

California Environmental Protection Agency

 Air Resources Board

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

October 27, 2015



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State of California
AIR RESOURCES BOARD

**STAFF REPORT: INITIAL STATEMENT OF REASONS FOR
RULEMAKING**

**PROPOSED AMENDMENTS TO THE LIST OF EQUIPMENT DEFECTS THAT
SUBSTANTIALLY IMPAIR THE EFFECTIVENESS OF
GASOLINE VAPOR RECOVERY SYSTEMS**

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EXECUTIVE SUMMARY

The California Air Resources Board (ARB) staff is proposing amendments to the Vapor Recovery Equipment Defects List (VRED List) which is incorporated by reference in California Code of Regulations (Cal. Code Regs.), tit. 17 §94006. The Executive Officer of ARB is required to identify and list those defects in the vapor recovery equipment that substantially impair the effectiveness of the vapor recovery system in reducing air contaminants (Health and Saf. Code §41960.2(c)(1)).

The Executive Officer has identified, compiled, and listed such defects in the VRED List. To be considered a defect, the regulation (Cal. Code Regs., tit. 17 §94006) requires the following criteria must be met:

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

In the VRED List, the Executive Officer has identified conditions in vapor recovery equipment components that are not present during normal operations which allows excess emissions, and which can be readily verified. Health and Saf. Code §41960.2(c)(2) requires the Executive Officer to review the VRED List periodically to determine if an update is needed to reflect changes in equipment technology and performance.

An air pollution control district/air quality management district (air district or district) is responsible for inspecting local gasoline dispensing facilities (GDF) and enforcing vapor recovery regulations, including recovery equipment defects and performance test failures (Health and Saf. Code §40752 and §41960.2(d) - (e)). When an air district determines that a component contains a defect specified in the VRED List, the district shall mark the component "Out of Order." The law states that "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 the use of the component pending reinspection."

The proposed amendments would update the current VRED List in the following three ways: 1) including defects for equipment certified in EOs signed since the last amendment to the existing VRED List; 2) adding new defect verification procedures; and 3) making editorial changes to remove minor inconsistencies and to improve clarity. The amendments to the current VRED List will enhance the ability to identify, repair, or replace equipment where those defects could significantly affect the effectiveness of the vapor recovery system.

Local district staff, manufacturer representatives, and private owner/operators representing GDFs have collaborated with ARB staff on the development of this update to the VRED List. The local districts have provided valuable suggestions regarding

technical information, identification of correct verification procedures, and clarification of listed defects.

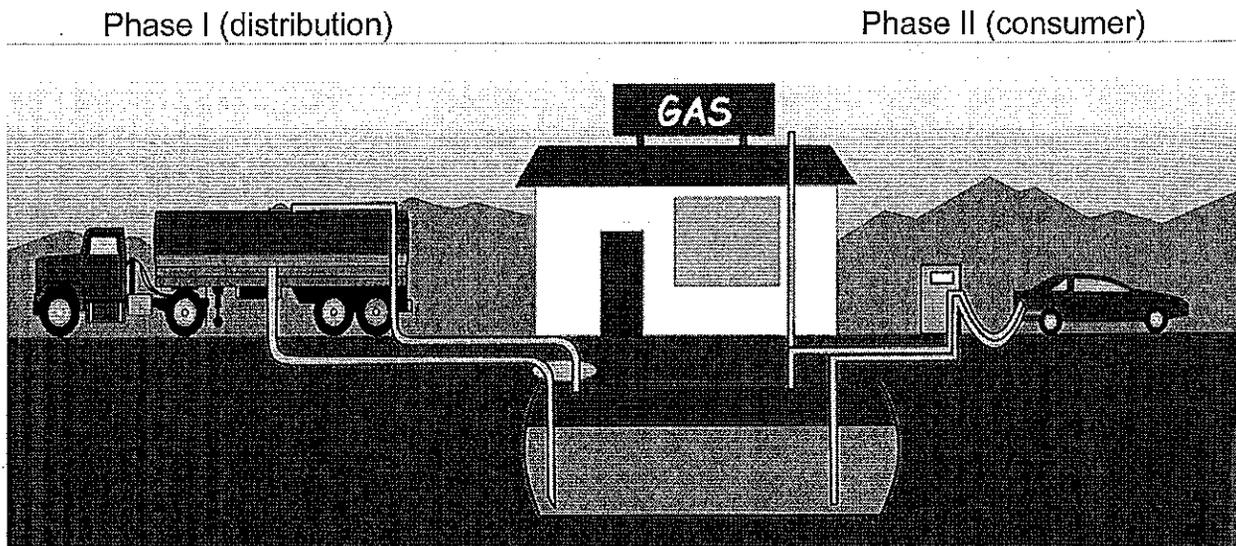
Staff recommends that ARB's Executive Officer approve the proposed amendments to the VRED List.

I. INTRODUCTION AND BACKGROUND

A) Vapor Recovery Program Overview

In California, gasoline vapor emissions are controlled during the transfer of gasoline from storage tanks at terminals or bulk plants to tanker trucks (cargo tanks) that deliver fuel to gasoline dispensing facilities (GDF or service station), from which gasoline is then transferred into vehicles. Cargo tanks are tested annually to ensure that they do not exceed an allowable leak rate. At GDFs, there are two types of gasoline transfers. Phase I vapor recovery collects vapors that are displaced during bulk fuel transfer, when a tanker truck fills the service station storage tank. The gasoline vapor displaced from filling the storage tank is captured and transferred to the tanker truck instead of being released to the atmosphere. The gasoline vapor inside the tanker truck is recovered at the terminal or bulk plant when a new load of gasoline fills the tanker. Phase II vapor recovery collects vapors produced during vehicle refueling by the gasoline consumer. The vapor recovery collection efficiency during both of these transfers is determined through certification of vapor recovery systems. In-station diagnostics (ISD) provides real-time monitoring of critical vapor recovery system components, and will activate an alarm alerting station operators/owners of vapor recovery system failures so that corrective action may be taken.

Figure I-1
Phase I and Phase II Vapor Recovery Systems at Service Stations



The Air Resources Board (ARB or Board) and the air pollution control/air quality management districts (air district or district) share implementation of the vapor recovery program. ARB staff certifies prototype Phase I and Phase II vapor recovery systems for installation at operating GDF test sites. State law requires that throughout California only ARB-certified systems be offered for sale, sold, and installed. Air district staff inspects and tests the vapor recovery system upon installation during the permit

process and conducts regular inspections to check that systems are operating as certified.

The vapor recovery requirements affect a multitude of stakeholders. These include the vapor recovery equipment manufacturers, GDF owners and gasoline marketers who purchase this equipment, contractors who install, maintain, and test vapor recovery systems, air districts that enforce vapor recovery rules, and the public at large who refuel vehicles or live near GDFs. California's vapor recovery and certification requirements also have implications for many other states and countries which have rules requiring or allowing for the use of ARB certified systems at their GDFs.

B) Vapor Recovery Equipment Defects History

In 1975, state law was enacted (Health and Saf. Code §41954) which requires ARB to certify gasoline vapor recovery systems. To accomplish this, ARB adopted the certification and test procedures found in California Code of Regulations (Cal. Code Regs.), tit. 17 §94010 et seq. Additionally, ARB must identify and list equipment defects that substantially impair the effectiveness of these systems (Health and Saf. Code §41960.2(c)). ARB has adopted regulations establishing a vapor recovery equipment defects list (VRED List or List) to focus and to provide consistent enforcement efforts on vapor recovery systems. Generally, this List contains known defects identified in Executive Orders. Placing the defects into a single list allows for more accurate and updated information to be easily available at stakeholder's fingertips thus improving compliance and enforcement. These defects have been determined during the certification process or from field testing of the equipment at service stations and resulted in the generation of excess emissions from the refueling process. Furthermore, the districts are required to remove all equipment from service that has been determined to contain a listed defect until the equipment has been repaired, replaced, or adjusted, as necessary, and authorized by the district.

In 1982, a list of defects for vapor recovery was first compiled and incorporated into the Cal. Code Regs., tit. 17 §94006. Despite the fact that the designs of the vapor recovery systems have changed significantly, this original List was not revised until 2002.

In 1999, Assembly Bill 1164 (AB1164) was enacted and required ARB to update §94006. This included three main tasks: (1) ARB to review the VRED List at a public workshop once every three years to determine if a List update is necessary; (2) the List may be updated sooner if the Executive Officer upon receiving a request determines to his or her satisfaction that the List must be updated; and (3) identify, list, and consolidate equipment defects into a single List. Equipment defects identified subsequently are contained in separate certification Executive Orders, as allowed by Cal. Code Regs., tit. 17 §94006 as it existed in 2001. In 2001, there were almost 200 individual system certifications with up to 18 defects each. Without a central list of vapor recovery equipment defects, the §94006 List was no longer a useful comprehensive tool.

In 2002, a single VRED List was created and the Board adopted criteria to clarify the term equipment defect that substantially impairs the effectiveness of vapor recovery equipment used in vehicle gasoline refueling operations. The criteria are as follows:

1. The defect did not exist when the system was certified;
2. The excess emissions associated with the defect have the potential to degrade a fueling point or the system efficiency by at least 5 percent; and
3. A field verification procedure exists to identify the defect.

In 2005, the VRED List was amended to correct a variety of minor inconsistencies, provide clarification, and to make editorial-type changes.

In 2008, the VRED List was amended to add defects for systems approved in EOs since 2005, and to remove those EOs that are no longer certified to be used in California.

In 2012, the VRED List was amended to add defects for systems approved in EOs since 2008, to add new defect verification procedures, and amendments to correct a variety of minor inconsistencies, provide clarification, and editorial changes.

C) Legal Authority

Health and Saf. Code §41960.2(c)(2) requires the Executive Officer to review the VRED List at a public workshop every three years to determine whether a List update is necessary to reflect changes in equipment, technology, or performance. In 2001, the Board directed the Executive Officer to update the VRED List that is incorporated by reference in Cal. Code Regs., tit. 17 §94006, as appropriate, to maintain its currency and facilitate its use and implementation.

D) Applicability of Proposed Regulations

The proposed regulations consist of amendments to the VRED List applicable to vapor recovery equipment used at GDFs to refuel motor vehicles. California's gasoline vapor recovery program is of interest to a wide variety of stakeholders including gas station owners, vapor recovery equipment manufacturers, installers, testers, maintenance contractors, air districts, and entities concerned with air quality and its impact on public health. However, only a few of these stakeholders may be interested in the proposed regulations because they are very limited in scope focusing on defects, consisting of the following categories:

1. Inclusion of defects for equipment certified in EOs signed since the 2012 amendment to the VRED List including;
 - a. Nozzles that allow fuel dispensing when the boot is not compressed
 - b. VST Green Machine/HIRT Processor defects
 - c. Vapor return line defects added to balance Executive Orders
 - d. Protected Aboveground Storage Tanks (AST) with Remote Dispensing defects

2. New defect verification procedures identified in EOs issued since the VRED List was last updated in 2012; and
3. Editorial changes to remove minor inconsistencies and to improve clarity.

E) Public Process

1) Public Workshop

ARB staff conducted a public workshop per Cal. Health & Saf. Code §41960(c)(2) on March 4, 2015, in Sacramento and via teleconference for those unable to attend the workshop in person. The workshop attendees included representatives from air districts, equipment manufacturers, and GDF owners/operators. Approximately 20 individuals attended the workshop in person and 13 listened to the workshop via teleconference.

The purpose of the workshop was to review and explain proposed changes to the current VRED List and to solicit public comments on the proposal and other changes to the List. After the workshop, stakeholders were given the opportunity to provide comments by April 1, 2015. ARB staff received one substantive comment regarding a new defect for nozzles on pages 14 and 15 of the draft VRED List. To address the comment, ARB staff changed the verification procedure from direct observation to IOM (Installation, Operation and Maintenance) Scheduled Maintenance. This change is reflected in the proposed amendments.

2) Webpage and Internet Availability

To facilitate public outreach during development of the VRED List, staff used the existing VRED webpage (<http://www.arb.ca.gov/vapor/vred/vred.htm>) to post relevant documents, workshop materials, and presentations. Since 2003, proposed changes to the VRED List were posted to this webpage. This allowed all stakeholders an opportunity to review and comment.

Stakeholders on the ARB vapor recovery email list serve are notified whenever new information is posted such as an updated draft VRED List, public workshops, or other meetings. As of January 2015, there were approximately 4,720 subscribers to the vapor recovery list serve.

3) Other Outreach Efforts

In an effort to build consensus and minimize areas of disagreement, ARB staff consulted with representatives of the California Air Pollution Control Officers Association (CAPCOA) Vapor Recovery Subcommittee. On April 16, 2014, ARB staff presented a preliminary update of the proposed VRED List to the Subcommittee. It was agreed that no defects would be removed without justification. Staff indicated that most of the changes relate to adding defects for systems approved in EOs since the List was last

updated. On February 20, 2015, ARB staff provided an advance copy of the proposed VRED List to the Subcommittee for review and comment prior to the public workshop.

Other groups consulted include the California Independent Oil Marketers Association (CIOMA) and the Western States Petroleum Association (WSPA).

F) State Implementation Plan

All geographic areas in California that are designated non-attainment of the National Ambient Air Quality Standards (NAAQS) are required by the federal Clean Air Act to prepare a State Implementation Plan (SIP) containing strategies to improve air quality and achieve the NAAQS. There are no new emission increases or reductions associated with the proposed regulatory amendments, so there will be no resultant impact on the SIP.

G) Climate Change Considerations

There are no new emission increases or reductions associated with the proposed regulatory amendments, so there will be no resultant impact on climate change.

II. PURPOSE OF RULEMAKING AND PROPOSED SOLUTION AND SUPPORTING RATIONALE

State law requires the Executive Officer to conduct a triennial review of the VRED List and to update the List as necessary. The VRED List has been reviewed and updated four times since the law was amended to require the triennial review. Since the current List was last updated in 2012, the following items warrant updating the List in 2015 (note that each item added includes a verification procedure).

1. Add defects from the three new Phase II systems (two for vapor recovery system with underground storage tanks (UST) and one for aboveground storage tanks) that were certified since 2012.
2. Specify that failure of the nozzle interlock is now considered a defect for assist nozzles.
3. Establish dynamic backpressure performance standards for balance nozzles to prevent blockage of gasoline vapor that is transferred from vehicle fuel tanks to GDF's USTs.
4. Clarify when a defect occurs on processors (thermal oxidizer, vapor polisher, and clean air separators).

The amendments are needed to meet statutory requirements and will provide consistency between defects listed in EOs and those defects listed in the VRED List tables. This will enhance compliance by GDF operators and facilitate uniform enforcement by the districts.

III. SUMMARY OF RECOMMENDED PROPOSED ACTION

Staff recommends that the Executive Officer adopt the proposed amendment to Cal. Code Regs., tit. 17 §94006. This amendment would incorporate by reference the amended VRED List. By adopting the amendments, the Executive Officer would amend the VRED List to include items not included in the last update.

IV. ENVIRONMENTAL ANALYSIS

A) Introduction

This chapter provides the basis for ARB's determination that the proposed regulatory amendments to the VRED List are exempt from the requirements of CEQA. A brief explanation of this determination is provided in section B below. ARB's regulatory program, which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality, has been certified by the California Secretary for Natural Resources under Public Resources Code §21080.5 of the California Environmental Quality Act (CEQA) Cal. Code Regs., tit. 14 §15251(d)). Public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. ARB, as a lead agency, prepares a substitute environmental document (referred to as an "Environmental Analysis" or "EA") as part of the Staff Report prepared for a proposed action to comply with CEQA (Cal. Code Regs., tit. 17 §60000-60008). If the amendments are finalized, a Notice of Exemption will be filed with the Office of the Secretary for the Natural Resources Agency and the State Clearinghouse for public inspection.

B) Analysis

ARB has determined that the proposed regulatory amendments to the VRED List are exempt from CEQA under the general rule or "common sense" exemption (Cal. Code Regs., tit. 14 §15061(b)(3)). CEQA Guidelines states "the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA". The proposal is also categorically exempt from CEQA under the "Class 8" exemption (Cal. Code Regs., tit. 14 §15308) because it is an action taken by a regulatory agency for the protection of the environment. The proposed amendments consist of administrative and procedural changes that would be adding defects for systems approved in EOs since previous amendments, revising tables to include currently adopted test methods/procedures, correcting minor inconsistencies, providing clarification, and editorial changes. Based on ARB staff's review it can be seen with certainty that there is no possibility that the proposed amendments may result in a significant adverse impact on the environment. Further, the proposed action is designed to protect the environment and ARB found no

substantial evidence indicating the proposal could adversely affect air quality or any other environmental resource area, or that any of the exceptions to the exemption applies (Cal. Code Regs., tit. 14 §15300.2). Therefore, this activity is exempt from CEQA.

V. ENVIRONMENTAL JUSTICE

State law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, rules, and policies (Senate Bill 115, Solis; Stats 1999, Ch. 690; Government Code §65040.12(e)). The Board has established a framework for incorporating environmental justice into ARB programs consistent with the directives of State law.

The policies developed apply to all communities in California, but recognize that environmental justice issues have been raised more often in the context of low income and minority communities, which sometimes experience higher exposures to some pollutants as a result of the cumulative impacts of air pollution from multiple mobile, commercial, industrial, area wide, and other sources. Over the past 20 years ARB, air districts, and federal air pollution control programs have made substantial progress towards improving air quality in California. However, some communities continue to experience higher exposures than others as a result of the cumulative impacts of air pollution from multiple mobile and stationary sources and thus may suffer a disproportionate level of adverse health effects.

Adoption and implementation of the proposed amendments will have no negative environmental impacts on environmental justice communities.

VI. ECONOMIC IMPACT ANALYSIS

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 because of the compliance and enforcement actions of the proposed amendments. Staff recognizes that individual companies may experience different impacts than projected in this analysis.

Overall, the proposed amendments are not expected to impose significant additional compliance costs on gasoline dispensing equipment manufacturers, component suppliers, or GDFs in California. The Executive Officer acknowledges that as new vapor recovery equipment defects are identified and enforced, facility owners and equipment manufacturers may face additional costs to address those defects.

However, any potential additional costs related to repair or correction of defects is not attributable to the proposed collation of the VRED List, but to the prior issuance of Executive Orders, which originally identified the defects.

A) Potential Impact on Business

ARB staff expects no significant adverse impacts on equipment manufacturers' profitability, on employment in California, or on the competitiveness of California businesses.

Most GDFs in California are subject to an annual compliance inspection. Better detection of defective equipment may result in cost savings to GDFs because the defective equipment may be replaced while under warranty. Maintenance contractors for service stations may also benefit from better enforcement of the existing regulation due to clarification and manufacturers of complying vapor recovery equipment may increase sales. A greater understanding of the defects for vapor recovery systems will reduce the need for more stringent standards in the future, thereby lowering compliance costs to California operators.

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

The proposed amendments to the current VRED List would enhance the ability to identify, repair, or replace equipment where those defects could significantly affect the effectiveness of the vapor recovery system. Therefore, the regulation will ensure the amendments will ensure continued benefits to public health and safety, workers at and around GDFs, and the environment. The proposed action also increases the openness and transparency in businesses and government by clearly specifying the defects that air districts should look for when inspecting GDFs. The proposed action would have no effect on discrimination, fairness, or social equity.

B) Cost to State Agencies and Local Government

The proposed amendments will not create any fiscal impacts or mandates to any local governmental agency or school district whether or not reimbursable by the State pursuant to Part 7 (commencing with §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 possible vapor recovery equipment defects as systems are certified.

VII. EVALUATION OF ALTERNATIVES

The only reasonable alternative to amending the VRED List is to take no action. Taking no action is contrary to state law since there are changes since the VRED List was last updated in 2012. These changes include addition of defects from Phase II systems certified since 2012, specifying the failure of assist nozzle interlock, establishing dynamic backpressure standards for balance nozzles, and clarifying what constitutes a defect for processors. Therefore, no alternative considered by the Executive Officer would be more effective than going forward with the proposed amendments to the VRED List or would be as effective as and less burdensome to affected parties than the proposed action.

VIII. SUMMARY AND RATIONALE FOR EACH REGULATORY PROVISION

The following is a summary of specific regulatory amendments that are proposed for the Vapor Recovery Equipment Defect List.

Page 1 - General Vapor Recovery lists the defects that apply to certified systems. The proposed amendments are editorial in nature such as defining acronyms and using consistent nomenclature for referencing existing regulations.

Page 14-15 - VR-201 Series Healy Phase II EVR System not including ISD and VR-202 Series Healy Phase II EVR System including ISD lists the defects for certified Healy Phase II systems. The titles are changed from Healy to Assist to reflect that these Executive Orders now contain components that are not manufactured by Healy. In previous updates, the nozzle vapor valve maximum allowable leak rates of 0.038 cubic feet per hour (CFH) at a pressure of two (2) inches water column (WC) and 0.10 CFH at a vacuum of 100 inches WC were inadvertently not included. The change will now include these leak rates. The verification procedure specifies two procedures for determining nozzle vapor valve leak rates. The proposed amendment changes the order by referencing the easier verification procedure first (Nozzle Bag Test Procedure).

One new change is that the dispensing of gasoline with mini-boot or bellow in the free state condition is now a defect. The mini-boot is an integral part of the insertion interlock of the nozzle. When the mini-boot is uncompressed, the insertion interlock prevents gasoline from being dispensed. The verification procedure is referenced in IOM Scheduled Maintenance.

The proposal clarifies that verification procedure for an inoperative vapor pump is found in IOM Scheduled Maintenance. The scheduled maintenance specifies a list of steps for checking the pump to ensure that the vapor pump is operating properly. Failure of any of these steps would result in taking the dispenser (containing the pump) out of service.

The proposal would clarify that the Clean Air Separator is a Healy manufactured component. The Exhibits of Executive Orders VR-201 and VR-202 are coordinated.

Common numbers are used for exhibits that apply to both Executive Orders. The change would remove the reference to a specific Executive Order number in the verification procedure.

The testing of the Clean Air Separator requires the ball valves to be adjusted into a testing configuration. If each of these ball valves is not returned to its proper configuration after testing, the Clean Air Separator will not operate correctly. The proposal would now require that the ball valves be locked in their normal configuration. Compliance would be verified by direct observation.

Page 16-19 - VR 203 Series Balance Phase II EVR System not including ISD and VR 204 Series Balance Phase II EVR System including ISD list the defects for Balance Phase II systems. The titles are changed from VST to Balance to reflect that these Executive Orders now contain components that are not only manufactured by VST. In previous updates the nozzle vapor valve maximum allowed leak rates of 0.07 cubic feet per minute (CFM) at a pressure of two (2) inches water column (WC) is incorrect. The maximum allowed leak rate is 0.07 cubic feet per hour (CFH). The measurement of unit is updated from CFM to CFH.

For all nozzles, lever spring tension when the sleeve or bellows/convolutions are uncompressed, the verification procedure is proposed to be IOM Weekly Inspections. The weekly inspection specifies a list of steps for checking the nozzles to ensure that the spring tension is operating properly. Failure of any of these steps would result in taking the nozzle out of service.

The amendments include a new defect for dispensing hose vapor return lines by specifying that the dynamic pressure drop cannot exceed 0.95 inches WC at a flow rate of 60 CFH of nitrogen and 1.52 inches WC at a flow rate of 80 CFH of nitrogen. Exceeding either of these values means that the vapor path is blocked and cannot transfer vapors from the vehicle fuel tank to the underground storage tank during refueling.

The current List states that a defect occurs when the VST ECS processor is not in the automatic vapor processor mode. The amendments clarify that there is no defect when automatic vapor processor mode is turn off due to maintenance or testing.

The Veeder-Root vapor polisher defects have been modified to include that the unit is not in the automatic vapor processor mode. VR 203 defects now include ball valves not locked in the proper operating configuration.

Hirt thermal oxidizer defect has been modified to include ball valves not locked in the proper operating configuration. A defect is updated to when the thermal oxidizer indicator panel is not in the "power on" position (power lamp is lit) except when maintenance or testing is being conducted.

The Healy Clean Air Separator defect requires the ball valves to be adjusted into a testing configuration. If each of these ball valves is not returned to its proper configuration after testing, the Clean Air Separator will not operate correctly. The proposal would now require that the ball valves be locked in their normal configuration. Compliance would be verified by direct observation.

The VST Green Machine processor is a new defect. It was certified after 2012 and its defects have been added in the proposal. These defects include (1) ball valves are not locked in the proper operating configuration, (2) processor is not on or is not in the automatic vapor processor mode and (3) controller is not on (with the exception when maintenance or testing is being conducted).

Page 20-21 - VR 207 Series EMCO Wheaton Retail Phase II EVR System with HIRT VCS 100 Thermal Oxidizer not including ISD and VR 208 Series EMCO Wheaton Retail Phase II EVR System with HIRT VCS 100 Thermal Oxidizer including ISD list the defects for EMCO Wheaton Retail Phase II systems. For only VR 207, the EMCO nozzle defect has been modified from rectangular shape to a triangular or similar shape with a reduction from 9/16 inches to 7/16 inches.

For nozzles, the valve leak rate defect has been modified from 0.07 CFM to 0.07 CFH.

Hirt thermal oxidizer defect has been modified to include ball valves not locked in the proper operating configuration. A defect is updated to when the thermal oxidizer indicator panel is not in the "power on" position (power lamp is lit) except when maintenance or testing is being conducted.

Vapor Return Lines defect has been modified where if the pressure drop through the vapor path exceeds 0.95 inches WC at a flow rate of 60 CFH of nitrogen and 1.52 inches WC at a flow rate of 80 CFH of nitrogen.

Page 22 - VR 501 Series Balance Phase II EVR System for Protected AST with Remote Dispensing is a new addition and lists the defects relating to the EMCO nozzle. New defects for the EMCO nozzle are the following: (1) more than 0.4 square inches of a nozzle vapor collection sleeve is missing, (2) slit across seven consecutive bellows convolutions, and (3) 360 degree cut around the bellow convolutions.

A new defect for any nozzle is if there is a vapor valve leak rate that exceeds 0.07 CFH at a pressure of two inches water column. Another defect is if the lever has spring tension (live lever) when the vapor recovery sleeve or bellows/convolutions is uncompressed.

For all nozzles, lever spring tension when the sleeve or bellows/convolutions is uncompressed, the verification procedure is proposed to be IOM Weekly Inspections. The weekly inspection specifies a list of steps for checking the nozzles to ensure that the spring tension is operating properly. Failure of any of these steps would result in taking the nozzle out of service.

A new defect for Hoses is if there are 150 ml or more liquid in the vapor path and any hose with a visible opening.

Hirt thermal oxidizer new defects include ball valves not locked in the proper operating configuration. Another defect is when the thermal oxidizer indicator panel is not in the "power on" position (power lamp is lit) except when maintenance or testing is being conducted.

Vapor Return Lines new defect is where if the pressure drop through the vapor path exceeds 0.95 inches WC at a flow rate of 60 CFH of nitrogen and 1.52 inches WC at a flow rate of 80 CFH of nitrogen.

IX. MAJOR ISSUES

No major issues were identified during the rulemaking to update the VRED List.

X. REFERENCES

1. VR-201 Series Executive Order "Assist Phase II Enhanced Vapor Recovery (EVR) System not including In-Station Diagnostics (ISD)." Adopted: April 08, 2005, and last amended: December, 08, 2014.
<http://www.arb.ca.gov/vapor/eos/eo-vr201/vr201r.pdf>
2. VR-201 Series "ARB Approved Installation, Operation, and Maintenance Manual for Executive Orders VR-201-R (Assist Phase II EVR System Not Including In-Station Diagnostics (ISD) Systems) and VR-202-R (Assist Phase II EVR System Including In-Station Diagnostics (ISD) Systems.)"
http://www.arb.ca.gov/vapor/eos/eo-vr201/vr201r_iom.pdf
3. VR-202 Series Executive Order "Assist Phase II Enhanced Vapor Recovery (EVR) System including In-Station Diagnostics (ISD)." Adopted: April 08, 2005, and last amended: December, 08, 2014.
<http://www.arb.ca.gov/vapor/eos/eo-vr202/vr202r.pdf>
4. VR-202 Series "ARB Approved Installation, Operation, and Maintenance Manual for Executive Orders VR-201-R (Assist Phase II EVR System Not Including In-Station Diagnostics (ISD) Systems) and VR-202-R (Assist Phase II EVR System Including In-Station Diagnostics (ISD) Systems)"
http://www.arb.ca.gov/vapor/eos/eo-vr202/vr202r_iom.pdf
5. VR-203 Series Executive Order "Balance Phase II Enhanced Vapor Recovery (EVR) System Not Including In-Station Diagnostics (ISD)." Adopted: November 05, 2007, and last amended: June 19, 2014.
<http://www.arb.ca.gov/vapor/eos/eo-vr203/vr203r.pdf>

6. VR-203 Series "ARB Approved Installation, Operation, and Maintenance Manual for Executive Order VR-203-R Balance Phase II EVR Systems Not Including In-Station Diagnostics (ISD)"
<http://www.arb.ca.gov/vapor/eos/eo-vr203/vr203r-iomfull.pdf>
7. VR-204 Series Executive Order "Balance Phase II Enhanced Vapor Recovery (EVR) System Including In-Station Diagnostics (ISD) Systems." Adopted: April 01, 2008, and last amended: June 19, 2014.
<http://www.arb.ca.gov/vapor/eos/eo-vr204/vr204r.pdf>
8. VR-204 Series "ARB Approved Installation, Operation, and Maintenance Manual for Executive Order VR-204-R Balance Phase II EVR Systems Including In-Station Diagnostics (ISD) Systems"
<http://www.arb.ca.gov/vapor/eos/eo-vr204/vr204r-iomfull.pdf>
9. VR-207 Series "Emco Wheaton Retail Corporation Phase II Enhanced Vapor Recovery (EVR) System with HIRT VCS 100 Thermal Oxidizer Not Including In-Station Diagnostics (ISD)." Adopted: September 23, 2009.
<http://www.arb.ca.gov/vapor/eos/eo-vr207/vr207a.pdf>
10. VR-207 Series "ARB Approved Installation, Operation, and Maintenance Manual for Executive Order VR-207-A EMCO Wheaton Retail Balance Phase II EVR System Not Including In-Station Diagnostics (ISD)"
<http://www.arb.ca.gov/vapor/eos/eo-vr207/vr207a-iomfull.pdf>
11. VR-208 Series Executive Order "EMCO Wheaton Retail Corporation Phase II Enhanced Vapor Recovery (EVR) System with HIRT VCS 100 Thermal Oxidizer Including Franklin Fueling Systems INCON In-Station Diagnostics (ISD)." Adopted: September 23, 2009.
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12. VR-208 "ARB Approved Installation, Operation, and Maintenance Manual for Executive Order VR-208-A EMCO Wheaton Retail Balance Phase II EVR System Including INCON In-Station Diagnostics (ISD)"
<http://www.arb.ca.gov/vapor/eos/eo-vr208/vr208a-iomfull.pdf>
13. VR-501 Series Executive Order "Balance Phase II Enhanced Vapor Recovery (EVR) System for Protected Aboveground Storage Tanks (AST) with Remote Dispensing." Adopted March 13, 2015.
<http://www.arb.ca.gov/vapor/eos/eo-vr501/eo501a.pdf>
14. VR-501 Series "ARB Approved Installation, Operation, and Maintenance Manual for Executive Order VR-501-A Balance Phase II Enhanced Vapor Recovery (EVR) System for Protected Aboveground Storage Tanks (AST) with Remote Dispensing"
<http://www.arb.ca.gov/vapor/eos/eo-vr501/eo501aiom.pdf>

XI. APPENDICES

Appendix A: Proposed Regulation Order, California Code of Regulations, Title 17, Section 94006

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

Appendix C: California Health and Safety Code, Section 41960.2

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