State of California
AIR RESOURCES BOARD

Staff Report: Initial Statement of Reasons for Proposed Rulemaking

PROPOSED AMENDMENTS TO THE
PORTABLE FUEL CONTAINER REGULATION

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EXECUTIVE SUMMARY

BACKGROUND

Air Resources Board (ARB or Board) staff proposes to amend the existing ARB regulation for controlling emissions from portable fuel containers (PFC or gas cans). PFCs are used to store and dispense fuel into on-road and off-road mobile sources and small off-road equipment. The amendments include revisions that update the certification fuel formulation to contain 10 percent ethanol, harmonize ARB test procedures with those of United States Environmental Protection Agency (U.S. EPA), clarify, streamline, and increase the robustness of ARB certification and test procedures, require all PFCs manufactured for sale in California to be certified to the new certification and test procedures no later than December 31, 2017, and require PFC certification executive order renewal every four years. The proposed amendments will allow certification and compliance testing of PFCs using fuel formulated to reflect motor vehicle fuel currently dispensed at California gasoline stations, and enable PFC manufacturers to obtain ARB and U.S. EPA certification based on a common set of test results. The current regulatory structure requires separate test results for both ARB and U.S. EPA.

ARB first adopted a regulation to control emissions from PFCs in September 1999. The PFC regulation became effective in October 2000. The regulation was intended to reduce PFC emissions from five processes: evaporation of fuel vapors through PFC openings, permeation of fuel through PFC walls, leaks during transport and storage, displaced vapor, and spillage during fueling events. Even though the emissions from a single PFC are small, over 10 million PFCs were in use in California in 1999, and it was estimated that they emitted over 100 tons per day (tpd) of reactive organic gases (ROG). The goal of the original PFC regulation and its subsequent 2005 amendment was to reduce uncontrolled ROG emissions from PFCs statewide by approximately 70 percent, or 70 tpd, equivalent to taking approximately 7 million passenger cars off California's roads.

The 1999 PFC regulation also included performance standards for fill height, flow rate, pressure maintenance, automatic closure, and automatic shutoff. However, kerosene containers were not subject to the regulation, and became inexpensive PFC substitutes. Additionally, uncontrolled utility jugs were being used to store and transfer gasoline.

In 2005, ARB amended the PFC regulation based on consumer feedback regarding PFC user-friendliness and the growing use of kerosene and utility containers as PFC substitutes. In preparation for the 2005 PFC regulation amendment, staff sponsored a focus group to obtain information from consumers concerning their experiences using PFCs, and two statewide surveys to obtain information relating to the number of PFCs in California and the manner in which they are used. The focus group and surveys provided staff with information regarding the effectiveness of the regulation, data to improve emission estimates, and insights for improving the regulation. As a result of the information gathered in preparation for the 2005 regulation amendment, staff established a new certification procedure, expanded the definition of a PFC to include utility jugs and containers used to store kerosene, modified spout performance standards to

improve spillage control, reduced the diurnal emissions standard from 0.4 grams per gallon per day (g/gal/day) to 0.3 g/gal/day beginning in 2009, and adopted new test procedures.

STAFF PROPOSAL

Staff proposes amending the current PFC regulation to include:

- Change certification fuel formulation from 0 percent ethanol (E-0) to 10 percent ethanol (E-10) to reflect motor vehicle fuel currently available in California;
- Harmonize, wherever possible, and without compromising ARB PFC standards, with the U.S. EPA PFC regulation;
- Require PFCs currently certified for sale in California to be certified to the new procedures on or before December 31, 2017 (hereafter referred to as a sell-through date);
- Require PFC executive order certification to be renewed every four years; and
- Streamline, clarify, and increase the robustness of ARB certification and test procedures.

Approval of the certification fuel change will have no immediate effect on ROG emissions because motor vehicle fuel dispensed at California gasoline stations since January 2010 contains 10 percent ethanol. Therefore, in-use PFCs already store E-10 fuel. Harmonizing certain aspects of ARB's PFC test procedures with those of U.S. EPA, though not having an immediate effect on ROG emissions, will enable PFC manufacturers to apply for PFC certification using a common set of test data that can be accepted by both ARB and U.S. EPA.

Currently, the only mechanism ARB possesses for addressing the marketing of PFCs failing to meet ARB performance standards is through pursuing enforcement action after noncompliant PFCs have been sold and are in-use in California. Therefore, staff is proposing two revisions to the certification process which will address this disparity between manufacturer supplied certification test data and ARB compliance test results. The first revision is to implement a sell-through date, by which date all currently certified PFC families must be recertified to the updated certification procedure CP-501 using E-10 fuel. This revision will ensure that PFCs introduced into commerce are compliant with currently available motor vehicle fuel. The second revision is implementing executive order renewal, limiting the term of an executive order to four years. This revision will enable ARB to evaluate the performance of a PFC during the duration of its certification and will provide ARB with a mechanism through which deficiencies can be corrected by withholding certification until information is provided demonstrating compliance with PFC performance standards. Limited term executive orders have been successfully implemented in other ARB programs such as gasoline vapor recovery.

Results from compliance testing performed by ARB staff within the last two years on PFCs certified for sale in California show greater than 50 percent of the PFC models tested fail to meet ARB's diurnal performance standard, even though manufacturer-submitted certification data show a 100 percent passing rate. ARB compliance test results, weighted by the estimated California market shares of currently certified PFC

manufacturers, indicate the ROG emissions reductions attributable to the PFC regulation may be on the order of 55 tpd instead of the original estimate of 70 tpd, due to the high failure rate documented for PFCs subjected to ARB compliance testing. Therefore, requiring a sell-through date and certification executive order renewal will decrease the potential of introducing PFCs into commerce that are incapable of meeting ARB PFC performance standards, and recover the projected shortfall in PFC ROG emissions benefits through increased in-use compliance rates.

Current PFC sales in California are estimated at approximately one million units per year; therefore, assuming that PFC manufacturers mark-up costs 100%, the maximum price impact on PFCs sold in California is estimated as $0.36 per unit for a total cost of $1,800,000 to California consumers over the lifetime of the regulation. Staff believes an additional cost of $0.36 per unit will not impose an unreasonable cost burden on PFC manufacturers or consumers, and will have the benefit of ensuring expected emission reductions are achieved through a more robust certification program. Additionally, the proposed regulatory amendments harmonizing ARB PFC certification and test procedures with those used by U.S. EPA provide PFC manufacturers the opportunity to submit a single certification application that can be accepted by both ARB and U.S. EPA. Manufacturers selecting the single application option will lessen the impact on the cost of an individual PFC as a result of the proposed amendments by distributing the additional costs among PFCs sold nationwide.

STAFF RECOMMENDATION

Staff recommends that the Board adopt the proposed PFC regulatory amendments.

Staff conducted two public workshops to solicit feedback from stakeholders during development of the proposed amendments. In addition, staff considered alternatives to the current proposal including no action and complete harmonization with U.S. EPA. Complete harmonization could potentially compromise ARB's PFC performance standards; therefore, this alternative was rejected. Taking no action increases the potential to certify PFCs that are incapable of meeting ARB performance standards when storing fuel currently dispensed at California gasoline stations; therefore, this alternative was also rejected.

Staff concludes the current proposal maintains ARB's stringent PFC certification standards, is potentially beneficial to PFC manufacturers, and ensures that certification and compliance test results are representative of actual in-use PFC emissions.

POTENTIAL FUTURE ACTIONS

Staff will evaluate the PFC regulation on an ongoing basis to assess whether additional emission reductions are needed to meet California's overall air quality goals, but does not anticipate any additional near-term future actions related to this emissions category.

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I. INTRODUCTION AND BACKGROUND

Staff proposes amending the existing ARB regulation for portable fuel containers (PFC or gas cans). PFCs (Figure I-1) are made of either high-density polyethylene or metal and are sold in a variety of shapes and sizes typically ranging from one to five gallons capacity. PFCs are used to store and dispense fuel into on-road and off-road mobile sources and a broad range of small off-road engines and equipment. Examples of the types of equipment PFCs are used to fuel include, but are not limited to: lawnmowers, leaf blowers, portable generators, personal watercraft, off-highway recreational vehicles, and all-terrain vehicles. ARB's PFC regulation is applicable only to reusable containers with capacities ranging from one quart to ten gallons.

Figure I-1: Portable Fuel Containers

Atmospheric emissions of reactive organic gases (ROG) are produced during the manufacture, transportation, dispensing, and storage of motor vehicle fuel and other volatile liquids. ROGs are also precursors for ozone formation and contribute to exceedances of federal and state ozone standards. ROG emissions from PFCs primarily result from five processes: evaporation, permeation, transport and storage, displaced vapor, and spillage of gasoline. Evaporation occurs when gasoline vapor escapes the container through leaks or openings. Permeation is the diffusion of liquid or gas molecules through the container walls to the atmosphere. Transport and storage emissions occur from jostling containers during transport or storage that result in spills. Displaced vapors are generated when dispensing fuel to PFCs. Spillage occurs when attempting to pour fuel from the PFC into a vehicle or piece of equipment, removing the spout from a target tank, or in some cases, when a tank is overfilled. Even though the emissions from a single PFC are small, over 10 million PFCs were in use in California in 1999, and it was estimated that they emitted over 100 tons per day (tpd) of ROG. The goal of the original PFC regulation and its subsequent 2005 amendment was to reduce uncontrolled ROG emissions from PFCs statewide by approximately 70 percent, or 70

tpd. However, weighting the results from ARB PFC compliance testing for the estimated California market shares of currently certified PFC manufacturers indicates the ROG emissions reductions attributable to the PFC regulation may be on the order of 55 tpd instead of the original estimate of 70 tpd, due to the high failure rate documented for PFCs subjected to ARB compliance testing.

A. SPECIFIC PURPOSE FOR THE ADOPTION, AMENDMENT, OR REPEAL

The proposed regulation amendments are specifically intended to require the fuel used for PFC certification testing to contain 10 percent ethanol to reflect motor vehicle pump fuel currently available in California. The current certification procedure specifies fuel that does not contain ethanol. Subsequent to the adoption of the PFC regulation specifying the current certification fuel, ARB amended its reformulated gasoline (CaRFG3) regulation in June 2007. The CaRFG3 amendment required motor vehicle fuel dispensed at California gasoline stations since January 2010 to contain 10 percent ethanol. Ethanol blended fuel has different chemical properties than fuel blended without ethanol, which allows ethanol blended fuel to more aggressively penetrate plastic materials, resulting in the potential for increased permeation emissions from PFCs. Amending the existing regulation to require certification fuel that better reflects motor vehicle fuel in use in California today is necessary to accurately estimate emissions from PFCs, and ensure PFCs introduced into California commerce are emissions compliant with the current motor vehicle fuel formulation.

Since the inception of ARB's PFC regulation in 1999, one hundred percent of the test data submitted from manufacturers seeking PFC certification show compliance with ARB's diurnal performance standard. Conversely, results from ARB compliance testing performed within the last two years on PFC models sold in California indicates 50 percent of these PFCs fail to meet ARB's diurnal performance standard, severely handicapping the ability of ARB's PFC regulation to meet its projected ROG emissions reductions as currently promulgated. Because current PFC executive orders have indefinite life, the only mechanism for addressing PFC compliance violations is by pursuing enforcement action after noncompliant PFCs have been sold and are in-use in California. Therefore, the proposed regulation amendments include the incorporation of a sell-through date and require renewal of PFC certification executive orders every four years. Requiring a sell-through date and certification executive order renewal will increase future PFC in-use compliance rates with ARB performance standards, thus recovering the projected shortfall of PFC ROG emissions benefits resulting from noncompliance by allowing ARB to evaluate PFC performance over the term of its certification, and determine if executive order renewal is warranted.

The proposed regulation amendments are also intended to harmonize certain aspects of ARB's certification and test procedures with those of U.S. EPA, allowing PFC manufacturers to submit a single certification application that satisfies both ARB and U.S. EPA requirements. U.S. EPA worked with ARB when promulgating the federal regulation U.S. EPA PFC regulations to the extent possible so that PFC manufacturers can in 2007, and implemented many aspects of ARB's existing regulation. However,

because of differences between ARB and U.S. EPA certification procedures, a PFC manufacturer currently seeking certification of their product must submit separate applications to ARB and U.S. EPA for certifying PFCs that originate from the same manufacturing process. The proposed harmonization measures will streamline and reduce certification costs for PFC manufacturers seeking certification with both ARB and U.S. EPA without compromising ARB's PFC emission standards.

Lastly, the proposed regulation amendments include revisions to streamline, clarify, and increase the robustness of ARB certification and test procedures.

B. REGULATORY AUTHORITY AND HISTORY

1. LEGAL AUTHORITY

In 1988, the California legislature enacted the California Clean Air Act (CCAA), which declared that attainment of State ambient air quality standards is necessary to promote and protect public health, particularly the health of children, older people, and those with respiratory diseases. The legislature also directed that these standards be attained by the earliest practicable date.

The CCAA as codified in California Health and Safety Code sections 43013 and 43018 grants ARB authority to regulate on-road and off-road sources of emissions and motor vehicle fuel specifications. Off-road emissions sources include recreational boats, all-terrain vehicles, off-road motorcycles, and small off-road engines. Small off-road engines are most commonly used in lawn and garden equipment and portable generators. Since both on-road and off-road emissions sources are often refueled using PFCs, ARB is therefore authorized to regulate PFCs as adjuncts to existing and proposed on-road and off-road engine regulations, as a separate mobile source category, and as an emission source associated with the transport and marketing of motor vehicle fuel.

2. REGULATORY HISTORY

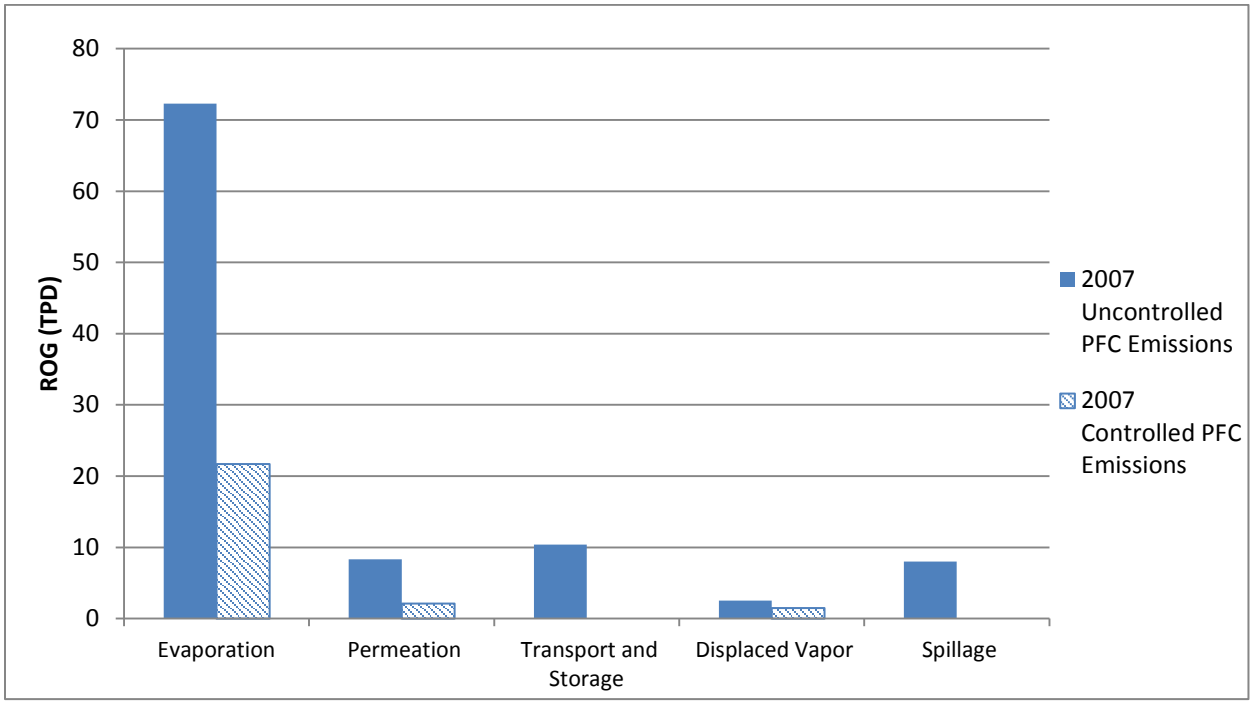
ARB adopted its original PFC regulation on September 23, 1999, which became effective on October 11, 2000. The 2005 PFC regulation amendment was adopted by ARB on September 15, 2005 and became effective on February 12, 2006 (Part I of the final rulemaking) and October 11, 2006 (Part 2), respectively.

a. 1999 Rulemaking

During the 1999 PFC rulemaking process, staff estimated that if left uncontrolled, PFCs in California would emit 101.5 tpd of ROG by the year 2007. As a result of implementing the 1999 regulation, projected PFC emissions were reduced to 25.3 tpd of ROG statewide in 2007. Figure I-2 presents a comparison of uncontrolled versus controlled PFC emissions for 2007, as projected by ARB in the 1999 staff report. As

can be seen, the majority of ROG emissions from uncontrolled PFCs are due to evaporation of gasoline.

Figure I-2: 1999 Projection of PFC Statewide ROG Emissions in 2007



b. 2005 PFC Regulation Update

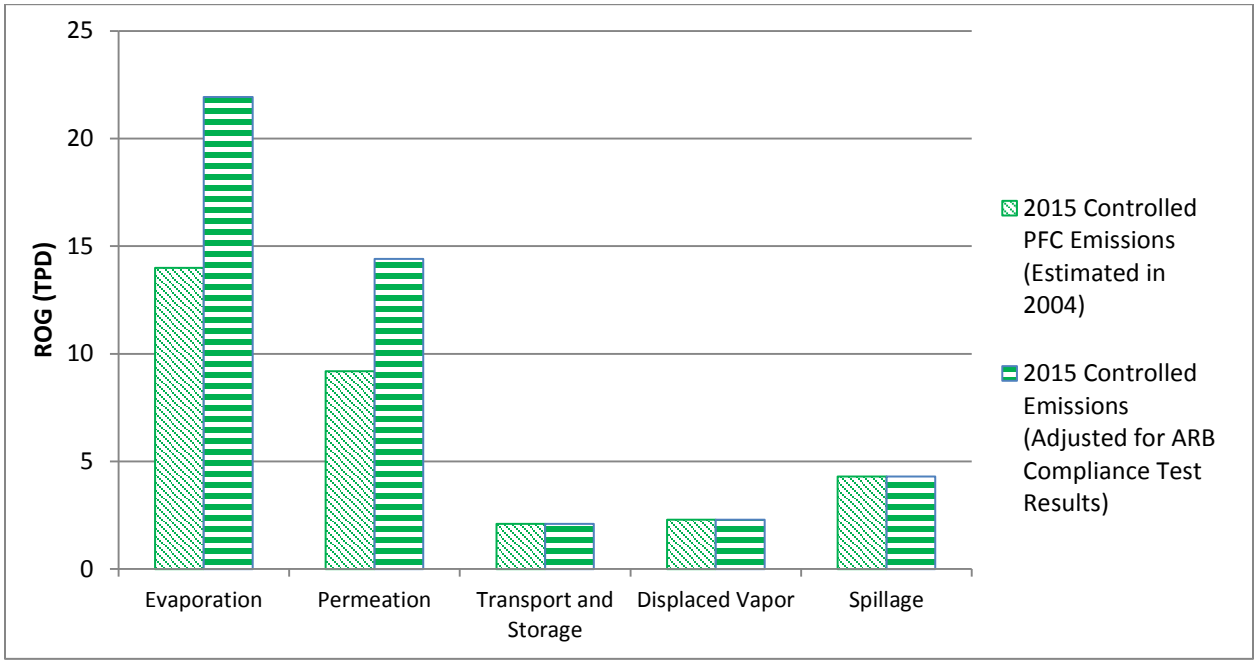
Between February and December 2004, staff contracted with California State University, Sacramento to conduct two PFC surveys. The main objective of the surveys was to obtain information from residential and commercial owners of PFCs in California about their experiences using PFCs. A secondary objective was to gain information related to the number of utility jugs and kerosene containers used to store gasoline but not controlled under the current regulations. Results from the two surveys, *Analysis of 2004 California Household Portable Fuel Container Survey* (September 2004) and *Analysis of the 2004 California Commercial Portable Fuel Container Survey* (January 2005) revealed changes in the estimated PFC population and the penetration rate of compliant PFCs. The penetration rate correlates to the number of PFCs with emissions controls replacing uncontrolled PFCs. The surveys also identified 590,000 uncontrolled kerosene containers, 350,000 of which were used to store and dispense gasoline, and 1.4 million utility jugs inappropriately used to store and dispense gasoline.

Results from the two 2004 PFC surveys showed an increase in the overall PFC population in California from 10,630,000 PFCs to 11,700,000 as compared to the 1999 survey, while the number of PFCs in commercial use decreased from 630,000 to 210,000. In addition, the population of metal PFCs compared to plastic PFCs had decreased, resulting in increased permeation emissions because metal containers are impermeable relative to their plastic counterparts.

In addition to the two surveys cited previously, staff created a focus group to investigate numerous consumer complaints regarding PFC spillage and incompatibility issues resulting from the automatic shutoff feature required by the 1999 regulation. As a result of the two surveys and focus group, staff concluded the 1999 regulation did not achieve its expected emission reductions, due to less than expected emission reductions from spillage, automatic shutoff, and the uncontrolled emissions from diesel, kerosene, and utility jug containers. Therefore, a revised estimate of PFC emissions was developed in 2004. With no additional controls or amendments to this regulation, the revised emissions estimate predicted 30.1 tpd of ROG emissions in 2007 compared to the 1999 estimate of 23.5 tpd. The revised emissions estimate also predicted 31.9 tpd of ROG emissions in 2015. Although the population of PFCs was predicted to increase from 2007 to 2015, the emissions estimate increased only slightly due to the increased penetration rate of controlled PFCs introduced into California during the same period.

The revised emissions estimate discussed above did not anticipate the approximate 50 percent increase in PFC diurnal (evaporation plus permeation) emissions attributable to ARB compliance test results. Adjusting this estimate for the ARB compliance test results and the relative California market shares of the respective PFC manufacturers yields the PFC emissions projections illustrated in Figure I-3, below.

Figure I-3: 2004 Projection of Statewide ROG Emissions in 2015 Adjusted for ARB Compliance Test Results



Although the 2005 regulation update predicted that PFC emissions would be controlled and maintained at a rate approximately 70 percent below the uncontrolled emissions projection, noncompliant products have decreased the expected level of emissions control to an estimated 55 percent. Therefore, in order to achieve the projected ROG emissions reductions associated with the PFC regulation, revisions to the certification

process which increase PFC emissions compliance with ARB performance standards are necessary.

3. RELATED FEDERAL REGULATIONS

U.S. EPA promulgated its PFC regulation in 2007, working with ARB during its development (40 C.F.R. Part 59, Subpart F). Many aspects of the U.S. EPA and ARB PFC regulations are similar, and both share the same diurnal emissions standard of 0.3 grams per gallon per day (g/gal/day). Differences exist between the State and Federal regulations regarding labeling, diurnal temperature profile, leak checks, certification fuel, preconditioning options, number of containers tested, and durability testing. ARB's proposed regulation amendments will promote harmonization by allowing use of U.S. EPA's more volatile certification fuel in addition to ARB's specified certification fuel; requiring containers to be filled to nominal capacity for preconditioning to maximize wetted surface area of the PFC; and adopting U.S. EPA's durability tests and labeling requirements. However, ARB test procedures will still maintain a more stringent diurnal temperature profile, additional leak checks, and require manufacturers to submit six containers for certification testing by an independent laboratory rather than the three required by U.S. EPA.

4. ARB AND FEDERAL PFC PERFORMANCE REQUIREMENTS

Federal evaporative emissions standards for PFCs are equal to ARB's standard of 0.3 g/gal/day of ROG, but use a different fuel and diurnal temperature profile for certification testing. The diurnal emissions rate is determined by placing the PFCs in a temperature-controlled environment, known as a Sealed Housing for Evaporative Determination (SHED), and gravimetrically measuring mass loss after the PFCs experience a 24-hour diurnal temperature cycle. A photograph of ARB's SHED containing PFCs prepared for diurnal testing is shown in Figure I-4.

Figure I-4: ARB Testing SHED with PFCs

Existing and proposed ARB performance requirements for PFC certification are compared to those of U.S. EPA in Table I-1.

Table I-1: ARB and U.S. EPA PFC Performance Requirements Comparison

Performance Requirement	ARB (Existing)	ARB (Proposed)	U.S. EPA
Emission Standard	0.3 g/gal/day	0.3 g/gal/day	0.3 g/gal/day
Fuel Ethanol Content	0%	10%	10%
Fuel RVP	6.7 - 7.0 psi	6.9 – 7.2 psi	8.7 – 9.2 psi
Temperature Profile	65°F - 105°F - 65°F	65°F - 105°F - 65°F	72°F - 96°F - 72°F
Number of Samples	6	6	3
Slosh Testing	No	Yes	Yes
UV Exposure Testing	No	Yes	Yes
Pressure Cycling Testing	No	Yes	Yes
Preconditioning Fuel Capacity	50%	100%	100%

II. STATEMENT OF REASONS

A. DESCRIPTION OF PROBLEM PROPOSAL IS INTENDED TO ADDRESS

1. OUTDATED CERTIFICATION FUEL

When the ARB PFC regulation was originally adopted in 1999, motor vehicle pump fuel contained 0 percent ethanol. However, ARB amended its CaRFG3 regulation in June 2007, requiring motor vehicle pump fuel to contain 10 percent ethanol since January 2010. Therefore, the condition now exists where fuel stored in PFCs throughout California contains 10 percent ethanol, while the fuel used for certification testing PFCs contains 0 percent ethanol. This inconsistency creates the potential to certify PFCs for sale in California that will not meet ARB performance standards when used to store motor vehicle fuel currently dispensed at gasoline stations. This is because fuel oxygenated with ethanol is known to permeate plastic at a greater rate than fuel blended without ethanol.

2. DUPLICATIVE FEDERAL AND STATE CERTIFICATION REQUIREMENTS

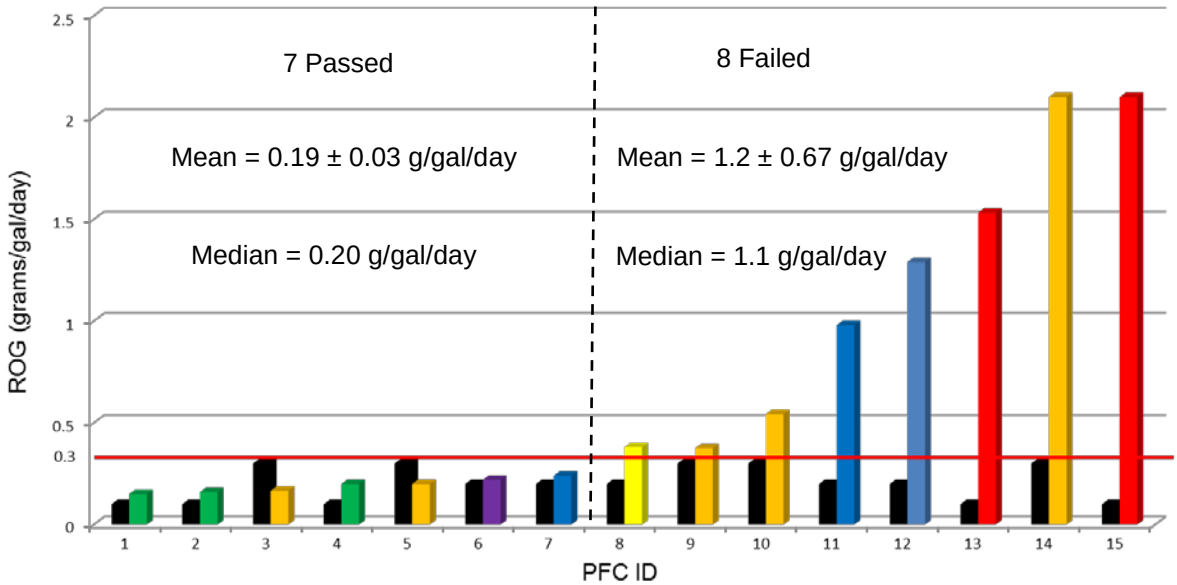
Since adoption of the U.S. EPA PFC regulation in January 2009, all manufacturers intending to sell PFCs nationwide are required to certify their PFCs with both ARB and U.S. EPA. Because both agencies' test procedures are similar and their emissions standards are equivalent, it is advantageous to harmonize the two regulations, to the extent possible, without compromising ARB's PFC performance standards, so as to streamline the certification process for PFC manufacturers.

3. LOW EMISSIONS COMPLIANCE RATES FOR CERTIFIED PFCs

Currently, PFC certification executive orders have no expiration date; therefore, certified products can continue to be sold without identifying and correcting any potential deficiencies or making design improvements to further control emissions, until the point in time is reached where the substandard performance is discovered by ARB compliance test results.

Since the inception of ARB's PFC regulation in 1999, one hundred percent of the PFC test data submitted by manufacturers as part of the certification process show compliance with ARB's 0.3 g/gal/day diurnal performance standard. The test results are generated by independent laboratories contracted by the PFC manufacturers. Beginning in 2013, ARB began verification testing of PFCs using its own facilities and staff to ensure certified PFCs sold in California comply with the ARB standards. Results from this testing show greater than 50 percent of the PFC models certified for sale in California failed to meet ARB's diurnal performance standard even though manufacturer-submitted data showed one hundred percent compliance with the same ARB standard. The disparity between manufacturer-submitted and ARB test results is illustrated in Figure II-1.

Figure II-1: Comparison of ARB and Certification PFC Diurnal Test Results



In Figure II-1, the columns not colored black represent the maximum ARB test results for individual PFC models. The black columns represent the emission rates to which PFC models were certified based on test results submitted by the PFC manufacturers. The red line represents ARB's 0.3 g/gal/day standard. Eight of the fifteen PFC models tested by ARB failed the standard, even though they were certified to a lower value. Assuming the PFCs in Figure II-1 represent the total market, the 7 passing PFCs represent approximately 63 percent of the market and account for approximately

24 percent of the emissions. Conversely, the 8 failing PFCs represent approximately 37 percent of the market and account for approximately 76 percent of the emissions. Metal PFCs were not tested and are not reflected in Figure II-1.

4. NEED FOR MORE ROBUST AND LEGIBLE CERTIFICATION AND TEST PROCEDURES

Various aspects of the certification and test procedures are in need of refining and streamlining, to increase robustness, improve accuracy, and provide clarity.

B. PROPOSED SOLUTIONS TO THE PROBLEM

1. UPDATED CERTIFICATION FUEL

Staff proposes to require PFC certification testing using E-10 fuel by amending the certification fuel reference to ARB LEV III certification fuel, which contains 10 percent ethanol. Alternatively, PFC certification testing using motor vehicle fuel containing 10 percent ethanol as defined in 40 C.F.R. Part 1065.710 is also acceptable.

2. HARMONIZATION OF ARB CERTIFICATION AND TEST PROCEDURES WITH THOSE OF U.S. EPA

The proposed U.S. EPA harmonization measures, presented in detail in Chapter III "Summary of Proposed Action," provide a pathway for manufacturers to test six containers using ARB Test Procedures TP-501 and TP-502, using either ARB or U.S. EPA specified certification fuel. If the certification application meets all requirements of both ARB and U.S. EPA, then a certification application accepted by ARB could also be accepted by U.S. EPA.

3. EXECUTIVE ORDER RENEWAL

In order to ensure that PFCs in the marketplace comply with ARB regulations, adjustments to the certification process are necessary. Adoption of a sell-through date will require all currently certified PFC models to be recertified to the proposed standards no later than December 31, 2017. Certification executive orders will expire after four years, and manufacturers will need to submit a request for renewal prior to expiration. This process will include requiring PFC manufacturers to identify any product deficiencies or material modifications and possibly conduct additional testing to obtain executive order renewal. If the additional testing does not demonstrate compliance with the diurnal performance standard, the executive order would expire, preventing further introduction of noncompliant products into commerce. The concept of executive order expiration and renewal has been successfully implemented in ARB's Gasoline Vapor Recovery Program, which requires certified vapor recovery systems and components to renew their executive orders every four years.

Staff believes inclusion of a sell-through date and limiting the term of certification executive orders are effective means of addressing the PFC emissions compliance issue illustrated in Figure II-1. In addition, ARB conducts in-use compliance testing of certified PFC models two to three times per year on average. Continuing the PFC compliance testing schedule at its current rate will ensure that each PFC manufacturer will be subjected to ARB compliance testing at least once during their 4 year certification term. This will further assist in addressing the PFC emissions compliance issue by providing ARB with contemporary PFC emissions data on which certification renewal determinations can be based.

4. INCREASED ROBUSTNESS AND CLARITY FOR CERTIFICATION AND TEST PROCEDURES

In order to make the certification process more robust, several changes are proposed to the certification and test procedures: require submittal of all independent laboratory certification test data; five year recordkeeping; using the same six containers for all certification tests; increased balance sensitivity requirements; clarify that calculation of PFC diurnal emissions is based on the highest recorded mass loss and not the average; update outdated sections; and general editorial revisions to improve clarity and readability. The proposed revisions to the certification and test procedures are intended to reduce misinterpretation of the present procedures and promote increased compliance with PFC performance standards.

C. RATIONALE SUPPORTING THE PROPOSED SOLUTIONS

1. UPDATED CERTIFICATION FUEL

The main benefit of this proposed regulation amendment is that certification testing will reflect emissions produced from off-the-shelf PFCs by using a fuel formulation that reflects current motor vehicle fuel, and requiring all PFCs introduced into California commerce to be certified with this fuel formulation. This requirement will significantly decrease the potential of introducing PFCs into commerce that are incapable of meeting ARB PFC performance standards with fuel currently dispensed at California gasoline stations.

2. HARMONIZATION OF ARB CERTIFICATION AND TEST PROCEDURES WITH THOSE OF U.S. EPA

Another benefit of the proposed regulation amendments is the reduced reporting burden on manufacturers seeking PFC certification. The proposed certification process will allow manufacturers to comply with the certification requirements in a way that satisfies both ARB and U.S. EPA requirements. If a manufacturer chooses, a single application meeting both U.S. EPA and ARB requirements could replace the separate certification packages currently required under existing ARB and Federal certification processes. Therefore, this amendment may provide a potential monetary benefit for manufacturers.

3. EXECUTIVE ORDER RENEWAL

Incorporation of a sell-through date will ensure that PFCs currently certified for sale in California using E-0 fuel will meet the new ARB PFC performance standards by requiring recertification using E-10 fuel on or before December 31, 2017. PFCs produced before January 1, 2018, must be introduced into commerce by manufacturers prior to July 1, 2018.

Requiring renewal of PFC certification executive orders after four years will enable ARB to evaluate the performance of a PFC during the duration of its certification, and make determinations regarding renewal based on ARB and/or manufacturer supplied data. This process also provides ARB with a mechanism through which deficiencies can be corrected by withholding certification until information is provided demonstrating compliance with PFC performance standards. At this time, the only mechanism for addressing these deficiencies is by pursuing enforcement action after noncompliant PFCs have been sold and are in-use in California.

4. INCREASED ROBUSTNESS AND CLARITY FOR CERTIFICATION AND TEST PROCEDURES

The proposed changes to the certification and test procedures will make the certification procedure more robust, will improve the clarity and readability of the documents, and will streamline the test procedures to improve efficiency.

III. SUMMARY OF PROPOSED ACTION

A. SUMMARY OF PROPOSAL

ARB staff's proposed amendments to the PFC regulation are summarized below. Staff proposes to:

- Require the fuel used for PFC certification testing to contain 10 percent ethanol;
- Harmonize aspects of ARB CP-501, TP-501, and TP-502 with U.S. EPA 40 C.F.R. Part 59 Subpart F;
- Introduce a sell-through date for currently certified PFCs;
- Limit the lifetime of PFC certification executive orders to a term of 4 years;
- Strengthen the certification data reporting requirements; and
- Streamline, clarify, and increase the robustness of ARB certification and test procedures.

A synopsis of all proposed amendments to the regulation as well as an expanded discussion of staff's rationale for these amendments follows.

B. UPDATED CERTIFICATION FUEL

Staff proposes to require PFC certification testing using fuel containing 10 percent ethanol to reflect current motor vehicle pump fuel. Currently, ARB Certification Procedure CP-501 references "Certification fuel as described in Part II, section 100.3 of the Air Resources Board *California Exhaust Emissions Standards and Test Procedures for 2001 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles*," which specifies the use of fuel that does not contain ethanol. To accommodate the certification fuel change, staff proposes updating ARB Certification Procedure CP-501 to reference, *California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium-Duty Vehicles,* or 40 C.F.R. Part 1065.710, which specify fuel that contains 10 percent ethanol.

C. HARMONIZATION OF ARB CERTIFICATION AND TEST PROCEDURES WITH THOSE OF U.S. EPA

Staff proposes to harmonize ARB's and U.S. EPA's PFC regulations to the extent possible that a singular set of certification test data can satisfy the requirements of both agencies. U.S. EPA worked with ARB when promulgating their PFC regulation (40 C.F.R. Part 59, Subpart F) in 2007, and implemented many aspects of ARB's existing regulation. Likewise, in developing these amendments, ARB has worked closely with U.S. EPA to reduce redundant testing and reporting requirements where possible. Since the two regulations are similar, it is advantageous for PFC manufacturers to generate one certification application that may be accepted by both ARB and U.S. EPA.

The proposed U.S. EPA harmonization measures consist of amending ARB PFC test procedures to include the following:

- Adopting label requirements;
- Adding U.S. EPA pressure cycling test, UV exposure test, and slosh test;
- Preconditioning at nominal capacity;
- Allowing U.S. EPA 9 RVP fuel for diurnal testing with ARB temperature profile;
- Allowing a 140-day preconditioning period at a minimum temperature of 23°C rather than at ambient temperature;
- Allowing a 70-day preconditioning period at elevated temperature (43 ± 5°C) as an alternative to the 140-day period currently required by ARB; and
- Eliminating preconditioning at an unspecified elevated temperature and using a correlation coefficient to determine equilibrium.

These proposed changes will allow PFC manufacturers following the proposed ARB certification test procedures to provide a certification application that complies with both ARB and U.S EPA requirements without compromising ARB's PFC performance standards.

D. EXECUTIVE ORDER RENEWAL

Staff proposes to introduce a sell-through date for currently certified PFCs to demonstrate compatibility with E-10 certification fuel. All PFCs manufactured for sale, advertised for sale, sold, or offered for sale in California must be certified to the requirements prescribed in CP-501 on or before December 31, 2017. PFCs produced before January 1, 2018, must be introduced into commerce by manufacturers prior to July 1, 2018. This sell-through provision will help to ensure that currently certified PFC models meet ARB certification standards with currently available motor vehicle pump fuel.

There is currently no expiration date included in the certification executive order of a PFC. Therefore, staff proposes to limit certifications to four years with the opportunity for renewal at the expiration date. Staff believes that a regular review of PFC certifications is critical to ensuring that any deficiencies are identified and addressed. Staff also believes that well-manufactured PFCs will not have difficulty obtaining certification renewal. This provision will enable ARB to renew PFC certifications based on a manufacturer's ability to demonstrate ongoing compliance with ARB performance standards. If deficiencies are documented for a given PFC during the four-year period, then the certification holder must provide evidence detailing the corrective measures taken before certification renewal is granted. Staff believes limited term certifications will mitigate the issue of certified PFCs that fail compliance testing and will ensure products entering the marketplace are compliant with the regulation. The request for renewal shall include the executive order number, a description of any component deficiencies identified and actions taken to correct them, amendments to the executive order, agency approvals of system modifications, and other information required by the Executive Officer. The Executive Officer may also require further testing as a condition for executive order renewal.

E. INCREASED ROBUSTNESS FOR CERTIFICATION AND TEST PROCEDURES

Staff proposes the following amendments to increase the robustness of ARB PFC certification and test procedures:

- Require submittal of all test data, whether passing or failing;
- Require recordkeeping for at least five years;
- Require testing of the same set of six containers for both test procedure in series and without modifications;
- Increase balance sensitivity requirements for performing mass measurements; and
- Require highest recorded diurnal mass loss rather than average.

F. STREAMLINING AND CLARIFYING CERTIFICATION AND TEST PROCEDURES

Staff proposes the following amendments to streamline and clarify ARB PFC certification and test procedures:

- Update definitions;
- Eliminate “spill-proof” phrase;
- Address outdated sections;
- Clarify requirements of secondary opening and require a normally closed vent only;
- Eliminate Consumer Acceptance Program;
- Revise text to improve clarity;
- Specify the position of the spout during leak testing to be “pointing down in a vertical axial position;”
- Clarify implications of leak test failure;
- Remove ambiguity as to when spout actuations are repeated by performing them in the first and last 10 days of the preconditioning period;
- Remove cleaning prior to 65°F stabilization period;
- Simplify diurnal emissions calculations;
- Correct the erroneous PFC test fixture pre-fill volume equation;
- Fill trip blank (reference container) with sand, glass beads, or other inert material; and
- Revise data sheets to accommodate all collected data.

IV. ENVIRONMENTAL IMPACTS ANALYSIS [CEQA Analysis]

A. INTRODUCTION

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

B. ANALYSIS

Staff determined the proposed regulatory amendments are exempt from CEQA under the "general rule" or "common sense" exemption (Cal. Code Regs., title 14, section 15061(b)(3)). The common sense exemption states a project is exempt from CEQA if "the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." The proposal is also categorically exempt from CEQA under the "Class 8" exemption (14 CCR 15308) because it is an action taken by a regulatory agency for the protection of the environment.

The proposed PFC regulatory amendments require the fuel used for PFC certification testing to contain 10 percent ethanol to reflect motor vehicle pump fuel currently available in California. This certification fuel change will have no effect on ROG emissions because motor vehicle fuel dispensed at California gasoline stations since January 2010 contains 10 percent ethanol and in-use PFCs already store E-10 fuel. Amending the existing regulation to require certification fuel that better reflects motor vehicle fuel in use in California today will better protect air quality and the environment by more accurately estimating emissions from PFCs and ensuring PFCs introduced into California commerce are emissions compliant. The amendments also require a sell-through date and require executive order certification renewal every 4 years. These changes will decrease the potential of introducing PFCs into commerce that are incapable of meeting ARB PFC performance standards, resulting in potential decreases in PFC ROG emissions through increased in-use compliance rates. The sell-through date and limited term certification amendments will result in additional testing for each PFC family and report generation, however this increased testing can be completed using current facilities and will not cause any adverse environmental impacts. The amendments that improve accuracy and clarify and streamline procedures are administrative in nature and have no potential to adversely affect air quality or any other environmental resource areas. The amendments that harmonize with U.S. EPA requirements to the extent possible have no adverse environmental impacts because testing laboratories already conduct the tests for certification with U.S. EPA, so there is no need to upgrade facilities. Therefore, based on staff's review, it can be seen with certainty that there is no possibility that the proposed regulatory amendments may result in a significant adverse impact on the environment. Further, the proposed action is designed to protect the environment and ARB found no substantial evidence indicating the proposal could adversely affect air quality or any other environmental resource area, or that any of the exceptions to the exemption applies (14 CCR 15300.2). Therefore, this activity is exempt from CEQA.

V. ENVIRONMENTAL JUSTICE

California Government Code section 65040.12(e) 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,

regulations, and policies. ARB is committed to making environmental justice an integral part of its activities. The Board approved its Environmental Justice Policies and Actions (Policies) on December 13, 2001, to establish a framework for incorporating environmental justice into ARB's programs consistent with the directives of State law (ARB 2001). These policies apply to all communities in California, but recognize that environmental justice issues have been raised more in the context of low-income and minority communities.

As a result of ARB's work with the public, the business sector, local government, and air districts, California's ambient air is the cleanest since air quality measurements have been recorded (ARB 2013). However, large numbers of Californians reside in areas that continue to experience episodes of unhealthy ground level ozone concentrations.

Although the proposed amendments are not designed to achieve direct ROG emissions reductions, they will contribute towards attainment of the federal 8-hour ozone standard by reducing the potential for introducing PFCs into California that may not meet current ARB performance standards when storing current motor vehicle fuel. Therefore, the proposed amendments promote environmental justice by helping to prevent the deterioration of California's air quality in areas that are simultaneously the most adversely affected with respect to ground level ozone and home to many minority and low-income groups.

VI. ECONOMIC IMPACTS ANALYSIS/ASSESSMENT

A. NON MAJOR REGULATIONS

1. SUMMARY

The proposed PFC regulation amendments are not expected to impose an unreasonable cost burden on PFC manufacturers or consumers. Nor will they result in significant additional costs to the existing regulation. The statewide total cost, in 2015 dollars, totals approximately $1,800,000. This $1,800,000 cost represents a worst-case scenario under which the highest estimated annual cost to out of state PFC manufacturers is entirely passed to California consumers. There are currently eight PFC manufacturers that hold executive orders for PFCs that are certified for sale in California. All eight of the manufacturers are located outside of California, and two manufacturers are located outside of the United States. Three manufacturers make up an estimated 80 percent of the market, while five manufacturers account for the remaining 20 percent of the market.

Based on the economic assessment which follows, the proposed PFC regulation amendment is not a major regulation under the provisions of the Administrative Procedure Act because the total cost will not cause $50 million of economic impacts in any of the implementation years, as defined in California Government Code section 11346.2(b)(2)(A). In addition, the proposed amendments do not create or eliminate California jobs and do not create, expand, or eliminate businesses in California.

2. THE REGULATORY COSTS AND BENEFITS

a. Direct Cost Assessment

For the cost analysis of the proposed regulation amendments, staff estimated the incremental cost increase due to the additional amount of test fuel required, additional testing required resulting from a failed test, additional tests resulting from harmonization with U.S. EPA, sell-through costs, and the cost of limited term certification. The highest annual cost resulting from these requirements was used to estimate a maximum price increase per PFC, which would be passed on to California consumers.

The statewide total cost of $1,800,000, in 2015 dollars, was derived by multiplying the estimated maximum price increase per PFC of $0.36 (calculated in section iii. Total Costs on page 21) by the estimated annual number of PFCs sold in California (1,000,000) by the lifetime of the regulation (5 years) ($0.36/PFC x 1,000,000 PFCs/year x 5 years = $1,800,000).

i. Additional Testing Costs

The proposed PFC regulation amendments will result in additional direct costs to manufacturers through the additional and more costly certification fuel used for testing.

The proposed amendments require containers to precondition at nominal capacity rather than 50 percent capacity and to be replenished with fresh fuel prior to diurnal testing, so the amount of fuel used for certification testing will be three times the amount currently required. E-10 certification fuel costs $23.93 per gallon and E-0 certification fuel costs $23.15 per gallon, as quoted by a California fuel provider in September 2015. There were 11 PFC certification applications submitted to ARB over the last seven years, for an average of 1.6 certification tests per year. The average capacity for test containers was 3 gallons, so each test used 9 gallons of fuel (6 containers x 1.5 gal) since each container was filled to 50% capacity. As a result of the proposed amendments, a typical certification test will require approximately 27 gallons of fuel for completion (6 containers -- certification tests require a six container sample size -- x 3 gal + 6 containers x 1.5 gal) since each container will be filled to nominal capacity to precondition and will be refueled to 50% capacity for diurnal testing. As shown in Table VI-1, the additional number of gallons used and the higher cost per gallon result in an increased cost of about $438 ($646 for fuel after implementation of the proposed amendments minus $208 for the existing cost of fuel) per certification test, and approximately $700 ($438 x 1.6 certification tests per year) per year.

Table VI-1: Cost of Additional Fuel (2015$)

	Existing	Proposed
Average Number of Gallons	9	27
Cost Per Gallon	$23.15	$23.93
Cost Per Test	$208	$646
Additional Cost Per Test	N/A	$438
Additional Cost Per Year	N/A	$700

Using a cost quote from an independent testing laboratory, staff estimated the cost of requiring an additional six containers to be tested if any failure occurs at $13,600 (2015$) per retest. The written report associated with a PFC certification test was quoted by an independent testing laboratory at $1,200 (2015$) per report. It is unclear how often manufacturers will need to repeat the certification process, as it will only be necessary if a failure occurs that cannot be fixed without the use of tools, sealant, etc., and there is no historical data to predict the frequency of this occurrence. Therefore, a range of costs will be assumed, from $0 for no failures to $14,800 (2015$) ($13,600 + $1,200) for one major failure requiring retesting with six new containers. Adjusting for the 1.6 certification tests per year, the yearly cost of the regulation amendment attributed to additional testing is estimated to range from $0 to $23,700 (2015$) ($14,800 x 1.6) for all certification tests, as shown in Table VI-2.

Table VI-2: Additional Cost of PFC Retesting (2015$)

ARB Test Procedure	Cost
TP-501	$6,600*
TP-502	$7,000*
Subtotal	$13,600
Report Generation	$1,200*
Cost to Retest 6 Containers	$14,800
Additional Cost of 1.6 Certs per Year	$23,700

*As quoted by an independent testing laboratory

The remaining additional costs associated with the proposed amendments (besides the cost of additional fuel) are the costs for the testing laboratory to conduct U.S. EPA durability testing and recordkeeping. Since the independent laboratory selected by a PFC manufacturer to perform testing must already possess the equipment and expertise to perform U.S. EPA certification tests, the expected cost of durability testing for six containers, as quoted by an independent testing laboratory, is $4,800 per certification test. At 1.6 certification tests per year, the cost per year is approximately $7,700 (2015$). Recordkeeping costs were also quoted by an independent testing laboratory at $250 per year, or approximately $156 per certification test ($156 = $250/1.6). A summary of the estimated direct costs attributable to the additional fuel, durability testing, recordkeeping, and the potential retesting of failed containers for the proposed amendments is presented in Table VI-3.

Table VI-3: Additional Testing Direct Costs (2015$)

Proposed Amendment Requiring Additional Cost	Cost
Higher fuel cost and additional fuel used	$438
Cost to retest containers for failures and written report	$0 - $14,800
Cost to add U.S. EPA durability tests	$4,800
Recordkeeping	$156
Total Costs Per Test	$5,400 - $20,200
Total Costs Per Year	$8,600 - $32,300

ii. Executive Order Renewal Costs

The costs associated with implementing a sell-through date for compliance with the updated certification procedure will apply to all eleven certified PFC families at the time of this analysis. Each manufacturer will be required to conduct a complete certification test ($13,600 for testing + $1,200 for certification application report generation), in order to continue selling the currently certified PFC families past the proposed sell-through date. An estimate of the expected costs attributable to including a sell-through date in the proposed regulation amendment ($14,800 per certification test x 11 certified PFC families = $163,000) is presented in Table VI-4.

Table VI-4: Costs of Sell-Through Testing (2015$)

Sell-Through Testing Cost	Cost
Cost to retest a currently certified PFC family using amended Certification Procedure	$14,800
Total Costs (for all 11 certified PFC families)	$163,000

The costs associated with implementing limited term executive order certification include the costs to compile a renewal request and, if necessary, to conduct a certification test. Staff estimates that initially, approximately 50 percent of certification renewals will require testing, based on the previously presented ARB test results for PFCs, and this percentage will decrease with time over the life of the regulation. An estimation of the costs attributable to PFC executive order certification renewal with and without additional testing is presented in Table VI-5.

Table VI-5: Limited Term Certification Renewal Costs (2015$)

Certification Renewal Costs	No Testing Required	Additional Testing Required
Renewal Request	$1,200	$1,200
Certification Tests	$0	$13,600
Total Costs Per Renewal	$1,200	$14,800
Total Costs (for all 11 certified PFC families)	$13,200	$163,000

iii. Total Costs

Every cost component described and calculated above (for lower bound and upper bound costs) is summarized for each year of the five year implementation period and presented in Table VI-6. $11,000 per year (2015$) was subtracted from lower bound costs because of the potential savings available to a manufacturer electing to submit a certification package acceptable to both ARB and U.S. EPA, as discussed in section b: Direct Benefits Assessment (page 21).

Table VI-6: Annual Costs of Proposed Regulation (2015$)

Year	Lower Bound	Upper Bound
2017	$160,600	$195,300
2018	-$2,400*	$32,300
2019	-$2,400*	$32,300
2020	-$2,400*	$32,300
2021	$10,800	$195,300
Total	**$164,200**	**$487,500**

*Negative costs represent savings

The annual costs presented in Table VI-6 were discounted (by 5%) and aggregated to yield a total cost of the regulation. The total costs of the proposed regulation amendments are presented in Table VI-7 and range from $147,801 to $402,662 (2015$). The upper bound estimate is largely driven by the requirement that certification tests or requests for renewal will require additional testing. Annual costs that are expected every year include the higher cost of fuel, added durability tests, and the potential for retesting due to failures. Sell-through costs are expected to be incurred in 2017 and the costs associated with executive order renewal (limited term certification costs) are expected to be incurred in 2021. See Appendix F, Table 1 “Total Cost of Proposed Regulatory Amendments for costs by year for each cost component.”

Table VI-7: Total Cost of Proposed Regulatory Amendments (2015$)
(5% Discount Rate)

Year	Lower Bound	Upper Bound
2017	$145,669	$177,143
2018	-$2,073*	$27,902
2019	-$1,974*	$26,573
2020	-$1,880*	$25,308
2021	$8,059	$145,736
Total	**$147,801**	**$402,662**

*Negative costs represent savings

The maximum estimated price increase per PFC, in 2015 dollars, attributable to the proposed amendments is $0.36 per year. This value is derived using the highest estimated annual compliance cost for an out-of-state PFC manufacturer of $195,300 (see 2017 Upper Bound cost in Table VI-6), a five percent discount rate over two years (as the highest annual cost occurs in 2017) which yields $177,143, and a 100 percent manufacturer mark-up. Assuming that 1,000,000 PFCs are sold in California each year, $177,143/1,000,000 = $0.18 * 2 (for the 100 percent mark-up) = $0.36 per PFC. This $0.36/PFC price increase represents a worst-case scenario under which the highest estimated annual cost to out of state PFC manufacturers is entirely passed to California consumers.

The statewide total cost, in 2015 dollars, was derived by multiplying the price increase per PFC by the annual number of PFCs sold in California by the lifetime of the regulation, where $0.36/PFC x 1,000,000 PFCs/year x 5 years = $1,800,000.

b. Direct Benefits Assessment

The proposed regulatory amendments do not provide any direct ROG emissions reduction benefits. Benefits do include cost savings for manufacturers in their certification testing costs. The proposed amendments harmonize certain aspects of ARB's PFC certification and test procedures with the U.S. EPA PFC regulation. If a manufacturer chooses, a single application meeting both U.S. EPA and ARB requirements will be accepted by ARB. This cost savings is the cost to certify with U.S. EPA, which is estimated at $6,900 (2015$) ($5,700 for the certification tests + $1,200 for the written reports) for each test and application submittal, or $11,000 per year (2015$) ($11,040 = $6,900 x 1.6 certification tests per year). Cost savings benefits range from $0 per year, if a manufacturer continues to submit separate certification applications to U.S. EPA and ARB, to $11,000 per year (2015$), if a manufacturer submits a single application. As mentioned above, because this is a cost savings measure to manufacturers, $11,000 was subtracted from each year's lower bound total cost. The cost savings are presented in Table VI-8.

Table VI-8: Total Industrywide Savings (2015$)

Proposed Amendments Providing Savings	Cost
Certification Tests	$5,700
Written Reports	$1,200
Savings Per Certification Test	$6,900
Savings Per Year	$11,000

c. Cost-effectiveness

The proposed regulatory amendments do not allow for a cost-effectiveness calculation, since there is no direct quantifiable reduction of ROG emissions. The proposed regulatory amendments will update fuel used for certification testing to what is commercially available, so evaporative emissions projections from PFCs will more accurately reflect real-world emissions. Additionally, revisions to the certification process are intended to increase compliance rates with the performance standard of 0.3 g/gal/day that is already in place. While the proposed regulatory amendments do not directly reduce ROG emissions, they will, however, contribute towards attainment of the federal 8-hour ozone standard and reduce public exposure to the amount of toxic compounds found in gasoline, such as benzene, through increased compliance and reducing the potential for introducing PFCs into California that may not meet current ARB performance standards.

d. Affected Businesses (CA)

The proposed regulatory amendments are not likely to affect the creation, expansion, or elimination of any California businesses. The types of businesses that would potentially be affected include PFC manufacturers, retailers, and testing laboratories. There are currently no PFC manufacturers or testing laboratories located in California, and California PFC retailers should be unaffected because the proposed amendments are estimated to add a maximum $0.36 to the price of an individual PFC.

3. ECONOMIC IMPACT ANALYSIS

a. Impact on Jobs

The proposed regulatory amendments will not create or eliminate jobs within the state. All PFC manufacturing facilities are located outside of California, and the primary independent testing laboratory is located outside of California as well. The only jobs potentially impacted are those provided by California PFC retailers, but, as previously noted, the proposed regulatory amendments are expected to very minimally impact the price of individual PFCs. Additionally, no aspects of the proposed regulatory amendments are expected to have any influence on future jobs related to PFCs in California.

b. Impact on Businesses

There is no expected impact on California businesses. More specifically, for the reasons presented in 3.a. above, this regulation will not create new businesses, or expand or eliminate existing businesses, within the state. The proposed regulatory amendments are expected to very minimally impact the price of individual PFCs consequently, not impacting the sales of PFC retailers.

c. Impact on Small Businesses

There is no expected impact on California small businesses. The only small businesses that would potentially be impacted are retailers of PFCs, but the proposed regulatory amendments are expected to very minimally impact the price of individual PFCs.

d. Impact to Health and Welfare of California Residents

The proposed regulatory amendments do not directly reduce ROG emissions. The proposed regulatory amendments will, however, contribute towards attainment of the federal 8-hour ozone standard by reducing the potential for introducing PFCs into California that may not meet current ARB performance standards when storing current motor vehicle fuel. As such, there are no direct impacts, either negative or positive, on health, or welfare to California residents, worker safety, and California's environment associated with the proposed regulatory amendments.

4. INFORMATION RELIED UPON FOR ECONOMIC ASSESSMENT

Information relied upon for this Economic Assessment includes a September 2015 quote for both E-0 fuel and E-10 fuel from a California fuel provider. The quote for E-10 fuel was $0.78 higher per gallon than the cost for E-0 fuel. Additional information relied upon are PFC certification applications submitted to ARB from 2007 - 2014, which were reviewed to determine the number of certification applications submitted per year and the average number of gallons of certification fuel used per certification test. Certification test, report generation, and recordkeeping costs were based on one quote from an independent testing laboratory in August 2015. The number of PFCs sold in California was estimated by ARB staff from confidential conversations with PFC manufacturers and sales figures submitted by PFC manufacturers pursuant to settlement agreements with ARB.

B. MAJOR REGULATIONS

For purposes of this section, "Major Regulation" means any proposed adoption, amendment, or repeal of a regulation that will have an economic impact on the state's business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000), as estimated by the board, department, or office within the agency proposing to adopt the regulation As previously shown in section 2.a.iii, the proposed regulatory amendments do not cost more than $200,000 in any one year of

implementation or compliance, and therefore the proposed regulatory amendments do not meet the major regulation threshold as specified in California Government Code section 11342.548.

VII. EVALUATION OF REGULATORY ALTERNATIVES

An analysis of the alternatives to the proposed PFC regulation amendments is presented below. Staff analyzed two alternatives to ARB's existing PFC regulation:

- Do not amend the PFC regulation
- Complete harmonization with U.S. EPA PFC regulation

Neither alternative considered by staff would lessen any adverse impact on small business, or be more effective in carrying out the purpose for which the regulation is proposed, or would be as effective as or less burdensome to affected private persons than the proposed regulation.

A. NO AMENDMENTS

The first alternative considered was to take no action. Under this alternative, E-0 certification fuel would continue to be used instead of E-10 fuel, and separate applications would be required for ARB and U.S EPA certification. There would also be continued potential of introducing PFCs into commerce that are incapable of meeting ARB PFC performance standards with motor vehicle fuel currently dispensed at California gasoline stations leading to increased emissions and potentially adverse health impacts. Staff rejected this alternative.

B. COMPLETE HARMONIZATION WITH U.S. EPA

Complete harmonization with U.S. EPA would make ARB's PFC certification standards less stringent due to the less extreme diurnal temperature profile, fewer pressure and leak checks, and the smaller number of PFC samples used for U.S. EPA certification testing. Under this alternative, emissions from PFCs would potentially increase due to the less stringent standards. The resulting impact on human health is not quantified but increased air pollution can lead to increased instances of asthma, hospital visits, and even premature mortality. Staff rejected this alternative.

VIII. POTENTIAL FUTURE ACTIONS

Staff will evaluate the PFC regulation on an ongoing basis to assess whether additional emission reductions are needed to meet California's overall air quality goals, but does not anticipate any near-term future actions related to this emissions category.

IX. SUMMARY AND RATIONALE FOR EACH REGULATORY PROVISION

Section 2467. Applicability.

Summary of Section 2467(a)

Section 2467(a) was modified to replace the phrase "portable fuel container or spout or both portable fuel container and spout," with "portable fuel container systems or their components." "Section" was also modified to be lowercase.

Rationale for Section 2467(a)

The phrase "portable fuel container or spout or both portable fuel container and spout" is redundant and unnecessary as portable fuel containers and spouts must be certified as a package (i.e. it is impossible to conduct a certification test on a container without a spout as well as on a spout without a container). The reference is changed to "portable fuel container system or its components" to refer to the system as a whole while allowing for the sale of individual components. The system as a whole, however, must be certified as a system and not for individual components. Section is not required to be capitalized and the change to lowercase is consistent with other ARB documents.

Summary of Section 2467(b)

Section 2467(b) was modified to replace the phrase "portable fuel container or spout or both portable fuel container and spout" with "portable fuel container system or its components." "Section" was also modified to be lowercase and "is" was made plural to "are."

Rationale for Section 2467(b)

The phrase "portable fuel container or spout or both portable fuel container and spout" is redundant and unnecessary as portable fuel containers and spouts must be certified as a package (i.e. it is impossible to conduct a certification test on a container without a spout as well as on a spout without a container). The reference is changed to "portable fuel container system or its components" to refer to the system as a whole while allowing for the sale of individual components. The system as a whole, however, must be certified as a system and not for individual components. Section is not required to be capitalized and the change to lowercase is consistent with other ARB documents. Adding "components" to the portable fuel container term makes it plural, requiring "are" instead of "is."

Section 2467.1. Definitions.

Summary of Section 2467.1(a)

Section 2467.1(a) was modified to add the following definition:

Portable Fuel Container System.

The following definitions were deleted:

Spill-Proof Spout, Spill-Proof System.

The following definitions were modified:

ASTM, Automatic closure, Automatically close, Consumer, Distributor, Fuel, Kerosene, Manufacturer, Outboard Engine, Permeation, Person, Portable Fuel Container, Retail Outlet, ROG, and Spout.

Rationale for Section 2467.1(a)

This section is necessary to ensure consistent interpretation of the terms used in the portable fuel container regulation. A significant change to this section is the elimination of the term “spill-proof.” “Spill-proof” is misleading because testing is conducted to ensure that the system is “leak-proof” but spillage is not addressed in the certification of a “Spill-Proof System.” All references to “Spill-Proof Systems” was changed to “Portable Fuel Container Systems.” The definition of “ROG” was changed to include a list of updated U.S. EPA exempt compounds.

Section 2467.2 Certification Procedure for Portable Fuel Container Systems

Summary of Section 2467.2

The title of section 2467.2 was changed from “Performance Standards and Test Procedures for Portable Fuel Containers and Spill-Proof Spouts” to “Certification Procedure for Portable Fuel Container Systems.”

Rationale for Section 2467.2

This change was made because PFC performance standards and criteria for certification are presented in the Certification Procedure. “Spill-proof” is misleading because testing is conducted to ensure that the system is “leak-proof” but spillage is not addressed in the certification of a “Spill-Proof System.” Additionally, the entire system must be “leak proof” and not just the spout. Therefore, “Spill-Proof Spouts” was deleted from the title.

Summary of Section 2467.2(a)

Section 2467.2(a) was deleted.

Rationale for Section 2467.2(a)

This change is necessary because the section is no longer valid as of June 30, 2007.

Summary of Section 2467.2(b)

Section 2467.2(b) was deleted.

Rationale for Section 2467.2(b)

This change is necessary because the section is no longer valid as of June 30, 2007.

Summary of Section 2467.2(c)

Section 2467.2(c) was changed to 2467.2(a) and was modified to replace the phrase "portable fuel container, spout, or portable fuel container and spout" with "portable fuel container system or its components." "Section" was made lowercase and "is" was changed to "are."

Rationale for Section 2467.2(c)

This lettering change is necessary because sections (a) and (b) were deleted. The phrase "portable fuel container or spout or both portable fuel container and spout" is redundant and unnecessary as portable fuel containers and spouts must be certified as a package (i.e. it is impossible to conduct a certification test on a container without a spout as well as on a spout without a container). The reference is changed to "portable fuel container system or its components" to refer to the system as a whole while allowing for the sale of individual components. The system as a whole, however, must be certified as a system and not for individual components. Adding "components" to the portable fuel container term makes it plural, requiring "are" instead of "is." Section is not required to be capitalized and the change to lowercase is consistent with other ARB documents.

Summary of Section 2467.2(d)

Section 2467.2(d) was changed to section 2467.2(b) and was modified to delete "certification." The term "portable fuel container system" was used to replace components listed separately. The title of CP-501 was modified to delete "and Spill Proof Spouts."

Rationale for Section 2467.2(d)

This lettering change is necessary because sections (a) and (b) were deleted. The use of certification is redundant and unnecessary as certification is already used in the sentence. The phrase "portable fuel container or spout or both portable fuel container and spout" is redundant and unnecessary as portable fuel containers and spouts must be certified as a package (i.e. it is impossible to conduct a certification test on a container without a spout as well as on a spout without a container). The reference is changed to "portable fuel container system or its components" to refer to the system as a whole while allowing for the sale of individual components. The system as a whole,

however, must be certified as a system and not for individual components. "Spill-proof" is misleading because testing is conducted to ensure that the system is "leak-proof" but spillage is not addressed in the certification of a "Spill-Proof System." Therefore, "Spill-Proof Spouts" was deleted from the title of the CP-501 document.

Summary of Section 2467.2(c)

Section 2467.2(c) was added to implement a sell-through date for manufacturers to comply with the updated CP-501 certification procedure.

Rationale for Section 2467.2(c)

Currently, PFC certification executive orders have no expiration date; therefore, certified products can continue to be sold without identifying and correcting any potential deficiencies or making design improvements to further control emissions. This sell-through provision will help to ensure that currently certified PFC models meet ARB certification standards with currently available motor vehicle pump fuel.

Summary of Section 2467.2(d)

Section 2467.2(d) was added to implement a sell-through requirement for wholesale distributors.

Rationale for Section 2467.2(d)

The addition of this section requires wholesale distributors to distribute their products six months after the sell-through date for manufacturers.

Summary of Section 2467.2(e)

Section 2467.2(e) was modified to replace "compliance" with "certification" and the phrase "with these Performance and Certification and Compliance Standards" was deleted. The coordination of certification procedures with "California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH)" was deleted.

Rationale for Section 2467.2(e)

There are no longer any Performance Standard Test Procedures, so the only compliance is with the Certification and Compliance Test Procedures. The coordination with DOSH was deleted for consistency with other ARB documents and because section 2467.2(f) explains that "…other applicable federal and state statutes and regulations such as fire codes, safety codes, and other safety regulations…" must be complied with, making the coordination with DOSH unnecessary.

Summary of Section 2467.2(f)

Section 2467.2(f) was modified to replace “Performance Certification or Compliance Standards” with “certification requirements” and to replace “spill-proof systems or spill-proof spouts” with “portable fuel container systems.”

Rationale for Section 2467.2(f)

There are no longer any Performance Standard Test Procedures, so the only compliance is with the Certification and Compliance Test Procedures. References to “spill-proof systems” and “spill-proof spouts” will be replaced with “portable fuel container systems” to address the misleading “spill-proof” phrase and to refer to the spout and container as a system as they must be certified together.

Section 2467.3 Exemptions

Summary of Section 2467.3(a)

Section 2467.3(a) was modified to delete the phrase “or both portable fuel container and spout.”

Rationale for Section 2467.3(a)

The phrase is redundant and unnecessary.

Summary of Section 2467.3(b)

Section 2467.3(b) was modified to replace references to “spout or both portable fuel container and spout” with “portable fuel container system or its components.” “Performance Standards specified in Sections 2467.2(a) or (b)” and “Compliance Standards” were replaced with “certification requirements.” “Does” was changed to “do,” “is” was changed to “are,” and “that” was deleted. “Section” was made lowercase.

Rationale for Section 2467.3(b)

The phrase “portable fuel container or spout or both portable fuel container and spout” is redundant and unnecessary as portable fuel containers and spouts must be certified as a package (i.e. it is impossible to conduct a certification test on a container without a spout as well as on a spout without a container). The reference is changed to “portable fuel container system or its components” to refer to the system as a whole while allowing for the sale of individual components. The system as a whole, however, must be certified as a system and not for individual components. “Performance Standards specified in Sections 2467.2(a) or (b)” expired and are no longer valid. Edits were made to match plurality. The section case change was made to be consistent with other ARB documents.

Summary of Section 2467.3(c)

Section 2467.3(c) was modified to make “title,” “part,” and “subpart” lowercase.

Rationale for Section 2467.3(c)

The case change was made to be consistent with other ARB documents.

Summary of Section 2467.3(d)

Section 2467.3(d) was modified to replace “portable fuel containers” with “portable fuel container systems.”

Rationale for Section 2467.3(d)

The entire system must comply with this section.

Summary of Section 2467.3(f)

Section 2467.3(f) was modified to add “marine” to the “outboard marine engine” phrase and to replace “the” with “an.”

Rationale for Section 2467.3(f)

This change makes the phrase consistent with other ARB documents and provides a minor clarification edit.

Summary of Section 2467.3(g)

Section 2467.3(g) was modified to replace “portable fuel containers” with “portable fuel container systems.”

Rationale for Section 2467.3(g)

The entire system must comply with this section.

Section 2467.4 Innovative Products

Summary of Section 2467.4(a)

Section 2467.4(a) was modified to replace “portable fuel container or spout or both portable fuel container and spout” and “spill-proof system or representative spill-proof spout” with “portable fuel container system.” “Section” was made lowercase.

Rationale for Section 2467.4(a)

"Both portable fuel containers and spouts" phrase is redundant and unnecessary. The reference to "spill-proof systems or representative spill-proof spouts" will be replaced with "portable fuel container" to address the misleading "spill-proof" phrase and to refer to the spout and container as a system as they must be certified as a system. The section case change was made to be consistent with other ARB documents.

Summary of Section 2467.4(b)

Section 2467.4(b) was modified to replace "spill-proof system" with "portable fuel container system" and to add "components" to the definition, delete "Performance Standards specified in Sections 2467.2(a) or (b)," and delete, "Spill-Proof Spouts" and to add, "and amended MM DD, YYYY" to the title of CP-501. "Section" and "Certification Requirements" were made lowercase.

Rationale for Section 2467.4(b)

References to "spill-proof systems" and "spill-proof spouts" will be replaced with "portable fuel container systems" to address the misleading "spill-proof" phrase and to refer to the spout and container as a system as they must be certified as a system. There are no longer any Performance Standards as sections 2467.2 (a) and (b) were deleted, so the only compliance is with the Certification and Compliance Test Procedures. "Spill-proof" is misleading because testing is conducted to ensure that the system is "leak-proof," but spillage is not addressed in the certification of a "Spill-Proof System." Therefore, "Spill-Proof Spouts" was deleted from the title of the CP-501 document. "Components" was added to the definition of "portable fuel container system" to specify that it includes all components in addition to the spout. Section is not required to be capitalized and the change to lowercase is consistent with other ARB documents and "Certification Requirements" was made lowercase since it is not a title.

Summary of Section 2467.4(c)

Section 2467.4(c) was amended to change the reference of "Title 17, California Code of Regulations" to "Cal. Code Regs., title 17." "Section" was made lowercase.

Rationale for Section 2467.4(c)

These changes make the references consistent with other ARB documents.

Summary of Section 2467.4(d)

Section 2467.4(d) was amended to change the reference of "Title 17, California Code of Regulations" to "Cal. Code Regs. title 17."

Rationale for Section 2467.4(d)

This change makes the reference consistent with other ARB documents.

Summary of Section 2467.4(e)

“Section” was made lowercase.

Rationale for Section 2467.4(e)

This change makes the reference consistent with other ARB documents.

Summary of Section 2467.4(f)

Section 2467.4(f) was modified to use the phrase “portable fuel container system” instead of listing the components separately.

Rationale for Section 2467.4(f)

Portable fuel containers and spouts must be certified as a system.

Summary of Section 2467.4(g)

Section 2467.4(g) was modified to use the phrase “portable fuel container system” instead of listing the components separately and to replace “effect” with “affect.”

Rationale for Section 2467.4(g)

Portable fuel containers and spouts must be certified as a system. The correct form of “affect” was used.

Summary of Section 2467.4(h)

Section 2467.4(h) was deleted.

Rationale for Section 2467.4(h)

This section is no longer valid due to the deletion of sections 2467.2 (a) and (b).

Summary of Section 2467.4(i)

Section 2467.4(i) was changed to section 2467.4(h) and was modified to use the phrase “portable fuel container system” instead of listing the components separately. The reference of “Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 1.25” was changed to “title 17, Cal. Code Regs., division 3, chapter 1, subchapter 1.25.”

Rationale for Section 2467.4(i)

The lettering change was made because section (h) was deleted and portable fuel containers and spouts must be certified as a system. The change to the "Cal. Code Regs." statement was to be consistent with other ARB documents.

Section 2467.5 Administrative Requirements

Summary of Section 2467.5(a)

Section 2467.5(a) was deleted.

Rationale for Section 2467.5(a)

This section applies to section 2467.2(a), which has expired and was deleted.

Summary of Section 2467.5(b)

Section 2467.5(b) was deleted.

Rationale for Section 2467.5(b)

This section applies to section 2467.2(b), which has expired and was deleted.

Summary of Section 2467.5(c)

Section 2467.5(c) was changed to section 2467.5(a) and was modified to delete references to the following phrases:

"or portable fuel container and spout"
"spill-proof system"
"representative date"
"representative code"

"Portable fuel container" replaced "spill-proof system" and "month and year of manufacture" replaced "date of manufacture or representative code." "Section 2467.2(c)" was changed to "section 2467.2(a)." The requirements of sections 2467.5(c)(1) and 2467.5(c)(2) must be permanently embossed on containers. "Portable fuel container system" replaced the components stated separately.

Rationale for Section 2467.5(c)

The lettering change was made because section 2467.5(a) and (b) were deleted. This section applies to the container itself, and the spout is addressed in the next section. Requiring the phrase "Spill-Proof Spout" is no longer necessary as the term is no longer being used. The month and year of manufacture is being required rather than a

representative date code to harmonize with U.S. EPA requirements. The executive order number is required rather than a representative code identifying it. The section case change was made to be consistent with other ARB documents. The permanent embossing requirement ensures that PFCs can still be identified without the label. Portable fuel containers and spouts must be certified as a system.

Summary of Section 2467.5(d)

Section 2467.5(d) was changed to section 2467.5(b) and was modified to delete the phrase “spill-proof” to require the month and year of manufacture, and to include the executive order number instead of a representative code. Reference to “Section 2467.2(c)” was changed to “section 2467.2(a).”

Rationale for Section 2467.5(d)

The lettering change was made because section 2467.5(a) and (b) were deleted. Requiring the phrase “Spill-Proof Spout” is no longer necessary as the term is no longer being used. The month and year of manufacture is being required rather than a representative date code to harmonize with U.S. EPA requirements. The executive order number is required rather than a representative code identifying it. The section change was made since section 2467.2(c) is now 2467.2(a). Section was made lowercase to be consistent with other ARB documents.

Summary of Section 2467.5(e)

Section 2467.5(e) was deleted.

Rationale for Section 2467.5(e)

The date and executive order number are directly displayed on the container rather than a representative code, so this section, which requires the explanation of the codes, is not needed.

Summary of Section 2467.5(f)

Section 2467.5(f) was changed to section 2467.5(c) and was modified to delete references to subsection (d) and section 2467.2(c) and to delete the “spill-proof” phrase. The phrase “has been certified pursuant to” replaced the phrase “is designed to accommodate and can demonstrate compliance with.” “Section” was made lowercase. “Has been certified pursuant to” replaced “is designed to accommodate and can demonstrate compliance with.”

Rationale for Section 2467.5(f)

The lettering change was made because section 2467.5(a) and (b) were deleted. References to subsection (b) and section 2467.2(c) are being deleted because the

sections are being deleted. “Spill-proof” is no longer being used. Changes were made to improve clarity and the section case change was made to be consistent with other ARB documents.

Summary of Section 2467.5(g)

Section 2467.5(g) was deleted.

Rationale for Section 2467.5(g)

This section prohibits manufacturers from displaying the phrases “Spill-Proof System” or “Spill-Proof Spout” unless the container complies with the regulation, but the “spill-proof” phrase is no longer being used so the section is unnecessary.

Summary of Section 2467.5(h)

Section 2467.5(h) was changed to section 2467.5(d) and was modified to delete the “spill-proof” phrase, replace “portable fuel container or spout or both portable fuel container and spout” with “portable fuel container system,” and to make “Section” lowercase.

Rationale for Section 2467.5(h)

The lettering change was made because section 2467.2(a), (b), and (g) were deleted. The “spill-proof” phrase is no longer being used. Portable fuel container systems include the spout, so there is no reason to state the components separately. The section case change was made to be consistent with other ARB documents.

Section 2467.6 Variances

Summary of Section 2467.6(a)

Section 2467.6(a) was modified to make “section” lowercase. “Date(s)” and “method(s)” were changed to singular.

Rationale for Section 2467.6(a)

These changes were made to be consistent with other ARB documents.

Summary of Section 2467.6(b)

Section 2467.6(b) was modified to add the word “do” and to make “section” lowercase.

Rationale for Section 2467.6(b)

The addition of “do” was made to improve sentence readability and the section case change was made to be consistent with other ARB documents.

Summary of Section 2467.6(c)

Section 2467.6(c) was modified to make “section” lowercase.

Rationale for Section 2467.6(c)

This change was made to be consistent with other ARB documents.

Summary of Section 2467.6(d)

Section 2467.6(d) was modified to make “section” lowercase and to add the word “it.”

Rationale for Section 2467.6(d)

The case change was made to be consistent with other ARB documents and the addition of “it” improved clarity.

Summary of Section 2467.6(f)

Section 2467.6(f) was modified to make “section” lowercase.

Rationale for Section 2467.6(f)

This change was made to be consistent with other ARB documents.

Section 2467.7 Performance Standard Test Procedures

Summary of Section 2467.7(a)

Section 2467.7(a) was deleted.

Rationale for Section 2467.7(a)

This section requires the use of “Test Method 510, Automatic Shut Off Test Procedure For Spill-Proof Systems And Spill-Proof Spouts” and “Test Method 511, Automatic Closure Test Procedure For Spill-Proof Systems And Spill-Proof Spouts” to comply with section 2467.2(b). Section 2467.2(b) is expired and no longer valid and the two test methods are no longer used, having been superseded by newer versions.

Summary of Section 2467.7(b)

Section 2467.7(b) was deleted.

Rationale for Section 2467.7(b)

This section requires the use of “Test Method 513, Determination Of Permeation Rate For Spill-Proof Systems” to comply with section 2467.2(a). Section 2467.2(a) is expired and no longer valid and the test method is no longer used, having been superseded by newer versions.

Summary of Section 2467.7(c)

Section 2467.7(c) was deleted.

Rationale for Section 2467.7(c)

This section applied to the performance standards, which were removed, so it was deleted.

Summary of Section 2467.7(d)

Section 2467.7(d) was deleted.

Rationale for Section 2467.7(d)

This section applied to the performance standards, which were removed, so it was deleted.

Section 2467.8 Certification and Compliance Test Procedures

Summary of Section 2467.8(a)

Section 2467.7(a) was added to establish the test procedures required for certification.

Rationale for Section 2467.8(a)

The addition of this section separates the requirements between certification tests and compliance tests. Both TP-501 and TP-502 are required for certification.

Summary of Section 2467.8(a)

Section 2467.8(a) was changed to section 2467.7(b) and was modified to state that TP-501, TP-502, or both TP-501 and TP-502 may be performed for compliance, “section” was made lowercase, the title of CP-501 was changed to reference the new proposed title, and the phrase, “and amended MM DD, YYYY” was added.

Rationale for Section 2467.8(a)

The numbering change was made because section 2467.7 was deleted and section 2467.7(a) (previously section 2467.8) was added. The case change is to be consistent with other ARB documents. "CP-501, Certification Procedure for Portable Fuel Containers and Spill-Proof Spouts" is being amended.

Summary of Section 2467.8(b)

Section 2467.8(b) was changed to 2467.7(c) and was modified to add the reference to alternative methods in CP-501.

Rationale for Section 2467.8(b)

The numbering change was made because section 2467.7 was deleted and section 2467.7(a) (previously section 2467.8) was added. The CP-501 change makes the reference specific.

Summary of Section 2467.8(c)

Section 2467.8(c) was changed to 2467.7(d) and was modified to reference the portable fuel container website directly, instead of the ARB homepage.

Rationale for Section 2467.8(c)

The numbering change was made because section 2467.7 was deleted and section 2467.7(a) (previously section 2467.8) was added. The website change will allow for direct access of the relevant webpage.

Section 2467.9 Enforcement

Summary of Section 2467.9(a)

Section 2467.9 was changed to 2467.8 and section (a) was modified to delete the phrase "or both portable fuel container and spout" and replace it with "system or its components." "Section" was made lowercase.

Rationale for Section 2467.9(a)

The numbering change was made because section 2467.7 was deleted. The phrase "portable fuel container or spout or both portable fuel container and spout" is redundant and unnecessary as portable fuel containers and spouts must be certified as a package (i.e. it is impossible to conduct a certification test on a container without a spout as well as on a spout without a container). The reference is changed to "portable fuel container system or its components" to refer to the system as a whole while allowing for the sale of individual components. The system as a whole, however, must be certified as a

system and not for individual components. The section change was made to be consistent with other ARB documents.

X. PUBLIC PROCESS FOR DEVELOPMENT OF PROPOSED ACTION (PRE-REGULATORY INFORMATION)

Staff conducted two public workshops, one on May 12, 2015 and the second on October 20, 2015, to seek comment and response on the proposed amendments to the PFC regulation, certification procedure, and test procedures. Workshop notices were sent to more than 3,600 affected stakeholders. Staff considered all comments received. Minor revisions were made to reflect the comments received, and there are no unresolved issues raised by stakeholders.

For additional information on ARB's public process to develop these proposed actions see Appendix G.

XI. CONCLUSIONS AND RECOMMENDATIONS

In developing the proposed regulatory amendments for the PFC regulation, staff's goals are to update certification fuel, harmonize certification and test procedures with U.S. EPA, improve in-use compliance, and clarify, streamline, and increase the robustness of ARB certification and test procedures, while maintaining ARB's stringent emissions standards. The proposed amendments are cost-effective and possibly cost-saving.

No alternatives considered by the Board would be more effective in achieving the purpose for which the amendments are proposed.

Staff recommends that the Board adopt amendments to section 2467, title 13, California Code of Regulations provided in Appendix A. Staff also recommends the Board adopt amendments to certification procedure CP-501 and test procedures TP-501 and TP-502 incorporated by reference herein, as provided in Appendices B – D of this Staff Report.

XII. REFERENCES, TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY, REPORTS, OR DOCUMENTS RELIED UPON

1. California Air Resources Board (2005). *STAFF REPORT INITIAL STATEMENT OF REASONS FOR PROPOSED AMENDMENTS TO THE PORTABLE FUEL CONTAINER REGULATIONS.* http://www.arb.ca.gov/regact/pfc/2005/isor.pdf

2. California Air Resources Board (2012). *California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium-Duty Vehicles. Part II, section A.100.3.1.2.* http://www.arb.ca.gov/msprog/levprog/leviii/attacha3.pdf

3. EMFAC2014 Web Database. http://www.arb.ca.gov/emfac/2014/

4. United States Environmental Protection Agency (2015). *Control of Evaporative Emissions From New and In-Use Portable Fuel Containers.* Title 40, Code of Federal Regulations, Part 59, Subpart F. November 20, 2015.

5. United States Environmental Protection Agency (2015). *Engine Fluids, Test Fuels, Analytical Gases and Other Calibration Standards.* Title 40, Code of Federal Regulations, Part 1065, Subpart H. November 20, 2015.

XIII. APPENDICES

A. PROPOSED AMENDMENTS TO THE REGULATION ORDER FOR PORTABLE FUEL CONTAINERS

B. PROPOSED AMENDMENTS TO CP-501, CERTIFICATION PROCEDURE FOR PORTABLE FUEL CONTAINER SYSTEMS

C. PROPOSED AMENDMENTS TO TP-501, TEST PROCEDURE FOR DETERMINING INTEGRITY OF PORTABLE FUEL CONTAINER SYSTEMS

D. PROPOSED AMENDMENTS TO TP-502, TEST PROCEDURE FOR DETERMINING DIURNAL EMISSIONS FROM PORTABLE FUEL CONTAINER SYSTEMS

E. SUMMARY AND RATIONALE OF CERTIFICATION AND TEST PROCEDURES

F. CALCULATION OF COST EFFECTIVENESS

G. NOTICE OF PUBLIC WORKSHOP