

## **UPDATED INFORMATIVE DIGEST**

### **Adoption of Portable Fuel Container Spillage Control Regulations**

#### **Sections Affected:**

Adoption of sections 2470 – 2478 of title 13, California Code of Regulations (CCR), Chapter 9 Off-Road Vehicles and Engine Pollution Control Devices, Article 6, Portable Fuel Containers and Spouts, and adoption and incorporation by reference in section 2477 of “Test Method 510, Automatic Shut-Off Test Procedure For Spill-Proof Systems And Spill-Proof Spouts,” “Test Method 511, Automatic Closure Test Procedure For Spill-Proof Systems And Spill-Proof Spouts,” “Test Method 512, Determination of Fuel Flow Rate For Spill-Proof Systems And Spill-Proof Spouts,” and “Test Method 513, Determination of Permeation Rate For Spill-Proof Systems.”

#### **Background**

The California Clean Air Act as codified in Health and Safety Code sections 43013 and 43018 grants the ARB authority to regulate off-road mobile sources of emissions. Included are portable fuel containers, or “gas cans,” that are used to refuel a broad range of small off-road engines and equipment. Often, refueling results in spillage when the equipment fuel tank is overfilled. Spillage can and does occur during the transport and storage of the “gas cans.” These cans are also a significant source of evaporative and permeation emissions. While the emissions from a single container are small, the estimated 1998 statewide Reactive Organic Gas (ROG) emissions from all containers are almost 87 tons per day. These regulations were adopted to address the significant emissions impact of these products.

At its public hearing on September 23, 1999, the Board unanimously adopted Resolution 99-33 approving the “Portable Fuel Container Spillage Control Regulations.” By establishing a set of performance standards to which products manufactured after January 1, 2001 must adhere, the regulations will gradually replace the current style of portable fuel containers and spouts with spill-proof systems (containers and spouts) and spill-proof spouts.

In developing the regulations, ARB staff met with portable fuel container and spout manufacturers, off-road equipment manufacturers and representatives, petroleum company representatives, environmental consultants, environmental organizations, and Underwriters Laboratory.

#### **The Adopted Regulations**

The regulations apply to all portable fuel containers and spouts manufactured for sale and use in California. The regulations are not intended to apply to single trip pre-packaged containers, nor portable containers that by their design or labeling are intended primarily for storing or transporting liquids or products other than fuel. The regulations are intended to reduce

refueling emissions from those equipment and engines in the off-road categories that are predominantly refueled with portable fuel containers. The regulations contain several exemptions, including exemptions for containers less than or equal to one quart, certain containers used in off-road motorcycle competitions, portable fuel tanks for operating outboard engines, safety cans, and containers and spouts intended for shipment and use outside California.

### Performance Standards

The performance standards in the regulations are divided into two sections, one specifically addressing spill-proof systems and one for spill-proof spouts for use on portable fuel containers.

#### *Automatic Shut-off*

The standard requires that the spout automatically stop the fuel flow before the equipment fuel tank overflows. The automatic shut-off performance standard applies to both spill-proof systems and spill-proof spouts. It is designed to eliminate the problem of over-filling spillage.

#### *Automatic Closure*

The standard requires that the spout automatically close when removed from the equipment fuel tank and remain closed when not dispensing fuel. The automatic closure performance standard applies to both spill-proof systems and spill-proof spouts. It is designed to reduce emissions from evaporation and potentially eliminate transport and storage losses that would otherwise occur in normal use.

#### *One Opening*

The standard requires that the container have only one opening for both filling and pouring. The one opening performance standard applies to spill-proof systems only. The standard is designed to ensure proper operation of the automatic shut-off feature, to reduce evaporative emissions, and to potentially eliminate transport and storage losses associated with secondary vents.

#### *Fuel Flow Rate and Fill Level*

The performance standard specifies three fuel flow rates that are a function of container capacity, and two fill levels that are a function of fuel flow rate. These standards are: not less than one-half gallon per minute for portable fuel containers with a nominal capacity less than or equal to 1.50 gallons and fills to a level less than or equal to 1 inch below the top of the target fuel tank opening; or not less than one-half gallon per minute for portable fuel containers with a nominal capacity greater than 1.50 gallons but less than or equal to 2.5 gallons and fills to a level less than or equal to 1 inch below the top of the target fuel tank

opening if the spill-proof system clearly displays the phrase “Low Flow Rate” in type of 34 point or greater on each spill-proof system or label affixed thereto, and on the accompanying package, if any, or not less than one gallon per minute for portable fuel containers with a nominal capacity greater than 1.50 gallons but less than or equal to 2.5 gallons and fills to a level less than or equal to 1.25 inches below the top of the target fuel tank opening, or not less than two gallons per minute for portable fuel containers with a nominal capacity greater than 2.5 gallons.

The fuel flow rate and fill level performance standard applies to both spill-proof systems and spill-proof spouts. The standard is designed to provide new products with a sufficient fuel flow rate and fill level to satisfy the end user.

#### *Permeation Standard*

Approximately 75% of the residential population of portable fuel containers in California are made from a plastic substance known as High Density Polyethylene (HDPE). HDPE (plastic) portable fuel containers eventually become saturated with fuel and individual hydrocarbon molecules penetrate the plastic and find their way to the outside air. This process is called permeation. Saturation times are dependent upon temperature and container wall thickness and can occur in as little as 25 days.

The standard requires that the container not exceed a permeation rate of 0.4 grams per gallon per day. The permeation standard applies to spill-proof systems only and is designed to reduce emissions attributed to permeation from plastic portable fuel containers. Staff identified several cost-effective alternatives, including barrier surface treatments, to reduce permeation emissions from portable fuel containers.

#### *Warranty*

The standard requires manufacturers of both spill-proof systems and spill-proof spouts to warrant these products for a period of not less than one year against defects in materials and workmanship. This performance standard was added to ensure consumer satisfaction with the new containers and spouts, to protect the consumers' investment, and to promote product longevity and consequent continued emission reductions.

#### Innovative Products

A portable fuel container or spout or both can be exempted from compliance with one or more of the performance standards in the regulations if it can be classified as innovative. An innovative product may not adhere to all of the performance standards but due to its design, delivery system, or other factors, use of the product will result in cumulative ROG emissions below the highest emitting representative spill-proof system or representative spill-proof spout in its product category resulting from applicable testing. Additionally, the applicant must identify the test methods that can be used to enforce the innovative products exemption.

### Administrative Requirements

The regulations allow the manufacturers of noncompliant products a one year sell-through period. Manufacturers may continue to sell existing product provided that the products were manufactured before January 1, 2001. However, staff believes it is important to differentiate spill-proof systems and spill-proof spouts from their conventional counterparts to allow consumers to make informed choices regarding their purchase during the sell-through period, and to provide an effective enforcement tool both during and after the sell-through.

Both during and after the sell-through period, manufacturers of portable fuel containers and spouts that comply with the performance standards as described in the regulations are required to label these products as “Spill-Proof Systems” or “Spill-Proof Spouts” respectively. Each manufacturer of a Spill-proof system or spill-proof spout must also identify an expected fuel flow rate. And because not every spout will fit every container to create a fully compliant spill-proof system, the regulations include a spout labeling requirement that will identify compatible portable fuel containers.

For compliance purposes, manufacturers would also be required to display a date code and a code indicating compliance with the performance standards on containers or spouts, and would file the codes with ARB. Together, these labeling requirements will aid compliance and will allow consumers to select products that best suit their individual needs.

And finally, manufacturers of a portable fuel container or spout that due to its design or other features cannot be used to refuel one or more on-road motor vehicles must clearly display the phrase “Not Intended For Refueling On-Road Motor Vehicles” in type of 34 point or greater.

### Variances

The proposed regulations are not expected to cause or result in extraordinary economic hardship to any person or manufacturer. To further reduce this possibility, any person who cannot comply with the performance standards, due to reasons beyond the person’s reasonable control, may apply in writing for a variance. The variance procedures closely mirror other ARB variance procedures.

### Test Methods

Testing is necessary to determine compliance with the performance standards. The adopted Test Methods are 510, Automatic Shut-Off Test Procedure For Spill-Proof Systems And Spill-Proof Spouts, 511, Automatic Closure Test Procedure For Spill-Proof Systems And Spill-Proof Spouts, 512, Determination Of Fuel Flow Rate For Spill-Proof Systems And Spill-Proof Spouts, and 513, Determination Of Permeation Rate For Spill-Proof Systems. These are incorporated by reference in section 2477.

The first three test methods, 510, 511, and 512 will be used to determine compliance with the performance standards for spill-proof spouts. Compliance with the performance standards for spill-proof systems will be determined using the same three test methods with the addition of test method 513.

### **Comparable Federal Regulations**

There are no comparable federal regulations that address ROG emissions associated with the use of portable fuel containers. The U.S. Environmental Protection Agency does not at this time contemplate the promulgation of regulations to control emissions from portable fuel containers.

### **Benefits of this Regulation**

The regulations are designed to reduce the amount of ROG emissions emitted into the environment from the use of portable fuel containers. Compliance with the performance standards will achieve the maximum ROG emissions reductions feasible. Staff estimate a 2007 statewide ROG reduction of over 68 tons per day, representing approximately a 75 percent reduction of emissions from this mobile source. In addition, the South Coast Air Basin, one of the State's worst air quality areas, will benefit by the reduction of over 30 tons per day of ROG emissions by 2010.

In addition to reducing ROG emissions, the regulations will reduce public exposure to constituents found in gasoline such as benzene. The Board has identified benzene as a toxic air contaminant. Staff did not quantify the risk reductions of the proposal but believe that the spill-proof features would reduce statewide benzene emissions attributed to the use of portable fuel containers in 2010 by 75 percent, the same reduction as for ROG.

Further, the regulations may also improve water quality in our lakes and rivers. Many marine pleasurecraft, especially personal water craft (PWC), are refueled using portable fuel containers and the possibility of fuel spillage during 'on the water' refueling is always present. Spill-proof systems would allow users of pleasurecraft to refuel their engines with little or no fuel spillage. This would eliminate the potential discharge of fuel into the aquatic environment from the refueling of pleasurecraft.

### **Availability of Documents and Contact Person**

The Board staff has prepared all necessary reports and documentation for this regulatory action. The ARB staff has compiled a record that includes all information upon which this regulation was based. These reports and full text of the regulatory language may be obtained from the Board's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990. They may also be obtained from ARB's web site [www.arb.ca.gov](http://www.arb.ca.gov). The ARB determined that it was not feasible to draft the regulation in plain English due to the technical

nature of the regulation; however, a plain English summary of the regulation is available from the agency and is also contained in the staff report for this regulatory action.

**Cost to Public Agencies and to Businesses and Persons Affected:** The Board's determinations concerning the costs or savings necessarily incurred in reasonable compliance with the proposed regulations are presented below.

The Board has determined that this regulatory action does not create costs or savings, as defined in Government Code section 11346.5(a)(6), to any state agency or in federal funding to the state, to any local agency or school district whether or not reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, or other nondiscretionary savings to local agencies.

This regulation was evaluated for potential economic impacts on private persons and businesses. The Board has determined, pursuant to Government Code section 11346.5(a)(3)(B), that the regulation will not affect small business because small businesses will not incur costs in reasonable compliance with the regulation. The Board has also determined that this regulatory action will not have a significant adverse economic impact on businesses, including the ability of California businesses to compete with businesses in other states.

The Board has determined that there is no, or an insignificant, potential cost impact, as defined in Government Code section 11346.5(a)(9), on private persons or businesses directly affected resulting from this regulation.

Finally, the Board has determined that the regulation will not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within California, or the expansion of businesses currently doing business within California. Assessment of the economic impacts of the regulatory action can be found in the staff report.

**Statutory Authority and Hearing Procedures:** This regulation was developed under the authority granted in sections 39600, 39601, 43013, 43018, and 43101 of the Health and Safety Code, and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal. Rptr. 249 (1975). This action is necessary to implement, interpret, and make specific sections 39000, 39001, 39003, 39500, 39515, 39516, 41511, 43000, 43013, 43016, 43017, and 43018 of the Health and Safety Code, and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal. Rptr. 249 (1975).

A public hearing was conducted in accordance with the California Administrative Procedure Act, Title 2, Division 3, Part 1, Chapter 3.5 (commencing with section 11340) of the Government Code. This regulatory action as originally proposed is described in detail in the

“Staff Report: Initial Statement of Reasons for Proposed Rulemaking” (Staff Report) released to the public on August 6, 1999. A written report and oral statements were presented by staff at the hearing. Interested members of the public also presented comments orally and in writing. All comments received and staff's responses thereto are contained in the hearing transcript and the Final Statement of Reasons within this rulemaking file. At its public hearing on September 23, 1999, the Board unanimously adopted Resolution 99-33 approving the “Portable Fuel Container Spillage Control Regulations”.

At the hearing, the Board also approved modifications to the originally proposed language. These modifications were incorporated into the regulatory language by way of two separate 15-day notices, which were publicly available beginning on November 19, 1999 and May 12, 2000, respectively. These notices centered on changes to the fill level and flow rate requirements, the addition of a labeling requirement for products that cannot be used to refuel on-road motor vehicles, and the placement of required text on either the spill-proof systems or the spill-proof spouts.

The public's comments on these modifications and staff's responses thereto are included in the Final Statement of Reasons within this rulemaking file.

### **Incorporation of Test Procedures**

The test procedures are incorporated by reference in Title 13, CCR, Section 2477. The documents are readily available from the ARB upon request and were made available during the subject rulemaking in the manner specified in Government Code Section 11346.7(a). The CFR is published by the Office of the Federal Register, National Archives and Records Administration, and is therefore reasonably available to the affected public from a commonly known source.

The test procedures are incorporated by reference because it would be impractical to print them in the CCR. The existing ARB administrative practice has been to have the test procedures incorporated by reference rather than printed in the CCR because these procedures are highly technical and complex. They include the "nuts and bolts" engineering protocols required for certification of vehicles and have a very limited audience. Because the ARB has never printed complete test procedures in the CCR, the directly affected public is accustomed to the incorporation format utilized therein. The ARB's test procedures as a whole are extensive and it would be both cumbersome and expensive to print these lengthy, technically complex procedures for a limited audience in the CCR.

### **Consideration of Alternatives**

The proposed rulemaking was the result of extensive discussions and meetings involving staff and the directly affected parties (i.e., portable fuel container and spout manufacturers). Staff considered all of the alternatives proposed by industry, and was able to incorporate many of their suggestions in the rulemaking effort. The Board rejected several major alternatives for the reasons described in the Staff Report at pages 27-29. A number of modifications proposed

during the comment periods were incorporated into the final regulations. The Board has further determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed or would be as effective and less burdensome to affected private persons than the action taken by the Board.