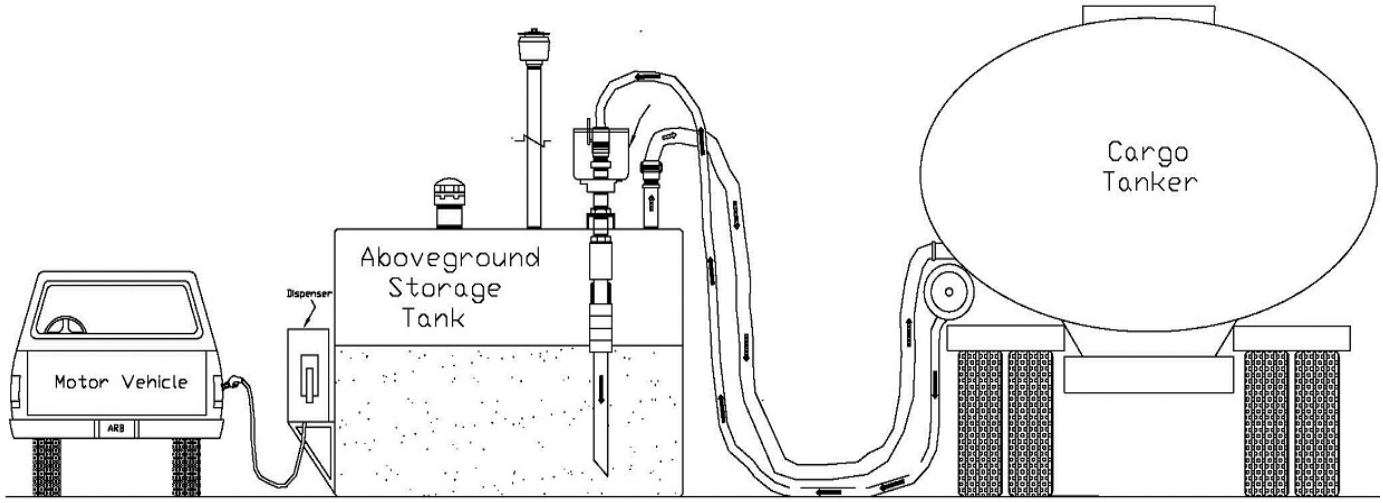
California Environmental Protection Agency

Air Resources Board

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR RULEMAKING

AMENDMENTS TO CERTIFICATION PROCEDURES FOR
VAPOR RECOVERY SYSTEMS AT GASOLINE DISPENSING FACILITIES:

ABOVEGROUND STORAGE TANKS AND
ENHANCED CONVENTIONAL NOZZLES



Monitoring and Laboratory Division

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State of California
AIR RESOURCES BOARD

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING

AMENDMENTS TO CERTIFICATION PROCEDURES FOR VAPOR RECOVERY SYSTEMS AT GASOLINE DISPENSING FACILITIES:

ABOVEGROUND STORAGE TANKS AND ENHANCED CONVENTIONAL NOZZLES

To be Considered by the Air Resources Board at a
Public Hearing on April 23-24, 2015

at

Byron Sher Auditorium
Air Resources Board, Cal/EPA Headquarters
1001 I Street
Sacramento, CA 95814

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EXECUTIVE SUMMARY

Since 1975, the Air Resources Board (ARB or Board) has had a program in place to control the emissions of air pollutants from gasoline dispensing facilities (GDF), which can lead to the formation of ozone and contain benzene, a constituent of gasoline vapor that has been identified as a toxic air contaminant. In March 2000, the Board approved the Enhanced Vapor Recovery (EVR) regulations for GDF equipped with underground storage tanks (UST). In June 2007, ARB approved the EVR regulations for GDF equipped with aboveground storage tanks (AST). The EVR regulations established new standards for vapor recovery systems to reduce emissions during storage and transfer of gasoline at GDF.

The EVR regulations apply to both new and existing GDF. Phase-in of EVR standards started in 2001 for GDF with UST and completed in 2010[1]. For GDF equipped with AST, phase-in of EVR standards started in 2009 and will continue beyond 2014. The EVR regulations were updated in 2001, 2002, 2004, 2006, 2007, 2011, and 2013. Previous updates were necessary to improve test procedures for vapor recovery system certifications, and to modify performance standards or implementation dates to reflect issues associated with evolving technology. Staff is now proposing additional regulatory amendments that will:

- Adopt new performance standards and specifications for nozzles used at GDF that have been exempted by the air districts from Phase II vapor recovery, because they fuel a fleet of newer vehicles that process gasoline vapors during vehicle refueling on-board the vehicle (on-board refueling vapor recovery (ORVR)). Establishing standards and specifications for these nozzles, which is referred to as Enhanced Conventional Nozzles (ECO Nozzles), will yield further reductions in emissions and provide certain facilities with cost savings.

- Amend aboveground storage tank requirements to allow for the continued use of existing pre-EVR Phase I systems on certain existing tanks. The result will be improved cost-effectiveness for Phase I EVR while retaining emission reductions in areas where they are most needed.

- Clarify existing requirements for manufacturers of vapor recovery equipment used on UST, AST, and ORVR Fleet Fueling facilities. These clarifications will better allow ARB staff to ensure that mass-produced vapor recovery equipment matches the performance standards and specifications of the equipment as evaluated during ARB certification.

Recommendation: Staff recommends that the Board adopt amendments to the California Code of Regulations (Appendix A) that incorporate by reference the proposed new and amended definitions and certification procedures (Appendices B - E).

[1] In 2013, the Board adopted new low permeation standards for hoses which are expected to be fully implemented by 2018.

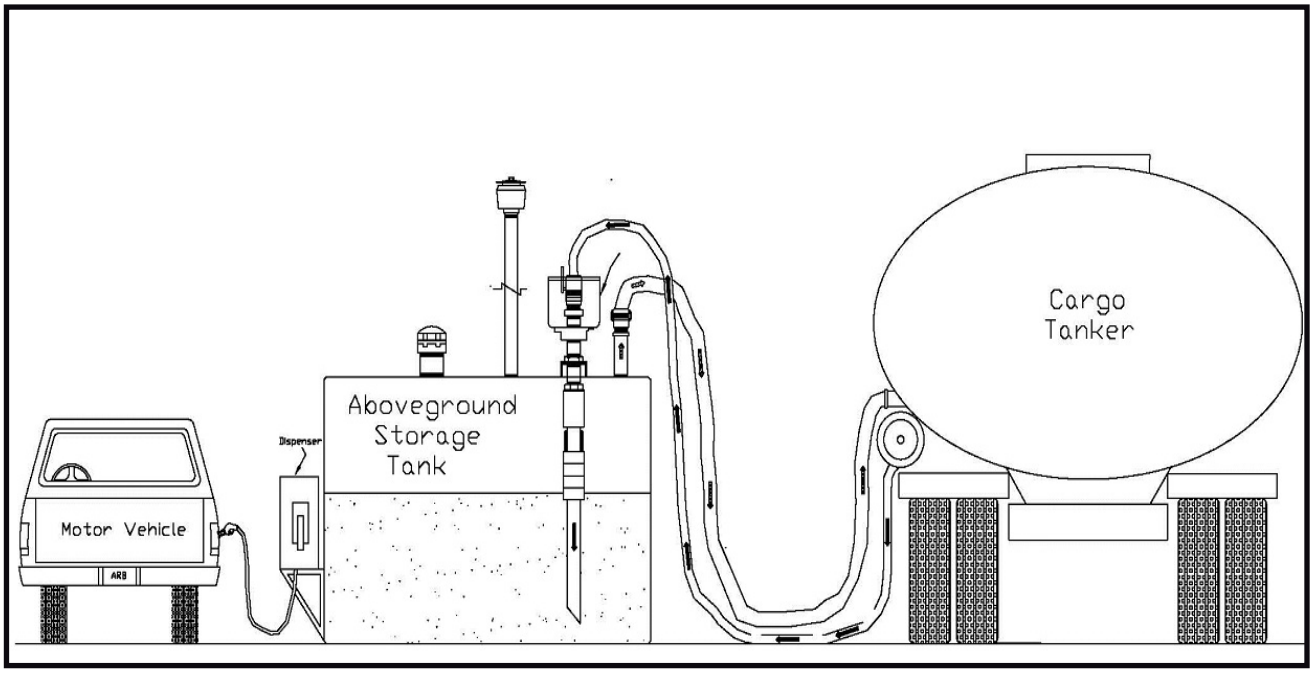
I INTRODUCTION AND BACKGROUND

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 stations), 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 GDF, 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 can be taken.

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

Phase II (consumer) Phase I (distribution)



ARB and the air pollution control/air quality management districts (air districts) 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 GDF. 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 GDF.

B) EVR Rulemaking History

In March 2000, with the Board's approval of the EVR regulations, new, more effective standards for vapor recovery systems were set to reduce emissions during the storage and transfer of gasoline at GDF

On October 25, 2001, the Board approved amendments to five existing, and the addition of two new, certification and test procedures for gasoline vapor recovery equipment. The revised and new certification and test procedures were part of the Board's ongoing effort to provide the most updated and accurate procedures for certifying systems to control gasoline vapor emissions and measuring the associated release of air pollutants. In addition to supporting certification of vapor recovery systems and equipment, the amended procedures support emissions measurement and verification of proper operation of installed systems.

On December 12, 2002, the Board approved amendments to ten existing certification and test procedures and the adoption of five new test procedures. This regulatory action was called Enhanced Vapor Recovery (EVR) Technology Review and was, again, part of the Board's ongoing effort to improve the EVR program by confirming that all but one of the EVR standards approved in 2000 were technically feasible.

On July 22, 2004, the Board approved an amendment to section 4.11 of Certification Procedure 201 (CP-201) to allow modifying vapor piping in dispensers without triggering the unihose dispenser requirement.

On November 18, 2004, the Board approved an amendment to the regulations to extend the on-board refueling vapor recovery (ORVR) compatibility deadline for existing GDF and amend other EVR regulation compliance dates to be consistent with the extensions allowed under the regulations (as authorized in Executive Orders G-70-203 and G-70-205). The effective date for ISD at GDF with gasoline throughputs between

600,000 and 1,800,000 gallons per year was also revised to April 1, 2006, to maintain the ISD phase-in schedule.

On May 25, 2006, the Board approved amendments to a variety of EVR test procedures, including revisions to leak rate and cracking pressure standards for EVR pressure/vacuum (P/V) vent valves.

On June 21, 2007, the Board approved new certification and test procedures that would require EVR for aboveground storage tanks (AST). EVR requirements for AST would become effective in three stages, over several years. Standing Loss Control (SLC) would be required for existing AST as of April 1, 2013, followed by Phase I EVR in 2014, and Phase II EVR four years after certification of the first system[2].

On September 22, 2011, the Board approved amendments to EVR regulations adopting a permeation standard for GDF hoses, and a clarification of the statutory requirement allowing existing facilities four years to upgrade their current equipment to meet applicable EVR standards. The first low permeation hoses meeting this standard that are compatible with a specific Phase II EVR system were certified by ARB on September 24, 2014. Existing GDF owners throughout California who have that specific Phase II EVR system will have until September 24, 2018, to install low permeation hoses unless they need to be replaced prior to that date.

On July 25, 2013, the Board approved a new test procedure to measure volumetric efficiency of Phase I EVR systems used on AST. The Board also approved amendments to clarify the certification requirements for cargo tanks, and to better harmonize those requirements with comparable federal requirements.

C) Legal Authority

1) State Law

Health and Saf. Code §41954 (Appendix F) requires ARB to adopt procedures and performance standards for controlling gasoline emissions from gasoline marketing operations, including transfer and storage operations to achieve and maintain ambient air quality standards. This section also authorizes ARB, in cooperation with air districts, to certify vapor recovery systems that meet the performance standards and specifications. Health and Saf. Code §39607(d) requires ARB to adopt test procedures to determine compliance with ARB's and air districts' non-vehicular standards. Health and Saf. Code §41954 also requires air districts to use ARB test procedures for determining compliance with performance standards and specifications established by ARB.

To comply with State law, the Board adopted the certification and test procedures for GDF with UST and AST, bulk plants, terminals, and cargo tanks found in Cal. Code Regs., tit. 17, §§94010 to 94016. The regulations reference procedures for certifying

[2] Certification of the first Phase II EVR system for AST is expected in spring of 2015.

vapor recovery systems and test procedures for verifying compliance with performance standards and specifications. These certification and test procedures serve to control gasoline vapor emissions from gasoline marketing operations, including transport and storage.

2) Federal Requirements

There are no federal regulations establishing a maximum allowable spillage rate from gasoline dispensing nozzles, as would be required by the ECO Nozzle proposal. There are also no federal regulations requiring the use of Phase I EVR systems on aboveground storage tanks. However, U.S. Environmental Protection Agency (U.S. EPA) has promulgated federal regulations to control the release of gasoline vapors at certain GDF in certain areas outside of California. Accordingly, some GDF are required to install and maintain Phase I vapor recovery systems. The intent of the federal regulations is to reduce emissions associated with the storage and transfer of gasoline during marketing operations, which is consistent with the intent of California's EVR program. Although not explicitly required by federal regulations, some other states and countries require the installation of vapor recovery systems that are certified by ARB. Thus, changes to ARB EVR certification requirements may have a national and international impact.

D) Applicability of Proposed Regulations

The proposed regulations consist of amendments to certification procedures applicable to vapor recovery equipment used at GDF in the State of California. In general, 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 generally concerned with air quality and its impact on public health. However, only a limited group of these stakeholders may be interested in the proposed regulations because they will not have a significant effect on retail fueling facilities with UST, which account for most of the gasoline dispensed statewide. The proposal consists of the following items:

1. **New certification procedure for Enhanced Conventional (ECO) Nozzle.** Adopt a new standard for nozzles used at fueling facilities that serve fleets of vehicles equipped with ORVR systems. This standard, referred to as ECO Nozzle, would only be applicable to approximately 300 of the 10,000 GDF statewide. Examples of ORVR fleet facilities include rental car facilities, auto dealerships, and municipalities.

2. **Revisions to the certification procedure for AST.** Revise CP-206 to ease implementation and improve cost effectiveness of existing Phase I EVR requirements. The proposed revisions would not impose new requirements on any tank owners. It would exempt certain tank owners from upgrading to EVR Phase I by July 1, 2014 as required under

current regulations, instead allowing them to continue operating with their existing pre-EVR Phase I equipment until the end of its useful life.

3. **Revisions to certification procedures for UST and AST.**
   Revise CP-201 and CP-206 to clarify existing requirements for manufacturers to provide ARB with certain information when submitting an application to have their vapor recovery equipment certified.

E) Public Process

1) Web Site

To facilitate public outreach during development of this rulemaking, staff used the existing Vapor Recovery Program website (http://www.arb.ca.gov/vapor/vapor.htm) to post relevant documents, workshop materials, and draft regulatory language. Stakeholders included on the ARB vapor recovery e-mail list server are notified whenever new information is posted. As of January 2015, there were approximately 4,720 subscribers to the main vapor recovery list.

2) Public Workshops

As shown in Table I-2 below, staff conducted 13 public workshops at various locations between July 2010 and July 2014 to address technical and regulatory issues related to the proposed rulemaking and to define regulatory development timelines. Interested stakeholders participated in the workshops in person, via conference call, or webcast. Workshop presentations and associated documents were posted on the web site prior to the workshop dates. Workshop announcements were distributed to approximately 4,720 vapor recovery e-mail listserve subscribers. For some workshops, notice was also sent to approximately 400 parties interested in vapor recovery whose contact information was provided by the South Coast Air Quality Management District (SCAQMD).

Table I-2, Public Workshops

DATE	LOCATION	Topics Covered
July 1, 2010	Sacramento	ECO Nozzle
October 31, 2012	Sacramento	ECO Nozzle
November 2, 2012	Diamond Bar	ECO Nozzle
November 7, 2012	Fresno	ECO Nozzle
April 23, 2013	Sacramento	ECO Nozzle
March 7, 2014	Sacramento	ECO Nozzle
March 14, 2014	Diamond Bar	ECO Nozzle
April 28, 2014	Sacramento	AST
April 30, 2014	Diamond Bar	AST
May 1, 2014	Fresno	AST
July 21, 2014	Sacramento	AST, ECO Nozzle, Certification Procedures
July 22, 2014	Diamond Bar	AST, ECO Nozzle, Certification Procedures
July 23, 2014	Fresno	AST, ECO Nozzle, Certification Procedures

3) Other Outreach Efforts

In an effort to build consensus and minimize areas of disagreement throughout development of the proposed regulations, ARB staff consulted with representatives of the California Air Pollution Control Officers Association (CAPCOA) Vapor Recovery Subcommittee and kept the CAPCOA Enforcement Managers updated on the proposals at their quarterly meetings. Staff also briefed representatives from the Western States Petroleum Association (WSPA) and the California Independent Oil Marketers Association (CIOMA) on a quarterly basis. The AST Phase I proposal was developed in coordination with a CAPCOA AST Working Group that was formed to address concerns about the cost effectiveness of Phase I EVR for AST. The ECO Nozzle proposal was developed in coordination with several nozzle manufacturers that expressed interest in designing and marketing a certified ECO Nozzle once applicable standards are adopted by ARB.

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 attain air quality and maintain NAAQS. In 2007, ARB adopted the California SIP for ozone (CARB, 2007b). The 2007 SIP did not include any accounting for the emission reductions associated with EVR for AST or ECO Nozzles. The regulatory proposal for EVR for AST was under evaluation at the time the emissions inventory was developed in 2007, and ECO Nozzles were not yet considered.

G) Climate Change Considerations

The regulatory proposal is expected to result in a small reduction in statewide emissions of reactive organic gases (ROG) through reduced spillage of gasoline from ECO Nozzles as compared to the conventional nozzles that are currently being used. Although the focus of the ECO Nozzle proposal is to reduce ambient concentrations of ground level ozone, it is also expected to provide a very small, indirect climate change benefit. ROG emitted into the atmosphere will chemically react within a relatively short timeframe to increase levels of the climate warming pollutants ozone and methane, and additional interactions with aerosols further increase the warming effect. Unlike long-lived climate pollutants such as carbon dioxide, the global warming potential (GWP)[3] of ROG species depends on where they are emitted given their short lifetime in the atmosphere. The 5th Assessment Report of Intergovernmental Panel on Climate Change (IPCC, 2013) reports 100-year and 20-year GWPs of 5 and 16.2, respectively, for ROG in North America. Using these GWPs to convert the ROG emission reductions expected from the regulatory proposal into carbon dioxide equivalent emissions results in a very small climate benefit.

[3] GWP is a comparison of the amount of heat trapped by a certain mass of the gas in question to the amount of heat trapped by a similar mass of carbon dioxide. Carbon dioxide has a GWP of 1.

II PURPOSE OF RULEMAKING AND PROPOSED SOLUTION AND SUPPORTING RATIONALE

The proposed amendments are intended to address three issues raised regarding ARB's current EVR programs. Each issue, along with a description of staff's proposed solution, is discussed briefly in this section.

A) Enhanced Conventional (ECO) Nozzles (CP-207)

Beginning with the 1998 model year, new vehicles were manufactured with ORVR systems that capture the vapors that would otherwise be emitted at the nozzle/vehicle interface during refueling. ORVR systems are designed to control the same vapors that Phase II EVR systems would control. In February 2008, ARB issued guidance to air districts informing them that it would be appropriate to consider allowing GDF that fuel a fleet of ORVR vehicles to operate without Phase II EVR. Many air districts amended their rules to exempt Phase II for such applications. Data provided by these air districts indicates that there are 322 ORVR fleet fueling facilities statewide that are currently allowed to operate without Phase II vapor recovery. Examples of ORVR fleet facilities include rental car facilities, auto dealerships, and municipalities.

Currently there is not a statewide standard describing what type of equipment should be used for these ORVR fleet facilities that have been exempted from Phase II EVR requirements. Some air districts exempt ORVR fleet facilities from most Phase II EVR requirements, but continue to require the use of Phase II EVR nozzles that have the vapor return pathway capped off. This approach helps to reduce emissions, since EVR nozzles are certified with enhancements to control liquid releases such as spillage, post-fueling drips, and liquid retention. Other air districts allow the use of conventional nozzles without these EVR enhancements. This approach helps reduce the equipment costs since those nozzles are less expensive than EVR nozzles. However, use of these conventional nozzles can result in increased emissions since they are not certified to meet EVR standards for liquid release.

Staff is proposing to adopt performance standards for conventional nozzles used at ORVR fleet facilities. These ECO Nozzles would not include vapor recovery, but would be required to meet the current EVR nozzle standards related to controlling liquid releases. Specifically, ECO Nozzles would be required to meet the EVR standards for spillage, post-fueling drips, spitting, and liquid retention. They would also be required to meet a spillage standard of 0.12 pounds per 1,000 gallons dispensed, which represents an approximately 80 percent reduction over spillage rates from uncertified conventional nozzles and a 50 percent reduction from the current certification standard for EVR nozzles. Table II-1 shows the type of emission controls that are achieved during fueling of ORVR and non-ORVR vehicles with various nozzle types.

Table II-1: Emission Controls during Vehicle Fueling

Vehicle Type \ Nozzle Type	Conventional Nozzle	EVR Nozzle	ECO Nozzle
Non-ORVR	No Liquid or Vapor Controls	Liquid and Vapor Controls	Liquid Controls
ORVR	Vapor Controls	Liquid and Vapor Controls	Liquid and Vapor Controls

The proposed ECO Nozzle standards will only affect those air districts in California that have adopted rules specifically exempting ORVR fleet facilities from Phase II vapor recovery. Because the use of ECO Nozzles in California would be substantially limited to a small subset of GDF, the emission benefits of ECO Nozzles within California will also be small. However, for ORVR fleet facilities that are currently required to use EVR nozzles, the cost savings of ECO Nozzles over time would be significant. Additionally, certifying ECO Nozzles would allow real world assessment of a nozzle type that may become more widely used as California's vehicle fleet shifts increasingly toward ORVR vehicles over time.

In response to a rule promulgated by the U. S. EPA in 2012 which determined that the number of ORVR vehicles in use is widespread[4], many states are currently in the process of decommissioning their Stage II (Phase II in California) vapor recovery systems, and these states will be relying on ORVR as their primary control for vapor emissions associated with vehicle refueling. Because not all vehicles operating in those states are equipped with ORVR, removing Stage II controls will result in increased ROG emissions. Emission reductions achieved by installing ECO Nozzles could be used in those states to help make up for the increase in emissions that would occur as a result of removing existing Stage II vapor recovery systems. The approach of requiring use of a nozzle with improved liquid controls, such as ECO Nozzle, to make up for the emission increase associated with removing Stage II vapor recovery controls has been suggested by U.S. EPA in their 2012 document *"Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures[5]."*

Several other states have expressed significant interest in ECO Nozzles. Staff has polled air quality agencies nationwide and found that at least 17 states would consider the use of ECO Nozzles if California were to adopt standards and certify nozzles to meet those standards. Those 17 states have a combined population, and annual

[4] California will not decommission its Phase II system because emission reductions associated with Phase II is still significant and cannot readily be made up. Additionally, removing of Phase II will increase public exposure to benzene, a constituent of gasoline and a toxic air contaminant with no acceptable threshold level. More details can be found in a letter by James Goldstene which is available at http://www.arb.ca.gov/vapor/carb%20response%20useap%20orvr%20widespread%20use%20nprm.pdf .

[5] Document available at http://www.epa.gov/glo/pdfs/20120807guidance.pdf

gasoline throughput, that is approximately 3 times greater than California. If these states moved forward with ECO Nozzle requirements, the national emission reductions associated with the reduced spillage of gasoline would be significant.

B) AST Phase I (CP-206)

CP-206 is being amended to allow for the continued use of existing pre-EVR Phase I systems on certain AST. This is necessary because, in certain applications, the emission reductions associated with replacing existing functional pre-EVR Phase I systems with EVR systems on aboveground storage tanks are not urgently needed or cost effective.

In late 2013, representatives from several air districts approached ARB staff with concerns regarding the cost and benefits of Phase I EVR for AST. These district representatives indicated that the costs of Phase I EVR were higher than ARB staff had anticipated when the regulation was adopted in 2008. Further, they suggested that the emission reductions achieved by installing Phase I EVR systems would be small and unnecessary for a number of districts. These concerns came to light as AST owners in state ozone non-attainment areas began the process of complying with the July 1, 2014, deadline to install Phase I EVR as required under the existing regulations.

In response to the concerns voiced by district representatives, ARB staff conducted an analysis of the cost effectiveness of implementing Phase I EVR for AST. ARB staff concluded that many of the claims made by district representatives had merit. Staff determined that, in some situations, the costs associated with implementation of Phase I requirements is higher than originally anticipated. Staff also determined that Phase I EVR is not cost-effective for certain AST, particularly for tanks with low gasoline throughput which are located in rural areas.

Several districts expressed a desire to forego Phase I EVR for AST altogether within their jurisdiction. These districts intended to allow AST to continue operating with their current “pre-EVR” Phase I systems, which were certified by ARB be at least 90% efficient in controlling emissions from Phase I fuel transfers. During the course of discussions with district representatives, it became clear that regulatory action is required by ARB in order to allow for the continued use of pre-EVR Phase I systems after July 1, 2014, on any AST that is located in a non-attainment area. Statutes[6] specify that only vapor recovery equipment certified by ARB may be sold or installed in the state, and installed equipment may only continue in operation for a period of four years after the date when ARB revises its standards or revokes a certification. The Phase I EVR standard for AST became effective on July 1, 2010, starting the statutory four-year period of continued certification of pre-EVR systems for existing installations. In the absence of any action by ARB, all Phase I AST pre-EVR certifications would sunset on July 1, 2014 for AST located in state ozone non-attainment areas and any

[6] Health and Saf. Code §41954(f) and 41956.1(a)

existing AST that is subject to vapor recovery requirements must either upgrade to EVR or stop operating.

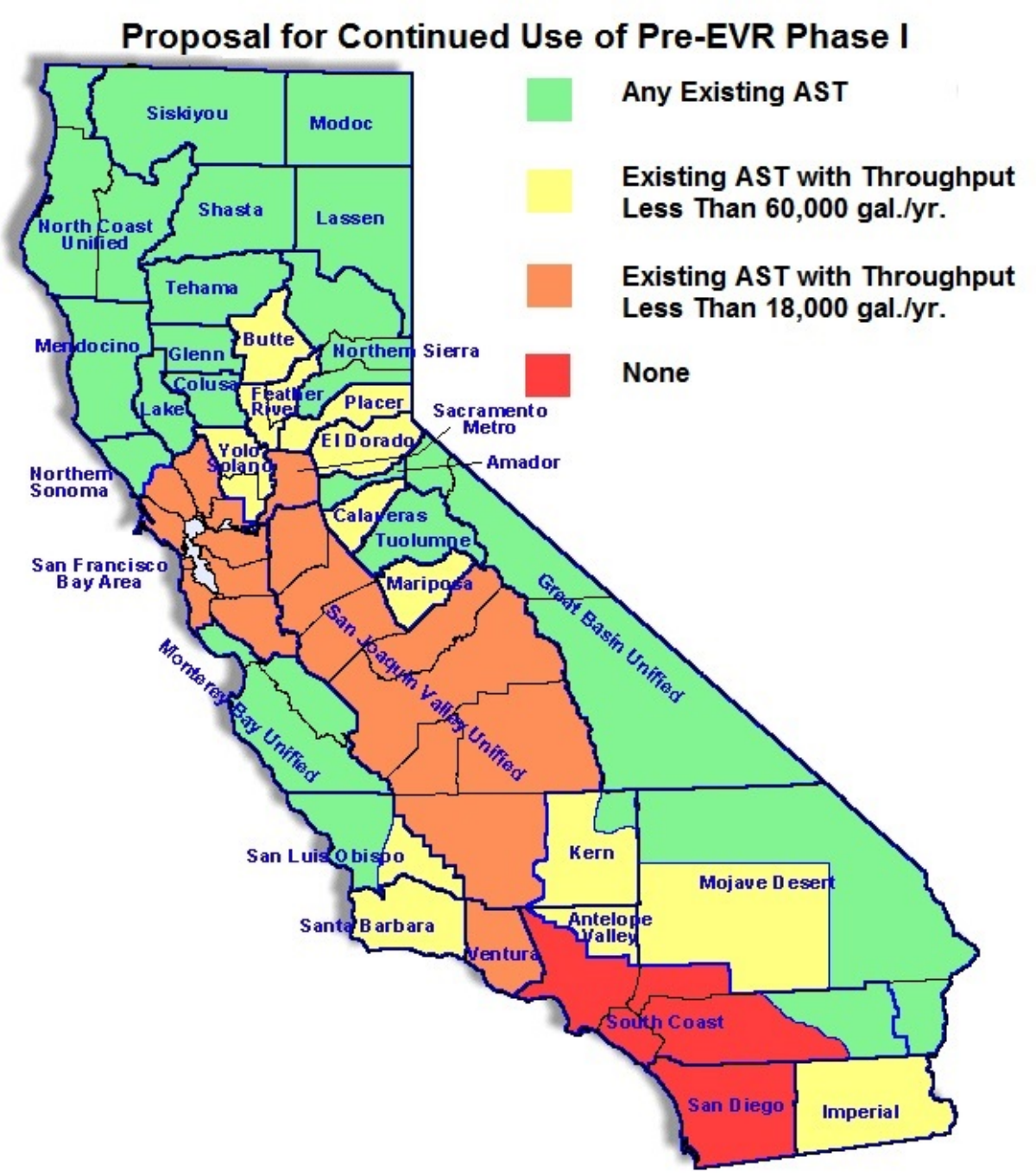
To allow for more cost-effective implementation of the AST EVR regulations, ARB staff proposes regulatory amendments that would exempt existing AST in federal ozone attainment areas from the need to comply with Standing Loss Control (SLC), Phase I EVR, and Phase II EVR requirements. The proposed amendments also allow for certain AST that are located in federal ozone non-attainment areas to continue operating with their current pre-EVR Phase I systems until such time as those systems wear out and require replacement. The purpose of these amendments is to improve the cost effectiveness of the current regulation while preserving its air quality benefits in areas of the state where emission reductions are needed most.
When deciding which AST should be required to upgrade their Phase I systems by the July 1, 2014 deadline, staff considered the ozone attainment status, federal non-attainment classification, and population density of the district in which the tank is located, as well as the annual throughput (amount of fuel) that is dispensed from the tank. Throughput is an important consideration from both an emissions and cost perspective because tanks with low throughput have lower emissions and are therefore less cost effective to control.

Under this proposal, AST that are located in densely populated areas that are classified as extreme for ozone non-attainment will all be required to install EVR controls by the current July 1, 2014 deadline. Requirements are relaxed in areas with lower population density and improved ozone air quality. Tanks located in areas where controls are still necessary, but not as critically needed, would only be required to install Phase I EVR by July 1, 2014 if they have an annual throughput of 18,000 gallons or more. Further relaxation of requirements is provided for rural areas and areas that are not in the severe ozone non-attainment categories, where Phase I EVR would only be required by July 1, 2014 on tanks with an annual throughput of 60,000 gallons or greater. Existing tanks located in areas that are in attainment with the federal 8-hour ozone standard are exempted from SLC and Phase I EVR requirements. Figure II-2 shows the statewide impacts of the proposal.

ARB staff was only asked to look into the issue of AST Phase I EVR costs and necessity in April 2013, so it was not possible to develop and promulgate a regulation addressing these problems prior to the current regulation's July 1, 2014 deadline requiring Phase I EVR to be installed. To ensure that owners/operators did not unnecessarily expend funds to upgrade AST that could possibly be deferred from the July 1, 2014 upgrade requirement by future rulemaking, ARB staff issued a Regulatory Advisory on February 28, 2014 (see Appendix J). This document requested air districts to not enforce the July 1, 2014 compliance deadline for those AST owners/operators who may not be required to comply under the terms laid out in the Regulatory Advisory. Districts generally honored ARB's request not to enforce the July 1, 2014 deadline for tanks that would likely be deferred under subsequent rulemaking, as described in the Regulatory Advisory. The proposed regulation defining which AST can continue using their current pre-EVR Phase I systems very closely matches the Regulatory Advisory,

so it will essentially codify the current state of Phase I EVR as it is being enforced by districts.

Figure II-2



C) Clarification of Certification Requirements (CP-201, CP-206, and CP-207)

Currently, CP-201 and CP-206 describe the requirements for vapor recovery equipment manufacturers seeking ARB certification of their systems or components. Manufacturers are required to provide detailed information about their systems/components, quality assurance procedures applied during the manufacture of those systems/components, and the support network that they will provide for GDF owners/operators who purchase their systems/components once certified. Staff has found that manufacturers do not consistently provide the required information in sufficient detail, making it very difficult to subsequently determine whether future production versions of certified equipment are being built to the same standards and specifications as the systems/components that were originally certified.

The proposed amendments address this problem by providing more detail on exactly what information the equipment manufacturer must provide when applying for certification of their systems/components. This will help manufacturers to better understand what is required of them in their application, and will promote consistency in how applications are reviewed and evaluated. It will also help staff to ensure that future production examples of certified vapor recovery equipment match the equipment that was originally certified, thus helping to protect GDF owners/operators from substandard equipment.

III SUMMARY OF RECOMMENDED PROPOSED ACTION

Staff recommends that the Board approve the proposal to amend Cal. Code Regs., tit. 17 §94010, §94011, and §94016 of title 17. The amendments would incorporate by reference the following documents:

- D-200, Definitions for Vapor Recovery Procedures
- Certification Procedure (CP-201) – Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities
- Certification Procedure (CP-206) – Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities using Aboveground Storage Tanks

Staff is also recommending that the Board approve the adoption of new Cal. Code Regs., tit. 17 §94017, which would incorporate by reference the following Certification Procedure:

- Certification Procedure (CP-207) – Certification Procedure for Enhanced Conventional (ECO) Nozzles and Low Permeation Hoses for Use at Gasoline Dispensing Facilities

By approving the proposed amendments, the Board would:

1. Adopt new performance standards and specifications for nozzles used at GDF that have been exempted by the air districts from Phase II vapor recovery, because they fuel a fleet of vehicles that process gasoline vapors on-board the vehicle using ORVR. Establishing standards and specifications for these nozzles, referred to as Enhanced Conventional Nozzles (ECO Nozzles), will promote consistency statewide and yield further reductions in emissions.

2. Amend aboveground storage tank requirements to allow for the continued use of existing pre-EVR Phase I systems on certain existing tanks. The result will be an improved cost-effectiveness of Phase I EVR while retaining emission reductions in areas where they are most needed.

3. Clarify existing requirements for manufacturers of vapor recovery equipment used on UST, AST, and ORVR fleet fueling facilities. These clarifications will better allow ARB staff to ensure that mass-produced vapor recovery equipment matches the performance standards and specifications of the equipment as evaluated during ARB certification.

IV ENVIRONMENTAL IMPACTS ANALYSIS

A) Introduction

This chapter provides an environmental analysis for the proposed regulatory amendments. Based on ARB's review, staff has determined that implementing the proposed amendments to the EVR regulations would not result in any potentially significant adverse impacts on the environment. This analysis provides the basis for reaching this conclusion. This section of the Staff Report also discusses environmental benefits expected from implementing the proposed regulation.

B) Environmental Review Process

ARB is the lead agency for the proposed regulatory amendments and has prepared this environmental analysis according to its regulatory program certified by the Secretary of the Natural Resources Agency (Cal. Code Regs., tit. 14 §15251(d); Cal. Code Regs., tit. 17, §§60000-60008). Public Resources Code §21080.5 of the California Environmental Quality Act (CEQA) exempts public agencies with certified regulatory programs from certain CEQA requirements, including but not limited to preparing environmental impact reports, negative declarations, and initial studies (Cal. Code Regs., tit. 14 §15250). ARB prepared this environmental analysis (EA) to assess the potential for significant adverse and beneficial environmental impacts associated with the proposed regulatory amendments, as required by ARB's certified regulatory program (Cal. Code Regs., tit. 17 §60005(b)). The resource areas from the CEQA Guidelines Environmental Checklist

were used as a framework for assessing the potential for significant impacts (Cal. Code Regs., tit. 17 §60005(b)).

If comments received during the public review period raise significant environmental issues, staff will summarize and respond to the comments in the Final Statement of Reasons (FSOR) prepared for the regulatory amendments. The written responses to environmental comments will be approved prior to final action on the proposed regulatory amendments (17 CCR 60007(a)). If the regulatory amendments are adopted, a Notice of Decision will be posted on ARB's website and filed with the Secretary of the Natural Resources Agency for public inspection (Cal. Code Regs., tit. 17 §60007(b)) after the completed rulemaking file is submitted to the Office of Administrative Law for review.

C) Prior Environmental Analysis

In March 2000, ARB approved EVR regulations for GDF. The EVR regulations established new standards for vapor recovery systems to reduce emissions during storage and transfer of gasoline at GDF. The EVR regulations were updated in 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2013, and 2014. Previous updates were necessary to improve test procedures for vapor recovery system certifications, and to modify performance standards or implementation dates to reflect issues associated with evolving technology. Previous environmental analyses for the EVR regulations and subsequent amendments identified no adverse environmental impacts.

D) Proposed Regulation

1) Description

The proposed amendments are described in detail in Section II and Section VIII of this Staff Report. Briefly, the proposed amendments include:

- New standards, specifications, and associated certification procedures, for nozzles used at fueling facilities that are exempt from Phase II because they serve fleets of vehicles equipped with ORVR systems.
- Provisions allowing for the continued use of existing pre-EVR Phase I systems on certain AST, based on annual gasoline throughput, population density, and regional ozone non-attainment classification.
- Administrative clarification of the existing application process for manufacturers seeking ARB certification for their vapor recovery equipment.

2) Methods of Compliance

Under the proposed ECO Nozzle regulations, nozzle manufacturers are expected to design nozzles meeting applicable standards and specifications. Those nozzles would be evaluated by ARB staff, and nozzles passing the evaluation would be

certified for use in California. Owners of ORVR fleet facilities, as defined in the regulation, would be required to equip their dispensers with a certified ECO Nozzle within four years from the date when the first ECO Nozzle is certified.

Under the proposed AST Phase I amendments, certain AST owners would be allowed to continue operating their tanks with their current pre-EVR Phase I systems until the end of the useful life of those systems, rather than being required to upgrade to an EVR Phase I system. Certain AST owners would still be required to install an EVR Phase I system by the current upgrade deadline, so they would experience no change from the current regulations.

E) Environmental Impacts

1) ECO Nozzles

Based on ARB's review of the proposed regulatory amendments, staff concludes that the proposed ECO Nozzle requirements would not result in any significant adverse impacts on the environment. Compliance with the proposed ECO Nozzle requirements does not involve or result in any adverse physical changes to the existing environment, such as new development, modifications to existing buildings or facilities, or new land use designations. It is not reasonably foreseeable that there will be any adverse impacts on aesthetics, air quality, agricultural and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gases, hazardous material, hydrology and water quality, land use planning, mineral resources, noise, population and housing, public services, recreation, or traffic and transportation because the proposed requirements would not require any action by regulated parties that could affect these resources.

Staff has determined that the proposed regulatory amendments will result in a beneficial impact to air quality by reducing the amount of gasoline that is currently spilled from conventional nozzles during fueling at ORVR fleet facilities. Staff estimates that the proposed ECO Nozzle requirements will result in a reduction of ROG emissions of approximately ten tons per year. Reducing ROG emissions is an integral part of California reaching its goal of attaining federal ozone standards.

2) AST

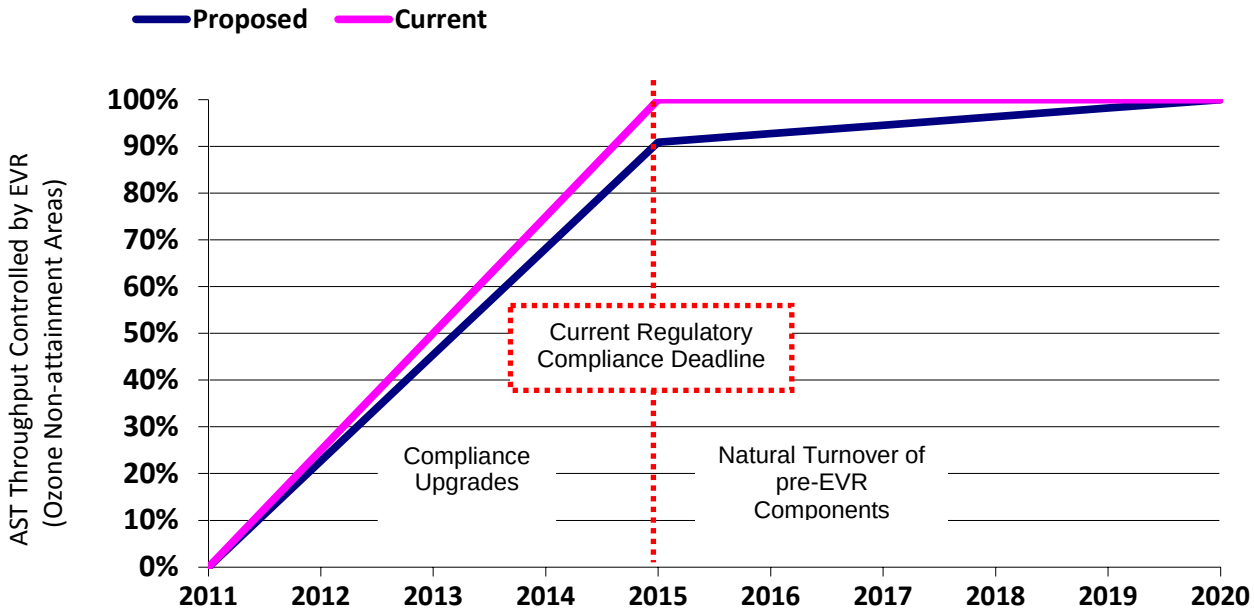
Based on ARB's review of the proposed regulation, staff concludes that the proposed AST requirements would not result in any significant adverse impacts on the environment. Compliance with the proposed AST requirements does not involve or result in any adverse physical changes to the existing environment, such as new development, modifications to existing buildings or facilities, or new land use designations. It is not reasonably foreseeable that there will be any adverse impacts on aesthetics, agricultural and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gases, hazardous material, hydrology and water quality, land use planning, mineral resources, noise, population and housing, public services,

recreation, or traffic and transportation because the proposed requirements would not require any action by regulated parties that could affect these resources.

a. Air Quality

The proposed regulation would allow certain aboveground storage tanks to continue operating with their currently installed pre-EVR Phase I systems until those systems wear out and require replacement, rather than replace those systems with an EVR Phase I system by the current deadline. As existing pre-EVR Phase I components wear out tank owners would still be required to replace them with currently certified Phase I EVR equipment. Through this replacement process, the emission reductions that were projected to be achieved under the current regulatory requirements (requiring all AST to upgrade to EVR by July 1, 2014) will still occur but at a later date through attrition and replacement of pre-EVR components. This is illustrated in Figure IV-1.

Figure IV-1 – Estimated Emission Reductions from Phase I EVR for AST Under the Current and Proposed Regulations



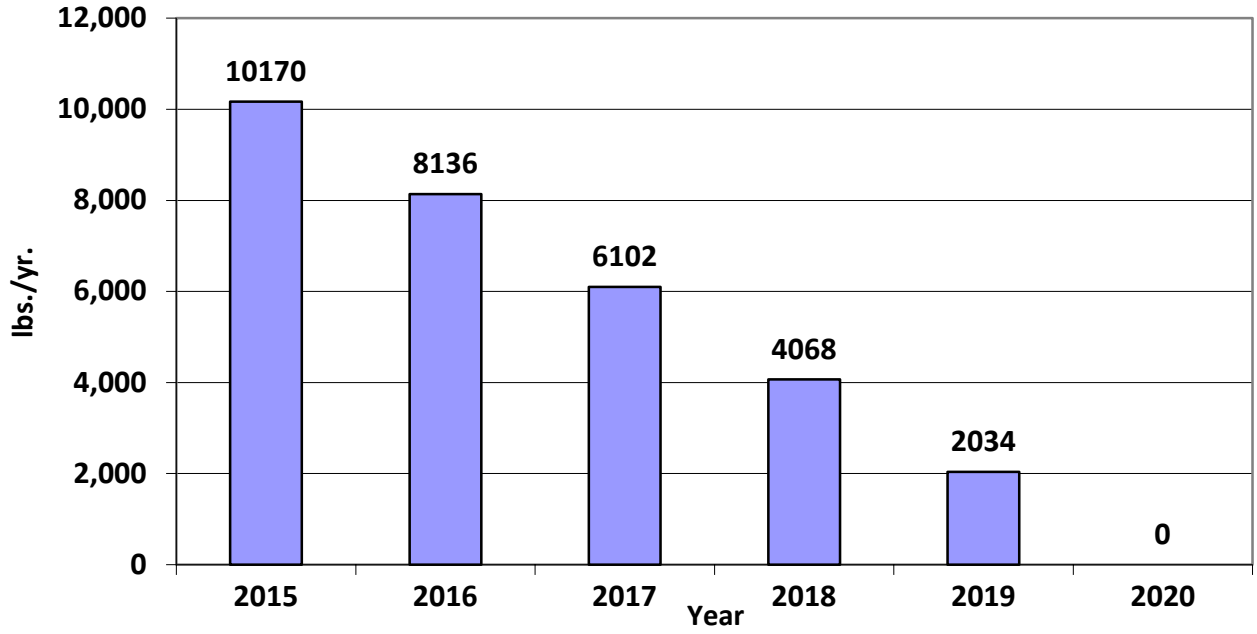
Staff estimates that 90.9% of all ROG emission reductions that could potentially be achieved through full statewide implementation of Phase I EVR on all AST, as required under current regulations, have already been achieved as of July 1, 2014 through installation of EVR on the 1,560 that are subject to the July 1, 2014 upgrade deadline under the proposed regulatory amendment. As shown in Figure IV-1, the remaining 9.1% of reductions that would be achieved under the current regulation will come over time as pre-EVR equipment on the 2,480 AST affected by the proposed regulatory amendment reaches the end of its useful life and is replaced with EVR equipment.

Continued use of pre-EVR Phase I systems is only allowed in areas that are in attainment with the federal ozone standards, and on low throughput tanks in rural non-attainment areas that are not classified as extreme non-attainment. This restriction preserves the air quality benefits of the AST Phase I EVR requirements in areas of the state where emissions reductions are needed most. Since the proposed amendments do not allow for the removal of current pre-EVR Phase I equipment, there would be no increase emissions compared to the vapor recovery controls that are currently in place.

Staff projects that installing Phase I EVR systems on the estimated 1,560 AST that remain required to do so under the proposed amendments to the AST regulations will reduce ROG emissions from existing (pre-EVR) levels by approximately 56 tons per year, or 0.15 tons per day statewide. When originally adopted in 2007, AST Phase I EVR was projected to reduce ROG emissions by 0.11 tons per day. Therefore, the AST Phase I EVR requirement is now estimated to provide greater ROG emission reductions than originally projected in 2007. The difference in projected reductions is largely attributable to improvements in staff's ability to estimate the statewide AST throughput based on actual AST throughput data provided by districts as discussed in Appendix H.

Staff estimates that, under the proposed amendments, approximately 2,084 low throughput AST would be allowed to continue operating with their current pre-EVR Phase I systems in place. Staff estimates that maintaining the current regulatory requirement to install Phase I EVR on those 2,084 AST systems by July 1, 2014 would reduce ROG emissions by an additional 5.5 tons per year, or 0.015 tons per day. This number will decrease over time as pre-EVR systems wear out and are replaced by EVR systems. Staff estimates that the average useful life of a Phase I system is 5 years. Accordingly, it is estimated that one fifth of the 2,084 affected AST would replace their pre-EVR Phase I system in each of the five years following the July 1, 2014 upgrade deadline. The additional emissions reductions forgone by allowing continued use of pre-EVR systems would decrease over the five-year replacement period, reaching zero in 2020 as shown in Figure IV-2.

Figure IV-2 - Emission Reductions Lost Under AST Proposal



Overall, ROG emissions will continue to decline compared to current existing conditions under the AST regulation as modified by the proposed amendments. Further, the regulation as modified by the amendments will still achieve greater emission reductions than originally projected in 2007. This is because the additional 0.15 tons per day of reductions projected to be gained statewide from the 1,560 AST that would be required to install Phase I EVR under the proposed amendments, exceeds the reductions from full implementation of the regulation as originally projected in 2007. As noted above, once the remaining non-EVR Phase I systems reach the end of their useful lives, they must be replaced by certified EVR systems. Therefore, staff concludes the proposed amendments do not result in any significant adverse impacts to air quality. Appendix H includes detailed information on the estimated emissions impacts of the AST proposal.

Staff has determined that these additional reductions that would be achieved by the current regulations as compared to this proposal are not cost effective at this time because the savings achieved by delaying upgrades on these tanks requirements would be approximately $106 per pound of additional emissions allowed. Refer to Appendix H for details on the savings associated with the proposed amendments for AST.

No discussion of alternatives or mitigation measures to address significant adverse environmental impacts is necessary because no significant adverse environmental impacts would result from implementation of the proposed regulatory amendments.

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. Since the proposed ECO Nozzle and AST EVR standards would apply to all regions of the State, and would serve to reduce spillage and vapor releases, and thus minimize ROG emissions, all communities, including environmental justice communities, will benefit from the air quality benefits associated with this proposal. Alternatives to the proposed recommendations, such as not implementing the proposal, would affect all communities throughout the State.

VI ECONOMIC IMPACT ANALYSIS/ASSESSMENT

Staff expects the proposed regulation will result in a statewide savings of approximately $3.6 million[7] over the first five years of implementation. Staff also expects that the proposed regulation will result in a net statewide reduction of approximately 38,000 pounds[8] of ROG emissions over the first five years of implementation. This equals an estimated cost effectiveness of approximately $96 savings for each pound of ROG emissions reduced. It should be noted that the proposed regulation consists of two separate elements (ECO Nozzles and AST Phase I) that have independent costs and emissions impacts. Those impacts are discussed separately, in detail, in Appendix G and H.

The proposed regulation is not expected to impose an unreasonable cost burden on retail businesses located in California. A discussion of the expected cost of compliance with the proposed amendments is included below. Additional details and a description of the sources used by Staff to develop all cost estimates can be found in Appendix G

[7] Approximately $64,000 of this savings is from ECO Nozzles. The remaining savings is from the AST proposal.
[8] Approximately 71,400 pounds of ROG emissions reductions will be achieved by ECO Nozzles while approximately 33,450 pounds of additional ROG emissions would be allowed under the AST proposal.

for ECO Nozzles and Appendix H for AST Phase I. Form 399, summarizing the total costs of the proposal, will be made available in the final rulemaking record.

A) Compliance Costs

ECO Nozzle

When considering the cost of complying with the proposed ECO Nozzle standard, it is important to consider what type of equipment is currently being used at the facility. Facilities that are currently required by their air district's rules to install EVR nozzles and hoses will experience a cost savings when converting to a certified conventional nozzle. The cost of each component that will be replaced is detailed in Appendix G, with results summarized in Table VI-1. The net savings for an ORVR fleet facility that is currently using EVR equipment is expected to be $305 per fueling point.

Table VI-1 – Estimated Compliance Cost (per fueling point)
For a Facility Currently Using EVR Equipment (2014$)

Component	Phase II EVR Cost ($)	ECO Nozzle Cost ($)	Difference ($)
Adaptor	N/A[9]	20	20
Whip Hose[10]	70	40	-30
Breakaway	120	60	-60
Curb Hose[11]	190	115	-75
Swivel	N/A[12]	30	30
Nozzle	440	250	-190
Total	**$820**	**$515**	**$-305**

Negative (-) numbers indicate a savings as compared to replacing existing EVR components with a new EVR components

Facilities that are currently allowed by their air district rules to operate with uncertified conventional nozzles will experience a cost increase when upgrading to an ECO Nozzle. The cost of each component that will be replaced is detailed in Appendix G, with results summarized in Table VI-2. For a facility currently using conventional nozzles, the cost of ECO Nozzle equipment is expected to be about $185 higher than the cost of their current equipment.

[9] Component is not needed for this hanging hardware configuration
[10] Whip Hose costs for both EVR and ECO are for low perm hose
[11] Curb Hose costs for both EVR and ECO are for low perm hose
[12] Component is integrated into the EVR hose assembly

Table VI-2 – Estimated Compliance Cost (per fueling point) for a Facility Currently Using Uncertified Conventional Equipment (2014$)

Component	Uncertified Conventional Cost ($)	ECO Nozzle Cost ($)	Difference ($)
Adaptor	N/A[13]	N/A[11]	N/A
Whip Hose	40	40[14]	0
Breakaway	60	60	0
Curb Hose	115	115[15]	0
Swivel	30	30	0
Nozzle	65	250	185
Total	**$310**	**$495**	**$185**

Based on data from air districts, staff estimates that this rule will lead over time to the replacement of 435 EVR nozzles and 531 uncertified conventional nozzles statewide. Based on an estimated average life of four years for hanging hardware, staff believes that one fourth (25 percent) of nozzles at ORVR fleet fueling facilities will be replaced each year. Staff believes that nozzle replacement will begin in 2015 when the first ECO Nozzle is expected to be certified. Full implementation of ECO Nozzles should occur by 2019. Tables VI-3 and VI-4 show the expected costs and savings associated with installing ECO Nozzles at sites that are currently equipped with conventional and EVR nozzles respectively.

Table VI-3 – Cost of Converting from Conventional to ECO Nozzles (2014$)

Year	# ECO Nozzles Sold annually (total of 531; 132.75/year)	$185 unit cost amortized over 4-year life of nozzle, 5-year life of regulation	ECO Nozzles Providing Benefits in any given year	Annual Cost of Regulatory Compliance	Present Value of Regulatory Compliance Cost
2015	132.75	$52.17	132.75	$6,926	$6,926
2016	132.75	$52.17	265.5	$13,852	$13,192
2017	132.75	$52.17	398.25	$20,778	$18,846
2018	132.75	$52.17	531	$27,703	$23,931
2019	132.75	$52.17	531	$27,703	$22,792
				Total	**$85,687**

[13] Component is not needed for this hanging hardware configuration
[14] Whip Hose cost for ECO is for low perm hose
[15] Curb Hose cost for ECO is for low perm hose

Table VI-4 – Savings of Converting from EVR to ECO Nozzles (2014$)

Year	# ECO Nozzles Sold annually (total of 435; 108.75/year)	$305 cost savings amortized over 4-year life of hose	ECO Nozzles Installed in any given year	Annual Cost (Savings) of Regulatory Compliance	Present Value of Regulatory Compliance Cost (savings)
2015	108.75	-$86.01	108.75	-$9,354	-$9,354
2016	108.75	-$86.01	217.5	-$18,708	-$17,817
2017	108.75	-$86.01	326.25	-$28,062	-$25,453
2018	108.75	-$86.01	435	-$37,416	-$32,321
2019	108.75	-$86.01	435	-$37,416	-$30,782
				Total	**-$115,728**

In addition to the cost associated with upgrading from uncertified conventional nozzles to an ECO Nozzle, it is also important consider the value of fuel that will be saved over the life of the ECO Nozzle as compared to the conventional nozzles that are being replaced. Some of the fuel that would drip or spill from uncertified conventional nozzles will now be successfully transferred to the fleet of vehicles that are served by the affected facilities. Staff estimates that, by reducing nozzle spillage from 0.61 lbs./1000 gallons to 0.12 lbs./1000 gallons as proposed, 20,397 pounds of fuel would be saved statewide annually upon full implementation of the ECO Nozzle regulation statewide. Assuming each gallon of gas weighs 6.2 pounds and has a market value of $3.37 per gallon, which would be an annual statewide savings of $11,087 upon full implementation of ECO Nozzles statewide. This savings would occur incrementally over 4 years as existing nozzles are replaced with ECO Nozzles, as shown in Table VI-5.

Table VI-5 – Value of Fuel Saved

Year	Sites Experiencing Benefits from ECO Nozzle in any given year	Lbs. of ROG Emissions Reduced	Gallons of Fuel Saved Per Year	Annual Fuel Savings @ $3.37/gallon	Present Value of Regulatory Fuel savings (discounted @ 5%)
2015	44.25	5,099	822.5	$-2,772	$-2,772
2016	88.5	10,198	1,645	$-5,544	$-5,280
2017	132.75	15,298	2,468	$-8,315	$-7,542
2018	177	20,397	3,290	$-11,087	$-9,577
2019	177	20,397	3,290	$-11,087	$-9,122
Total		**71,389**			**$-34,293**

By combining the annual statewide hanging hardware replacement costs and fuel savings related to upgrading to ECO Nozzles, staff determined the net annual statewide cost for the proposed ECO Nozzle regulation to be approximately $-64,334 over the first five years of the requirement.

AST Phase I

The proposal results in a savings because it reduces the number of facilities that are required under current regulations to install a Phase I EVR system by July 1, 2014. Staff estimates that 2,084 facilities will be relieved of their current requirement to install a Phase I EVR system by July 1, 2014. These facilities will instead upgrade to Phase I EVR as their pre-EVR components fail and require replacement. Staff estimates that the cost of installing a Phase I EVR system is approximately $4,454 on average.

The proposal does result in a very small loss of emissions benefits as compared to full implementation of the current regulation, since it allows for the continued use of pre-EVR equipment that is not as efficient as EVR equipment that would be required under current regulations. Under the proposal all current pre-EVR equipment must be replaced with EVR Phase I equipment when it wears out, so the emission reductions that would otherwise be achieved with a required upgrade on July 1, 2014 will occur at a later date through attrition and replacement of pre-EVR components. For the purposes of this analysis, it is assumed that pre-EVR components have a useful life of 5 years.

Table VI-6 shows what the estimated Phase I emissions from AST in California's non-attainment areas would be under the current and proposed regulations.

Table VI-6 – Comparison of Impacts of Current and Proposed AST Phase I EVR Requirements

Category	Current Regulations	Proposed Regulations
Total Number of Tanks	3,643	3,643
Number of Tanks Needing EVR by July 1, 2014	3,643	1,560
Tanks Maintaining Pre-EVR	0	2,084
Annual Throughput Controlled via EVR (gallons/year)	182,200,000	165,600,000
Annual Throughput Controlled via pre-EVR (gallons/year)	0	16,600,000
Emissions Reduced per (lbs./yr.)	122,440	111,290

Staff has determined that the proposed regulation will result in 11,150 pounds per year (0.015 tons per day) fewer emission reductions in 2014-15 than would be achieved under full implementation of the current regulation. This amount will decrease over the following years, reaching zero after five years as pre-EVR Phase I equipment wears out and is replaced with EVR equipment. The total loss of emissions reductions that would be allowed under the proposal, as compared to full implementation of the current Phase I EVR regulation, are estimated to be 33,450 pounds statewide over the five years that existing pre-EVR systems are expected to remain in use.

Staff finds that the statewide saving associated with the proposed AST Phase I amendment would be about $3,558,359 net of forgone fuel savings. The total saving

would be shared by the 2,084 AST owners that would be allowed to continue operating with their current pre-EVR Phase I systems beyond July 1, 2014, resulting in an average savings of approximately $1,707 per affected AST.

Savings are achieved by the proposed regulations through two mechanisms. First, the time value of money over the deferred compliance period results in a statewide savings of approximately $885,055 in 2014 dollars. Second, the avoidance of capital losses that would occur by requiring replacement of pre-EVR equipment that still has some useful service life results in a savings of approximately $2,691,486 in 2014 dollars. Appendix H describes the assumptions and methodology used to calculate these savings.

B) Cost Effectiveness

When the entire proposed regulation is considered, including both the ECO Nozzle and AST elements, estimated regulatory cost effectiveness is a savings of $96 for each pound of ROG emissions reduced. Combined cost effectiveness of the proposed regulation is calculated by dividing total annual compliance cost, (net of fuel savings/loss), by average annual emission reductions.

Cost Effectiveness = $-726,531 per year / 7,588 pounds per year =

$96 saved per pound of emissions reductions achieved

ECO Nozzles

The cost effectiveness of the proposed ECO Nozzle regulation is calculated by dividing the total estimated cost of the regulation by the total emissions reductions that are expected to be achieved over the first 5 years of the regulation. As calculated above, the estimated total statewide cost of the proposed regulation over the first 5 years of the regulation is $-64,334, which is equal to an annualized average of $-14,859 per year. Estimated emissions reductions resulting for the proposed regulation average 14,278 pounds per year over the same 5 year period. Dividing annualized savings by the average annual pounds of emission reduced by ECO nozzles over during the same 5 year period yields a cost effectiveness for the proposed ECO Nozzle regulation of $1.04 saved per pound of ROG emissions reduced.

Cost Effectiveness = $-14,859 per year / 14,278 pounds per year =

$1.04 saved per pound of emissions reductions achieved

AST Phase I

Because the proposed AST Phase I amendment will actually result in a very slight loss of potential emission reductions as compared to the controls required under the current regulation, it is not possible to define cost effectiveness in terms of dollars per pound of

emissions reduced. Instead, staff has analyzed the cost effectiveness of the proposed AST Phase I EVR regulation in terms of dollars saved per pound of potential emissions reductions that would be achieved as compared to full implementation of the current Phase I EVR AST regulation. The cost effectiveness of the proposed regulation is approximately $106 saved per pound of potential emission reductions lost. This is calculated by dividing the total savings provided by the proposed regulation by the total amount of potential emission reductions lost under the proposed regulation.

Cost Effectiveness = $3,558,359/ 33,450 pounds =

$106 saved per pound of emissions reductions forgone

Note that this cost effectiveness analysis reflects the savings and lost potential emission reductions associated with this proposed regulatory action.

C) Fiscal Impacts

Staff does not expect the proposed regulation to impose any significant cost on implementing State government agencies.

1) Impacts on California Businesses

Government Code §11346.3 requires State agencies to assess the potential for adverse economic impacts on California business enterprises and individuals when proposing to adopt or amend any administrative rule. The assessment shall include a consideration of the impact of the proposed regulation on California jobs, business expansion, elimination or creation, and the ability of California business to compete.

Businesses potentially affected by the proposed regulation fall into two categories:

First, owners of fueling facilities that serve a fleet of ORVR vehicles may be subject to the proposed ECO Nozzle standards. Based on data provided by air districts, approximately 45 percent of these ORVR fleet facilities are private businesses. Most of these businesses are car rental companies or vehicle dealerships. Depending on whether or not such facilities are required to install EVR nozzles, some of these businesses will experience a cost savings as they will be allowed to replace their existing EVR nozzles and hoses with less expensive ECO Nozzle equipment. Others will be subject to an increased cost as they replace their existing conventional nozzles with a more expensive ECO Nozzle. In either case, the cost or savings is relatively small because the number of affected facilities is small. Staff has determined that there are no significant economic impacts to business within California due to the proposed performance standard or implementation schedule.

Second, owners of fueling facilities with AST may be affected by the proposed regulation allowing for the continued use of pre-EVR Phase I systems. Staff estimates that approximately 56% of all AST in California are owned by private

businesses. Table VI-7 shows an estimated breakdown of the percentage of AST that are owned by various business sectors. To develop this estimate, staff reviewed the business names of AST operating permit holders that was provided in the AST population data submitted by districts. The proposed amendments allowing for the continued use of pre-EVR Phase I systems will result in a savings for affected AST owners, so there is no potential for adverse fiscal impacts for those businesses.

Table VI-7 – Breakdown of Private Businesses Owning AST, by Industry

Business Type	% of AST		Business Type	% of AST
Leisure, Resort, Golf	21.8%		Fuels and Energy	3.9%
Auto Sales / Rental	10.7%		Agriculture	3%
Construction	9.8%		Aviation Services	3%
Equipment Rental	9.6%		Cemeteries	2.6%
Marina / Boating	6.6%		Education	1.7%
Trucking / Transport	4.9%		Misc. / Unknown	19.7%

2) Costs to State and Local Agencies

Government Code §11346.5 requires State agencies to estimate the cost or savings to any State agency, local agency, or school district in accordance with instructions adopted by the Department of Finance. The estimate shall include any non-discretionary cost or savings to local agencies and the cost or savings in federal funding to the State.

Staff analyzed AST population data provided by air districts and determined that approximately 44% of aboveground tanks are owned by government entities. A breakdown of government-owned AST in California is provided in Table VI-8. The proposed amendments allowing for the continued use of pre-EVR Phase I systems on certain AST will result in a savings for affected facilities, so there is no potential for adverse fiscal impacts for those state or local agencies.

Table VI-8 –Entities Owning AST

Entity	Percentage of AST Owned	# of AST Owned
Federal Govt.	2.2%	80
State Govt.	11.6%	423
Local Govt.	30.3%	1,104
Private Businesses	56.0%	2,040
TOTAL	**100%**	**3,643**

State and local government agencies own an estimated 41.9% of AST statewide, so it is expected that they would receive approximately 41.9% of the overall cost savings from the proposed AST Phase I amendments. Staff estimates the statewide saving associated with the proposed AST Phase I amendments would be about $3,558,359, so state and local governments are expected to save approximately $1,490,952. ($412,769 for state governments and $1,078,183 for local governments)

Based on data provided by air districts, approximately 55 percent of ORVR fleet facilities are owned by state or local government entities. Depending whether or not EVR nozzles are required, some government entities will experience a cost savings as they will be allowed to replace their existing EVR nozzles and hoses with less expensive ECO Nozzle equipment. Others will be subject to an increased cost as they replace their existing conventional nozzles with a more expensive certified ECO Nozzle. In either case, the cost or savings is relatively small because the number of affected facilities is small. Staff has determined that there are no significant costs to any State agency, local agency, or school district imposed by the proposed regulation. Staff does not expect an adverse impact on other State or local agencies.

3) Economic Impacts of Alternatives

Health and Saf. Code §57005 requires ARB to perform an economic impact analysis of submitted alternatives to a proposed regulation before adopting any major rule. A major rule is defined as a rule that will have a potential cost to California business enterprises in an amount exceeding ten million dollars in any single year. The proposed regulation does not exceed this threshold.

4) Impact on Small Businesses

It is assumed that no small businesses are impacted by the ECO Nozzle proposal, since only larger businesses would generally own a large enough fleet of vehicles to justify the expense of operating their own AST for fueling those vehicles. Some small businesses may own AST that are subject to the proposed AST Phase I amendment, but staff is not able to determine exactly how many businesses in these sectors qualify as small businesses based on defining factors such as annual revenue or number of employees. In general, staff assumes that larger businesses have a greater need to own their own fuel tanks, so the percentage of small businesses owning tanks is likely to be relatively low. For purposes of analysis, staff assumes that 20% of all privately owned AST are owned by small businesses. An estimated 2,040 AST in California are privately owned, so approximately 408 are expected to be owned by small businesses. The proposed regulation allows approximately 57.2% of all AST to continue operating with their current pre-EVR systems in place, so staff expects approximately 233 AST owned by small businesses would be affected by the proposal. These businesses are expected to save an average of approximately $1,716 each, or $399,828 total.

5) Health and Welfare of California Residents, Worker Safety, and the State's Environment

Government Code §11346.3(b)(1) requires state agencies to assess the benefits of proposed regulations to the health and welfare of California residents, worker safety, and the state's environment. Staff expects the proposed regulation will result in a net statewide reduction of approximately 38,000 pounds of ROG emissions over the first five years of implementation, while saving approximately $3.6 million. ROG emissions can lead to increased health risk through two primary mechanisms: First,

ROG emission lead to the formation of ground level ozone, which can cause adverse health effects, particularly in children and individuals with respiratory conditions. Second, gasoline vapors contain benzene, which is a toxic air contaminant and known carcinogen. Reducing ROG emissions will benefit the health and welfare of California residents by reducing ambient ground level ozone and benzene exposure. Although the regulation will not directly impact worker safety, workers will experience indirect health impacts from reduced ambient ground level ozone and benzene exposure. Reducing ROG emissions also helps to generally improve air quality by reducing smog, which is a benefit for the state's environment.

D) Major Regulation

Health and Safety Code section 57005 requires ARB to perform an economic impact analysis of submitted alternatives to the proposed regulation before adopting any major regulation. A major regulation is defined as a regulation that will have a potential cost to California business enterprises in an amount exceeding ten million dollars in any single year. ARB staff has determined that the amendments to the proposed regulations are not a major regulation as defined above.

VII ALTERNATIVES CONSIDERED

In accordance with Government Code §11346.5 (a)(13), ARB must determine that no reasonable alternative the Board considered or that has otherwise been identified and brought to the Board's attention would be more effective in carrying out the purpose of the proposed regulation or would be as effective and less burdensome to affected private persons than the proposed regulation. This section of the staff report discusses alternatives to the proposed regulation.

A) Enhanced Conventional (ECO) Nozzles (CP-207)

Alternative 1: Do Not Adopt Standards for Convenional Nozzles

Staff considered not adopting any standards for non-vapor recovery (conventional) nozzles. This would have permitted ORVR fleet fueling facilities in certain air districts to continue using less expensive conventional nozzles that result in more dripping and spilling of gasoline. While less costly, this alternative was rejected because it is not as effective as the proposed rule in achieving emission reductions from ORVR fleet fueling facilities.

Alternative 2: Adopt a Less Stringent Spillage Standard for ECO Nozzles

Staff considered adopting a less stringent spillage standard for ECO nozzles (similar to the standard already in place for EVR nozzles). This less stringent EVR standard, which would reduce spillage when compared to uncertified conventional nozzles, is well established. However, nozzle makers indicated that ECO nozzles manufactured to

comply with the proposed regulation's more stringent spillage standard would cost the same as nozzles manufactured to comply with the less stringent standard. This equally-costly alternative was rejected because it would be less effective at reducing emissions from ORVR fleet fueling facilities with conventional nozzles.

Alternative 3: Omit the Requirement for an Insertion Interlock

Staff considered omitting the requirement for an insertion interlock from proposed ECO Nozzle standards. An insertion interlock is required in EVR nozzles because it helps ensure compression of the vapor boot against the vehicle fill pipe for efficient collection of vapors. Since no vapors would be collected by ECO Nozzles used at ORVR fleet facilities, some may question the inclusion of an insertion interlock. The proposed regulation requires an insertion interlock because manufacturers say an insertion interlock is necessary to meet the spitting standard. An insertion interlock is also a useful safety device that prevents dispensing of gasoline when the trigger is depressed and insertion interlock is not activated. Staff rejected this alternative because it would not be equally as effective in achieving the spillage reduction goals of the regulation.

B) AST Phase I (CP-206)

Alternative 1: Make No Changes

Staff considered making no amendments to CP-206 and continuing to operate under the regulations as currently written, which would have required installation of Phase I EVR systems on all AST by July 1, 2014. Staff rejected this alternative because it would impose significantly greater compliance cost on regulated entities while achieving only slight emission reductions relative to the proposed amendments.

Alternative 2: Raise or Lower Throughput Criteria Continued Use of pre-EVR Phase I

The proposed amendments would postpone EVR Phase 1 compliance for AST facilities depending on their location and annual volume of fuel dispensed. Raising the volume threshold (throughput) would permit more facilities to postpone compliance, increase emissions and lower compliance costs. Lowering the threshold would produce the opposite effects.

Staff analysis of data provided by districts indicates that the proposed fuel dispensing volume threshold would postpone Phase I EVR compliance for 52% of AST in non-attainment areas while achieving approximately 90.9% of the reductions that would be achieved if Phase I EVR were required on all AST. Staff rejected this alternative because it believes the thresholds in the proposed amendment represent the best compromise between cost effectiveness and the need for emission reductions.

C) Clarification of Certification Requirements (CP-201, CP-206, and CP-207)

Alternative 1: Make No Changes

Staff considered making no clarifying amendments to existing CP-201 and CP-206, and proposed CP-207. This alternative would maintain the status quo with regards to ARB's process of evaluating new vapor recovery systems and components. As discussed in Section II of this report, current certification procedures could be improved to make the

evaluation process more consistent and better ensure that certified equipment in the field meets performance standards and specifications. By not making the proposed clarifying amendments, staff would miss an opportunity to improve current procedures and performance without incurring any costs. Staff rejected this alternative because it would be less effective at achieving program goals.

VIII SUMMARY AND RATIONALE FOR EACH REGULATORY PROVISION

A. Introduction

This section of the staff report consists of detailed discussions for each of the proposed amendments that are proposed in this regulatory package:

- Adopting a new certification procedure for ECO Nozzles used to fuel ORVR vehicles (CP-207), and
- Allowing for the continued use of pre-EVR Phase I systems on certain AST (CP-206)
- Revising certification procedures pertaining to vapor recovery equipment used at UST and AST (D-200, CP-201, and CP-206),

B. Enhanced Conventional (ECO) Nozzles (CP-207)

The following is a summary of the specific regulatory amendments that are proposed for a new certification procedure: CP-207 *Certification Procedure for Enhanced Conventional Nozzles and Low Permeation Conventional Hoses for Use at Gasoline Dispensing Facilities.* The full proposed regulatory language of CP-207 is shown in Appendix E.

It is expected that air districts will apply CP-207 to facilities that were subject to vapor recovery, but have been exempted from Phase II vapor recovery by air district rules because the facility serves a fleet of ORVR vehicles. Based on communications with air districts, staff is aware of 5 air districts that currently provide exemptions from Phase II vapor recovery for non-retail fueling facilities that serve a fleet of ORVR vehicles: South Coast Air Quality Management District, San Joaquin Valley Air Pollution Control District, Bay Area Air Quality Management District, Sacramento Metropolitan Air Quality Management District, and San Diego County Air Pollution Control District. Staff estimates that there are currently 322 facilities that would be subject to these new standards and specifications. It is expected that this number will increase over time as older vehicles (without ORVR) are removed from service within vehicle fleets, making more fleet facilities eligible for Phase II EVR exemptions.

Staff understands that districts have gone about exempting ORVR fleet fueling facilities from Phase II EVR requirements using different approaches. Some air districts may have authority under their existing rules to require ORVR fleet fueling facilities to comply with CP-207, while other districts may need to amend their current rules to be consistent

with CP-207 once it is adopted. Although ECO Nozzles are designed specifically for fueling ORVR-equipped vehicles, districts may consider adopting rules requiring the use of ECO Nozzles at other types of fueling facilities within their jurisdiction that are not otherwise required to have a Phase II vapor recovery system.

For simplicity and consistency, the certification process and performance standards specified in CP-207 are based on existing CP-201, which apply to EVR systems for UST. Staff intends that the certification process for ECO Nozzles should be essentially the same as the current process used for EVR systems. Table VIII-3 lists the sections of CP-207 that are substantially the same as existing sections within CP-201. Changes in those sections are limited to substituting the term “Phase I EVR” or “Phase II EVR” with “ECO Nozzle” and, in some cases, amending language slightly to address the fact that CP-207 focuses on certifying only two components (ECO Nozzles and low permeation hoses) rather than a complete vapor recovery system. Rationale for the sections of CP-207 that are substantially the same as CP-201 is not provided within this staff report. That information can be found within the staff reports that were prepared for the adoption and subsequent amendment of CP-201, which are available online at http://www.arb.ca.gov/regact/regact.htm.

Table VIII-3 – CP-207 Sections that are Substantially the Same as CP-201

CP-207 Section	CP-201 Section	Comments
1.2	1.1	
1.3	1.2	
2	2	Includes all subsections
4	10	Includes all subsections
5	11	Description of ISD systems found in CP-201 is not applicable and has been omitted from CP-207
5.1	11.1	Only the applicable subsections of CP-201 are included in CP-207
5.2	11.3	Only the applicable subsections of CP-201 are included in CP-207
5.3	11.4	
5.4	11.5	
5.5	11.6	
5.6	11.7	
5.7	11.8	Vapor recovery piping configuration found in CP-201 is not applicable and has been omitted from CP-207
5.8	11.11	
5.9	11.12	Requirements for various components not applicable to CP-207 have been omitted
6	12	
6.1 to 6.5	12.1 to 12.5	
6.6	12.7	
7	13	- Language regarding Phase I system performance during Phase II system testing does not apply to CP-207 and has been omitted - CP-207 specifies a minimum of 4 nozzles must be tested

CP-207 Section	CP-201 Section	Comments
7.1	13.1	-
7.1.1 to 7.1.5	13.1.2 to 13.1.6	
7.2	13.2	
7.3.2 to 7.3.3	13.3.2 to 13.3.3	
7.3.4	13.3.5	
7.4	13.4	Includes all subsections
8	14	Includes all subsections
9	15	Includes all subsections
10	16	
10.1	16.1	
10.2	16.3	
10.3	16.4	
10.4	16.5	Includes all subsections
10.5	16.6	Includes all subsections
10.6	16.7	Includes all subsections
10.8	16.8	
11	17	Includes all subsections
12	18	
12.1	18.1	
12.2	18.2	CP-207 involves certification of hoses and nozzles only, so provisions for component transfers have been omitted from CP-207
12.2.1	18.2.1	
12.2.2	18.2.3	
12.2.3	18.2.4	
12.2.4	18.2.5	
12.3 to 12.5	18.3 to 18.5	
13	19	Includes all subsections
14	20	Includes all subsections

The rationale for all sections of CP-207 that are not listed in Table VIII-3 is provided below:

Section 1 provides a general description of the purpose of CP-207 and the intended use of ECO Nozzles. It is based on section 1 of CP-201.

Section1.1 defines the applicability of ECO Nozzles and specifies that new GDF will be required to use ECO Nozzles and low permeation conventional hoses on the date that they are first certified. Existing GDF will have four years from that date to replace their existing equipment with ECO Nozzles and low permeation conventional hoses. This timeline is consistent with Health and Saf. Code §41956.1(a), which allows for the continued use of existing equipment for a period of four years after adoption of new or amended vapor recovery performance standards. The key term within section 1.1 is "ORVR Fleet Facility" which is defined in D-200. Per that definition, ECO Nozzles will be required only at facilities that have been exempted from Phase II requirements by their air district as described in the February 28, 2008 letter[16] from ARB to Air Pollution Control Officers.

Section 3 contains the performance standards and specification that ECO Nozzles and low permeation conventional hoses will be subject to. Standards and specification are listed in Table 3.1 for reference, and detailed in sections 3.1 through 3.8. The standards and specifications included in CP-207, with the exception of the spillage standard, are identical to standards and specifications currently required in CP-201 and CP-206 for EVR nozzles. The proposed spillage standard is 0.12 pounds per 1000 gallons dispensed, which is half of the current EVR standard. Staff chose these standards and specifications because our experience with EVR nozzles has shown that they are technically feasible and are effective at reducing emissions as compared to conventional nozzles that are not subject to these standards. Adopting these standards and specifications will ensure that certified ECO Nozzles in California achieve the same or better level of control for liquid releases (spills, drips, spitting, and liquid retention) that EVR nozzles are currently achieving.

To address the fact that there are typically far fewer fueling points at a non-retail ORVR fleet fueling facility than there are at a typical retail fueling facility, staff has reduced the number of nozzles required for certification from ten to four. Requiring certification testing of ECO Nozzles to be conducted at a facility with at least ten fueling points, as is done with EVR nozzles, would be completely impractical. However, testing multiple nozzles during certification is desirable since it provides an increased likelihood of identifying any design or performance shortcomings. As a compromise, staff proposes that the ORVR fleet facility used for certification testing of ECO Nozzles must have at least four fueling points.

The proposed number of test runs per nozzle is the same as is currently required for EVR nozzles, but since there are fewer nozzles at the test facility there will be fewer total test runs. For example, spillage testing of an EVR nozzle involves 1,000

[16] The ARB memo is available at http://www.arb.ca.gov/vapor/e85/e85orvrletter022008.pdf

observations from 10 nozzles. Spillage testing for an ECO Nozzle will involve 400 observations from 4 nozzles. In both cases, this is equal to 100 observations per nozzle.

Because the standards and specifications in section 3 are based directly on current standards and specifications found in CP-201 and CP-206, the purpose for proposing each standard will not be discussed in detail within this report. However, staff believes that some portions of subsections 3.1, 3.3, 3.4, 3.7, and 3.8 may warrant additional discussion and explanation. Those subsections are discussed in detail below.

Section 3.1: The spillage standard proposed in this section is 0.12 lbs. per 1000 gallon dispensed, which is half of the standard currently in place for EVR nozzles. Staff proposed this stricter standard based on experience with EVR nozzles, which all performed well below the proposed 0.12 lbs. per 1,000 gallons dispensed standard during their certification testing. During the regulatory development process, staff was encouraged by various nozzle manufacturers to adopt a standard lower than what is currently required for EVR nozzles. Several manufacturers stated that they are confident that a lower standard is achievable without increasing nozzle costs. Some manufacturers suggested adopting a spillage standard as low as 0.05 lbs. per 1,000 gallons dispensed, but staff proposes a standard of 0.12 lbs. per 1,000 gallons dispensed because it was the lowest proposal that received no objections from those nozzle manufacturers who participated in the regulatory development process.

Section 3.3: The intention of the liquid retention standard is to quantify how much liquid fuel remains in the nozzle, exposed to atmosphere, after a fueling event. Ideally, liquid will drain quickly from the nozzle at the end of the fueling event, making its way into the vehicle being fueled. Liquid that does not drain can evaporate, resulting in emissions. The test, ARB Test Procedure 201.2E (TP-201.2E), is conducted by ARB staff during certification in order to quantify the amount of liquid that is retained in the nozzle after fueling. TP-201.2E involves leaving the nozzle pointed downward for a set amount of time after a fueling event and measuring the volume of liquid that drains out.

Although the proposed standard for liquid retention (≤100mL per 1,000 gallons) is identical to that currently used in CP-201 and CP-206, staff intends to also conduct an engineering evaluation to quantify the volume of liquid retained within the nozzle that is subject to evaporation but is not quantified by the liquid retention test procedure TP-201.2E. Authority for this engineering evaluation is included under sections 6.3 and 6.6 of CP-207. Some nozzles may be designed with liquid traps that can help to prevent liquid from exiting the nozzle spout when it is pointed downward during testing per TP-201.2E. Such a design would prevent the liquid captured in the liquid trap from contributing to the total retention as calculated per TP-201.2E, but that liquid would still be subject to evaporation. By including the engineering evaluation, staff would be able to account for that liquid and get a more accurate measure of actual emissions associated with liquid retention within the nozzle.

Section 3.4: During public workshops for this proposal, it was suggested that the requirement for an insertion interlock be removed. An insertion interlock is required for

EVR nozzles since it helps to ensure that the vapor boot is compressed against the vehicle fill pipe for efficient collection of vapors. Since no vapors are being collected by an ECO Nozzle, some workshop participants questioned the usefulness of an insertion interlock. The requirement for an insertion interlock is included in this proposal because staff is aware of no other technology that would allow the ECO Nozzle to meet the spitting standard. Staff believes that the nozzle must have an insertion interlock to comply with the spitting standard. Therefore, the regulation is written to be upfront about the need for an interlock and explicitly require it as part of the ECO Nozzle standard. In addition, an insertion interlock is a useful safety device to prevent the discharge of gasoline when the trigger is depressed and the nozzle is not inserted into the vehicle fill pipe. California's drivers are accustomed to fueling with an insertion interlock because it has been required on vapor recovery nozzles in California for many years.

Section 3.7: Low permeation hoses have been included in section 3.7 in order to clarify that their use is required at ORVR fleet fueling facilities that are subject to CP-207. This is not a new requirement, since existing language in CP-201 (section 20) and CP-206 (section 21) specifies that any hose carrying liquid fuel against the outer wall must meet the low permeation standard. Because the use of low permeation hoses is already required under current regulations, their costs and associated emissions reductions are not included in the analysis of the costs and benefits of this regulation.

Section 3.8: CP-201 and CP-206 are based on certification of a complete system rather than individual components. In contrast, CP-207 focuses on certifying only two components: ECO Nozzles and low permeation hoses. Those components will be used with other standard fittings, such as adaptors, swivels, and breakaways, to make a complete hanging hardware system. Standardized fittings are readily interchangeable and their performance will not adversely affect performance of the ECO Nozzle, so ARB will not be certifying them. CP-207 only specifies that these fittings must comply with applicable safety standards and be free from leaks.

Section 6.3 is based on 12.3 of CP-201, which states that each application for certification shall be evaluated to ensure that the concept of the system/component under evaluation is consistent with accepted engineering principles. For CP-207, this section has been amended slightly to address potential scenarios where an ECO Nozzle may be designed to meet standards and specifications as evaluated by ARB staff in accordance with approved test procedures, but will not meet those standards during real-world use. For example, see previous discussion of section 3.3, regarding a nozzle with a sizeable liquid trap in its spout that could pass ARB's TP-201.2E for liquid retention but would in fact retain a significant amount of liquid after each dispensing event in real-world use. Such a design would be prohibited under proposed section 6.3 because its design adversely affects its ability to meet the liquid retention standard under in-use conditions.

Sections 7.1.1.and 7.3.1 describe the site that will be used for evaluation of ECO Nozzles and the duration of testing. These requirements are the same as EVR equipment, except that the corresponding sections of CP-201 and CP-206 include a

requirement for the minimum amount of gasoline that must be dispensed from the facility within the 180 day evaluation period. The purpose of that requirement is to ensure that the systems/components being evaluated have been used heavily, so that an assessment of their durability can be made.

It would be preferable to have ECO Nozzles be heavily used during their 180-day evaluation period, but staff chose not to include a minimum throughput requirement because it would make it extremely difficult to find a suitable ORVR fleet fueling facility where the evaluation could be conducted. There are relatively few ORVR fleet fueling facilities in California, and fewer still within the required 100 mile radius of ARB's Sacramento office. ORVR fleet fueling facilities often have a relatively low throughput, so requiring a minimum throughput for the evaluation site is simply not practical. Staff is confident that the 180-day test period combined with the minimum requirements for numbers of tests that must be conducted will serve to ensure that each nozzle will receive a reasonable amount of use while under evaluation.

Section 12 is based on section 18 of CP-201, which describes the procedures for amending Executive Orders. For CP-207, this section has been amended slightly to clarify that EVR components certified under CP-201 or CP-206 may be modified and considered for an expedited evaluation under CP-207. Staff proposes this clarification to address the likelihood that manufacturers of currently certified EVR nozzles may modify those nozzles slightly (by closing off the vapor path) and submit them for evaluation as an ECO Nozzle. Because certified EVR nozzles have already successfully completed a full evaluation under CP-201, an abbreviated evaluation under CP-207 may be sufficient. As outlined in subsection 12.2.1 of CP-207, the Executive Officer is responsible for making the final decision on whether abbreviated evaluation is appropriate based on the extent and nature of modifications that have been made to the currently certified nozzle.

C. AST Phase I (CP-206)

The following is a summary of the specific regulatory amendments that are proposed for CP-206. The full proposed regulatory language of CP-206, shown in strike and add format, is included in Appendix D.

Section 2 is amended to clarify that there are now exceptions to the effective and operative dates shown in Table 2-1. Certain GDF will be able to continue operating with their current Phase I vapor recovery systems rather than replacing those systems by July 1, 2014 as required under the current regulation. Effective and operative dates for Standing Loss Control (SLC) and Phase II EVR standards and specifications remain unchanged.

ARB staff is aware that the same cost effectiveness concerns that prompted these proposed amendments for Phase I EVR are likely to apply to Phase II EVR as well. However, as of January 2015, no Phase II EVR system is certified for AST. It is therefore impossible to accurately estimate Phase II EVR system costs or cost effectiveness at this time. Because existing tanks are not required to install Phase II

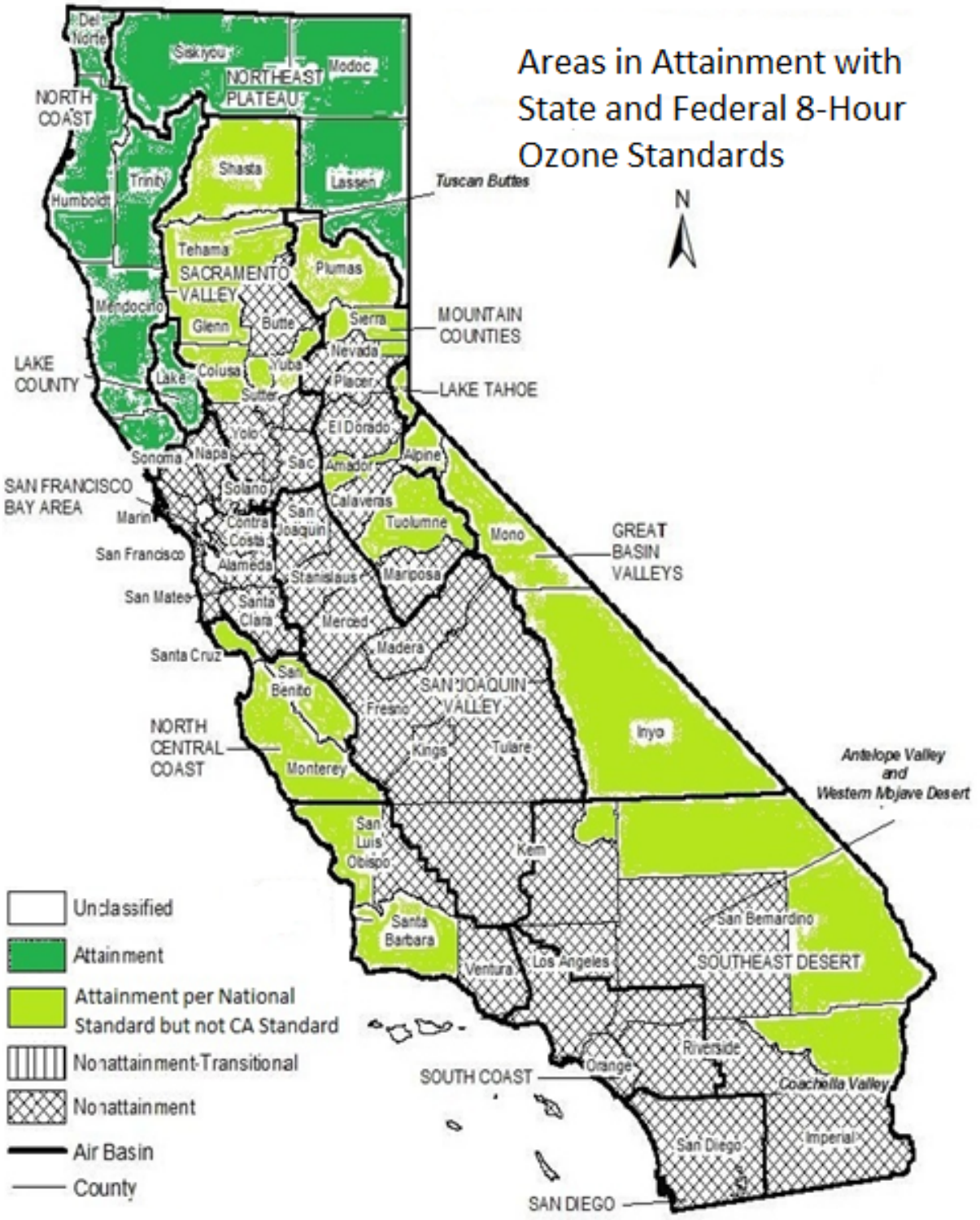
EVR systems until four years after a system is certified, ARB staff is comfortable that there will be sufficient time to address the issue of Phase II EVR applicability and cost effectiveness at a later date. It is expected that future revisions to Phase II EVR applicability will be structured similarly to what is being proposed for Phase I EVR, although the attainment classification and throughput cut points may be different.

Section 2.4.4 has been amended to establish which tanks are exempted from the requirements to install control measures described in CP-206. The language previously found in section 2.4.4 has been renumbered to section 2.4.7.

The exemption described in section 2.4.4 includes all existing tanks that are located in areas that are in attainment with the federal 8-hour ozone standard of 0.075 parts per million. Section 2.4.6 of the current version of CP-206 already provides a similar exemption for all existing tanks located in areas that are in attainment with the California state 8-hour ozone standard of 0.070 parts per million. Changing exemption criteria from the state (0.070 ppm) to the federal (0.075 ppm) standard significantly expands its applicability, as shown in Figure VIII-2. ARB staff estimates that approximately 4 percent of California's AST are located in areas that are in attainment with the state standard, while approximately 18 percent are located in areas that are in attainment with the federal standard.

ARB staff has determined that the requiring EVR for AST is not necessary in areas that are in attainment with the federal 8-hour ozone standard, since the emission reductions are minimal and the public health and air quality benefits of those reductions in such areas is quite low. However, the proposal requires that existing tanks in these areas must maintain their current vapor recovery controls. Removal of current controls would result in an emissions increase, which could jeopardize the district's ability to maintain compliance with the federal 8-hour ozone standard. Similarly, EVR controls are required on any new tanks installed after April 1, 2009, which is the earliest effective date for AST EVR standards. This requirement helps to ensure that emissions from newly installed tanks do not jeopardize the district's ability to maintain compliance with the federal 8-hour ozone standard.

Figure VIII-2 - State and Federal 8-Hour Ozone Attainment Areas



Section 2.4.5 has been amended to describe which existing AST can continue operating with their current pre-EVR Phase I systems beyond the July 1, 2014 deadline. The language previously found in section 2.4.5 has been renumbered to section 2.4.8.

Under the proposed section 2.4.5, AST that are located in densely populated areas with extremely poor ozone air quality would still need to install Phase I EVR systems by July 1, 2014 as currently required, while tanks subject to section 2.4.5 may continue operating with their current pre-EVR Phase I systems. The intent of excluding certain tanks from the requirement to upgrade their pre-EVR systems to Phase I EVR by the July 1, 2014 deadline is to improve cost effectiveness of the current regulation while preserving its air quality benefits in areas of the state where emission reductions are most needed.

Section 2.4.5 is based on the ozone attainment status, non-attainment classification[17], and population density of the district in which the tank is located, as well as the amount of fuel that is dispensed from the tank. Tanks located in areas where controls are still necessary, but not as critically needed, are only required to install Phase I EVR by July 1, 2014 if they have an annual throughput of 18,000 gallons or more. The requirements are further relaxed for rural areas and areas that are in the least severe ozone non-attainment categories, where Phase I EVR would only be required on tanks with an annual throughput of 60,000 gallons or greater. The 18,000 and 60,000 gallon per year thresholds were selected in order to balance the need for emission reductions with cost effectiveness.

Note that all tanks located within the San Diego County Air Pollution Control District (SDCAPCD) are subject to the July 1, 2014 upgrade deadline, even though SDCAPCD is not classified as extreme non-attainment. This was done because SDCAPCD specifically requested it as part of their strategy to work towards attainment of the state ozone standard by requiring the use of all reasonable control technologies. Similarly, tanks with annual throughput of greater than 60,000 gallons that are located within the Santa Barbara County Air Pollution Control District (SBCAPCD) are included in Class 1, even though SBCAPCD is in attainment with the federal 8-hour ozone standard. This was done because SBCAPCD specifically requested it as part of their strategy to work towards attaining the state ozone standard.

Table VIII-1 summarizes the attainment classification and throughput criteria that are used in this proposal to determine which tanks are subject to the July 1, 2014, Phase I EVR upgrade deadline. Refer also to Figure II-2 (page 12) for a map depicting the combined statewide effects of the proposed ozone attainment classification, population density, and throughput criteria found in section 2.4.4 and 2.4.5.

[17] Classifications are defined by U.S. EPA and can be viewed at http://www.epa.gov/air/oaqps/greenbk/ca8_2008.html

Table VIII-1 – Summary of Applicability of July 1, 2014 Phase I EVR Upgrade Deadline

Nonattainment Classification[1]	Annual Throughput (gallons)			Example District
	> 60,000	18,000 to 60,000	< 18,000	
Extreme (Urban[2])	Subject	Subject	Subject	South Coast
Extreme (Rural[3])	Subject	Subject	Exempt	San Joaquin
Severe/Serious/ Moderate/Marginal (Urban[2])	Subject	Subject	Exempt	Sacramento Metro, Ventura, Bay Area
Severe/Serious Moderate/Marginal (Rural[3])	Subject	Exempt	Exempt	Mojave Desert, Yolo-Solano, Butte, Calaveras

[1] Classification based on 2008 federal 8-hour ozone standard (0.075 ppm).
[2] "Urban Air District" is defined in D-200 as an air district with population density of 300 persons or greater per square mile.
[3] "Rural Air District" is defined in D-200 as an air district with population density of less than 300 persons per square mile.

Table 2-2 is added to define which existing pre-EVR Phase I systems may continue to be used beyond July 1, 2014 pursuant to section 2.4.4 and 2.4.5. The Phase I systems sown in this table are all certified by ARB in accordance with the procedures that were applicable at the time of certification. These systems met all standards and specifications that were applicable at the time of their certification, including overall collection efficiency (by volume) of at least 90 percent. It should be noted that ARB has issued many other Executive Orders for Phase I vapor recovery systems that may be installed on AST[18]. Each of those Executive Orders references one of the Executive Orders found in Table 2-2, so continued use of those pre-EVR Phase I systems is also allowed under the proposed regulation.

Table 2-3 is added to provide a simple, concise summary of the requirements of section 2.4.5. This table was included at the request of comments received during public workshops, indicating that the proposed regulatory language was complicated and not easy to understand. Staff believes that the summary provided by Table 2-3 will help individuals to more easily understand the requirements of section 2.4.5. Table 2-3 is intended to be completely consistent with section 2.4.5, and there should be no discrepancy between the two.

Section 2.4.6 is amended to specify that pre-EVR Phase I systems that are allowed to remain in use beyond July 1, 2014, pursuant to section 2.4.4 and 2.4.5, must be replaced with EVR Phase I systems at the end of their useful life. The replacement of

[18] A complete list of ARB Executive Orders for pre-EVR vapor recovery equipment for AST is available at http://www.arb.ca.gov/vapor/above/above.htm

worn pre-EVR components with EVR components as required by this section will result in full compliance with EVR requirements over time. For purposes of analyzing cost savings and emissions impacts of the proposal, staff assumes that pre-EVR components will last an average of five years. Refer to section VI and Appendix H of this report for additional information.

Section 2.4.6 is written with the understanding that some Phase I EVR system components may not be compatible with certain pre-EVR Phase I systems. For example some pre-EVR Phase I systems are coaxial, meaning that they deliver liquid gasoline and recover gasoline vapors through a single opening in the tank. In contrast, both of the currently certified EVR Phase I systems are two-point systems, meaning that they deliver liquid gasoline through one tank opening and recover vapors through another tank opening. Under the proposed regulation, a worn component of a coaxial pre-EVR Phase I system would not need to be replaced with a two-point EVR component because that EVR component would not be considered by the Executive Officer to be compatible with the coaxial pre-EVR system. ARB staff will maintain a list of Phase I EVR components that are compatible with pre-EVR Phase I systems, and make that list available to interested parties via the Vapor Recovery Program website, e-mail list serve, and coordinated outreach with districts.

Section 2.4.7 is added to contain the text previously found in section 2.4.4.

Section 2.4.8 is added to contain the text previously found in section 2.4.5.

Section 2.4.9 is added to contain, with modifications, the text previously found in section 2.4.6. The requirements of previous section 2.4.6 that have been deleted from new section 2.4.9 have been moved, with some amendments, to section 2.4.4. Refer to discussion of section 2.4.4 for a description of the amendments to those requirements. Section 2,4,9 has been amended from previous section 2,4,6 to clarify that the requirement to be compatible with vehicles that are equipped with on-board refueling vapor recovery (ORVR) is only applicable to AST that are equipped with a Phase II vapor recovery system. This clarification is made because staff is aware that many districts are not currently requiring some AST, particularly AST at non-retail facilities, to be equipped with Phase II vapor recovery systems. Compatibility with ORVR vehicles is only applicable to Phase II vapor recovery systems.

D. Clarification of Certification Procedures (CP-201, CP-206, and CP-207)

The following is a summary of the specific regulatory amendments that are proposed for inclusion into the three certification procedures for vapor recovery equipment used at gasoline dispensing facilities. The full proposed regulatory language for CP-201 and CP-206 are included in Appendix C and D, with proposed additions shown in underline text and proposed deletions shown in ~~strikeout text~~. CP-207 is being proposed as an entirely new document, so the changes discussed in this section are not indicated by underline/strikeout within the text found in Appendix E. However, the proposed

changes to CP-201 and CP-206 are also being proposed within the corresponding sections of CP-207.

These amendments are proposed in order to help manufacturers better understand what is required of them in their application, and will promote consistency in how applications are reviewed and evaluated by ARB staff. These amendments will also help ARB staff to ensure that future production examples of certified equipment match the equipment that was originally certified, thus helping to protect GDF owners/operators from substandard equipment.

The First Paragraph of CP-201, CP-206, and CP-207 has been amended to eliminate unnecessary language. This change has no regulatory effect, since the deleted definitions still apply.

Section 1 of CP-206 has been amended to use consistent formatting of the regulatory citation.

Sections 1.1 and 1.2 of CP-201 and CP-206 have been amended to simplify the text and eliminate unnecessary language. This change was also incorporated into section 1.2 and 1.3 of CP-207. The amendment is for clarity only and has no regulatory effect.

Section 10.1 of CP-201, section 11.1 of CP-206, and section 4.1 of CP-207 have been amended to clarify that payment of fees for ARB's evaluation of vapor recovery systems or components is a condition of certification. This change is consistent with Health and Saf. Code §41954(e) stating that "the state board shall charge a reasonable fee for certification…"

Section 11 of CP-201, section 12 of CP-206, and section 5 of CP-207 have been amended to include the requirement that manufacturers include a statement in their application assuring that production versions of vapor recovery systems and components, when certified, will match the performance of the systems and components evaluated by ARB during the certification process. Although the requirement for manufacturers to provide this statement is new, the requirement that production versions of certified vapor recovery equipment must match the equipment that was certified has always been part of CP-201 and CP-206. This is evidenced by the fact that section 18.2.1 of CP-201 describes the process that manufacturers must follow when they wish to modify a certified component. Requiring manufacturers to provide the written statement at the time of application helps to ensure that the rules pertaining to modification of certified components is clearly understood by the manufacturer, which should eliminate future confusion in the event that the manufacturer plans to modify their certified components.

These sections are also amended to require that manufacturers submit all of the required application materials in an electronic format that is acceptable to the Executive Officer. ARB staff maintains complete records of all vapor recovery equipment that is evaluated, and having application materials in electronic format will help ease the burden of maintaining those records. In practice, most manufacturers are already

submitting all (or portions) of their application materials electronically. Therefore, staff does not expect this new requirement to impose a significant burden on applicants.

Section 11.1.4 of CP-201, and section 12.1.4 of CP-206 are amended to clarify that the requirements of this section apply to the main components of a vapor recovery system, such as the hose, nozzle, drop tube, overfill prevention device, vapor processor, etc. The requirement is not intended to apply to the supplier of the many individual pieces that make up those components, such as the screws, rods, springs, diaphragms, and valves that are internal parts of a nozzle.

Section 11.4.5 of CP-201, section 12.4.5 of CP-206, and section 5.3.5 of CP-207 are added to require that information on the manufacturer's quality assurance and quality control procedures be included as part of the application. Having this information available will help ARB staff to evaluate each applicant's ability to consistently produce equipment that performs as certified and meets applicable standards. In the event that certified components are not meeting applicable standards, having this information will help ARB staff to determine whether the manufacturer's quality control procedures are being followed as described in the application.

Section 12.10 of CP-206 has been amended to correct an erroneous citation. The regulatory language for Vapor Recovery Equipment Defects (VRED) is found in section Cal. Code Regs., tit. 17 §94006 rather than 92006 as was mistakenly written in this section.

Section 13.3.3 of CP-201, section 14.3.3 of CP-206, and section 7.3.3 of CP-207 have been amended to clarify that manufacturers must provide a written explanation of any emergency service or maintenance that is conducted at the test site without prior approval from ARB. This amendment is a clarification of the existing requirement, since ARB staff always needed to have an explanation of the cause and scope of emergency maintenance in order to determine whether it was in fact necessary for safety reasons. In practice, manufacturers are already submitting written explanations of any emergency maintenance activities occurring at certification sites, so staff does not expect this amendment to impose any additional burden.

Section 15 of CP-201, section 16 of CP-206, and section 9 of CP-207 have been amended to clarify that an Executive Order shall not be issued until all provisions of the CP have been met. This language is added for clarification only, since the requirement has always existed in section 1 of CP-201 and CP-206.

Section 16.4 of CP-201, section 17.4 of CP-206, and section 10.3 of CP-207 have been amended to include a review of the manufacturer's network of trained/authorized service personnel. The intent of this section has always been for ARB to ensure that manufacturers of certified equipment were capable of providing a reasonable level of ongoing support to fueling facility owners who purchase and install their equipment. Most vapor recovery systems and components must be installed, maintained, and/or tested by trained/authorized service personnel. Likewise, some manufacturers' warranties specify that the warranty is invalid if the component is installed or serviced by

anyone other than an authorized service person. If there is not an adequate supply of such personnel, the end user may not be able to obtain the services required in order to preserve their warranty and keep their system in compliance. Amendments to this section are intended to further protect facility owners by reducing the likelihood of that happening.

Section 16.5.1 of CP-201, section 17.5.1 of CP-206, and section 10.4.1 of CP-207 have been amended to clarify that the required warranty may be provided by the equipment manufacturer or the applicant for equipment certification. This was the intent of CP-201 and CP-206 as originally adopted, and it has been ARB's policy when reviewing applications, so this change should not impose any additional burden on manufacturers or vapor recovery equipment owners.

Section 16.5.3 of CP-201, section 17.5.3 of CP-206, and section 10.4.3 of CP-207 have been amended to eliminate the allowance for a "shelf life" or "sell by" date to be included in the warranty. This amendment will help to ensure that the end user of the vapor recovery system/component is afforded at least the full 1-year warranty on their newly installed product, as provided within section 16.5.2 of CP-201, 17.5.2 of CP-206, and 10.5.2 of CP-207. Staff has worked with manufacturers over the past two years to address issues arising from shelf-life or sell-by provisions within existing warranty language, so it is not anticipated that the proposed amendment would require any change to existing vapor recovery equipment manufacturers' warranties.

Section 16.8 of CP-201, section 17.8 of CP-206, and section 10.7 of CP-207 have been added to clarify that staff may review and inspect certified equipment at any time in order to determine whether the certified vapor recovery is meeting applicable standards. The newly added section is simply a clarification of provisions within the existing "Evaluation of System Deficiencies" section of current certification procedures. (Section 17.3 of CP-201 and section 18.3 of CP-206). This language has been included within the "Conditions of Certification" section to clarify that ARB's authority to review and inspect certified equipment is not limited to requests for renewal of current certifications. One new provision of the added section is that manufacturers may be responsible for paying the costs associated with investigation of certified equipment that does not meet performance standards. This language is consistent with Health and Saf. Code §41954(e), which directs the board to charge a reasonable fee for certification. Fees are already charged for initial certification and certification renewal, so it is reasonable to also charge fees for testing conducted to ensure ongoing compliance when a finding is made that the certified equipment is not meeting applicable certification standards.

Section 17 of CP-201, section 18 of CP-206, and section 11 of CP-207 are amended to clarify that the duration of certification is not extended in cases where the certification holder fails to apply for renewal. This language is added for clarification only and is not a new requirement.

Section 19.1 of CP-201, section 20.1 of CP-206, and section 14.1 of CP-207 are amended to reference the fact that there are exceptions to the requirements of this subsection that are described in the following subsection. This amendment is

necessary so that this subsection is consistent with, does not conflict, the following subsection.

Section 19.2 of CP-201, section 20.2 of CP-206, and section 14.2 of CP-207 are amended so that the Executive Officer could, at their discretion, allow for the continued installation of previously certified components for a specific amount of time after the certification of a replacement component. This is intended to assist GDF owners and service contractors who maintain an inventory of vapor recovery components. If the Executive Officer allows it, a GDF owner or service contractor's existing supply of components (e.g., hoses, nozzles) that have been superseded by a newly certified replacement component could be used rather than disposed of. This will help to avoid the costly waste of unused superseded components, helping to reduce the cost and improve the cost effectiveness of switching from superseded to replacement components.

E. Vapor Recovery Definitions (D-200)

The following is a summary of the specific regulatory amendments that are proposed for D-200. The added definitions are necessary to define terms used in proposed amendments to CP-206 and the newly proposed CP-207. The full proposed regulatory language of D-200, shown in strike and add format, is included in Appendix B.

ORVR Fleet Facility – This definition is added to define the term as used in section 1.1 of CP-207. The term is used to define exactly which facilities will be required to equip ECO Nozzles. Staff intended ECO Nozzles to be required only at facilities that have been exempted from Phase II requirements by their air district as described in the February 28, 2008 letter[19] from ARB to Air Pollution Control Officers. Rather than attempt to capture all the relevant terms and conditions of that memo into the definition, the proposed language simply references the memo. The definition does not define exactly what percentage of vehicles within the fleet must be equipped with ORVR in order to qualify as an ORVR fleet facility. That decision is left to districts, and staff is aware that percentage ranges between 90 percent and 100 percent.

Rural Air District – This definition is added to define the term as used in section 2.4.5 of CP-206, which establishes the existing aboveground tanks that are not required to equip Phase I EVR by the July 1, 2014 upgrade deadline. Applicability of the deadline is based in part on a whether the district is urban or rural, so a precise definition of the term is needed. The threshold of 300 persons per square mile was chosen because, when combined with the proposed throughput and ozone air quality criteria, it results in an overall applicability outcome that very closely aligns with the preferences expressed by air district representatives that worked with ARB staff in developing the proposed amendments.

Urban Air District - This definition is added to define the term as used in section 2.4.5 of CP-206, which defines the existing aboveground tanks that are not required to equip

[19] The ARB memo is available at http://www.arb.ca.gov/vapor/e85/e85orvrletter022008.pdf

Phase I EVR by the July 1, 2014 upgrade deadline. Applicability of the deadline is based in part on a whether the district is urban or rural, so a precise definition of the term is needed. The threshold of 300 persons per square mile was chosen because, when combined with the proposed throughput and ozone air quality criteria, it results in an overall applicability outcome that very closely aligns with the preferences expressed by air district representatives that worked with ARB staff in developing the proposed amendments.

Useful Life - This definition is added to define the term as used throughout CP-201, CP-206, and CP-207. A vapor recovery system or component is only considered to within its useful life if it is operating as intended. For example, a nozzle that does not dispense fuel when the lever is actuated has reached the end of its useful life. The definition of useful life also states that the system or component must conform to manufacturer's specifications. If manufacturer's instructions specify that a hose must be free from cracks and visible defects then a hose with cracks or visible defects has reached the end of its useful life. Finally, the definition of useful life states that the system or component must comply with all applicable ARB regulations, standards, and specifications. If a component fails an ARB compliance test then it has reached the end of its useful life.

IX MAJOR ISSUES IDENTIFIED AND DISCUSSED

A) Enhanced Conventional (ECO) Nozzles

During the public workshop process, some commenters indicated that they had observed a new and unique type of liquid spillage from EVR nozzles in the field. It was claimed that some nozzles will pass the ARB liquid retention test after fueling, but that a significant amount of liquid would be found in that same nozzle after it had been hanging idle on the dispenser for a short period of time. This phenomenon, referred to as *liquid regeneration*, was not observed during ARB certification testing of EVR nozzles. There is currently no specific ARB test procedure or performance standard for liquid regeneration. However, liquid regeneration would tend to bias a nozzle toward failure of the current liquid retention standards.

In light of the comments made during development of the ECO Nozzle proposal, staff is working with districts to gain a better understanding of the scope and potential causes of liquid regeneration among EVR nozzles in use. At this point, it is unclear how common the phenomenon is or how significant a source of emissions it may be. More data are needed before any recommendation can be made or what, if anything should be done about liquid regeneration.

Commenters during the workshops also noted that there is no in-use compliance test or performance standard for nozzle post-fueling drips, spillage, or liquid retention. There is some concern that, as nozzles age, their performance may deteriorate and lead to emissions in excess of the certification standard. Since there is no in-use compliance test for nozzle drips, spillage, or liquid retention standards, there is no mechanism for

requiring removal of a worn nozzle that is not meeting the certification standards. As nozzles age, this could mean that emissions are exceeding the certification standard. The degraded performance of aging nozzles may even be a contributing factor to the liquid regeneration issue discussed previously. Staff intends to work with districts, nozzle manufacturers, GDF operators, and service contractors to research this issue. If appropriate, in-use nozzle performance criteria and compliance tests may need to be developed. Whatever action is proposed would likely be applicable to both EVR and ECO Nozzles.

B) AST Phase I

This rulemaking proposal addresses AST Phase I requirements. As discussed in Section VIII of this report, the applicability of AST Phase II EVR requirements is not addressed in this proposal. This will need to be done in the coming years, as Phase II EVR systems are certified and the cost of installing and maintaining those systems is better understood. The deadline for existing AST to upgrade to Phase II EVR will occur in approximately four years, so applicability of Phase II requirements should be defined well ahead of that date.

X REFERENCES

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- Letter from James Goldstene, ARB Executive Officer, to U.S. EPA Air and Radiation Docket Information Center, dated September 8, 2011, regarding ORVR widespread use determination. Available at http://www.arb.ca.gov/vapor/carb%20response%20useap%20orvr%20widespread%20use%20nprm.pdf

- EPA, 2012, "Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures" available at http://www.epa.gov/glo/pdfs/20120807guidance.pdf

- EPA Map of California 8-Hour Ozone Nonattainment Areas (2008 Standard), available online at http://www.epa.gov/air/oaqps/greenbk/ca8_2008.html

- Letter from James Goldstene, ARB Executive Officer, to Air Pollution Control Officers, dated February 20, 2008, regarding removal of Phase II vapor recovery equipment at ORVR fleet facilities. Available at http://www.arb.ca.gov/vapor/e85/e85orvrletter022008.pdf

- CARB, Population, Emissions, and Cost Data (February, 2015)

XI APPENDICES

A. Proposed Regulation Order to Adopt Amended Certification and Test Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities

B. Proposed Amendment to D-200: Definitions for Vapor Recovery Procedures

C. Proposed Amendment to CP-201: Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities

D. Proposed Amendment to CP-206: Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks

E. Newly Proposed CP-207: Certification Procedure for Enhanced Conventional (ECO) Nozzles and Low Permeation Conventional Hoses for Use at Gasoline Dispensing Facilities

F. Regulatory Authority: Vapor Recovery Health and Safety Code Statutes

G. Estimated Emission Reductions and Costs of Enhanced Conventional (ECO) Nozzle Proposal

H. Estimated Emission Impacts and Costs of Aboveground Storage Tank (AST) Phase I Proposal

I. Comparison of Spill Frequencies and Amounts at Vapor Recovery and Conventional Service Stations in California

J. AST EVR Regulatory Advisory, Issued by ARB on February 28, 2014