PUBLIC MEETING AGENDA

August 24, 2004
10:30 a.m.

EO-04-1-1 Public Hearing to Consider Proposed Amendments to the List of Equipment Defects that Substantially Impair the Effectiveness of Gasoline Vapor Recovery System

Includes AcrobatTM ReaderTM

PC and Mac Compatible

ELECTRONIC BOARD BOOK

California Environmental Protection Agency

Air Resources Board

LOCATION:

California Environmental Protection Agency
Air Resources Board
Coastal Hearing Room, Second Floor
1001 I Street
Sacramento, California 95814

EXECUTIVE OFFICER HEARING
PUBLIC MEETING AGENDA

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: http://www.sacrt.com
(This facility is accessible to persons with disabilities.)

August 24, 2004
10:30 a.m.

EO-04-1-1 **Public Hearing to Consider Proposed Amendments to the List of Equipment Defects that Substantially Impair the Effectiveness of Gasoline Vapor Recovery System**

California Health and Safety Code section 41960.2 (c)(1) requires the ARB to identify and list equipment defects in gasoline vapor control systems that substantially impair the effectiveness of those systems in reducing air contaminants from gasoline dispensing facilities (service stations). The primary air contaminants captured by vapor recovery systems are ozone precursors and toxic air contaminants. Presence on the defects list carries stricter enforcement options for violations resulting from equipment defects. Equipment defects substantially impairing the effectiveness of vapor recovery systems used in motor fueling operations are now identified in the Vapor Recovery Equipment Defects List; defects are also set forth in the executive orders certifying the systems. Health and Safety Code section 41960.2 (c)(2) requires the ARB to review the list every three years, or upon written request that demonstrates, to the Executive Officer's satisfaction, that such a review is needed. This update is the first of the three-year reviews. Updating and consolidating the list will facilitate compliance by service station owners and enforcement by air pollution control district inspectors, resulting in greater emission benefits from the vapor recovery program.

TO SUBMIT WRITTEN COMMENTS ON THIS AGENDA ITEM IN ADVANCE OF THE MEETING:

CONTACT THE CLERK OF THE BOARD, 1001 I Street, 23rd Floor, Sacramento, CA 95814 (916) 322-5594
FAX: (916) 322-3928
ARB Homepage: www.arb.ca.gov

To request special accommodation or language needs, please contact the following:

- TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.
- Assistance for Disability-related accommodations, please go to http://www.arb.ca.gov/html/ada/ada.htm or contact the Air Resources Board ADA Coordinator, at (916) 323-4916.
- Assistance in a language other than English, please go to http://inside.arb.ca.gov/as/eeo/languageaccess.htm or contact the Air Resources Board Bilingual Coordinator, at (916) 324-5049.

SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD

California Environmental Protection Agency

Air Resources Board

LOCATION:

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Coastal Hearing Room, Second Floor
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SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD

California Environmental Protection Agency

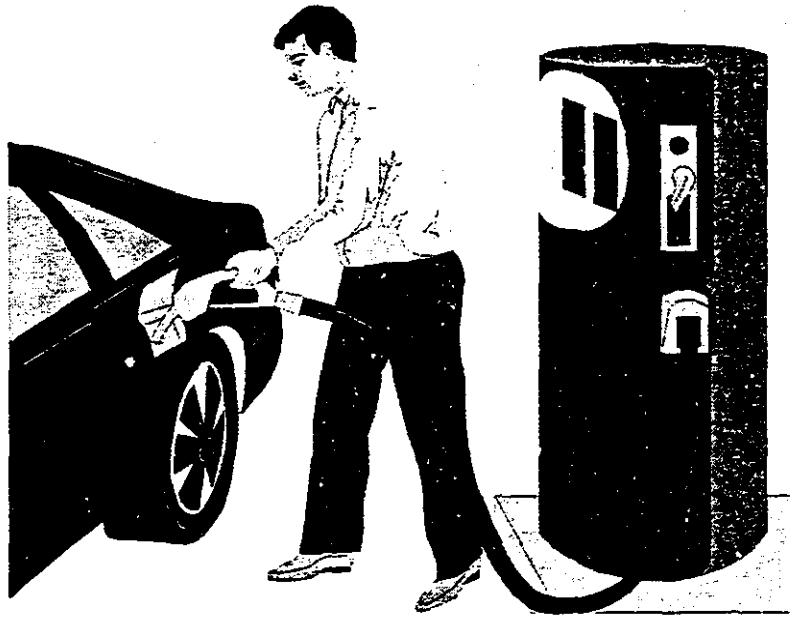
Air Resources Board

HEARING NOTICE AND STAFF REPORT

Vapor Recovery Equipment Defects List Update

INITIAL STATEMENT OF REASONS FOR PROPOSED AMENDMENTS TO THE LIST OF EQUIPMENT DEFECTS THAT SUBSTANTIALLY IMPAIR THE EFFECTIVENESS OF GASOLINE VAPOR RECOVERY SYSTEMS

July 9, 2004



T ITLE 17. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE LIST OF EQUIPMENT DEFECTS THAT SUBSTANTIALLY IMPAIR THE EFFECTIVENESS OF GASOLINE VAPOR RECOVERY SYSTEMS

The Executive Officer of the Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider amendments to the list of defects substantially impairing the effectiveness of vapor recovery systems used in motor vehicle refueling operations. The list of defects is incorporated by reference into title 17 of the California Code of Regulations, section 94006, and is otherwise known as the Vapor Recovery Equipment Defects (VRED) List. Such defects are sufficiently egregious to warrant the removal of the fueling point from service until the defect is repaired.

DATE: August 24, 2004

TIME: 10:30 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Coastal Hearing Room, 2nd Floor
1001 I Street
Sacramento

The public hearing will be conducted by the Executive Officer pursuant to the authority set forth in sections 39515 and 39516 of the Health and Safety Code.

If you have a disability-related accommodation need, please go to **http://www.arb.ca.gov/html/ada/ada.htm** for assistance or contact the ADA Coordinator at (916) 323-4916. If you are a person who needs assistance in a language other than English, please go to **http://inside.arb.ca.gov/as/eeo/languageaccess.htm** or contact the Bilingual Coordinator at (916) 324-5049. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

Sections Affected: Proposed amendment to section 94006(b), title 17, California Code of Regulations (CCR) and the VRED List (adopted September 23, 2002) that is incorporated by reference therein. Staff is recommending that the Executive Officer approve the proposed amendments to the VRED List as described herein.

Background: Section 41960.2 of the Health and Safety Code (HSC) requires the ARB to: 1) identify and list equipment defects in systems for the control of gasoline vapors resulting from motor vehicle fueling operations that substantially impair the effectiveness

of the systems in reducing air contaminants, and 2) periodically update the list to reflect changes in equipment technology or performance. The initial list of defects was developed in 1982 and then most recently updated in 2002. Amendments to the VRED List incorporated by reference into title 17 CCR, section 94006, are being proposed in this regulatory action in order to clarify several of the listed defects and improve the effectiveness of the vapor recovery program by enhancing the ability of enforcement personnel and gasoline dispensing facility (GDF) operators to identify and repair those defects that could significantly impact the effectiveness of the vapor recovery system. Inspectors from local and regional air pollution control districts and air quality management districts periodically inspect GDFs to ensure they are in good working order. When a component on the VRED List is documented by an inspector to contain a listed defect, the equipment must be removed from service until it has been replaced, repaired, or adjusted and reinspected by air pollution control district personnel (HSC section 41960.2(d)).

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

The ARB staff has prepared a Staff Report/Initial Statement of Reasons (ISOR) for the proposed action, which includes a a detailed explanation of the amendment and summary of the potential environmental and economic impacts of the proposal. The report is titled "Initial Statement of Reasons for Amendments to the List of Equipment Defects that Substantially Impair the Effectiveness of Gasoline Vapor Recovery Systems."

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strike-out format to allow for comparison with the existing regulations, may be obtained from the ARB's Public Information Office, Visitors and Environmental Services Center, 1001 I Street, First Floor, Sacramento, California 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing (August 24, 2004).

After the public hearing and upon completion of the rule amendment process, the Final Statement of Reason (FSOR), which includes responses to significant issues raised by commentors, will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the web site listed in this notice.

Inquiries concerning the substance of the proposed regulations should be directed to Ranjit Bhullar, Manager, Vapor Recovery In-Use Program Section, Stationary Source Testing Branch, Monitoring and Laboratory Division, at (916) 322-0223 or R. Neil Nipper, Air Resources Engineer, Vapor Recovery In-Use Program Section, Stationary Source Testing Branch, Monitoring and Laboratory Division, at (916) 445-9391.

Further, the agency representative and designated back-up contact persons to whom non-substantive inquiries concerning the proposed administrative action may be directed are Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Alexa Malik, Regulations Coordinator,

(916) 322-4011. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.
This notice, the ISOR, and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB Internet site for this rulemaking at **http://www.arb.ca.gov/regact/vrdef02/vrdef02.htm**.

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred in reasonable compliance with the proposed regulations are presented below.

The Executive Officer has determined that the proposed regulatory action will not create costs or savings, as defined in Government Code sections 11346.5(a)(5) and 11346.5(a)(6), to any state agency or in federal funding to the state; costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code; or other non-discretionary costs or savings to local agencies.

The Executive Officer has also determined that adoption of the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states or on representative private persons. This determination is based on the fact that the proposed regulatory action establishes no new requirements, but rather clarifies existing defects. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the ISOR

In accordance with the California Administrative Procedure Act, Government Code section 11346.3(b), the Executive Officer has determined that adoption of the proposed regulatory action will not affect the creation or elimination of jobs within the State of California, or the creation of new business, the expansion of business currently doing business within the State of California or the elimination of existing business within California.

The Executive Officer is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action, since avoidance or repair of the listed defects is already required.

The Executive Officer has determined that pursuant to title 1, CCR, section 4, that the adoption of the proposed regulatory action does affect small business, making compliance with existing regulations easier by clarifying what the requirements are.

Before taking final action on the proposed regulatory action, the Executive Officer must determine that no reasonable alternative considered by the Executive Officer or that has otherwise been identified and brought to the attention of the Executive Officer would be

more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

SUBMITTAL OF COMMENTS

The public may present comments relating to this matter orally or in writing at the hearing, and in writing or by e-mail before the hearing. To be considered by the Executive Officer, written submissions not physically submitted at the hearing must be received no later than **12:00 noon, August 23, 2004**, and addressed as follows:

Postal Mail is to be sent to:

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

Electronic mail is to be sent to: **vrdef02@listserv.arb.gov** and received at the ARB by no later than **12:00 noon, August 23, 2004.**

Facsimile submissions are to be transmitted to the Clerk of the Board at (916) 322-3928 and received at the ARB no later than **12:00 noon, August 23, 2004.**

The Executive Officer requests, but does not require, 20 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff has time to fully consider each comment. The Executive Officer encourages members of the public to bring any suggestions for modification of the proposed regulatory action to the attention of ARB staff in advance of the hearing.

STATUTORY AUTHORITY

This regulatory action is proposed under that authority granted in Health and Safety Code sections 39600, 39601, and 41960.2. This action is proposed to implement, interpret, and make specific Health and Safety Code sections 41954 and 41960.2.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Executive Officer may adopt the regulatory language as originally proposed or with non-substantial or grammatical modifications. The Executive Officer may also adopt the proposed regulatory language with other

modifications if the modifications are sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Visitor and Environmental Services Center, 1001 I Street, First Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon
Executive Officer

Date: June 29, 2004

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs see our Web-site at www.arb.ca.gov

California Environmental Protection Agency

Air Resources Board

STAFF REPORT:

INITIAL STATEMENT OF REASONS FOR PROPOSED AMENDMENTS TO THE LIST OF EQUIPMENT DEFECTS THAT SUBSTANTIALLY IMPAIR THE EFFECTIVENESS OF GASOLINE VAPOR RECOVERY SYSTEMS

Date of Release: July 9, 2004
Scheduled for Consideration: August 24, 2004

Location:
1001 I Street
Sacramento, California

Air Resources Board
P. O. Box 2815
Sacramento, California 95812

Acknowledgments

The ARB staff extends their appreciation to the members of the CAPCOA Vapor Recovery Committee for providing multiple suggestions on improvements to the vapor recovery program as well as technical assistance. Moreover, we thank the Western States Petroleum Association and the California Independent Oil Marketers Association for facilitating discussions with their members. We thank all the air pollution control districts who provided their input to the Vapor Recovery Equipment Defects List Update. We appreciate the expertise shared by Reza Mahdavi of the ARB's Economic Studies Section. A special thank-you to the staff from the Monitoring and Laboratory Division as well as the offices of Legal Affairs of the ARB for their assistance in preparing this report.

This report and proposed amendments to the Vapor Recovery Equipment Defects List incorporated by reference into the California Code of Regulations, section 94006 were developed by the following Air Resources Board Staff:

Ranjit Bhullar, Section Manager
R. Neil Nipper, Lead Staff
Paul Thalken
LaMar Mitchell

Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Initial Statement of Reasons for Proposed Amendments to the List of Equipment Defects That Substantially Impair the Effectiveness of Gasoline Vapor Recovery Systems

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Appendices

Executive Summary

The Air Resources Board (ARB or Board) is proposing amendments to the Vapor Recovery Equipment Defects (VRED) List incorporated by reference in title 17 of the California Code of Regulations (CCR), section 94006(b) in order to improve the effectiveness of the gasoline vapor recovery program. Defects in the equipment that substantially impair the effectiveness of the vapor recovery system to collect vehicle refueling emissions are required by law to be identified and listed for each certified system (California Health and Safety Code (HSC), section 41960.2(c)).

The ARB has identified and listed the substantially impairing defects in the VRED List incorporated into title 17 CCR, section 94006(b). The regulation (see title 17, CCR, section 94006(a)) requires any defect that meets the following criteria to be considered substantial:

1. The defect did not exist when the system was certified.
2. The excess emissions associated with the defect have the potential to degrade fueling point or system efficiency by at least five percent.
3. A field verification procedure exists to identify the defect.

In the VRED List, the ARB has identified conditions in vapor recovery equipment components which allow excess emissions, can be readily verified, and should not be present during normal operation of vapor recovery systems. HSC section 41960.2(c)(2) requires the ARB to periodically review the VRED List to determine if it needs to be updated to reflect changes in equipment technology and performance.

An air pollution control district (APCD or district) or an air quality management district (AQMD or district) is responsible for inspecting local gasoline dispensing facilities (GDFs) and enforcing vapor recovery violations involving equipment defects and performance test failures (HSC sections 40752 and 41960.2(d) and (e)). When a district determines that a component contains a defect specified in the VRED List, the district must remove the equipment from service until it has been replaced, repaired, or adjusted.

Field use of the current VRED List, along with inspections conducted by ARB and district staff, have revealed a variety of minor inconsistencies, clarification issues, and the need for editorial-type changes. There are no known defects in vapor recovery equipment in currently installed systems that are not on the VRED List meet the criteria for substantially impaired. ARB staff believes that amending the VRED List for clarification will enhance the ability of anyone using it to identify, and repair or replace, those defects that could significantly affect the effectiveness of vapor recovery systems.

Local district staff, manufacturers' representatives, and trade associations representing GDFs have collaborated with ARB staff on the development of the update to the VRED List. The local districts have provided valuable suggestions regarding technical information, the identification of correct verification procedures, and clarification of listed defects.

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The proposed amendments to the VRED List are based on two goals. The first is to provide clear direction concerning proper equipment operation and maintenance to the owners and operators of the dispensing facilities, and the second goal is to provide clear direction to the local districts concerning inspections and defect detection at dispensing facilities.

The proposed amendments affect a multitude of stakeholders. These include the vapor recovery equipment manufacturers, gasoline marketers who purchase this equipment, contractors who install and maintain vapor recovery systems, and the inspectors at districts who enforce vapor recovery rules. In addition, California certified systems are required by many other states and countries.

As there are no new defects identified, there are no new emission reductions associated with the amendments to the VRED List. The emission reductions associated with the vapor recovery program have already been accounted for in the State Implementation Plan (SIP). However, clarification of the listed defects will enhance compliance by GDF operators and enforcement by the districts, making it more likely that the promised reductions will, in fact, occur.

Staff recommends that the ARB Executive Officer approve the proposed amendments to the VRED List.

1. Introduction

1.1 Overview

This Initial Statement of Reasons (ISOR or Staff Report) contains the ARB staff's proposal for amending the VRED List incorporated by reference in title 17 of the CCR, section 94006(b). The VRED List is a compilation of conditions, which substantially impair the effectiveness of vapor recovery systems used to control motor vehicle refueling emissions. This ISOR contains the following information:

- Background and rationale for the proposed amendments
- Description of the public process
- Need for emission control
- Description of the proposed amendments
- Environmental impacts
- Economic impacts
- Future activities
- List of references

1.2 History

In 1982, the ARB compiled a list of 12 defects for vapor recovery equipment and incorporated the list into title 17 of the CCR, section 94006. These defects applied generally to all vapor recovery systems, regardless of type or manufacturer. Since 1982, the ARB has certified vapor recovery equipment and described the significant defects associated with each of the systems in the Executive Order (E.O.) certifying the system. Given the fact that technology and designs of the vapor recovery systems have changed significantly since the original list was adopted, are changing more rapidly now, and defects are more system dependent, the VRED List was adopted September 23, 2002. Periodic or regular updates, embraced with the passage of the VRED List, will enhance compliance efforts by the GDF operators and district enforcement.

The ARB must now identify and list equipment defects that substantially impair the effectiveness of these systems and periodically update the list as appropriate (HSC sections 41960.2(c) and (d)). Each listed defect results in the generation of excess emissions during the vehicle refueling process. Furthermore, the districts are required to remove from service all equipment that has been determined to contain a listed defect or equipment affected by defective equipment.

2. Background

In 2000 and 2001 the ARB developed criteria to define what would constitute a defect "substantially impairing the effectiveness" of vapor recovery equipment used in motor vehicle refueling operations. The criteria are:

1. The defect did not exist when the system was certified.
2. The excess emissions associated with the defect have the potential to degrade fueling point or system efficiency by at least five percent.

3. A field verification procedure exists to identify the defect.

Each E.O. was reviewed in order to identify all defects, which substantially impair the effectiveness of the systems in collecting gasoline vapors, for inclusion in the VRED List incorporated by reference into title 17 CCR, section 94006(b). The objective was to consolidate all of the substantial defects into one list (rather than an incomplete list plus numerous system E.O.s) in order to enhance compliance and enforcement. This VRED List adopted September 23, 2002 is presented as Appendix 2 of this document, with the amendments now being shown in strikethrough for deletions and underline for additions. The purpose of the proposed amendments is to make non-substantial, editorial, and clarification changes in order to enable both the district inspectors and GDF maintenance personnel to use their time more efficiently while inspecting GDFs. A comprehensive and complete description of each change is provided in section 4, Summary of Proposal (amendments to the VRED List). No additional, substantial, equipment defects have been identified since the creation of the current VRED List.

2.1 Legal Authority

In 1999, the legislature adopted Assembly Bill 1164. This requires the ARB to identify, list, and update the list of equipment defects in systems for the control of gasoline vapors resulting from motor vehicle fueling operations that substantially impair the effectiveness of the systems in reducing air contaminants (VRED List) to reflect changes in equipment technology or performance. Assembly Bill 1164 also required the ARB to conduct a public workshop on or before January 1, 2001 and at least once every three years thereafter (the first periodic review being on or before January 1, 2004) to determine whether a list update is necessary (HSC 41960.2(c)(2)).

The intent of the AB 1164 sponsor was to focus enforcement efforts for gasoline vapor control systems on significant defects and to achieve in more uniform enforcement of vapor recovery requirements. Updating the VRED List at this time will provide everyone involved in motor vehicle refueling vapor recovery with more accurate and current information regarding vapor recovery equipment defects.

2.2 Regulatory History

Gasoline vapor recovery systems have been used in California to control reactive organic gases (ROG), and specifically hydrocarbon (HC) emissions, for over thirty years. The feasibility of the first vapor recovery systems was investigated at the district level, particularly in the San Diego and Bay Area districts, in the early 1970s. State law enacted in 1975 requires the ARB to "adopt procedures for determining the compliance of any system designed for the control of gasoline vapor emissions during gasoline marketing operations, including storage and transfer operations, with performance standards that are reasonable and necessary to achieve or maintain any applicable ambient air quality standard" (HSC section 41954(a)).

Under State law, the ARB is directed to certify gasoline vapor recovery systems so that all systems meet minimum standards (HSC section 41954(c)). To comply with State law, the Board adopted the certification and test procedures found in title 17, CCR, section 94000 et seq. Additionally, State law requires the ARB to list and identify defects that have the potential to substantially impair the effectiveness of the system (see HSC section 41960.2(c)). The VRED List incorporated into section 94006(b) of title 17 of the CCR lists those defects.

After certification, a system may be installed at a GDF anywhere in the State. The local districts are charged with inspecting the GDF to ensure the system is operating as certified. Part of the inspection procedure is to verify that the system is being operated free from the equipment defects listed in the VRED List.

Because each gasoline transfer leads to displaced vapors, the use of efficient vapor recovery equipment is essential throughout the gasoline marketing chain. Vapor recovery systems are divided into separate but dependent phases that are independently certified, as described below.

2.2.1 Phase I Vapor Recovery

Phase I vapor recovery is applied to gasoline transfer operations involving cargo tank trucks. The first transfer occurs when the cargo tank is filled with petroleum product at the loading rack of a refinery terminal or a bulk plant. While the cargo tank is filled, gasoline vapor from the cargo tank is recovered.

As illustrated in Figure 1, Phase I vapor recovery also includes the transfer from the cargo tank to the gasoline dispensing facility, or service station. Phase I vapor recovery is required throughout California.

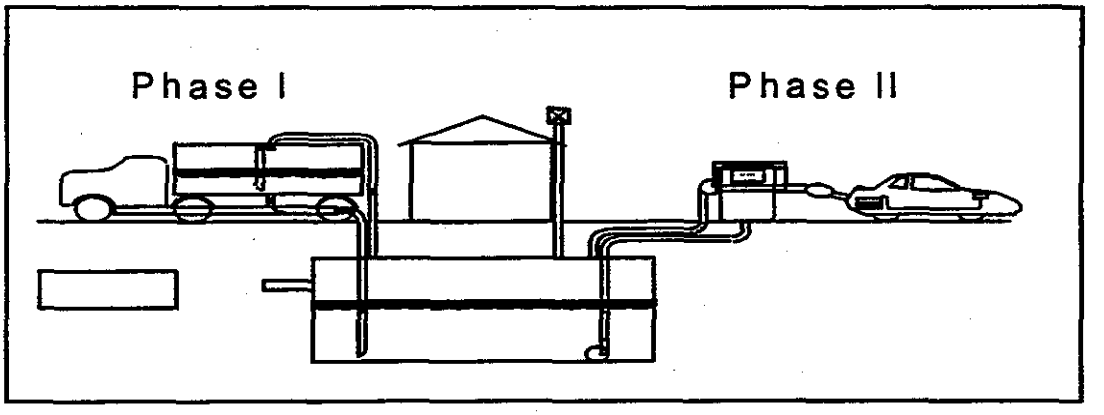

Figure 1: Phase I and Phase II Operations

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2.2.2 Phase II Vapor Recovery

Phase II vapor recovery controls ROG emissions resulting from gasoline transfer operations at the GDF to vehicles. This is the vapor recovery equipment that many of us operate routinely when filling up our cars. The two main types of Phase II vapor recovery systems are "balance" and "vacuum assist."

The balance systems can be identified by the long bellows or boot on the nozzle. The end of the bellows must make a good seal with the vehicle fill neck opening when the nozzle is dispensing fuel into the vehicle. This ensures the vapor pushed out of the vehicle tank while filling is routed back through the nozzle to the underground vapor space. This is sometimes referred to as a "passive" system.

Assist system nozzles, in contrast, require a vacuum to collect vapors from the vehicle tank during refueling. The vapors are collected through a series of holes in the spout, which vacuum up the vapors during refueling. This requires use of an active vapor pump. Some assist systems also have processors to manage the underground vapor space pressure. Two currently certified systems operate with burners on or near the vent pipe in order to reduce emissions.

The proposed regulatory changes deal only with Phase I and Phase II vapor recovery systems at GDFs.

2.3 Public Process

2.3.1 Public Workshops

The ARB conducted two public workshops to review the VRED List and to determine the need to update it. Workshop dates and locations are listed below:

Table II-1. Vapor Recovery Equipment Defect List Update Public Workshops

Workshop Date	Location
November 5, 2003	Sacramento
March 10, 2004	Sacramento

Summary of the November 5, 2003 Workshop

In accordance with the three year legislative requirement previously explained in section 2.1, the purpose of this meeting was to determine whether or not the VRED List adopted September 23, 2002 needed to be updated and, if necessary, to list any defects not currently specified. An update was determined to be necessary and modifications to the VRED List were proposed. Attendance included local regulatory agencies, California Air Pollution Control Officers Association (CAPCOA) representatives, equipment manufacturers, petroleum suppliers, and ARB staff.

After introductions, a brief Power Point presentation covered the following topics: equipment defect history, ARB defect authority, ARB 's requirements, defect

determination criteria, source of list changes, requests for additional changes, and future action. A handout of a draft proposal of changes to the VRED List was then discussed with reasons for each change explained and questions answered by ARB staff.

The proposed changes to the VRED List, many being the addition or deletion of a single word or phrase for clarification and all being appropriate, were fully supported. Also, with the exception of the addition of two words for clarification in one defect and the substitution of initials, which have changed recently, no one had any additional changes to suggest. ARB staff proposed to post the most recent draft of the list on the web to allow all stakeholders to comment on it.

Summary of the March 10, 2004 Workshop

Since presenting and agreeing on the November 5th changes, six additional changes to the proposed VRED List were made. To ensure that all stakeholders had the opportunity to review and discuss these latest changes, ARB staff held a public workshop on Wednesday, March 10, 2004. Individuals representing industry and the public attended the meeting. A handout of the draft proposal containing the six changes to the VRED List was discussed with reasons for each change explained and questions answered by ARB staff. ARB staff posted the entire VRED List on the web to allow all stakeholders additional time to look it over. The proposed changes included an identification scheme for each defect, removal of a verification procedure, and modification of another verification procedure as well as minor clarifications to language.

2.3.2 CAPCOA/District Meetings

In addition to the workshops, ARB staff worked closely with district enforcement staff. Two major meetings impacting the VRED List update were held with AQMD and APCD staff on the CAPCOA Vapor Recovery Committee.

Summary of the AQMD/APCD VRED List Meeting

On March 5, 2003, MLD's In-Use Vapor Recovery Program Section staff met with representatives from five AQMD/APCD districts to discuss enforcement of the VRED List. Since the September 23, 2002 adoption of the VRED List, districts had been adjusting their enforcement programs accordingly. They had concerns and sought ARB clarification. With enforcement, some oversight of defects listed surfaced. The concerns, which could not be addressed by offering specific VRED training to district enforcement inspectors, were alleviated through proposed changes to the VRED List.

Summary of the CAPCOA Presentation

On January 16, 2004, ARB staff presented an update of the proposed VRED List to CAPCOA's Vapor Recovery Committee. A handout with changes made before, at the November 5, 2003 workshop, and in the interim was passed out and discussed. Additional suggestions for improving the VRED List were raised by committee members.

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2.3.3 Internet Availability

Beginning in the first quarter of 2003, when it became apparent that modifications to the VRED List would be beneficial, the proposed VRED Lists were available on the ARB Internet website. With each set of changes, a new draft of the VRED List was posted and email recipients on the Vapor Recovery List Server were notified. The same is true for the public workshops and other meetings. To help identify changes, all were highlighted. Strikethrough or underline notation was also used for deletions or additions respectively.

3. Need for Emission Control

3.1 Background

Significant strides have been made in improving California's air quality. Nonetheless, most regions throughout California continue to exceed health-based State and federal air quality standards. Areas exceeding the State and federal 1-hour ozone standard include the South Coast Air Basin, the San Francisco Bay area, San Diego County, the San Joaquin Valley, the Southeast Desert, the broader Sacramento area and Ventura County. As the new federal eight-hour ozone standard is implemented, more areas of the State may be designated as non-attainment for ground-level ozone.

Created by the photochemical reaction of ROG and oxides of nitrogen (NOx), ozone causes harmful respiratory effects including lung damage, chest pain, coughing, and shortness of breath. Ozone is particularly harmful to children, the elderly, athletes, and persons with compromised respiratory systems. Environmental effects of ozone exposure include substantial damage to crops, buildings, materials, and other structures.

Emission controls have been placed on both mobile and stationary sources of ROG and NOx. Some of the earliest and most successful measures for ROG control are vapor recovery collection systems for petroleum marketing operations. The emission reductions attributable to vapor recovery from service stations alone are projected to be 118 tons per day in the year 2010 in the South Coast Air Basin, more than the reductions for low emission vehicles and cleaner burning gasoline. Emission reductions associated with the rigorous implementation and enforcement of the vapor recovery program are expected to achieve the emission reductions assumed from gasoline transfer applications in the 1994 SIP. The VRED List and the Enhanced Vapor Recovery (EVR) program, adopted by the ARB in March 2000, provide these reductions.

Even with current controls, petroleum product transfers result in significant emissions. According to the 1995 inventory, petroleum-marketing operations (which include emissions at service stations and cargo tank loading facilities) emit 77 tons per day of ROG statewide. This is about 10 percent of the total ROG of 740 tons per day from all stationary sources combined. About half of the 77 tons are emitted in the South Coast Air Basin. These emission totals assume that the vapor recovery systems at the more

than 11,250 service stations in the State are operating at a minimum of 90 percent efficiency.

3.2 Impact on the State Implementation Plan for Ozone

3.2.1 SIP History

The 1994 SIP for Ozone is California's master plan for achieving the federal ozone standard in six areas of the State by 2010. The SIP includes State measures to control emissions from motor vehicles and fuels, consumer products and pesticide usage, local measures for stationary and area sources, and federal measures for sources under exclusive or practical federal control. The U.S. EPA approved the 1994 SIP in September 1996 (62 Federal Register 1150-1201 (January 8, 1997)).

Once the U.S. EPA approved the 1994 SIP, the emission inventories and assumptions used in it are frozen until the SIP is formally amended. That is, evaluations of the impacts on the 1994 SIP of new measures or modifications to existing measures must use the same emission inventories and assumptions used in developing the 1994 SIP. As ARB has implemented the SIP over the last five years, some measures have delivered more reductions than anticipated, while other measures have delivered fewer reductions, due to technological, economic, social, and other contingencies associated with the implementation of a regulatory plan or program.

3.2.2 SIP Lawsuit Settlement

In 1997, a lawsuit was filed against the South Coast AQMD, ARB, and U.S. EPA by three Los Angeles based environmental groups for failure to implement specific measures contained in the 1994 SIP (Coalition for Clean Air v. South Coast AQMD). In January 1999, the Board approved a settlement regarding ARB's portion of the SIP litigation. The lawsuit settlement addresses near-term emission reduction shortfalls of 42 tpd of ROG and 2 tpd of NOx in the South Coast Air Basin in 2010. ARB must implement programs over the next few years to achieve the specific emission reduction goals outlined in the lawsuit settlement agreement.

3.2.3 Impacts of Proposed Amendments

The emissions reductions attributed to the vapor recovery program are currently set forth in the SIP and are not being amended. The proposed amendments should be beneficial to the vapor recovery effort by enhancing compliance and enforcement. Therefore, meeting the existing SIP commitments should be more achievable in practice.

4. Summary of Proposal

4.1 Introduction

This section describes the ARB proposal to amend the VRED List incorporated by reference in title 17 of the CCR, section 94006(b).

A list of substantially impairing equipment defects was first developed in 1982. Subsequently identified defects were specified in E.O.s certifying the system. As directed by Assembly Bill 1164, the ARB assembled all substantially impairing defects for inclusion into the VRED List adopted September 23, 2002.

4.2 Proposed Changes

The specific proposals to update the VRED List can be placed into three categories: specific changes to individual defects listed in a single VRED List table, modifications which affect a defect listed several times in multiple tables, and changes which affect all defects listed. All changes are underline for additions and strikethrough for deletions in the proposed VRED List in Appendix 2. Each type of VRED List change is described by category in the following sections.

4.2.1 Changes Which Affect All Defects Listed

Alphanumeric Identification Scheme for All Defects

A stakeholder made a request to add a "numbering" scheme so that each defect would have a unique identification. After discussing this plan with the VRED update participants, ARB staff proposed an alphanumeric identification scheme. Every identification has three parts: i) the executive order number for the VRED List table under which the defect appears, ii) a sequential letter for the equipment which the defect is associated with, and iii) a sequential number for the defect itself. As can be seen in the "GVR All Systems/any E.O." table on page one of the proposed VRED List (Appendix 2), the defect number (part iii above) is sequential for the particular equipment (part ii above) with which it is associated. For each category in the equipment column, the defect number sequence begins again with one ("(1)"). The same is true for the equipment letter. At the start of a new table in the proposed VRED List, the first identifying letter associated with the first equipment listed will be an "a", the second a "b", and so on. The executive order number (part i above) represents the characters which proceed the literal description/title of the system. GVR for general vapor recovery has been added to the "All Systems/any E.O." table on page one of the proposed VRED List.

Examples of the scheme are: the identification for the defect "installation or use of any uncertified component" listed in the "All Systems/any E.O." table on page one of the proposed VRED List is "GVR(a)(3)", the next listed defect which begins "dispensing rate greater than ..." would be "GVR(a)(4)", and the last defect on the "G-70-7 series Hasstech VCP-2 and VCP-2A" table on page two of the proposed VRED List is "G-70-7(d)(1)".

The multi system table on page 3 of the VRED List is the only table somewhat different than the examples above. The identification scheme for defects listed in this VRED List table has the same three part alphanumeric identification as all other tables of the proposed VRED List. However, the correct executive order number will be the one for the specific system in question. For example: the identification for the "any hose with a visible opening" defect will always begin with "G-70-" and end with "(b)(2)." On the Atlantic Richfield system it will be "G-70-25(b)(2)", on the Texaco system it will be "

G-70-38(b)(2)", and so on.

Notes explaining the identification scheme are included as part of the proposed VRED List on pages one and three.

4.2.2 Changes to Defects Listed In Multiple VRED Tables

Vapor Valves

There is a "defective vapor valve" defect listed in 18 of the 22 tables which comprise the adopted VRED List. However, the list does not distinguish between the two types of vapor valves: i) remote and ii) non-remote. Vapor valves not contained in the nozzle are considered remote.

The necessity to make this distinction occurs because the verification procedure, used to determine if a remote vapor valve is defective, is being removed from the VRED List and there is no alternative procedure. One of the authors of the verification procedure (GDF-03: Pressure Integrity Performance Verification for Vacuum Assist Systems [Squeeze Bulb Test]) objected to it being used for the purposes of the VRED List. GDF-03 is being removed from the verification procedure column associated with the "defective vapor valve" defects. GDF-03 is also being removed from the "Defect Identification Methods Used In the Verification Procedure Column" list on page 20 of the VRED List.

One of two verification procedures (GDF-01 or GDF-02) is used to determine if any non-remote vapor valve is defective. The "defective vapor valve" defect will be listed for the "system" or "nozzle" equipment component. Examples of this defect are in the tables "G-70-118 series Amoco V-1" on page four of the VRED List and "G-70-154 series Tokheim MaxVac" on page seven of the VRED List. GDF-01 and GDF-02 are Bag Tests for Multi-Nozzle or Single-Nozzle Vacuum Assist Systems respectively. The GDF-01 procedure is remaining unchanged in the "Defect Identification Methods Used In the Verification Procedure Column" list on page 20 of the VRED List and a GDF-02 procedure is being added.

For systems which have both remote and non-remote valves the verification procedure will remain "GDF-01/GDF-02." However, these verification procedures will only be *applicable to specific nozzles with a non-remote vapor valve. To reduce confusion, this* defect is removed from the "system" equipment component and listed with the specific nozzle equipment component of the list. Nozzles, which have a remote vapor valve, do not have this defect listed with them. An example of this dual nozzle type system listing can be observed in the "G-70-150 series Marconi (Gilbarco) Vapor Vac" table on page five of the proposed VRED List.

There is a system "G-70-7 series Hasstech VCP-2 and VCP-2A" (the table on page two of the proposed VRED List) which has remote vapor valves only. For this system the "defective vapor valve" defect will be removed. This is the only system for which the defect is being removed entirely.

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Pressure Drop Unit of Measurement

In 20 of the 22 tables which comprise the adopted VRED List there is a "pressure drop through the system exceeds one-half (0.50) inch water column at sixty standard cubic foot per hour (60 SCFH)" defect listed. ARB staff is proposing to remove the term "standard" and change the singular "foot" to the plural "feet", thus changing the units of measurement to "cubic feet per hour." The initials "SCFH" will likewise have the "S" removed changing "SCFH" to "CFH." An example of these changes may be found on page two of the proposed VRED List in the table for the "G-70-7 series Hasstech VCP-2 and VCP-2A" system.

Defects Followed by an Asterisk (*)

Many of the defects are followed by an asterisk (the character *). It is used in the VRED List as a reference mark to the footnote which follows the VRED List table. The footnote states that a defect with an asterisk may remove all gasoline fueling points at a GDF from service. When created, the asterisk was intended to call special attention to those defects which are likely to remove all fueling points of a GDF from service. The placement of an asterisk after a defect is not necessary for a defect to remove all gasoline fueling points at a GDF from service. Since the adoption of the VRED List, it has come to the attention of ARB staff that there are other defects which are just as likely as defects with an asterisk to remove all gasoline fueling points at a GDF from service. An asterisk has been added to those defects in the proposed VRED List. No asterisk is being removed from any defect.

Decimal Fractions Expressed As Percentages

Throughout the VRED List there are measurements written and followed by a decimal fraction in parenthesis. Two examples with unit are "one and one-half (1.5) inches" and "three-eighths (0.38) inch." Those defects in units of measurement like gallons per minute, inches, and water column inches remain unchanged; however, defects expressed as fractions of a whole will be modified. Examples are "one-fourth (0.25) of the circumference" and "one-eighth (0.13) of the diameter." At a stakeholder's request, staff is proposing these unit-less fractions be expressed as percentages rather than decimal fractions. The examples given would be changed to "one-fourth (25%) of the circumference" and "one-eighth (13%) of the diameter."

4.2.3 Changes to Individual Defects

The remaining changes are specific modifications to individual defects listed in a single VRED List table or reconciliation of two tables for a single system.

Systems Certified for Underground and Aboveground Tanks

There are two sets of two VRED List tables, which are for slightly different applications of a single system. G-70-164 and G-70-175, the first such set of VRED List tables, are the Hasstech VCP-3A system certified for underground and aboveground tanks respectively. Other than the defects discussed in previous paragraphs, the proposed VRED List has additions to these two tables to make them as close to one another as

allowable by the Executive Orders certifying the systems. Similarly, the G-70-186 series and the G-70-187 series are a Healy Model 400 ORVR system certified for underground and aboveground tanks respectively. The changes for these two tables in the proposed VRED List are also to make them as close to one another as allowable by the Executive Orders certifying the systems. G-70-164, G-70-175, G-70-186, and G-70-187 may be found on pages 9, 12, 15, and 16 respectively of the proposed VRED List.

Improper Installation of Any Component

In the "GVR All Systems/any E.O." table on page one of the VRED List the defect "absence or disconnection of any component required to be used in the E.O.(s) that certified the system" is being changed to "absence, improper installation, or disconnection of any component required to be used in the E.O.(s) that certified the system." The term "improper installation" is being added to address the situation where the correct component is in place but it is installed backward or incorrectly. The verification procedure for this defect is direct observation. If a situation exists where a verification means other than direct observation is necessary, this defect may not be applied. An example might be where a component has an installation specification requiring a test or measurement and the defective condition is not directly observable.

Verification Procedure for Dispensing Rate

In the "GVR All Systems/any E.O." table on page one of the VRED List, changes to the verification procedure for the defect "dispensing rate greater than ten (10.0) gallons per minute (gpm) or less than the greater of five (5.0) gpm or the limit stated in the E.O. measured at maximum fuel dispensing" are being proposed. The verification procedure is "direct measurement for 60 seconds minimum" as adopted. A stakeholder raised the point that this requires dispensing large quantities of gasoline to determine flow-rates. After examining ARB test methods, which calculate flow-rate (among other things), most of the time flow-rates are calculated over about a one-half minute period. This realization initiated the proposed change in the verification procedure language: "when determined as part of any ARB approved test method or direct measurement for 30 seconds minimum." This means that anyone conducting a approved test which determines dispensing rate will not have to run a separate test for the dispensing rate; but if they do, it will be for 30 seconds minimum.

Insertion Interlock Verification Procedure Addition

An additional method to the "insertion interlock mechanism which will allow dispensing when the bellow is uncompressed" defect verification procedure in the multi-system table on page three of the VRED List is being proposed. GDF-09: Phase II Balance System Nozzle Insertion Interlock Operation Determination is the method. At the time the current VRED List was adopted, GDF-09 was not available. The addition of GDF-09 will allow testing of insertion interlock mechanisms where direct observation is not possible. GDF-09 is also being added to the "Defect Identification Methods Used In the Verification Procedure Column" list on page 20 of the VRED List.

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One and One-Half Inch or Greater Slit/Vapor Splash Guard

In the "G-70-150 series Marconi (Gilbarco) Vapor Vac" table on page five of the VRED List there is a defect written, "a one and one-half (1.5) inch slit in vapor splash guard" for the Husky V34 6250 nozzle equipment component. The defect should be "a one and one-half (1.5) inch or greater slit in vapor splash guard." The term "or greater" has been added to the proposed VRED List to correct the interpretation of this defect. In this same VRED List table and equipment component, the next defect "any hole greater than three-eighths (0.38) inch in vapor splash" is missing the term guard at the end. The proposed VRED List corrects this by rewriting the defect "any hole greater than three-eighths (0.38) inch in vapor splash guard."

Defective Vapor Valve on the WayneVac Systems

The "G-70-159 series Saber nozzle for Gilbarco (Marconi) Vapor Vac and WayneVac" table on page eight of the VRED List has a "defective vapor valve" defect. The Gilbarco systems have a vapor valve with a remote check valve. In previous paragraphs it was explained that no verification procedure exists for vapor valves with a remote check valves. This issue has been addressed by changing the defect to "defective vapor valve on the WayneVac systems" in the proposed VRED List.

Vapor Guard Defect Clarification

The "any nozzle with a vapor guard damaged such that a slit from the outer edge of the open end flange to the spout anchor clamp" defect listed in the table "G-70-165 series Healy Model 600" on page ten of the VRED List is missing two terms. The defect should read "any nozzle with a vapor guard missing, damaged such that a slit from the outer edge of the open end flange to the spout anchor clamp, or which has equivalent cumulative damage." The terms "missing" and "or which has equivalent cumulative damage" have been added to the proposed VRED List to achieve consistency with the executive order.

AGT/AST

Underground storage tanks have traditionally been referred to using the initials "UST" while aboveground tanks used "AGT". With recent modifications to aboveground storage tank regulations, the initials "AST" have replaced "AGT". The title of the VRED List table "G-70-187 series Healy Model 400 ORVR AGT" on page 16 of the VRED List is being changed to "G-70-187 series Healy Model 400 ORVR AGT (AST)." The initials "AGT" are being kept in the title because this is the title of the G-70-187 executive order; however, the initials "AST" are added in parenthesis to emphasize this is an aboveground storage tank defect VRED List table.

5. Environmental Impacts

5.1 Summary of Environmental Impacts

This section contains the ARB staff's assessment of the potential environmental impacts that would result from adoption of the proposed amendments to the VRED List incorporated by reference in title 17 of the CCR, section 94006(b). Both the California Environmental Quality Act (CEQA) and Board policy require the ARB to consider the potential adverse environmental impacts of proposed regulations. ARB staff evaluated the potential environmental impacts of the amendments, including impact on ground-level ozone, particulate matter, toxicity, global warming, stratospheric ozone depletion, water quality, and solid waste disposal. ARB staff also evaluated the impact on the emission reduction commitments contained in the SIP for ozone. In addition, the ARB will respond in writing to all significant environmental points raised by the public during the public review period or at the Board hearing. These responses will be available prior to final adoption of the amendments and will be set forth in the Final Statement of Reasons for the modifications to the VRED List.

To summarize the results of the assessment, ARB staff found that the proposed amendments should not result in an increase or decrease excess emissions. No adverse environmental impacts are expected to result from the proposed amendments to the VRED List. Because no potential adverse impacts are expected, the focus of the following analysis will be on benefits.

5.2 Legal Requirements for Assessing the Environmental Impacts

Public Resources Code section 21159 (Analysis of Methods of Compliance) requires that the environmental impact analysis conducted by ARB for new regulatory requirements include the following:

- an analysis of the reasonably foreseeable environmental impacts of the methods of compliance (Section 5.3);
- an analysis of reasonably foreseeable feasible mitigation measures (Section 5.4); and,
- an analysis of reasonably foreseeable alternative means of compliance with the rule or regulation (Section 7).

5.3 Potential Environmental Impacts

5.3.1 Impact on Ground-Level Ozone and Water Quality

The proposed amendments would have a minimal to slightly beneficial impact on ground level ozone and water quality. The amendments being made to the VRED List are currently contained in the existing regulatory provision or in E.O.s certifying vapor recovery systems, and as such are already enforceable. By clarifying the VRED List, enforcement should be strengthened and compliance should become less difficult.

Consistent enforcement may help identify components with short lifecycles and discourage their use. This should have some effect in the replacement of inferior products and provide manufacturers with an incentive to raise quality. Improved equipment, through increased compliance and stronger enforcement, should decrease emissions.

5.3.2 Impact On Global Warming and Stratospheric Ozone Depletion

The use of vapor recovery equipment does not alter carbon dioxide, CFC type, or related compounds emissions; therefore, no impact on global warming or stratospheric ozone depletion is expected.

5.3.3 Impact on Particulate Matter (Aerosols)

The proposed amendments are not likely to cause an increase in the formation of particulate matter (PM), particularly secondary organic aerosols. Secondary organic aerosols are usually formed from the photo-oxidation of organic compounds with carbon numbers equal to seven or more.

5.3.4 Impact on Toxic Air Contaminants

Any impact the proposed amendments would have on emissions of toxic air contaminants (TACs) should be favorable to a reduction of TACs. This is because the VRED List facilitates enforcement of vapor recovery requirements. In accordance with the requirements of section 41960.2 (d) of the HSC, title 17, CCR, section 93101(d) states:

> No owner or operator 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 [VRED List] until it has been repaired, replaced, or adjusted, as necessary to remove the defect, and, if required under Health and Safety Code Section 41960.2, district personnel have reinspected the system or have authorized its use pending reinspection.

The use of improved and better-maintained equipment, with increased compliance and stronger enforcement, should decrease TAC emissions form vehicle refueling.

5.3.5 Impact On Solid Waste Disposal

The impact on solid waste disposal should be somewhat favorable at best or minimal at worst. If improved enforcement and increased compliance causes manufacturers to raise product quality and durability, fewer defective parts will make their way into landfills. Manufacturers now reuse parts of many components. With more durable products this practice should increase, leading to even less material being discarded.

5.4 Mitigation Measures

ARB staff has not identified any adverse environmental impact that would result from the proposed amendments. No mitigation measures are necessary.

6. Economic Impacts

6.1 Background

In general, economic impact analyses are inherently imprecise, especially given the unpredictable behavior of companies in a highly competitive market such as gasoline marketing and distribution. Some projections are necessarily qualitative and based on general observations and facts known about the gasoline marketing and distribution industry. This impacts analysis, therefore, serves to provide a general picture of the economic impacts typical businesses might encounter in light of the compliance and enforcement repercussions of the proposed amendments. Staff recognizes that individual companies may experience different (or no) impacts than projected in this analysis.

Overall, the proposed amendments are not expected to impose an unreasonable cost burden on gasoline dispensing equipment manufacturers, component suppliers, or GDFs. Most of the major manufacturers are located outside of California although some may have small operations in the State. GDFs are local business by nature, and all affected GDFs are California-based.

6.2 Potential Impact on Business

The ARB expects no significant adverse impacts on manufacturers' profitability, employment in California, the status of California businesses, or competitiveness of California businesses with businesses in other states. Most of the GDFs in California are subject to an annual compliance inspection by the district. The proposed amendments are mainly clarifications of existing equipment defects identified by ARB in the VRED List and are currently enforceable by the districts. A clearer reference for detection of vapor recovery equipment defects encourages uniform enforcement across the State and provides preventative maintenance guidance for service station operators. A greater understanding of the defects for vapor recovery systems will reduce the need for more stringent standards in the future, thereby lowering the compliance costs to California operators. Given these projections, the Executive Officer has determined that adoption of the proposed amendments does affect small business, but beneficially.

In accordance with the California Administrative Procedure Act section 11346.3 (b), the Executive Officer has determined that adoption of the proposed regulatory action should have no impact on the creation or elimination of jobs within the State of California, the creation of new business or elimination of existing business within California, or the expansion of business currently doing business in California.

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6.3 Cost to State Agencies and Local Government

The proposed amendments will not create any fiscal impacts or mandate to any local governmental agency or school district whether or not reimbursable by the State pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other non-discretionary savings to local agencies, nor will the proposed amendments create costs or savings to any State agency. Programs are currently in place to identify vapor recovery equipment defects as systems are certified. Resources are also available for completing future reviews and revisions of the list.

7. Evaluation of Alternatives

An alternative to amending the VRED List is to do nothing. This has been the approach used since the adoption of the original regulation in 1982 and led to the passage of Assembly Bill 1164. This lack of action perpetuated the decentralization of defects specification (i.e. in the myriad of Executive Orders) making both compliance and enforcement more difficult and increasing inconsistency among the air districts.

Section 41960.2(c)(2) of the Health and Safety Code states:

> On or before January 1, 2001, and at least once every three years thereafter, the list required to be prepared pursuant to paragraph (1) shall be reviewed by the executive officer at a public workshop to determine whether the list requires an update to reflect changes in equipment technology or performance.

At the November 5, 2003 workshop, presented with the "no-action" alternative, there was unanimous agreement that the VRED List needed to be updated.

The first update draft VRED List included several items that were discovered from using the VRED List in the field. From this first list a number of successive alternatives have been developed. Each alternative list has been evaluated in public and private meetings. The modified VRED List presented to the Executive Officer for approval is based on these progressive evaluations of options.

8. Future Activities

8.1 AB1164 Requirements

In 1999, Assembly Bill 1164 amended Health and Safety Code section 41960.2 (c)(2) to require the Executive Officer of the ARB to review the CCR, title 17, section 94006 (Vapor Recovery Equipment Defects List) at a public workshop at least once every three years to determine whether a list update is necessary to reflect changes in equipment technology or performance. It also authorizes the executive officer to initiate public review of the list upon a written request. The request must demonstrate, to the Executive Officer's satisfaction, that such a review is needed. Also, if the Executive Officer determines that the list should be updated, the update must be completed within 12 months of the determination. Because of the rapid technological change in vapor

recovery equipment, ARB staff anticipate these update requirements will generate changes to the defects listed every three years if not more often.

8.2 Decertification of Pre-EVR Systems

In March 2000, the ARB adopted new standards for vapor recovery equipment certification. The new standards are referred to collectively as EVR. Each existing E.O., with the exception of EVR E.O.s, is scheduled to be decertified by April 1, 2008. As the old equipment components in the E.O.s are decertified, any associated defects listed will no longer be applicable and should be removed from the VRED List.

8.3 EVR Executive Orders with Defects Listed

Just as a number of substantial equipment defects listed with the existing pre-EVR systems will be removed, a number of defects associated with the newly certified EVR systems will need to be added to the VRED List as the new components are certified. These new defects will initially be specified in each E.O. before being discussed during a periodic review of the VRED List being used at that time. ARB staff is assessing new E.O.s for defect incorporation to amend the VRED List and will periodically update it as necessary to keep it current.

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LIST OF REFERENCES

1. Bag Test for Multi-Nozzle Vacuum Assist Systems (GDF-01)
2. Bag Test for Single-Nozzle Vacuum Assist Systems (GDF-02)
3. Pressure Integrity Performance Verification for Vacuum Assist Systems [Squeeze Bulb Test] (GDF-03)
4. Phase II Balance System Nozzle Insertion Interlock Operation Determination (GDF-09)

Appendices

Appendix 1: Proposed Amendments to Title 17 California Code of Regulations, Section 94006

Proposed Regulation Order
Proposed Amendments to the Vapor Recovery Equipment Defects List

Note: Set forth below are the proposed amendments to the Defects Substantially Impairing the Effectiveness of Vapor Recovery Systems Used in Motor Vehicle Fueling Operations. The text of the proposed amendments is shown in underline to indicate additions and ~~strikeout~~ to indicate deletions, compared to the preexisting regulatory language.

Amend Article 1, Subchapter 8, Chapter 1, Division 3, Title 17, California Code of Regulations to read as follows:

§94006. Defects Substantially Impairing the Effectiveness of Vapor Recovery Systems Used in Motor Vehicle Fueling Operations.

(a) For the purposes of Section 41960.2 of the Health and Safety Code, any defect that meets the following criteria shall be considered substantial and listed by the Air Resources Board: the defect did not exist when the system was certified; the excess emissions associated with the defect have the potential to degrade fueling point or system efficiency by at least five percent; and, a field verification procedure exists to identify the defect.

(b) For the purposes of section 41960.2 of the Health and Safety Code, equipment defects in systems for the control of gasoline vapors resulting from motor vehicle fueling operations which substantially impair the effectiveness of the systems in reducing air contaminants are set forth in the "Vapor Recovery Equipment Defects List" adopted September 23, 2002 as last amended [insert date] which is incorporated by reference herein.

Note: Authority cited: Sections 39600, 39601, and 41960.2, Health and Safety Code. Reference: Sections 41954 and 41960.2, Health and Safety Code.

Appendix 2: Proposed Amendments to the Vapor Recovery Equipment Defects List

California Environmental Protection Agency

Air Resources Board

Vapor Recovery Equipment Defects List

Adopted: September 23, 2002
Amended: [*insert month day*], 2004

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Vapor Recovery Equipment Defects List

~~Date of Issuance: September 23, 2002~~

GVR All Systems/any E.O.		
equipment	defects	verification procedure
(a) system	(1) any equipment defect which is identified in an Executive Order (E.O.) certifying a system pursuant to the Certification Procedures incorporated in Section 94011 of Title 17, California Code of Regulations	as set forth in the applicable E.O.
	(2) absence, improper installation, or disconnection of any component required to be used in the E.O.(s) that certified the system	direct observation
	(3) installation or use of any uncertified component	direct observation
	(4) dispensing rate greater than ten (10.0) gallons per minute (gpm) or less than the greater of five (5.0) gpm or the limit stated in the E.O. measured at maximum fuel dispensing	when determined as part of any ARB approved test method or direct measurement for ~~60~~30 seconds minimum
	(5) phase I vapor poppet inoperative	direct observation
~~nozzles~~ (b) nozzles	(1) nozzle automatic liquid shutoff mechanisms which malfunction in any manner	EPO No. 26-F-1/direct observation

Each defect in the tables in this list has a specific alphanumeric identification. Every identification has three parts: i) the executive order number for the table on which the defect appears (or GVR-general vapor recovery-for this "All Systems/any E.O." page only), ii) a sequential letter for the equipment, with which the defect is associated, and iii) a sequential number for the defect itself. As the "equipment" column in the table changes, the defect number sequence that is associated with the specific equipment begins again with one ("(1)"). The same is true for the equipment letter. At the start of a new table, the first identifying letter associated with the first equipment listed will be an "a", the second a "b", and so on. The Executive Order number (part i) is comprised of the characters which proceed the literal description of the system.

For example: the identification for the defect above which is written "installation or use of any uncertified component" is "GVR(a)(3)" and the last defect on the next table (page 2) is "G-70-7(d)(1)".

G-70-7 series Hasstech VCP-2 and VCP-2A		
equipment	defects	verification procedure
(a) system	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(3) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~feet~~feet per hour (60 SCFH)	TP201.4 or equivalent
	~~defective vapor valve~~	~~GDF-01/GDF-03~~
(b) hoses	(1) any coaxial hose with a perforation exceeding one-eighth (0.13) inch diameter	direct measurement/ observation
	(2) any coaxial hose with slits or tears in excess of one-fourth (0.25) inch in length	direct measurement/ observation
(c) processing unit	(1) three consecutive unsuccessful attempts to ignite the incinerator which occur at least two hours after a bulk delivery*	direct measurement/ observation/system monitor observation
	(2) unit does not activate when the system pressure reaches or exceeds two (2.0) inches water column and occurs at least two hours after a bulk delivery*	direct measurement using storage tank pressure device
	(3) emissions which exceed Ringelmann one-half (½) or ten percent (10%) opacity and not attributable to a bulk delivery*	Method 9
	(4) vapor processing unit inoperative *	direct observation
(d) collection unit	(1) vacuum producing device inoperative*	direct observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-14 series Red Jacket	G-70-17 series Emco Wheaton	G-70-23 series Exxon
G-70-25 series Atlantic Richfield	G-70-33 series Hirt	G-70-36 series OPW
G-70-38 series Texaco	G-70-48 series Mobil	G-70-49 series Union
G-70-52 series Red Jacket, Hirt	G-70-53 series Chevron	G-70-78 series EZ-flow rebuilds
G-70-107 series Rainbow rebuilds	G-70-125 series Husky Model V	G-70-127 series OPW 111V
G-70-134 series EZ-flow rebuilds	G-70-170 series EZ-flow rebuilds	

equipment	defects	verification procedure
(a) nozzles	(1) any nozzle boot torn in one or more of the following manners: a triangular-shaped or similar tear one-half (0.50) inch or more on any side, or hole one-half (0.50) inch or more in diameter, or slit one (1.0) inch or more in length	direct measurement/ observation
	(2) any faceplate or flexible cone damaged in the following manner: for balance nozzles and for nozzles for aspirator and eductor assist type systems, damage such that the capability to achieve a seal with a fill pipe interface is affected for one-fourth (~~0.25~~%) of the circumference of the faceplate (accumulated)	direct measurement/ observation
	(3) flexible cone damaged in the following manner: for booted type nozzles for vacuum assist-type systems, more than one-fourth (~~0.25~~%) of the flexible cone missing	direct measurement/ observation
	(4) insertion interlock mechanism which will allow dispensing when the bellow is uncompressed	direct observation/ GDF-09
(b) hoses	(1) any coaxial balance hose with 100 ml or more liquid in the vapor path	direct measurement
	(2) any hose with a visible opening	direct observation
(c) processing unit	(1) vapor processing unit inoperative *	direct observation
(d) vapor return lines	(1) pressure drop through the vapor path exceeds by a factor of two or more requirements specified in the Executive Order(s) that certified the system	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

The identification scheme for defects listed in this table is the same three part alphanumeric identification (see page 1) as the other tables. However, the correct executive order number will be the one for the specific system in question. For example: the identification for the defect above which is written "any hose with a visible opening" will begin "G-70-" and end with "(b)(2)." On the Atlantic Richfield system it will be "G-70-25(b)(2)", on the Texaco system it will be "G-70-38(b)(2)", and so on.

G-70-118 series Amoco V-1		
equipment	defects	verification procedure
(a) system	(1) defective vapor valve	GDF-01/GDF-032
	(2) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(3) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(4) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(5) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent
(b) Husky V-1 nozzle	(1) efficiency compliance device (ECD) damaged such that at least one eighth (~~0.~~13%) of the diameter is missing	direct measurement/ observation
	(2) less than two unblocked vapor holes	direct observation
(c) OPW 11-VAA nozzle	(1) any ECD damaged such that a slit from the outer to inner edge exists	direct measurement/ observation
	(2) less than three unblocked vapor holes	direct observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-150 series Marconi (Gilbarco)Vapor Vac		
equipment	defects	verification procedure
(a) system	(1) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~SCFH~~)	TP201.4 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	~~defective vapor valve~~	~~GDF-01/GDF-03~~
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) both booted and unbooted nozzle types connected to the same vapor pump	direct observation
	(5) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
(b) Catlow ICVN nozzle	(1) less than three unblocked vapor holes	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
	(3) efficiency compliance device slit from base to the rim	direct observation
(c) Emco Wheaton A4505 nozzle	(1) less than three unblocked vapor holes	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
	(3) one-eighth (~~0.~~13%) of vapor guard circumference missing	direct measurement/ observation
(d) Emco Wheaton A4500 nozzle	(1) less than three unblocked vapor holes	direct observation
(e) Husky V34 6250 nozzle	(1) a one and one-half (1.5) inch or greater slit in vapor splash guard	direct measurement/ observation
	(2) any hole greater than three-eighths (0.38) inch in vapor splash guard	direct measurement/ observation
	(3) defective vapor valve	GDF-01/GDF-02
(f) Husky V3 6201 nozzle	(1) all vapor holes blocked	direct observation
(g) OPW 11VAI nozzle	(1) less than four unblocked vapor holes	direct observation
(h) OPW12VW nozzle	(1) all vapor holes blocked	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
	(3) vapor escape guard with three-fourths (~~0.~~75%) of the circumference missing	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-153 series Dresser/Wayne Vac		
equipment	defects	verification procedure
(a) system	(1) any splash guard that interferes with the operation of a vapor escape guard (VEG) or vapor splash guard (VSG) unit	direct measurement/ observation
	(2) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(3) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(4) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(5) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~feet~~feet per hour (60 SCFH)	TP201.4 or equivalent
	(6) defective vapor valve	GDF-01/GDF-032
(b) OPW 11VAI and Husky V34 6200-4 nozzles	(1) less than two unblocked vapor holes	direct observation
	(2) any VEG damaged such that at least one-eighth (~~0.~~13%) of the circumference is missing	direct measurement/ observation
(c) Husky V34 6200 nozzle	(1) less than two unblocked vapor holes	direct observation
(d) Husky V34 6200 and V34 6250 nozzles	(1) any VSG damaged such that at least a one and one-half (1.5) inch slit has developed	direct measurement/ observation
	(2) any VSG flange portion that does not make contact with or cover the entire fill-pipe opening	direct measurement/ observation
	(3) any VSG with a hole greater than three-eighths (0.38) inch	direct measurement/ observation
(e) Emco Wheaton A4505 nozzle	(1) less than three unblocked vapor holes	direct observation
	(2) any vapor guard (VG) damaged such that at least one-eighth (~~0.~~13%) of the circumference is missing	direct measurement/ observation
(f) Catlow ICVN and Richards Astrovac nozzles	(1) less than three unblocked vapor holes	direct observation
	(2) any efficiency compliance device damaged with a slit from the base to the rim	direct observation
(g) OPW 12VW nozzle	(1) all vapor holes blocked	direct observation
	(2) any VEG damaged such that at least three-quarters (~~0.~~75%) of the circumference is missing	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-154 series Tokheim MaxVac		
equipment	defects	verification procedure
(a) nozzles	(1) defective vapor valve	GDF-01/GDF-032
(b) OPW 11VAI and Husky V34 6200-5 nozzles	(1) efficiency compliance device (ECD) damaged such that at least one-fourth (~~0.~~25%) of the circumference is missing	direct measurement/ observation
(c) Husky V34 6200 and V34 6250 nozzles	(1) less than two unblocked vapor holes	direct observation
	(2) vapor splash guard (VSG) damaged such that at least a one and one-half (1.5) inch slit has developed	direct measurement/ observation
	(3) VSG damaged such that greater than a three-eighths (0.38) inch hole has developed	direct measurement/ observation
(d) Emco Wheaton A4505	(1) less than seven unblocked vapor holes	direct observation
(e) Catlow ICVN and Richards Astrovac	(1) less than four unblocked vapor holes	direct observation
	(2) any nozzle with an ECD damaged with at least one-fourth (~~0.~~25%) of the circumference missing	direct measurement/ observation
(f) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~feet~~feet per hour (60 ~~SCFH~~)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-159 series Saber nozzle for Gilbarco (Marconi) Vapor Vac and WayneVac		
equipment	defects	verification procedure
(a) nozzles	(1) a fill guard damaged such that at least one-fourth (~~0.~~25%) of the outer edge of the guard is missing	direct measurement/ observation
	(2) less than four unblocked vapor holes on the Gilbarco (Marconi) systems	direct observation
	(3) less than two unblocked vapor holes on the WayneVac systems	direct observation
	(4) defective vapor valve on the WayneVac systems	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-163 series OPW Vapor EZ		
equipment	defects	verification procedure
(a) nozzles	(1) efficiency compliance device damaged such that at least one-eighth (~~0.~~13%) of the diameter is missing	direct measurement/ observation
	(2) less than three unblocked vapor holes	direct observation
	(3) defective vapor valve	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-164 series Hasstech VCP-3A		
equipment	defects	verification procedure
(a) system	~~defective vapor valve~~	~~GDF-01/GDF-03~~
	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(3) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~SCFH~~)	TP201.4 or equivalent
(b) OPW 11VAI steel spout	(1) less than six unblocked vapor collection holes	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
(c) OPW 11VAI aluminum spout	(1) less than four unblocked vapor collection holes	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
(d) Husky V3 6201 nozzle	(1) all vapor collection holes blocked	direct observation
(e) Husky V34 6200-8 nozzle	(1) all vapor collection holes blocked	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
(f) Emco Wheaton A4500 nozzle	(1) any visible puncture or tear of the vapor guard/vapor seal assembly	direct observation
	(2) less than three unblocked vapor collection holes	direct observation
(g) collection unit	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) dispensing when the collection unit is disabled *	direct observation/ system monitor observation
	(3) normal operating level at the inlet of the collection unit less than thirty (30) inches water column vacuum *	direct measurement/ observation
(h) processing unit	(1) emissions which exceed Ringelmann one-half (½) or ten percent (10%) opacity and not attributable to a bulk delivery *	Method 9
	(2) twenty (20) consecutive unsuccessful attempts to ignite the process unit *	direct measurement/ observation/system monitor observation
	(3) dispensing when the process unit is disabled *	direct measurement/ observation/system monitor observation
	(4) processing unit inoperative *	direct observation
(i) ECS-1 electronic control and status panel	(1) ratio of process unit/solenoid valve time less than nine tenths (0.90) *	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-165 series Healy Model 600		
equipment	defects	verification procedure
(a) nozzles	(1) any nozzle with a vapor guard missing, damaged such that a slit from the outer edge of the open end flange to the spout anchor clamp, or which has equivalent cumulative damage	direct observation
	(2) any nozzle which has fewer than four unblocked vapor collection holes	direct observation
	(3) defective vapor valve	GDF-01/GDF-032
	(4) any grade of a fueling point not capable of demonstrating an air to liquid *ratio compliance with its performance standard*	TP201.5 or equivalent
	(5) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
(b) system	(1) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~feet~~feet per hour (60 SCFH)	TP201.4 or equivalent
(c) central vacuum unit	(1) dispensing when the central vacuum unit is disabled *	direct measurement/ observation/system monitor observation
	(2) *vacuum level outside of the range specified in G-70-165 for more than* fifteen (15) seconds (Approval Letter 97-20), measured while dispensing is occurring *	*direct measurement/* observation/system monitor observation
	(3) product dispensed when the vapor return line valve is closed	direct measurement/ observation/TP201.5

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-169 series Franklin Electric Intellivac		
equipment	defects	verification procedure
(a) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent
	(5) defective vapor valve	GDF-01/GDF-032
(b) OPW 11VAI nozzle	(1) efficiency compliance device damaged such that at least one-fourth (~~0.~~25%) of the circumference is missing	direct measurement/ observation
	(2) fewer than two unblocked vapor collection holes	direct observation
(c) Husky V34 6250 nozzle	(1) any nozzle with a vapor splash guard (VSG) damaged such that at least one and one-half (1.5) inch slit has developed	direct measurement
	(2) any VSG damaged such that greater than a three-eighths (0.38) inch hole has developed	direct measurement

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-175 series Hasstech VCP-3A		
equipment	defects	verification procedure
(a) system	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(3) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 SCFH)	TP201.4 or equivalent
(b) OPW 11VAI steel spout	(1) less than six unblocked vapor collection holes	direct observation
(c) OPW 11VAI aluminum spout	(1) less than four unblocked vapor collection holes	direct observation
(d) Emco Wheaton A4500 nozzle	(1) fewer than three unblocked vapor collection holes	direct observation
	(2) any visible puncture or tear of the vapor guard/vapor seal assembly	direct observation
(e) Husky V3 6201 nozzle	(1) all vapor collection holes blocked	direct observation
(f) Husky V34 6200-8	(1) all vapor collection holes blocked	direct observation
~~dispenser~~	(2) defective vapor valve	GDF-01/GDF-032
(g) collection unit	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) dispensing when the collection unit is disabled *	direct observation/ system monitor observation
	(3) normal operating level at the inlet of the collection unit less than thirty (30) inches water column vacuum *	direct measurement/ observation
(h) processing unit	(1) twenty (20) consecutive unsuccessful attempts to ignite the processing unit *	direct measurement/ observation/ system monitor observation
	(2) emissions which exceed Ringelmann one-half (½) or ten percent (10%) opacity and not attributable to a bulk delivery *	Method 9
	(3) dispensing when the processing unit is disabled *	direct measurement/ observation/system monitor observation
	(4) processing unit inoperative *	direct observation
(i) ECS-1 electronic control and status panel	(1) ratio of process unit/solenoid valve time less than nine tenths (0.90) *	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-177 series Hirt VCS400-7		
equipment	defects	verification procedure
(a) system	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 SCFH)	TP201.4 or equivalent
	(3) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(4) processing unit inoperative *	direct observation
(b) OPW 11VA-29 nozzle	(1) defective vapor valve	GDF-01/GDF-032
	(2) less than five unblocked vapor collection holes	direct observation
(c) hoses	(1) any visible puncture or tear equivalent to a diameter of 0.136 inches or greater	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-179 series Catlow ICVN-VI		
equipment	defects	verification procedure
(a) nozzles	(1) efficiency compliance device damaged such that at least three-fourths (~~0~~.75%) of the diameter is missing	direct measurement/ observation
	(2) any nozzle which has less than four unblocked vapor collection holes	direct observation
	(3) defective vapor valve	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 SCFH)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-183 series Healy/Franklin Vac Assist		
equipment	defects	Verification procedure
(a) nozzles	(1) a vapor guard damaged such that a slit exists from the outer edge of the open end flange to the spout anchor clamp	direct observation
	(2) any nozzle which has less than four unblocked vapor collection holes	direct observation
	(3) defective vapor valve	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~feet~~feet per hour (60 SCFH)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-186 series Healy Model 400 ORVR		
equipment	defects	verification procedure
(a) nozzles	(1) any operating pressure range at the nozzle boot/fill-pipe interface less than one-half (0.50) inch water column vacuum or greater than one-fourth (0.25) inch water column pressure	EO G-70-186 Exhibit 5 test
	(2) defective vapor valve	GDF-01/GDF-032
~~system~~	~~system not operating within the vacuum level range as per G-70-186~~	~~direct measurement/ observation/system monitor observation~~
(b) central vacuum unit	(1) product dispensed when the central vacuum unit is inoperative or disabled *	direct measurement/ observation/TP201.5 or equivalent system monitor observation
	(2) system does not achieve an operating vacuum of sixty-five (65) inches water column for three consecutive dispensings under normal operating conditions *	direct measurement/ observation/system monitor observation
	(3) system operates at a vacuum less than sixty-five (65) inches water column over a one hour period *	direct measurement/ observation/system monitor observation
	(4) vacuum level dropping below sixty (60) inches water column for more than three seconds after the system has reached sixty-five (65) inches water column, while dispensing is occurring *	direct measurement/ observation/system monitor observation
	(5) vacuum level above ninety (90) inches water column while dispensing is occurring *	direct measurement/ observation/system monitor observation
	(6) product dispensing when the non-restrictive ball valve installed in the vapor return line is closed *	direct measurement/ observation
(c) system	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(3) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 SCFH)	TP201.4 or equivalent
	(4) any venting through system monitor vent in excess of ten hours in any calendar day not attributable to a Phase I fuel delivery *	observation/system monitor observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-187 series Healy Model 400 ORVR AGT (AST)		
equipment	*defects:*	*verification procedure*
(a) nozzles	(1) any operating pressure range at the nozzle boot/fill-pipe interface less than one-half (0.50) inch water column vacuum or greater than one-fourth (0.25) inch water column pressure	EO G-70-187 Exhibit 5 test
	(2) defective vapor valve	GDF-01/GDF-02
	(3) nozzle boot tears greater than one-half (0.50) inch in length	direct measurement/ observation
(b) central vacuum unit	~~system vacuum less than sixty-five (65) inches or greater than eighty-five (85) inches water~~	~~direct measurement/ observation~~
	(1) product dispensed when the central vacuum unit is inoperative or disabled *	direct measurement/ observation/TP201.5 or equivalent system monitor observation
	~~system does not achieve an operating vacuum of sixty-five (65) inches water column within fifteen (15) seconds after the system is energized~~	~~direct measurement/ observation~~
	(2) system does not achieve an operating vacuum of sixty-five (65) inches water column for three consecutive dispensing episodes *	direct measurement/ observation/system monitor observation
	(3) system does not achieve an operating vacuum of sixty-five (65) inches water column within a one hour period for any single dispensing episode *	direct measurement/ observation/system monitor observation
	(4) vacuum level dropping below sixty (60) inches water column for more than three seconds after the system has reached sixty-five (65) inches water column, while dispensing is occurring *	direct measurement/ observation/system monitor observation
	(5) vacuum level above ninety (90) inches water column while dispensing is occurring *	direct measurement/ observation/system monitor observation
	(6) product dispensing when the non-restrictive ball valve installed in the vapor return line is closed *	direct measurement/ observation
(c) system	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(3) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 SCFH)	TP201.4 or equivalent
~~Phase II system~~	(4) any venting through system monitor vent in excess of ten hours in any calendar day not attributable to a Phase I fuel delivery *	direct measurement/ observation/system monitor observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-188 series Catlow ICVN w/Gilbarco (Marconi) VaporVac System		
equipment	defects	verification procedure
(a) nozzles	(1) ECD damaged such that at least three-fourths (~~0.~~75%) of the diameter is missing	direct measurement/ observation
	(2) defective vapor valve	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~SCFH~~)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-191 series Healy ORVR		
equipment	defects	verification procedure
(a) nozzles	(1) any nozzle with a vapor collection boot which has one-half (~~0.~~50%) of the mini-boot faceplate or greater missing	direct measurement/ observation
	(2) defective vapor valve	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~SCFH~~)	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-193 series Hill-Vac		
equipment	defects	verification procedure
(a) system	(1) fillpipe gauge pressure less than negative one (–1.0) inch or greater than two (2.0) inches water column	direct measurement/ observation
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~feet~~feet per hour (60 SCFH)	TP201.4 or equivalent
(b) nozzles	(1) a boot with any tear exceeding one-half (0.50) inch	direct measurement/ observation
	(2) faceplate damage such that the fillpipe interface is adversely affected for twenty-five percent (25%) or more of the circumference of the faceplate	direct measurement/ observation
(c) jet pump	(1) dispensing of gasoline when either jet pump is disabled	direct observation
	(2) failure to achieve operating vacuum of thirty-five (35) inches water column within five seconds after the system is activated, for three consecutive dispensing episodes	direct measurement/ observation
	(3) a vacuum level below fifteen (15) inches water column for more than three seconds after the system has reached thirty-five (35) inches water column while dispensing	direct measurement/ observation
	(4) a vacuum level above eighty-five (85) inches water column measured while dispensing to non-ORVR vehicles	direct measurement/ observation
	(5) product dispensing when any ball valve installed at the vapor return line connection to each Healy Model 100 jet pump is closed	direct measurement/ observation
(d) Liquid drop out pot	(1) opening drain valve at anytime other than when repair operations are underway	direct observation
	(2) product dispensing when any ball valve installed at the liquid drop pot in the liquid removal line is closed	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-196 series SaberVac		
equipment	Defects	verification procedure
(a) Husky 605104 nozzle	(1) vapor splash guard (VSG) with a one and one-half (1.5) inch or larger slit	Direct measurement/ observation
	(2) VSG with a three-sixteenths (0.19) inch or larger hole	Direct measurement/ observation
	(3) the VSG flange portion doesn't make contact with entire fillpipe opening	direct observation
	(4) defective vapor valve	GDF-01/GDF-032
(b) system	(1) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard as described in G-70-196	as described in G-70-196
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) underground storage tank gauge pressure greater than two inches water column over an extended period as defined by E.O. G-70-196 Exhibit 2 *	direct measurement/ observation
	(5) pressure drop through system exceeding one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 SCFH)	TP201.4 or equivalent
	(6) dispensing of product from any fueling point associated with a disconnected vapor line	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

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Defect Identification Methods Used In the Verification Procedure Column

1. TP201.5: Determination (by Volume Meter) of Air to Liquid (A/L) Volume Ratio of Vapor Recovery Systems of Dispensing Facilities, Adopted April 12, 1996

2. TP201.4: Determination of Dynamic Pressure Performance of Vapor Recovery Systems of Dispensing Facilities

3. TP201.3: Determination of Two-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities

4. GDF-01: Bag Test for Multi-Nozzle Vacuum Assist Systems

~~5. GDF-03: Pressure Integrity Performance Verification for Vacuum Assist Systems [Squeeze Bulb Test]~~

6~~5~~. Method 9: 40 Code Federal Regulations Part 60 Appendix A: Reference Method 9/ EPA Section 3.12 Visible Determination of the Opacity of Emissions from Stationary Sources

7~~6~~. G-70-186-187 Exhibit 5: Fillneck Vapor Pressure Regulation Fueling Test

8~~7~~. EPO No. 26-F-1: Vapor Recovery Systems Field Compliance Testing

9~~8~~. Storage Tank Pressure Device: described and shown in TSD Appendix 6

9. GDF-02: Bag Test for Single-Nozzle Vacuum Assist Systems

10. GDF-09: Phase II Balance System Nozzle Insertion Interlock Operation Determination

Appendix 3: California Health and Safety Code, Section 41960.2

California Health and Safety Code

H&S 41960.2 Maintenance of Installed Systems

41960.2. (a) All installed systems for the control of gasoline vapors resulting from motor vehicle fueling operations shall be maintained in good working order in accordance with the manufacturer's specifications of the system certified pursuant to Section 41954.

(b) Whenever a gasoline vapor recovery control system is repaired or rebuilt by someone other than the original manufacturer or its authorized representative, the person shall permanently affix a plate to the vapor recovery control system that identifies the repairer or rebuilder and specifies that only certified equipment was used. In addition, a rebuilder of a vapor control system shall remove any identification of the original manufacturer if the removal does not affect the continued safety or performance of the vapor control system.

(c) (1) The executive officer of the state board shall identify and list equipment defects in systems for the control of gasoline vapors resulting from motor vehicle fueling operations that substantially impair the effectiveness of the systems in reducing air contaminants. The defects shall be identified and listed for each certified system and shall be specified in the applicable certification documents for each system.

(2) On or before January 1, 2001, and at least once every three years thereafter, the list required to be prepared pursuant to paragraph (1) shall be reviewed by the executive officer at a public workshop to determine whether the list requires an update to reflect changes in equipment technology or performance.

(3) Notwithstanding the timeframes for the executive officer's review of the list, as specified in paragraph (2), the executive officer may initiate a public review of the list upon a written request that demonstrates, to the satisfaction of the executive officer, the need for such a review. If the executive officer determines that an update is required, the update shall be completed no later than 12 months after the date of the determination.

(d) When a district determines that a component contains a defect specified pursuant to subdivision (c), the district shall mark the component "Out of Order." No person shall use or permit the use of the component until the component has been repaired, replaced, or adjusted, as necessary, and the district has reinspected the component or has authorized use of the component pending reinspection.

(e) Where a district determines that a component is not in good working order but does not contain a defect specified pursuant to subdivision(c), the district shall provide the operator with a notice specifying the basis on which the component is not in good working order. If, within seven days, the operator provides the district with adequate evidence that the component is in good working order, the operator shall not be subject to liability under this division.

(Amended by Stats. 1999, Ch. 501, Sec. 1.)