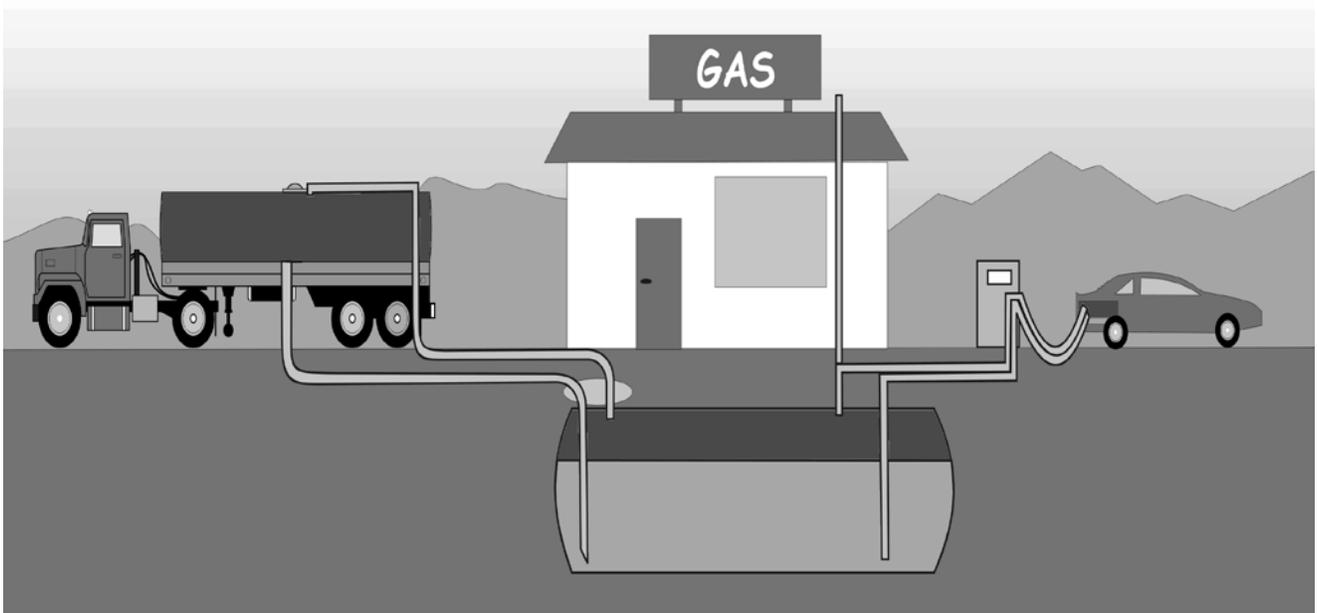


California Environmental Protection Agency

 **Air Resources Board**

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR RULEMAKING

AMENDMENTS TO CERTIFICATION AND TEST PROCEDURES
FOR VAPOR RECOVERY SYSTEMS
AT GASOLINE DISPENSING FACILITIES (GDFs)
AND CARGO TANKS



Date of Release: June 5, 2013

Scheduled for Consideration: July 25, 2013

State of California
AIR RESOURCES BOARD

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR
PROPOSED RULEMAKING

PUBLIC HEARING TO CONSIDER THE PROPOSED ADOPTION OF THE
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EXECUTIVE SUMMARY

In March 2000, the Air Resources Board (ARB or Board) approved the Enhanced Vapor Recovery (EVR) regulations for gasoline dispensing facilities (GDFs) equipped with underground storage tanks. In May 2007, ARB approved the EVR regulations for GDFs equipped with aboveground storage tanks (ASTs). The EVR regulations established new standards for vapor recovery systems to reduce emissions during storage and transfer of gasoline at GDFs. Control of emissions of air pollutants from GDFs is necessary to reduce hydrocarbon emissions that lead to the formation of ozone and to control emissions of benzene, a constituent of gasoline vapor that has been identified as a toxic air contaminant.

The EVR standards apply to both new and pre-existing GDFs. Phase-in of EVR standards started in 2001 for GDFs with underground storage tanks (USTs). For GDFs equipped with ASTs, phase-in of EVR standards began in 2009 and will continue beyond 2013. The EVR regulations were updated in 2001, 2002, 2004, 2006, 2007, and 2011. 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.

On April 18, 1977, the Board first approved performance standards for controlling emissions from cargo tanks used to transfer gasoline from loading terminals and bulk plants to GDFs. Since 1977, the cargo tank requirements have been amended several times, the last amendment occurring in 1999. Each amendment clarified the requirements and improved the process for ARB certification of equipment used on cargo tanks for the control of gasoline vapors. Similar to EVR on GDFs, control of gasoline vapors emitted from cargo tanks is necessary to reduce emissions of hydrocarbon and benzene, a toxic air contaminant.

Staff is now proposing additional regulatory amendments that will have no emissions, environmental, or economic impacts, but will:

1. Improve two test procedures used by ARB staff during certification of vapor recovery equipment designed for use with ASTs. Amendments to these test procedures will address technical deficiencies that staff has encountered during field testing, and will allow staff to make use of improved test equipment that is now available. Minor reorganization of, and amendment to these test procedures will also improve clarity and readability.
2. Revise the certification procedure and three test procedures for equipment used on cargo tanks to control gasoline vapor emissions. Revisions to these certification procedures will no longer require cargo tank vapor recovery equipment to be certified by ARB. However, cargo tank owners/operators will still be required to meet annual testing requirements. Test procedures are being

updated and revised to allow the use of a federal test method, with a few California-specific changes, for annual compliance testing.

Recommendation: Staff recommends that the Board adopt amendments to the California Code of Regulations (Appendix A) that incorporate by reference the proposed amendments to certification procedures and test procedures (Appendices C, D, E, F, G, and H). There are no emissions, environmental, or economic impacts associated with the proposed amendments. By taking this action, the Board would:

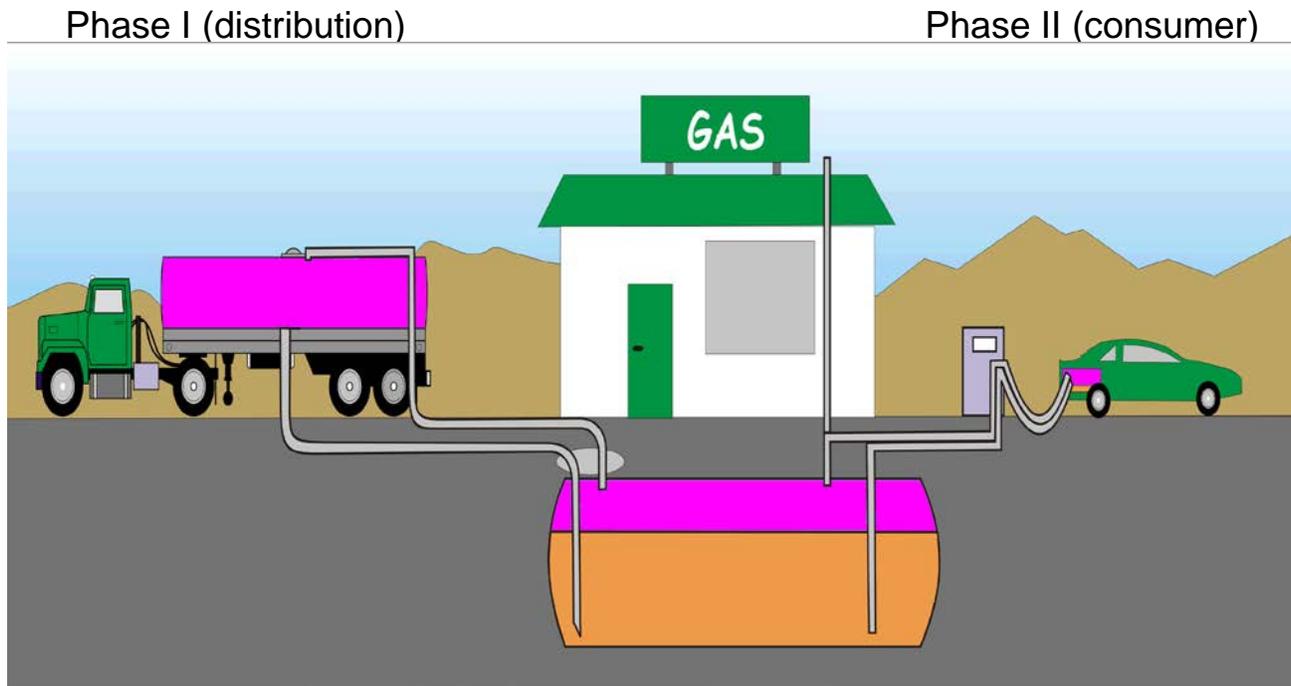
1. Resolve technical problems that currently exist with two test procedures used by ARB staff when certifying vapor recovery equipment for aboveground storage tanks; and
2. Reconcile cargo tank certification and test procedures with current industry practices, and provide additional flexibility for cargo tank owners to remain in compliance with performance standards.

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 (called cargo tanks) that transport gasoline to dispensing facilities (GDFs or service stations), at which gasoline is transferred into vehicles. Cargo tanks are tested annually to ensure that they do not exceed an allowable leak rate. At GDFs, there are two types of gasoline transfers. Phase I vapor recovery collects vapors during bulk fuel distribution, when a tanker truck fills the service station storage tank. The gasoline vapor displaced from filling these storage tanks is transferred to the tanker trucks. The gasoline vapor inside the tanker truck is recovered at the terminal when a new load of gasoline fills the tanker. Phase II vapor recovery collects vapors 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 alerts the station operator/owner of any 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**



The ARB and the air pollution control/air quality management districts (air districts) share responsibility for implementation of California's vapor recovery program. ARB staff certifies prototype Phase I and Phase II vapor recovery systems installed at

operating station test sites. State law in the Health and Safety Code section 41954 requires that throughout California only ARB-certified systems be offered for sale, sold, and installed. Air district staff inspects and tests the certified vapor recovery systems upon installation during the permit process and conducts regular inspections to check that systems are operating as certified.

ARB has adopted regulations establishing procedures for certifying vapor recovery equipment installed on cargo tanks and procedures for testing and certifying that equipment annually. Cargo tanks are tested by independent testing contractors. Test results are submitted to ARB for review. For each cargo tank that passes required testing, ARB annually issues a non-transferable and non-removable decal which is placed on the cargo tank in a location that can be readily seen. Storage tank operators at terminals or bulk plants will not transfer gasoline to cargo tanks with an invalid decal or after the expiration date listed on the decal. Air districts are prohibited from adopting cargo tank performance standards more stringent than those adopted by ARB, but can inspect and test cargo tanks to verify compliance with ARB requirements.

The vapor recovery requirements affect a multitude of stakeholders. These include the vapor recovery equipment manufacturers, gasoline marketers who purchase this equipment, cargo tank owners/operators, contractors who install, maintain, and test vapor recovery systems, and air districts who enforce vapor recovery rules. In addition, California certified systems are required by some other states and countries.

B) Cargo Tanks and Enhanced Vapor Recovery Rulemaking History

1) Cargo Tanks

On April 18, 1977, ARB adopted the first cargo tank vapor recovery certification regulations. These regulations established a five minute static pressure test with an allowable leak rate to prevent excessive gasoline vapor emissions during the transfer of gasoline from the bulk plant or terminal to the cargo tank, the transport of gasoline by the cargo tank, and the transfer of gasoline from the cargo tank to the GDF. This test requires an empty cargo tank. The regulations also required the certification of cargo tank vapor recovery equipment and annual certification of each cargo tank which expired on June 30 of each year. The certified equipment must be compatible with vapor recovery systems installed at bulk plants, terminals, and GDFs. Owners or operators of cargo tanks must submit the result of the five minute static pressure test and other information each year in order to get certified by the State Fire Marshall, acting on behalf of ARB.

On February 24, 1984, ARB adopted changes to the cargo tank certification program by allowing an annual rolling expiration date rather than a fixed date of June 30 for each year, requiring a decal from the California Highway Patrol rather than from the State Fire Marshal, and requiring that annual testing be conducted 60 days prior to expiration rather than six months.

On June 28, 1995, the Board approved three major changes to the cargo tank certification program. First, the release of gasoline vapors into the air is prohibited when cargo tanks are filled with gasoline or when preparing cargo tanks for annual testing. Second, the allowable pressure drops for the annual static pressure test (five minute test) were reduced by a minimum of 50 percent. Cargo tanks were reported to comply with new pressure drop requirements for the previous ten years. Third, a new cargo tank test procedure (one minute) was added. The one minute test can be conducted with gasoline in cargo tanks. This new test allowed ARB and districts to conduct compliance testing without requiring the emptying of cargo tanks.

On August 27, 1998, the Board approved amendments which provided an exemption for cargo tanks used to refuel aircraft, since such cargo tanks are not driven on a public road and are not filled at a bulk plant or terminal where the vapors can be recovered.

2) Enhanced Vapor Recovery

In March 2000, with the Board's approval of the Enhanced Vapor Recovery (EVR) regulations, new, more effective standards for vapor recovery systems were set to reduce emissions during the storage and transfer of gasoline at GDFs equipped with underground storage tanks.

On October 25, 2001, the Board approved amendments of five, 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 during gasoline marketing operations and measuring the emission 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 the amendment of ten certification and test procedures and the adoption of five new test procedures. This regulatory action was called EVR Technology Review and was, again, part of the Board's ongoing effort to improve the EVR program.

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. This eliminated the need to replace existing dispensers that use individual hoses for each grade of gasoline.

On November 18, 2004, the Board approved an amendment to the regulations to extend the ORVR compatibility deadline for existing GDFs 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 in-station diagnostics (ISD) at GDFs with 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 ASTs. EVR requirements for ASTs would become effective in three stages, over several years. Standing Loss Control (SLC) would be required for existing ASTs as of April 1, 2013, followed by Phase I EVR on July 1, 2014, and Phase II EVR four years after certification of the first system.

The most recent amendments to EVR regulations involved adoption of 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. This amendment package was approved by the Board on September 22, 2011.

C) Legal Authority

1) State Law

Section 41954 of the Health and Safety Code (Appendix B) 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. Section 39607(d) of the Health and Safety Code requires ARB to adopt test procedures to determine compliance with ARB's and air districts' standards for controlling air pollution from non-vehicular sources. Section 41954 also requires air districts to use ARB test procedures for determining compliance with performance standards and specifications established by ARB.

Likewise, Section 41962 of the Health and Safety Code (Appendix B) requires ARB to adopt procedures and performance standards for cargo tanks that are used to transport gasoline. The law requires that such standards must be reasonable and necessary to maintain applicable ambient air quality standards. The law also requires that ARB establish requirements that each cargo tank be tested and certified annually to ensure that the vapor recovery system is operating properly.

To comply with State law, the Board adopted the certification and test procedures for gasoline dispensing facilities and cargo tanks found in title 17, Code of Regulations, Sections 94011, 94014, and 94016 (17 CCR 94011, 94014, and 94016). The regulations incorporate by reference procedures for certifying 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

For GDFs, there are no federal regulations that are directly comparable to California's EVR program. However, federal regulations do require certain jurisdictions not in attainment with air quality standards to adopt control measures that will help bring them into attainment. Some other states mandate the installation of Phase I vapor recovery systems at gasoline dispensing facilities, and changes to ARB Enhanced Vapor Recovery (EVR) certification requirements may have a national and international impact.

For cargo tanks, federal standards comparable to California's Cargo Tank Vapor Recovery Certification Program standards can be found in 40 CFR Part 63 [Subpart R - National Emission Standards for Gasoline Distribution Facilities \(Bulk Gasoline Terminals and Pipeline Breakout Stations\)](#). Due to the severe and unique air pollution problems facing California, ARB's gasoline vapor control standards are more stringent than comparable federal standards.

D) Applicability of Proposed Regulations

The proposed regulations consist of amendments to certification procedures and test procedures applicable to vapor recovery equipment used at gasoline dispensing facilities and cargo tanks 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, cargo tank owners/operators, 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 have no emission, economic, or environmental impact, and are very limited in scope, consisting of the following items:

1. Revisions to two test procedures used by ARB staff during the field evaluation of vapor recovery equipment for aboveground storage tank systems. The proposed revisions to these test procedures would not change vapor recovery equipment performance standards, and there would be no effect on the end users of the equipment.
2. Revisions to cargo tank certification and test procedures would eliminate the requirement for ARB certification of new vapor recovery equipment, which is consistent with current industry practices and the way that ARB has been implementing the cargo tank program for many years. ARB will continue to certify cargo tanks by issuing decals that will expire annually. Cargo tank owners/operators are still required annually to submit applications that include

results of static pressure tests and other information. ARB regulations currently affect approximately 5,000 cargo tanks in California.

E) Public Process

1) Web Site

Staff established the EVR Rulemaking web site (<http://www.arb.ca.gov/vapor/rulemaking.htm>) providing stakeholders with information regarding the proposed regulation. Stakeholders included on the vapor recovery e-mail list server are notified whenever new information is posted. As of March 2013, there were approximately 4100 subscribers to the main vapor recovery list and an additional 2800 subscribers to the cargo tank vapor recovery list.

2) Public Workshops

Beginning in October 2012, ARB staff conducted four public workshops for stakeholders to address technical and policy issues and to define regulatory development timelines. The dates and locations of the workshops are listed in Table I-2. Interested stakeholders participated in the workshops in person or via conference call or webcast. Workshop presentations and associated documents were posted on the EVR Rulemaking web site prior to the workshop dates, and are included in Appendix J. Workshop announcements were distributed to approximately 4100 vapor recovery e-mail list subscribers, as well as approximately 400 parties interested in vapor recovery whose contact information was provided by the South Coast Air Quality Management District (SCAQMD). In an effort to build consensus and minimize areas of disagreement, ARB staff consulted with representatives of the California Air Pollution Control Officers Association (CAPCOA) Vapor Recovery Subcommittee to refine the presentation materials prior to conducting public workshops.

Table I-2, Public Workshops

DATE	LOCATION
October 31, 2012	Sacramento
November 2, 2012	Diamond Bar
November 7, 2012	Fresno
April 23, 2013*	Sacramento

*Included discussion of the proposed amendments to cargo tank requirements

As a result of feedback provided during the public workshops, it was decided that several of the concepts presented by ARB staff would not be included in this proposed rulemaking. During the public workshops, only one substantive comment was offered on an item that is included in this proposed rulemaking. Section IX of this report includes a discussion of that comment.

F) State Implementation Plan

All geographic areas in California that are designated non-attainment of the National Ambient Air Quality Standards (NAAQS) are required by the federal Clean Air Act to

prepare a State Implementation Plan (SIP) containing strategies to improve air quality and achieve the NAAQS. There are no emissions increases or reductions associated with the proposed regulations, so there will be no resultant impact on the SIP.

G) Climate Change Considerations

There are no emissions increases or reductions associated with the proposed regulations, so there will be no resultant impact on climate change.

II DESCRIPTION OF THE PROBLEM THAT THIS PROPOSAL ADDRESSES; PROPOSED SOLUTION AND SUPPORTING RATIONALE

The proposed amendments are intended to address a variety of minor issues with ARB's current EVR and Cargo Tank programs. These minor issues are unrelated to one another other than the fact that they all involve vapor recovery. Each problem, along with a description of staff's proposed solution, is discussed briefly in this section.

A) Revisions to TP-201.1

TP-201.1 – *Volumetric Efficiency for Phase I Systems* was adopted by the Board in 1996 and last amended in 2003. The procedure was originally intended for use on underground storage tank systems. It has been extensively used by ARB staff to determine the volumetric efficiency of the collection and containment of vapors during Phase I transfers on underground storage tank systems, and it has proven to be effective in that application. When EVR requirements were adopted for aboveground storage tanks in 2008, staff reasoned that TP-201.1 would be equally effective for use in determining volumetric efficiency of Phase I transfers into aboveground storage tanks. Subsequent field testing by ARB staff has shown that this is not the case, due to specific physical differences between typical aboveground storage tanks (ASTs) and underground storage tanks (USTs).

As compared to the USTs typically found at gasoline dispensing facilities, ASTs tend to be significantly smaller and subject to greater diurnal temperature variations. USTs used during ARB's EVR certification testing are generally between 8,000 and 20,000 gallons capacity. In contrast, ASTs used during ARB's EVR certification testing have been as small as 550 gallons capacity. When volatile liquid gasoline vaporizes within a tank, smaller tanks are far more subject to rapid increase in ullage pressure. This increase in ullage pressure leads to venting of vapors, which biases Phase I volumetric efficiency testing toward failure due to higher vent emissions. ASTs also differ from USTs in that they are not insulated by surrounding soil. ASTs are commonly classified as either "single-wall" or "protected". Single-wall ASTs are constructed with a primary (single) wall typically made of steel. Protected ASTs are constructed with a primary (inner) tank encased by a secondary (outer) tank, with a layer of insulating material (at

least three inches thick) between the primary and secondary walls. The insulating material is usually lightweight concrete or a similar material. The single wall steel tanks are particularly prone to far greater fluctuations in temperature. Thermal expansion of gasoline liquid and vapor within an AST, caused by rapid temperature increase, can result in vent emissions which bias Phase I volumetric efficiency test results toward failure.

The small tank size and rapid temperature fluctuations found in ASTs were not factors considered when TP-201.1 was originally written. These factors can result in vent emissions that bias the test toward failure. Vent emissions caused by volatile fuel in a small tank and rapid thermal expansion are subject to and captured by the separate standards of Standing Loss Control (SLC). These vent emissions should not be included as part of Phase I system efficiency testing, so TP-201.1 is being amended to address those conditions that are specific to ASTs. ARB staff's rationale for these proposed amendments are provided in Appendix I, *Appropriateness of TP-201.1 Volumetric Efficiency for Phase I Systems on GDFs Equipped with Aboveground Storage Tanks*.

B) Revisions to TP-206.2

TP-206.2 - Determination of Emission Factor for Standing Loss Control Vapor Recovery Systems Using Processors at Gasoline Dispensing Facilities Using Aboveground Storage Tanks was adopted by the Board in 2008. It is largely based on TP-201.2 - Efficiency and Emission Factor for Phase II Systems, which is used for USTs and was adopted by the Board in 1996 and last amended in 2012. In the 2012 amendments, TP-201.2 was revised to accommodate more modern sampling equipment, and to provide additional flexibility that is necessary to conduct testing on a wide variety of storage tank configurations encountered in the field. The amendments being proposed to TP-206.2 essentially mirror the 2012 amendments to TP-201.2, and are intended to accomplish the same results.

C) Deletion and Replacement of CP-204

The process for certifying cargo tank vapor recovery equipment is set forth in CP-204, Certification Procedure for Vapor Recovery System of Cargo Tanks which was first adopted on April 18, 1977 and was last amended on March 17, 1999. CP-204 lists the performance standards that vapor recovery equipment and cargo tanks must meet to be certified.

Section 41962 of the Health and Safety Code requires ARB to certify systems or equipment that recovers vapor from cargo tanks. Only those systems or equipment that ARB has certified by can be installed on cargo tanks. CP-204 makes specific the requirement that all cargo tanks must be certified annually to ensure that the vapor recovery systems are operating properly. Each year cargo tank owners/operators must submit an application with the information specified by CP-204 along with test results showing that cargo tanks comply with applicable performance standards as determined

by TP-204.1. ARB certifies cargo tanks by issuing non-transferrable and non-removable decals that contain an expiration date. These decals must be affixed at a location that can be readily seen. Storage tank operators at terminals or bulk plants will refuse to transfer gasoline to cargo tanks that have an invalid decal or after the expiration date.

The proposed amendments to CP-204 would eliminate the requirement that cargo tank operators/owners install vapor recovery systems or equipment that has been certified by ARB. ARB has not certified cargo tank vapor recovery systems for several decades. Instead, ARB staff has found that focusing efforts on the enforcement of annual cargo tank testing requirements is a more effective means of ensuring compliance with applicable requirements. One benefit of the proposal is that it will continue to allow cargo tank operators a greater choice of vapor recovery systems and equipment. Vapor recovery equipment manufacturers would also continue to benefit by not having to undergo an ARB certification process each time they introduce new or redesigned cargo tank vapor recovery components to the market. Because ARB has not been enforcing the existing equipment certification requirements of CP-204 for many years, this proposal will have no material effect on the equipment manufacturers and cargo tank owners/operators.

The proposed amendments to CP-204 involve significant reorganization of many sections of the existing document, so staff has chosen to completely delete the existing version of CP-204 and replace it with a new version. This was done in order to make it easier for interested parties to read the newly proposed CP-204.

D) Revisions to TP-204.1

TP-204.1 – Determination of Five Minute Static Pressure Performance of Vapor Recovery Systems of Cargo Tanks was adopted by the Board in 1996 and last amended in 1999. This test is conducted on all cargo tanks annually to demonstrate compliance with applicable ARB performance standards. Staff is proposing to amend TP-204.1 to allow for the use of United States Environmental Protection Agency (U.S. EPA) Method 27, with minor amendments, as an equivalent test procedure. This change will allow cargo tank operators to conduct a single test annually that can be used to show compliance with both ARB and United States Department of Transportation requirements. Additional changes are proposed to TP-204.1 that will improve clarity and be more consistent with other ARB test procedures.

E) Revisions to TP-204.2

TP-204.2 – Determination of One Minute Static Pressure Performance of Vapor Recovery Systems of Cargo Tanks was adopted by the Board in 1996 and last amended in 1999. Staff is proposing minor reorganization and editorial changes to TP-204.2 in order to improve clarity and be more consistent with other ARB test procedures.

F) Revisions to TP-204.3

TP-204.3 – Determination of Leak(s) was adopted by the Board in 1996 and last amended in 1999. Staff is proposing minor reorganization and editorial changes to TP-204.3 in order to improve clarity and be more consistent with other ARB test procedures.

III SUMMARY OF RECOMMENDED BOARD ACTION

Staff recommends that the Board approve the proposal to amend sections 94011, 94014, and 94016 of title 17, California Code of Regulations. The amendments would incorporate by reference the following new or amended Certification and Test Procedures:

- Test Procedure 201.1 – Volumetric Efficiency for Phase I Systems;
- Certification Procedure 204 – Certification Procedure for Vapor Recovery Systems of Cargo Tanks
- Test Procedure 204.1 – Determination of Five Minute Static Pressure Performance of Vapor Recovery Systems of Cargo Tanks
- Test Procedure 204.2 – Determination of One Minute Static Pressure Performance of Vapor Recovery Systems of Cargo Tanks
- Test Procedure 204.3 – Determination of Leak(s)
- Test Procedure 206.2 - Determination of Emission Factor for Standing Loss Control Vapor Recovery Systems Using Processors at Gasoline Dispensing Facilities with Aboveground Storage Tanks

By approving the proposed amendments the Board would not cause any economic or environmental impacts, but would:

1. Resolve technical problems that currently exist with two test procedures used by ARB staff when certifying vapor recovery equipment for aboveground storage tanks; and
2. Reconcile the cargo tank certification and test procedures with current ARB policy and industry practices, and provide additional flexibility for cargo tank owners to remain in compliance with performance standards.

IV ENVIRONMENTAL IMPACTS ANALYSIS (CEQA Analysis)

A) Introduction

This section provides an environmental analysis for the proposed amendments to Certification and Test Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities and Cargo Tanks. Based on ARB's review, staff has determined that

implementation of the proposed amendments would not result in any potentially significant adverse impacts on the environment. This analysis provides the basis for reaching this conclusion.

B) Environmental Review Process

ARB is the lead agency for the proposed amendments and has prepared this environmental analysis pursuant to its regulatory program certified by the Secretary of the Natural Resources Agency (14 CCR 15251(d); 17 CCR 60005-60007). In accordance with Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA), public agencies with certified regulatory programs are exempt from the requirements for preparing environmental impact reports, negative declarations, and initial studies (14 CCR 15250). As required by ARB's certified regulatory program, and the policy and substantive requirements of CEQA, ARB has prepared as part of this Staff Report an assessment of the potential for significant adverse and beneficial environmental impacts associated with the proposed regulation and a succinct analysis of those impacts (17 CCR 60005(b)). The resource areas from the CEQA Guidelines Environmental Checklist were used as a framework for assessing the potential for significant impacts (17 CCR 60005(b)).

If comments received during the public review period raise significant environmental issues, staff will summarize and respond to the comments in writing. The written responses will be included in the Final Statement of Reasons (FSOR) for the regulation. Prior to taking final action on any proposed action for which significant environmental issues have been raised, the decision maker shall approve the written responses to these issues (17 CCR 60007(a)). If the 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 (17 CCR 60007(b)).

C) Prior Environmental Analysis

In March 2000, ARB approved the Enhanced Vapor Recovery (EVR) regulations for gasoline dispensing facilities (GDFs). The EVR regulations established new standards for vapor recovery systems to reduce emissions during storage and transfer of gasoline at GDFs. The EVR regulations were updated in 2001, 2002, 2004, 2006, 2007, and 2011. 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.

On April 18, 1977, the Board first approved performance standards for controlling emissions from cargo tanks used to transfer gasoline from loading terminals to GDFs. Since 1977, the cargo tank requirements were amended a number of times, the last occurred in 1999. Each amendment clarified the requirements and improved the process for ARB certification of equipment used on cargo tanks for the control of gasoline vapors.

Previous environmental analyses for the regulations and subsequent amendments discussed potential beneficial environmental impacts to air quality. No adverse environmental impacts were identified.

D) Proposed Regulation

1) Description

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

- Improve two test procedures used by ARB staff during certification of vapor recovery equipment on aboveground storage tanks (AST); and
- Replace the outdated cargo tank certification procedure with a new certification procedure and revise three test procedures for equipment used on cargo tanks to control gasoline vapor emissions.

2) Methods of Compliance

The test procedure amendments proposed would require ARB staff conducting certification testing of new vapor recovery equipment to follow the revised test procedure. This proposal requires no action on the part of anyone other than ARB staff.

The proposed changes to the Certification Procedure for the Vapor Recovery Systems of Cargo Tanks (CP-204) will allow the regulated community more flexibility in performing the annual certification test by allowing the use of the Federal Test Method required by the United States Department of Transportation (DOT) as part of the required safety testing cargo tank owners are required to perform annually. By allowing the Federal Test Method (applying CP-204's test limits) in lieu of ARB's TP-204.1, owner/operators can perform one test procedure to meet ARB's and DOT's requirements thus eliminating the confusion between the DOT test expiration date and ARB's test expiration date. The use of the Federal Test Method in lieu of TP-204.1 is completely optional and will require no additional equipment or training as owner/operators must already be trained to perform the DOT required test as well as TP-204.1.

E) Environmental Impacts

1) Resource Areas with No Impacts

Based on ARB's review of the proposed regulatory amendments, staff concludes that the amendments would not have a significant adverse effect on the environment. Compliance with the proposed amendments would not result in

any adverse physical change to the existing environment because the amendments affect test procedures used during certification of vapor recovery equipment, and certification procedures and test procedures for equipment used on cargo tanks. Thus, the amendments would 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. ARB staff finds that 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 amendments would not require any action by regulated parties that could affect these resources.

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 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. There are no emissions increases or reductions associated with the proposed regulations, so there will be no environmental justice issues to consider.

VI ECONOMIC IMPACTS

Staff does not expect the proposed regulation to impose any costs or have any economic impact on businesses or individuals located in California. The proposal will not result in the creation or elimination of any jobs. Although there is no economic impact from the proposed regulation, revision of these vapor recovery test procedures will provide greater clarity to individuals conducting these tests, will help to make California's requirements more consistent with federal Department of Transportation requirements, and will benefit cargo tank operators who must meet these requirements. Form 399, which summarizes the economic and fiscal impacts of the proposed amendments, has been completed and is included in the rulemaking record.

A) Fiscal Impacts

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

1) Impacts on California Businesses and Job Creation

Section 11346.3 of the Government Code 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.

No costs or savings are associated with this proposal, so staff has determined that there are no significant economic impacts to businesses or individuals within California due to the proposed performance standard or implementation schedule. The proposal will not result in the creation or elimination of any jobs within or outside of California.

2) Costs to State and Local Agencies

Section 11346.5 of the Government Code 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.

There are no costs or savings associated with this proposal, so 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 Safety Code Section 57005 requires the 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 an economic impact on California business enterprises or individuals in an amount exceeding 50 million dollars as estimated by the ARB. The estimated economic impact of the proposed regulation does not exceed this threshold.

VII ALTERNATIVES CONSIDERED

In accordance with Government Code Section 11346.5, subdivision (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)Revisions to TP-201.1

Alternative 1: Make No Changes

Staff considered the possibility of making no amendments to TP-201.1 and continuing to use it for determining the efficiency of Phase I EVR systems on aboveground storage tanks. Two Phase I EVR systems for aboveground tanks have already been certified using the current test procedure. However, in order for a well-designed Phase I EVR system to pass the current test procedure, testing must be conducted with a nearly empty tank during cool weather and using cool fuel for the delivery. The same Phase I EVR system that passes testing under those controlled conditions will fail when tested on a warm day with a more full tank and warm fuel being delivered. Staff believes that it is appropriate to formally correct the deficiencies in this test procedure rather than to work around those deficiencies by selectively conducting the test at specific conditions.

Alternative 2: Draft an Entirely New Test Procedure for Determining Efficiency of Phase I EVR Systems for Aboveground Storage Tanks

Staff considered proposing an entirely new test procedure for determining efficiency of Phase I EVR systems that was unique to aboveground storage tanks. This procedure would have been numbered TP-206.4, following the numbering convention used for other procedures specific to aboveground storage tanks. Staff determined that such a test procedure would likely be very similar to the current TP-201.1, with only a few changes to make it applicable to aboveground storage tanks. However, presenting this as a new test procedure would make it appear as though substantial revisions are made. This would make it difficult for interested parties to distinguish material that was being newly proposed from material that was copied directly over from TP-201.1. Staff believes that it is more clear and effective to simply amend the current TP-201.1 to address the deficiencies specific to aboveground storage tanks.

B)Revisions to TP-206.2

Alternative 1: Make No Changes

Staff considered the possibility of making no amendments to TP-206.2. This alternative would force ARB testing staff to continue utilizing the current test procedure. It would prohibit the use of newer analytical equipment and data logging equipment that is available to ARB staff. This could lead to more time spent with equipment set-up, calibration, and data analysis than would be required when using the amended test procedure.

C) Deletion and Replacement of CP-204

Alternative 1: Make No Changes

Staff considered making no changes to CP-204. Currently, ARB is not certifying vapor recovery equipment for cargo tanks as required by CP-204. ARB cannot continue to disregard the vapor recovery equipment certification requirements currently found in CP-204. If ARB were to begin enforcing that provision, new components would have to go through an ARB certification evaluation, which would be a disincentive to manufacturers bringing new components to market. Additional ARB staff would have to be hired, or existing staff reassigned, to implement a certification program. Vapor recovery component costs, and the time it takes for new components to be introduced to the market, would likely increase. Staff does not expect that the additional cost and regulatory burden of implementing the certification program as currently required by CP-204 would result in any reduction in emissions from cargo tanks. Therefore, staff concludes that it is best for CP-204 to be amended as proposed.

D) Revisions to TP-204.1

Alternative 1: Make No Changes

Cargo tanks used in California are currently required to be tested annually using two separate test procedures; one for the state and one for the federal government. The current proposal provides an option to demonstrate compliance with California and federal requirements with a single test. Staff determined that leaving TP-204.1 unchanged is unacceptable because it would not ease the regulatory burden on cargo tank operators.

Alternative 2: Adopt the Federal Requirements for Cargo Tanks

Staff considered adopting the federal requirements for cargo tanks. This alternative would allow cargo tanks to be certified to a less stringent standard than found in the current TP-204.1. Also, the federal program requires owners/operators to only maintain records of annual testing for their fleet of cargo tanks; there is no requirement similar to California's requirement for owners/operators to notify ARB when an annual certification test will take place allowing program inspectors the opportunity to observe the test. Staff believes that the certification test notification is a valuable enforcement tool in reducing emissions from cargo tanks. Furthermore, the federal test procedure will allow more gasoline vapors to be emitted into the air because it allows the purged cargo tank to be vented into the atmosphere. California requires that any venting must be to a control device that is approved by both ARB and the local air district. Therefore adopting the federal standards is not an adequate alternative.

No other alternatives have been identified and considered.

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 to this regulatory package: revisions to vapor recovery regulations pertaining to GDFs equipped with aboveground storage tanks (TP-201.1 and TP-206.2), and revision of vapor recovery regulations pertaining to Cargo Tanks (CP-204, TP-204.1, TP-204.2, and TP-204.3).

B) Revisions to TP-201.1

The following is a summary of the specific regulatory amendments that are proposed for TP-201.1. The full proposed regulatory language shown in strike and add format are included in Appendix C.

Section 1 has been amended to clarify that this test procedure is applicable to both USTs and ASTs. This amendment improves clarity, but does not substantively alter the test procedure.

Section 2 has been amended to reference the performance standard for Phase I system volumetric efficiency for aboveground storage tanks, which is found in CP-206. This amendment improves clarity, but does not substantively alter the test procedure.

Section 3.3 has been amended to reference the leak decay performance standard for ASTs, which is found in section 4.2 of CP-206. This amendment was necessary because TP-201.1 is applicable to aboveground tanks whose standards and specifications are contained in CP-206.

Sections 6.2 and 8.6 have been amended to reference TP-206.3, which is the test procedure that must be used to determine leak integrity of ASTs. This amendment improves clarity, but does not substantively alter the test procedure.

Section 6.6 has been amended to include instructions for the tester to use the reporting form that is included with this test procedure. This amendment improves clarity, but does not substantively alter the test procedure.

Section 6.10 has been amended to address a problem unique to ASTs, due to their small overall capacity. It is not uncommon for the vapor space of a fuel delivery truck to be under slight pressure when it arrives at the gasoline dispensing facility and connects to the storage tank. Once the delivery truck is connected to the storage tank, pressure between the two will begin to equalize. Pressure within the cargo tank can easily pressurize the small AST, leading to venting of emissions through the pressure/vacuum vent valve. This venting biases the test toward failure. That bias is eliminated by

resetting the volume meter totalizer to zero once pressure has stabilized between the cargo tank and the aboveground storage tank.

Section 7.6 has been amended to address thermal expansion of liquid and vapor gasoline, which is a problem unique to aboveground storage tanks. After fuel has been delivered into the aboveground tank, warm air and sunlight on the tank surface can tend to warm the fuel within the tank. This results in expansion of that fuel, which can lead to venting. That venting, which occurs after the delivery from the cargo tanker is completed, is unrelated to the performance of the Phase I EVR system. Including that venting in the Phase I efficiency calculation, as required by the current procedure, can bias the test toward failure. This bias is removed by eliminating the requirement to monitor vent pipe emissions for up to 60 minutes following a delivery when testing ASTs. It should be noted that emissions associated with thermal expansion are subject to regulation under Standing Loss Control provisions of CP-206, which are not being amended in this rulemaking.

Sections 9.1 and 9.2 have been amended to better clarify the existing equations, although there is no change to the equations themselves. This amendment improves clarity, but does not substantively alter the test procedure.

Figure 3 has been renamed to clarify that it applies to underground storage tanks only. This amendment improves clarity, but does not substantively alter the test procedure.

Figures 4 and 5 have been added to illustrate typical configurations of test equipment when used on aboveground storage tanks. This amendment improves clarity, but does not substantively alter the test procedure.

General Revisions: Throughout the document, the terms “storage tank” and “underground storage tank” have been amended as needed to clarify that this test procedure is applicable to both aboveground and underground storage tanks.

C)Revisions to TP-206.2

The following is a summary of the specific regulatory amendments that are proposed for TP-206.2. The full proposed regulatory language shown in strike and add format are included in Appendix D.

Section 1 has been amended to clarify that the test procedure will quantify emissions from the pressure/vacuum (P/V) vent valve as well as the processor. This is not a substantive change, since this test procedure has always included quantification of P/V vent valve emissions. Section 1 has also been amended to clarify that changes to the test procedure must be approved in writing by the Executive Officer. This is not a new requirement, since it is included within CP-206, but it has been added here for clarity and to be consistent with the format of other EVR test procedures.

Section 2 has been amended for clarity. Separate language has been added to clarify the process for measuring the inlet and outlet of the vapor processor. The language requiring testing to be conducted during summer months, and within a specified temperature range, has been deleted from section 2. Those requirements still apply, and can now be found in section 9.1.1.

Section 3.1 has been amended to clarify that failure of the required Static Pressure performance test will invalidate results of the Standing Loss Control (SLC) emission factor test. This has always been ARB staff policy, but it is now stated within the test procedure.

Section 4.2 has been amended to delete the maximum efficiency error. The previous maximum efficiency error of 1% is not valid because this test procedure is not designed to calculate vapor recovery system efficiency. Instead, the procedure is designed to calculate an emission factor. Since no efficiency percentage is being calculated in this test, it is not appropriate to specify a maximum allowable error in efficiency.

Section 5.1.1 has been amended to correct grammar.

Section 5.1.2 has been amended to allow for the use of non-dispersive infrared (NDIR) analyzers as well as flame ionization detector (FID) type analyzers. This change is supported by ARB test data that shows NDIR analyzers can produce comparable results to FID analyzers over the range of concentrations expected in this test. Additionally, FID analyzers are not appropriate for testing at the processor inlet point because sample gas fed into a FID is destroyed and cannot be returned to the vapor processor inlet stream. Using an NDIR at the inlet point allows for that sample to be returned to the processor inlet stream, so that sampling does not interfere with processor performance.

Section 5.1.3 is added to describe specifications for analyzers used on the outlet of destructive vapor processors. For those processors it is necessary to measure carbon monoxide and carbon dioxide, which are products of combustion within the processor. Specifications for these processors were previously contained in section 5.1.6.

Sections 5.1.4, 5.1.5, and 5.1.6 have been renumbered to accommodate the addition of new language in section 5.1.3. Section 5.1.4 has been amended to address the possibility that testing may include instrumentation designed to detect gases other than hydrocarbons. Those instruments will need to be calibrated using a gas standard that contains the compound being measured.

Table 5-1 has been amended to include separate calibration concentrations for instruments used at the processor inlet and outlet points. Minor changes have been made to calibration values. These changes are based on ARB staff experience with available gases and with the analyzers used to conduct this test. Changes to this table will not result in any decrease in the accuracy or precision of the instruments used for testing.

Section 5.1.6 has been deleted. For clarity, the language previously found in section 5.1.6 has been moved to section 5.1.3.

Section 5.2 has been amended to include analyzers measuring gases other than hydrocarbons, such as carbon monoxide and carbon dioxide. In addition, new language has been added requiring more data to be collected in the permanent test record. The addition of temperature and pressure measurements to the permanent test record, as well as the new requirement for the interval of averaging not to exceed 1-minute, will serve to improve the overall quality of the test data. These new requirements are common practice for ARB staff conducting this test, but they are now specifically required by the test method.

Table 5-2 has been amended to include a reduced vent sleeve sweep rate. This reduced sweep rate is more easily achieved by the smaller sample pumps commonly used for field testing, and it has been shown by ARB's in-house testing to be equally effective to the previously required sweep rate.

Section 5.3.3 has been amended to allow for the installation of a test manifold at either the inlet or outlet point of the processor and the test manifold must be designed to accommodate the required temperature and pressure measurement devices.

Section 5.3.5 has been amended to specify the typical temperature measurement range of 0 to 200 °F. Allowance remains for the use of other temperature ranges if appropriate for the processor being tested.

Section 5.4.1 has been amended to remove the previous reference to the pump specifications in TP-201.1A. Instead of referencing another test procedure, the pump specifications are now more easily accessed within this section.

Sections 5.4.2 and 5.4.3 have been added to describe the sampling apparatus that is to be used on the outlet of destructive processors. Destructive processors typically involve combustion of hydrocarbon vapors, which results in an exhaust gas stream that can be difficult to accurately sample. The sampling equipment configurations described in sections 5.4.2 and 5.4.3 have been used successfully by ARB staff for several years, and are now being incorporated formally into this test procedure.

Section 5.5 (including subsections 5.5.1, 5.5.1.1, 5.5.1.2, 5.5.2, and 5.5.3) has been added to describe the sampling apparatus that is to be used at the P/V vent valve location. P/V vent valves can be manufactured in a variety of sizes. Also, some P/V valves vent under pressure in a slow, seeping manner. Others will tend to vent under pressure in a series of large, distinct pulses. Because of the variety of P/V vent valve dimensions and performance characteristics, the P/V vent valve sampling apparatus is defined based on a performance standard rather than a prescriptive design. Performance of the test apparatus must be field verified, using a calibration gas as described in section 5.5.1.1, to demonstrate that any hydrocarbons escaping from the

P/V vent valve are captured. Because P/V vent valves operate within a very strictly defined differential pressure range, section 5.5.1 dictates that the test apparatus can result in a pressure drop of no more than 0.01 inches of water column. Sections 5.5.2 and 5.5.3 define the materials that can be used for the sampling apparatus and pump. The materials were selected to ensure that no hydrocarbons are trapped within, or introduced by, the sampling apparatus.

Sections 5.6, 5.7, and 5.8 have been renumbered to accommodate the addition of new language in section 5.5.

Section 6.1 has been amended to reflect the fact that calibration procedures have been moved to section 10 from the previous section 8.1.1.

Section 7.2 has been deleted and replaced with new language. The deleted language regarding P/V vent sampling has been moved, with amendments, to section 7.3. The new language in section 7.2 describes sampling procedures for the upstream and downstream points of the vapor processor.

Section 7.2.1 has been added to describe sampling procedures for the upstream point of destructive vapor processors. This section references United States Environmental Protection Agency (U.S. EPA) Method 2B, which is the same method that was referenced in section 7.3.1 of the previous version of this test procedure.

Section 7.2.2 has been added. This section includes a slightly amended version of the language previously found in section 7.3.1. The amendments are intended to improve clarity. Additionally, there is a new requirement that sampling at the outlet of destructive processors should include a measurement of hydrocarbons. In most cases it is not expected that there would be a significant amount of hydrocarbons at the processor outlet, but it must be measured and included in the final system efficiency calculation.

Section 7.2.3 is added to describe the sampling procedure for hydrocarbons in the outlet of non-destructive vapor processors. This new language is needed since hydrocarbon concentration in the exhaust of non-destructive processors was not explicitly required to be measured in the previous version of this test procedure. It is critical that the processor be tested in its normal operating configuration, so the sampling apparatus must be set up in such a way that it does not interfere with processor operation. Based on ARB staff experience, it is likely that sample flow rates exceeding one half of the processor flow rate can result in ambient air being ingested by the sampling system, diluting the sample and reducing the measured hydrocarbon concentration, producing a low bias in the calculated emission factor. Returning the analyzed sample to the manifold will prevent sample dilution and eliminate this potential bias.

Section 7.3 is added to describe the procedure for sampling at the P/V vent valve. The language in this section is similar to what was previously found in section 7.2, but with additional details added for clarity.

Section 7.6 is amended to clarify that the facility must be leak tested before and after installation of the sampling apparatus. The leak test conducted prior to installation of the test apparatus serves to validate the integrity of data collected during the certification testing prior to that point. The leak test conducted after installation of the test apparatus serves to establish that the tank system is in compliance with leak integrity standards during the TP-206.2 efficiency testing.

Section 8.1.1 has been amended to clarify that calibration is to be done with gases in order from lowest to highest concentration. This is consistent with industry standards and applicable U.S. EPA and ARB test methods.

Section 8.2 has been added to describe a bias check of the sampling system. Sampling systems can vary widely based on field conditions and the type of processor being tested. This bias check is designed to ensure that the sampling system does not skew the results of the test. The added bias check procedure and calculation (Equation 8.1) is identical to bias check procedures used in several other existing EVR Test Procedures. Adding a bias check to this test procedure increases confidence in the final test results, but does not add significantly to the time or cost of testing.

Sections 8.3, 8.3.1, 8.3.2, 8.4, and 8.5 have been renumbered to accommodate the addition of new language in section 8.2.

Section 9 is amended for clarity, and to specify that data for this test will be collected from multiple sample points.

Section 9.1.1 is amended to include a reference to the requirements for testing in summer and at a specific temperature. Those requirements were previously contained in section 2.

Section 9.1.2 is deleted for clarity. The temperature requirements previously found in this section are now included by reference in section 9.1.1.

Sections 9.1.3 and 9.1.4 have been renumbered to accommodate the removal of section 9.1.2.

Section 10.1 has been added to require that a sample system bias check must be conducted at the end of each test day. The bias check is identical to the check required prior to testing per section 8.2, and is similarly intended to increase confidence in the final test results.

Sections 10.2, 10.3, 10.4, 10.5, and 10.6 have been renumbered to accommodate the addition of new language in section 10.1.

Section 11.2 has been amended to clarify that failure of the facility leak test after completion of efficiency testing will invalidate the results of the efficiency test. A leaking

tank system could bias standing loss efficiency testing results toward either passing or failing, depending on the location of the leak and the type of vapor processor. By passing leak tests both before and after the efficiency testing, it is reasonable to assume that the tank system was in compliance with leak integrity standards throughout the efficiency testing process, and that no bias from leaks has occurred.

Sections 12.1, 12.1.1, and 12.1.2 have been amended for clarity. The changes help to more clearly specify which test point is being discussed in each equation. Also, a definition has been added for each constant used in these equations.

Section 12.2 (including subsections 12.2.1, 12.2.2, and 12.2.3) has been added to specify the means of calculating the emission factor for destructive processors. This procedure is based on the carbon balance principle contained in U.S. EPA Method 2B, incorporated by reference in ARB TP-201.2, section 12.4.2. It is identical to the method currently used by ARB for determining the emission factor of vapor recovery systems used on underground storage tanks and gasoline bulk distribution terminals.

Section 12.3 (including subsections 12.3.1 and 12.3.2) has been amended for clarity, and to specify that the emission factor must be calculated for each 24-hour period and reported in pounds of hydrocarbons per 1000 gallons dispensed. These requirements are consistent with other ARB vapor recovery efficiency test procedures. The language previously contained within section 12.3 and subsection 12.3.1 has been deleted since it is made redundant by the amended language.

General Revisions: The term “hydrocarbon analyzers” has been replaced with “continuous gas analyzers” throughout the test procedure. This change is appropriate because some of the analyzers used in this test may also measure gases other than hydrocarbons. Various minor grammatical errors have been corrected.

E) Deletion and Replacement of CP-204

The following is a summary of the specific regulatory amendments that are proposed for CP-204. The changes to CP-204 involve significant reorganization of many sections of the existing document, so staff has chosen to completely delete the existing version of CP-204 and replace it with a new version. This was done in order to make it easier for interested parties to read the newly proposed CP-204. The full proposed regulatory language of CP-204 is shown in Appendix E. The first part of Appendix E shows the existing CP-204 that is being proposed for deletion. The second part of Appendix E shows the new version of CP-204 that is being proposed for adoption.

Section 1 – General Information and Applicability. This section clarifies that the Certification Procedure applies to the certification of cargo tanks equipped with a system that recovers vapor during the loading and unloading of gasoline. It also lists other state agencies that have jurisdiction over cargo tanks and ARB is not responsible for getting approvals from these agencies. The requirements in this section are essentially the same as those found in section 1 of the current version of CP-204.

Section 2 – Summary of Certification Process. This section states that cargo tank owners/operators are required to apply for certification for any cargo tank that is operated in California. The requirements contained in this section are necessary in order to clarify and make specific the process for certification of cargo tanks in California, as required by Section 41962 of the Health and Safety Code. Many of the requirements contained in this section are the same as those found in section 2 of the current version of CP-204. However, there are two substantive changes:

First, rather than requiring certification of newly designed systems or components prior to allowing their use in California, the focus is now placed on a certification that is solely based on in-use performance testing of cargo tanks. While this appears to be a significant change, it will result in no change to affected parties because it is consistent with the way ARB has been implementing the cargo tank vapor recovery program for decades.

The second substantive change is the new requirement that notification prior to testing and submission of test results must be done electronically via ARB's online reporting system. Submittal of this information has always been required per CP-204, but it now must be submitted online. ARB has been working with cargo tank operators to transition from paper copies to online submittal of data since 2009. Since 2011, all cargo tank operators in California have been submitting information online voluntarily. By adding this requirement to CP-204, staff intends to promote continued statewide consistency and continued use of the existing online data submittal system.

Other than the two items discussed in the previous paragraphs, certification requirements remain essentially unchanged from the previous version of CP-204. The application must contain the results of annual testing to verify compliance with the applicable performance standards listed in Section 3. Prior to conducting any test, cargo tank owners/operators are required to notify the Executive Officer so that the Executive Officer or designee may observe or conduct the test. The cargo tank must be compatible with an ARB certified vapor recovery system at terminal storage tanks or with a Phase I system at GDFs. When the Executive Officer determines that the application complies with the requirements, the Executive Officer will issue a non-transferrable and non-removable decal that is affixed in a location on the cargo tank as specified in CP-204. A stamped copy of the application is returned and must be kept with the cargo tank. The cargo tank owner/operator will be charged a fee not to exceed the actual cost of certification. Payment of the fee is a condition of certification, as authorized by Section 41962(f) of the Health and Safety Code

Section 3 – Performance Standards and Test Procedures. This section lists the five minute performance standards, daily static pressure performance standard or one minute standard, and vapor and liquid leak performance standards which are determined in accordance with TP-204.1, TP-204.2, and TP-204.3, respectively. Testing for the five minute standard must be done annually with an empty cargo tank. Testing for the one minute standard can be done daily with a full cargo tank. These

performance standards have not changed and are identical to performance standards found in section 4 of the current version of CP-204. Section 41962(a) of the Health and Safety Code requires ARB to adopt test procedures to determine compliance of vapor recovery system on cargo tanks, so this section of CP-204 is necessary in order to implement that requirement.

Section 4 – Requirement for Determination of Compliance and Violation. This section is identical to language that has been proposed to be deleted from section 9 of both TP-204.1 and TP-204.2. This language has been removed from those test procedures and placed into the certification procedure for clarity and consistency. ARB’s general practice is that the test procedure explains or describes the test and the certification procedure sets forth the pass/fail criteria and explains the implication of test results. This section has not changed from the language previously found in TP-204.1 and TP-204.2 with exception of non-substantial or grammatical modifications.

Section 5 – Alternate Test Procedures. This section explains the process for the Executive Officer to approve alternate test procedures that may be used in lieu of adopted test procedures. This process is similar to the one established in CP-201, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities. Anyone can request approval of an alternate test procedure by providing the requested information to the Executive Officer or designee. The proposal requires the Executive Officer (or a third party under the direction of the Executive Officer) to conduct all testing to determine the acceptability of the alternate procedure. Such testing shall be conducted in accordance with U.S. EPA Method 301, Field Validation of Pollution Measurement Methods from Various Waste Media. For those situations where U.S. EPA Method 301 is not applicable, the Executive Officer can establish equivalence based on concepts of comparison with established methods and statistical analysis of bias and variance. This section is necessary to provide flexibility for cargo tank operators who may, for technical reasons, want or need to test their cargo tanks in a manner that differs from the ARB test procedures. The language is intended to provide flexibility while ensuring that any alternative test method adheres to the same performance standards and provides the same level of environmental protection that is offered by the equivalent ARB test procedures.

F) Revisions to TP-204.1

The following is a summary of the specific regulatory amendments that are proposed for TP-204.1. The full proposed regulatory language shown in strike and add format is included in Appendix F.

Section 1 - Applicability. This section was revised to improve clarity, and to be consistent with the format used in other similar ARB test procedures. Amendments to this section include a minor editorial change by correcting the title of D-200, Definition for Vapor Recovery Procedures. Other proposed changes include making it clear that this test procedure is used to determine compliance with the five minute static performance standard referenced in CP-204 and deleting all references to

determination of compliance and violations and modifications. The last two items are now included in CP-204.

Section 2 – Principle and Summary of Test Procedure. This section has been amended to provide some additional details within the summary of the test procedure, which helps to improve clarity of the test procedure. Instructions to avoid conducting the test in direct sunlight have been deleted from this section and moved to Section 3, which is more appropriate since sunlight on the tank is a factor that could bias a test toward passing.

Section 3 – Bias and Interference. This section has been amended to include instructions that this test should be conducted in full shade. This instruction was previously contained in Section 2. Moving it to Section 3 improves clarity since sunlight on the tank is a factor that could bias a test toward passing.

Existing Section 4 – Sensitivity, Range, and Precision. The proposal is to delete this heading since it contains no data or information. Removing this section shortens and simplifies the written test procedure.

Proposed Section 4 – Equipment. Minor non-substantial editorial modifications are proposed. This amendment improves clarity, but does not substantively alter the test procedure.

Existing Section 5 – Equipment. This section is now renumbered as 4, to account for the removal of the previous Section 4.

Proposed Section 5 - Pre Test Protocol. The proposed language would make it clear that purging the cargo tank into the atmosphere is prohibited and requires purging be accomplished by one of four procedures. These purging requirements were originally listed in CP-204 but it is more appropriate to be referenced in the test procedures since purging the tank is done as part of the actual test procedure. Individuals conducting this test are more likely to reference the written test procedure than the associated certification procedure, so placing the requirement within the test procedure helps improve clarity.

Existing Section 6 – Calibration Procedure. The proposal is to delete this heading since it contains no data or information. Removing this section shortens and simplifies the written test procedure.

Proposed Section 6 – Test Procedure. Minor editorial changes were made in various subsections. These amendments improve clarity, but do not substantively alter the test procedure.

Existing Section 7 – Pre-Test Protocols. This section is proposed to be renumbered as 5, to account for the removal of the previous Sections 4 and 6.

Proposed Section 7 – Requirement at Conclusion of Pressure Testing. This section was moved from CP-204 since the actions described in this section are part of the actual test procedure. Individuals conducting this test are more likely to reference the written test procedure than the associated certification procedure, so placing the requirement within the test procedure helps improve clarity.

Existing Section 8 – Test Procedure. This section is proposed to be renumbered as 6, to account for the removal of the previous Sections 4 and 6.

Proposed Section 8 - Reporting Results. This section was revised to require that all results be reported electronically through the ARB Online Cargo Tank Vapor Recovery Certification Program at www.arb.ca.gov/enf/cargotanks/cargotanks.htm. Online submittal of test results has been available since 2009, and ARB staff has worked with cargo tank operators over the past several years to encourage its use statewide. Since 2011, all cargo tank operators in California have been submitting information online voluntarily. By adding this language to Section 8, staff intends to promote continued statewide consistency and continued use of the existing online data submittal system.

Existing Section 9 –Determinations of Compliance and Violation. This section is proposed to be moved to CP-204 since it deals with implications of test results. This language has been removed from the test procedure and placed into the certification procedure for clarity and consistency. ARB’s general practice is that the test procedure explains or describes the test and the certification procedure sets forth the pass/fail criteria and explains the implication of test results.

Proposed Section 9 – Alternate Test Procedure. Changes include making U.S. EPA Method 27 equivalent to TP-204.1 with three exceptions. These exceptions include compliance with purging requirements of TP 204.1, not allowing averaging of two successive tests, and defining a valid test as successfully passing three TP-204.1 tests (pressure, vacuum, and internal vapor valve) consecutively in any sequence. These exceptions are consistent with current policy, and help to ensure that the U.S.EPA test method is equally stringent to the ARB method. By allowing the use of the U.S.EPA test method to meet ARB requirements, cargo tank operators will now have the option to conduct a single annual test that will serve as the basis for establishing compliance with both California and federal requirements. This could result in a significant reduction in the burden of maintaining compliance for those cargo tank operators who are currently conducting separate tests to meet federal and California requirements.

This section has also been amended to remove instructions for obtaining ARB approval for the use of other alternative test methods. The process for obtaining approval for other equivalent test methods has been added to section 5 of CP-204, which improves clarity and is consistent with the format that ARB uses in other similar certification and test procedures.

Existing Section 10 – Quality Assurance/Quality Control (QA/QC). This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 11 – Recording Data, This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 12 - Calculating Results, This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 13 – Reporting Results, This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 14 – Alternate Test Procedures, This section is proposed to be renumbered as section 9, to account for the removal of previous sections.

Existing Section 15 - References, This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 16 – Figures. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

G)Revisions to TP-204.2

The following is a summary of the specific regulatory amendments that are proposed for TP-204.2. The full proposed regulatory language shown in strike and add format are included in Appendix G.

Section 1 – Applicability. This section was revised to include a minor editorial change by correcting the title of D-200, Definition for Vapor Recovery Procedures. Other proposed changes include making it clear that this test procedure is used to determine compliance with the one minute static performance standard referenced in CP-204 and deleting all references to determination of compliance and violations and modifications. The last two items are now included in CP-204, which improves clarity and is consistent with the format that ARB uses in other similar certification and test procedures.

Section 2 – Principle and Summary of Test Procedure. Minor non-substantive editorial modifications have been made to improve clarity and use terminology that is consistent with other similar ARB certification and test procedures.

Section 3 – Biases and Interference. Corrected a section number reference within the test procedure to account for the removal and renumbering of sections. Other minor non-substantive editorial modifications have been made to improve clarity.

Section 4 – Sensitivity, Range, and Precision. Minor non-substantial editorial modifications were made in this section to improve clarity.

Section 5 – Equipment. Minor non-substantial editorial modifications were made in this section to improve clarity. Reference to a specific make/model of pressure measurement device was removed to help increase flexibility and make it clearer that other makes/models of pressure measurement devices are acceptable.

Existing Section 6 – Calibration Procedures. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Proposed Section 6 – Pre-Test Protocols. Minor non-substantial editorial modifications were made in this section to improve clarity.

Existing Section 7 – Pre-Test Protocols. Proposal is to move Pre-Test Protocols to Section 6 to account for the removal of previous sections.

Proposed Section 7 – Test Procedure. Proposal is to delete the requirement to provide written test results since all test results must be submitted electronically to the ARB Online Cargo Tank Vapor Recovery Certification Program. Other minor non-substantial editorial modifications are made in this section to improve clarity and use terminology that is consistent with other similar ARB certification and test procedures.

Existing Section 8 – Test Procedure. Proposal is to move Test Procedure to Section 7 to account for the removal of previous sections.

Proposed Section 8 – Requirements at the Conclusion of Pressure Testing. Proposal is to move this language from CP-204 since the actions described in this section are part of the actual test procedure. Individuals conducting this test are more likely to reference the written test procedure than the associated certification procedure, so placing the requirement within the test procedure helps improve clarity.

Existing Section 9 – Determination of Compliance and Violation. Proposal is to move this section to Section 4 of CP-204. This language has been removed from the test procedure and placed into the certification procedure for clarity and consistency. ARB's general practice is that the test procedure explains or describes the test and the certification procedure sets forth the pass/fail criteria and explains the implication of test results.

Proposed Section 9- Calculating Results. Proposal is to remove the performance standard of Internal Vapor Valve from this test procedure and instead list it in CP-204.

This will improve clarity and consistency. ARB's general practice is that the test procedure explains or describes the test and the certification procedure sets forth the pass/fail criteria and explains the implication of test results. Other minor non-substantive editorial modifications have been made to improve clarity.

Existing Section 10 – Quality Assurance/Quality Control (QA/QC). This section is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Proposed Section 10 – Alternate Procedures. This section has been amended to remove instructions for obtaining ARB approval for the use of other alternative test methods. The process for obtaining approval for other equivalent test methods has been added to section 5 of CP-204, which improves clarity and is consistent with the format that ARB uses in other similar certification and test procedures.

Existing Section 11 – Recording Data. This section is proposed for deletion since all data must be submitted electronically. Online submittal of test results has been available since 2009, and ARB staff has worked with cargo tank operators over the past several years to encourage its use statewide. Since 2011, all cargo tank operators in California have been submitting information online voluntarily. By requiring electronic submittal of data, staff intends to promote continued statewide consistency and continued use of the existing online data submittal system.

Proposed Section 11 – Example Figures and Tables. The proposal is to move Example Figures and Tables from existing Section 16 to Section 11 to account for the removal of previous sections. The test data sheet, previously contained in Figure 3, has been deleted to allow more flexibility in the way that data is collected and recorded in the field. TP-204.2 is used primarily by ARB staff and air district inspectors, and each regulatory agency prefers to collect and maintain test data in their own particular format.

Existing Section 12 – Calculating Results. The proposal is to move Calculating Results from Section 12 to Section 9 to account for the removal of previous sections.

Existing Section 13 – Reporting Results. The proposal is to delete this section since the form previously found in Figure 3 has been deleted. The test data sheet has been deleted in order to allow more flexibility in the way that data is collected and recorded in the field. TP-204.2 is used primarily by ARB staff and air district inspectors, and each regulatory agency prefers to collect and maintain test data in their own particular format.

Existing Section 14 – Alternate Test Procedure. The proposal is to move Alternate Test Procedures from Section 14 to proposed Section 10. This renumbering is necessary to account for the removal of previous sections.

Existing Section 15 – References. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 16 - Example Figures, Forms, and Tables. The proposal is to move Example Figures, Forms, and Tables from Section 16 to Section 11. This renumbering is necessary to account for the removal of previous sections.

H)Revisions to TP-204.3

The following is a summary of the specific regulatory amendments that are proposed for TP-204.3. The full proposed regulatory language shown in strike and add format are included in Appendix H.

Section 1 – Applicability. This section was revised to include a minor editorial change by correcting the title of D-200, Definition for Vapor Recovery Procedures. Other proposed changes include making it clear that this test procedure is used to determine leak tightness from cargo tanks. References to not superseding air district requirements were deleted since state law prohibits districts from establishing more stringent performance standards for cargo tanks. All references to determinations of compliance and violation and modifications were deleted. The last two items are now included in CP-204, which improves clarity and is consistent with the format that ARB uses in other similar certification and test procedures.

Section 2 – Principle and Summary of Test Procedure. This section was rewritten to state that a portable instrument is used to detect leaks and the procedure is used to locate and classify leaks but cannot be used as a direct measurement of emissions. References to U.S. EPA Method 21 were deleted. The proposed language more accurately summarizes the test procedure, and is therefore more appropriate for the title heading of this section.

Section 3 – Biases and Interferences. Minor non-substantial editorial modifications are proposed to improve clarity.

Existing Section 4 – Sensitivity, Range, and Precision. This section is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Proposed Section 4 – Equipment and Supplies. The proposal is to move Equipment and Supplies from Section 5 to Section 4. This renumbering is necessary to account for the removal of previous sections. Other minor non-substantial editorial modifications are made in this section to improve clarity and use terminology that is consistent with other similar ARB certification and test procedures.

Existing Section 5 - Equipment and Supplies. The Equipment and Supplies would be moved to Section 4. This renumbering is necessary to account for the removal of previous sections.

Proposed Section 5 – Calibration Procedure. Proposal is to move Calibration Procedure from Section 6. This renumbering is necessary to account for the removal of previous sections.

Existing Section 6 – Calibration Procedure. Proposal is to move Calibration Procedure to Section 5. This renumbering is necessary to account for the removal of previous sections.

Proposed Section 6 – Test Procedure. Proposal is to move Test Procedure from Section 8 to Section 6. This renumbering is necessary to account for the removal of previous sections.

Existing Section 7- Pre Test Protocol. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Proposed Section 7 – Alternate Procedures. Proposal is to maintain U.S. EPA Method 21 as equivalent to TP-204.3 with the exception that when using Method 21 the probe distance must conform to section 6.3.1 of TP-204.3. Allowing the use of the U.S. EPA test procedure as an alternative to TP 204.3 provides flexibility and helps to harmonize California's requirements with federal requirements. U.S. EPA Method 21 does not specify a distance that the probe should be held from a potential leak point during testing. To provide clarity and promote consistency between the U.S. EPA method and TP-204.3, staff has proposed that the probe distance used when conducting U.S. EPA method must be the same as specified in section 6.3.1 of TP-204.3. This section has also been amended to remove instructions for obtaining ARB approval for the use of other alternative test methods. The process for obtaining approval for other alternative test methods has been added to section 5 of CP-204, which improves clarity and is consistent with the format that ARB uses in other similar certification and test procedures.

Existing Section 8 –Test Procedure. Proposal is to move Test Procedure to Section 6. This renumbering is necessary to account for the removal of previous sections.

Proposed Section 8 – Figures. Proposal is to move Figures from Section 16 to Section 8. This renumbering is necessary to account for the removal of previous sections.

Existing Section 9 – Determinations of Compliance and Violation. Proposal is to delete Section 9 from TP-204.3 and add comparable language to Section 4 of CP-204. This will improve clarity and consistency. ARB's general practice is that the test procedure explains or describes the test and the certification procedure sets forth the pass/fail criteria and explains the implication of test results.

Existing Section 10 – Quality Assurance/Quality Control (QA/QC). This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 11 – Recording Data. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 12 – Calculating Results. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 13 – Reporting Results. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 14 – Alternative Test Procedures. Proposal is to move Alternative Test Procedures to Section 7 and delete Section 14. This renumbering is necessary to account for the removal of previous sections.

Existing Section 15 – References. This heading is proposed for deletion since it contains no information. Removing this section shortens and simplifies the written test procedure.

Existing Section 16 – Figures. Proposal is to move Figures from Section 16 to Section 8 and delete Section 16. This renumbering is necessary to account for the removal of previous sections.

IX MAJOR ISSUES IDENTIFIED AND DISCUSSED

A) Revisions to TP-201.1

At the April 23, 2013 Public Workshop, ARB staff received a comment regarding proposed changes to TP-201.1, *Volumetric Efficiency for Phase I Vapor Recovery Systems*. The commenter expressed concern that ARB's proposal would result in a procedure that is less likely to detect minor inefficiencies in the Phase I system, and that only significant blockage of the vapor return line would result in failure. It was suggested that rather than eliminating the one-hour post-delivery vent volume monitoring (15 minutes, plus an additional 45 minutes if pressure is greater than 1 inch of water column), prior to the fuel transfer, ARB staff should establish a baseline vent volume flow rate for approximately one hour. Once the baseline is determined, it could then be deducted from the efficiency calculation equations, preventing the baseline vent volumes from biasing the results and penalizing the Phase I System being tested.

The proposed revisions to TP-201.1 do not alter the core principles of the current test procedure, so ARB staff does not agree with the comment that the proposed revisions

would create a test procedure that will only result in failure when there is a significant blockage of the vapor return line. However, staff does agree that there is a benefit in quantifying baseline vent emission prior to testing. Staff had attempted this approach while examining previous AST efficiency testing failures and found that with the test equipment being utilized (flow meter, P/V vent valve, data logger, etc.) it was not always possible to measure and capture baseline emissions loss through the vent line. Although staff agrees with the suggestion that it would be beneficial to quantify baseline vent emissions prior to the fuel delivery, the current proposal was chosen due to technical limitations that make field measurement of those baseline vent emissions impractical.

X APPENDICES

- A) Proposed Regulation Order to Adopt Amended Certification and Test Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities and Cargo Tanks
- B) Regulatory Authority: Vapor Recovery Health and Safety Code Statutes
- C) Proposed Amendments to TP-201.1: Volumetric Efficiency for Phase I Systems
- D) Proposed Amendments to TP-206.2: Determination of Emission Factor for Standing Loss Control Vapor Recovery Systems Using Processors at Gasoline Dispensing Facilities with Aboveground Storage Tanks
- E) Proposed Amendments to CP-204: Certification Procedure for Vapor Recovery Systems of Cargo Tanks
- F) Proposed Amendments to TP-204.1: Determination of Five Minute Static Pressure Performance of Vapor Recovery Systems of Cargo Tanks
- G) Proposed Amendments to TP-204.2: Determination of One Minute Static Pressure Performance of Vapor Recovery Systems of Cargo Tanks
- H) Proposed Amendments to TP-204.3: Determination of Leak(s)
- I) Appropriateness of Test Procedure TP-201.1, "Volumetric Efficiency for Phase I Systems," on Gasoline Dispensing Facilities Equipped with Aboveground Storage Tanks
- J) Public Process for Development of the Proposed Amendments