 5 gallons capacity shall use a permanently installed CARB Air Resources Board-certified Phase II vapor recovery system during the transfer. The Phase II vapor recovery system shall be certified to be at least 95 percent effective when used in conjunction with a CARB Air Resources Board-certified Phase I vapor recovery system.

4. Any gasoline dispensing nozzle installed on a gasoline container subject to Section C.3 of this Rule shall be equipped with a hold-open latch except where prohibited by local ordinance, State or Federal regulation or the agency responsible for local fire control.

5. Any above ground gasoline storage container with 250 gallons or more but less than 40,000 gallons capacity shall be equipped with a pressure-vacuum relief valve with minimum pressure and vacuum settings of 90% percent of the maximum safe pressure and vacuum ratings of the container.

6. Any above ground gasoline storage container with 40,000 gallons capacity or more shall be equipped with a vapor loss control device as described in Rule 326.E.3.

7. No person shall store any gasoline with a true vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions in any storage container with an internal floating roof, internal floating roof cover, or external floating roof.

D. Requirements - Gasoline Terminals

1. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline into a gasoline delivery vessel at a gasoline terminal shall use a CARB Air Resources Board-certified vapor recovery system. This vapor recovery system shall limit the ROC emissions to 0.08 pounds per 1000 gallons of gasoline loaded.

2. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline into a gasoline delivery vessel shall ensure that loading is accomplished in such a manner that displaced gasoline vapors are vented only to the vapor recovery system. Measures shall be taken to insure that the loading device is leak free when it is not in use and to accomplish complete drainage before the loading device is disconnected.

3. Switch loading shall be subject to the requirements of Section D.1 of this rule.

4. Product transfer equipment shall be configured to require that all gasoline delivery vessels are bottom loaded.
E. **Requirements - Gasoline Bulk Plants**

1. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline into a gasoline delivery vessel at a gasoline bulk plant shall use an [CARB Air Resources Board](#)-certified vapor recovery system. This vapor recovery system shall limit the ROC emissions to 0.50 pounds per 1000 gallons of gasoline loaded.

2. Any person transferring, permitting the transfer, or providing equipment for the transfer of gasoline into a gasoline delivery vessel shall ensure that loading is accomplished in such a manner that displaced gasoline vapors are vented only to the vapor recovery system. Measures shall be taken to insure that the loading device is leak free when it is not in use and to accomplish complete drainage before the loading device is disconnected.

3. Switch loading shall be subject to the requirements of Section E.1 of this rule.

F. **Requirements - Gasoline Delivery Vessels**

1. Any gasoline delivery vessel manufactured and purchased after June 27, 1977 shall be equipped with a vapor recovery system approved by the [CARB Air Resources Board](#) pursuant to Section 41692 of the State Health and Safety Code. The vapor tightness of such system shall be determined using [CARB Air Resources Board](#) Test Method 2-5 or shall meet the specifications for a “vapor-tight gasoline tank truck” specified in 40 CFR 60.501 (in conjunction with EPA Test Method 27).

2. Any gasoline delivery vessel loaded with gasoline at a gasoline terminal or gasoline bulk plant, equipped with a vapor recovery system as required by Section D or Section E of this rule, shall be certified annually by the [CARB Air Resources Board](#) pursuant to Section 41692 of the State Health and Safety Code.

3. Any gasoline delivery vessel used to transfer gasoline into any storage container with 250 gallons or more capacity shall be certified annually by the [CARB Air Resources Board](#) pursuant to Section 41692 of the State health and Safety Code.

4. Any person transferring or permitting the transfer of gasoline into any gasoline delivery vessel shall use a submerged fill pipe or bottom loading.

G. **Vapor Recovery System Operation and Maintenance Requirements**

1. Any vapor recovery system or other equipment installed pursuant to any provision of this rule shall be maintained and operated in the same manner as when certified by the [CARB Air Resources Board](#).

2. All vapor recovery equipment shall be maintained in good working order and shall be leak free and vapor tight, except for the connection between the Phase II vapor recovery nozzle faceplate and the motor vehicle fill pipe during vehicle refueling.

3. Any vapor recovery system shall be maintained and operated in a manner that prevents the gauge pressure in a delivery vessel from exceeding 18 inches of water column or 6 inches of water vacuum.

4. No person shall use or permit the use of any Phase II system or any component thereof containing a defect identified in Title 17, California Code of Regulations, Section 94006, until it has been repaired, replaced, or adjusted as necessary to remove the defect. If District reinspection is
required under Health and Safety Code Section 41960.2, use shall not be permitted until the District has authorized its use.

H. Test Methods


2. Compliance with the limits of Section E.1 shall be determined by CARB Air Resources Board Test Method 202 or by performance test procedures specified in 40 CFR 60.503 (in conjunction with EPA Reference Methods 2A, 2B, 25A and 25B).

3. The vapor tightness of vapor recovery systems required by F.1 shall be determined using CARB Air Resources Board Test Method 2-5 or shall meet the specifications for a "vapor-tight gasoline truck: specified in 40 CFR 60.501 (in conjunction with EPA Test Method 27).

4. Compliance with the "leak free" and "complete drainage" requirements of Section D.2, E.2 and G.2 shall be determined by the procedures outlined in CARB Air Resources Board Test Method 2-6.

I. Exemptions

1. Section C of this rule shall not apply to a transfer to a gasoline storage container used exclusively for wind machines in agricultural operations.

2. Sections C.2 and C.3 of this rule shall not apply to a transfer to or from a gasoline container used to fuel implements of husbandry as defined in Division 16, Chapter 1, of the California Vehicle Code if more than 50 percent of the annual throughput for the container is used to fuel implements of husbandry. Monthly records of container throughput shall be maintained for a period of two years after the end of each calendar year and shall be made available to the District upon request.

3. Section C.2 of this rule shall not apply to a transfer to completely fill a gasoline storage container for the purpose of leak testing, provided that the transfer does not exceed 1,000 gallons.

4. Section C.3 of this rule shall not apply to mobile vehicle fueling facilities

   a. which were purchased or for which a contract to purchase was signed prior to February 19, 1990. This exemption shall expire one year after a vapor return system (Phase II) for mobile fueling facilities is certified by the CARB Air Resources Board.

   b. while being used to fuel vehicles responding to a duly proclaimed local emergency pursuant to Chapter II of the County Code.

5. Until January 1, 1992,

   a. Section E of this rule shall not apply to gasoline bulk plants with a daily throughput less than 20,000 gallons or an annual throughput less than 3,000,000 gallons (July 1 through June 30).

   b. To qualify for the exemption in Section I.5.a, above, the owner or operator of any gasoline bulk plant must submit a petition to the Air Pollution Control Officer not later than September 1 of each year stating:...
1) The maximum daily throughput and the annual throughput of gasoline at the bulk plant for the previous fiscal year (July 1 to June 30);

2) The identity of all gasoline bulk plant customers who have storage containers of 250 or more gallons capacity, and the number and sizes of these storage containers; and,

3) That the owner or operator does not transfer or permit the transfer of gasoline into any storage container of 250 gallons or more unless the container has a permanently installed submerged fill pipe.

c. To qualify for the exemption in Section I.5.a, above, the owner or operator of any gasoline bulk plant must keep records of daily bulk plant throughput. Records shall be maintained for a period of two (2) years, and shall be made available to the District upon request.

d. Section C.2 of this rule shall not apply to a transfer to a gasoline storage container at a motor vehicle fueling facility if all of the following conditions are true:

1) The capacity of the storage container is 5000 gallons or less; and,

2) The storage container receives gasoline exclusively from gasoline bulk plants that are exempt from Section E of this rule under the provisions of Section I.5.a and which satisfy the annual reporting requirements of Section I.5.b and the record keeping requirements of Section I.5.c.

e. Sections C.2, C.3 and C.5 shall not apply to storage containers which have capacities of 1500 gallons or less, except for those installed at retail service stations.

6. Sections C.2 and C.3 of this rule shall not apply to existing aboveground tanks at a motor vehicle fueling facility, with a calendar year throughput not greater than 5000 gallons per month or 50,000 gallons per year, until a CARB-certified vapor return system of the balance type (Phase I or Phase II) for the installed tank configuration is available. This exemption shall expire one year after a vapor return system is certified. Monthly records of storage container throughput shall be maintained for a period of two years after the end of each calendar year and shall be made available to the District upon request.

7. Section C.3 of this rule shall not apply to the following:

a. Transfer of gasoline from any storage tank into a vehicle fuel tank at any non-retail motor vehicle fueling facility where 100 percent of vehicles refueled are equipped with Onboard Refueling Vapor Recovery provided that the Phase II vapor recovery system, if previously installed, has been properly removed in a manner approved by the Control Officer. Any person claiming this exemption shall maintain records of the make, model year, vehicle identification number and any other information indicating whether the vehicle is equipped with Onboard Refueling Vapor Recovery, for all vehicles refueled at such facility. These records shall be maintained on site for at least three years and be made available to the District upon request. In lieu of refueling records, the Control Officer may approve an alternative method for verifying or ensuring that only vehicles equipped with Onboard Refueling Vapor Recovery are refueled at such facility.
b. Transfer of E85 from any storage tank into a Flexible Fuel Vehicle fuel tank at any retail service station or non-retail motor vehicle fueling facility.

J. Compliance Schedules

1. Except as provided in Section J.2 below, the owner or operator of any existing gasoline storage and transfer facility subject to Section C of this rule shall comply with Section C of this rule by January 17, 1990. In addition, the owner or operator shall comply with the following schedule:

   a. Apply for Authority to Construct not later than April 17, 1989.
   b. Complete construction not later than September 17, 1989.
   c. Arrange for District-approved performance testing and District inspection not later than October 17, 1989.
   d. Apply for Permit to Operate not later than November 17, 1989.

2. The owner or operator of any existing gasoline storage and transfer facility exempted under Section I.5 of this rule shall comply with this rule by January 1, 1992. In addition, the owner or operator shall apply for an Authority to Construct not later than January 1, 1991.

3. The owner or operator of any new gasoline storage and transfer facility shall comply with the provisions of this rule at the time gasoline is first stored at the facility.

4. The owner or operator of any existing gasoline storage and transfer facility shall comply with Section C.4 of this rule by October 1, 1991. For the purpose of Regulation II and Regulation VIII, installation of hold open latches shall not be considered to be a modification.

5. The owner or operator of any mobile vehicle fueling facility exempted by Section I.4 shall comply with the provisions of Section C.3 by one year from the date that a vapor return system (Phase II) for a mobile vehicle fueling facility is certified by the CARB Air Resources Board.

6. The owner or operator of any gasoline storage tank exempted by Section I.6 shall comply with the provisions of Section C.2 or C.3 by one year from the date that a vapor return system (Phase I or Phase II) for their tank configuration is certified by the CARB Air Resources Board.