UPDATED INFORMATION DIGEST

REGULATION TO CONTROL EVAPORATIVE EMISSIONS FROM OFF-HIGHWAY RECREATIONAL VEHICLES

Sections Affected: Adoption of sections 2416, 2417, 2418, 2419, 2419.1, 2419.2, 2419.3, and 2419.4, tit. 13, Cal. Code Regs., and the adoption of the incorporated TP-933 "Test Procedure for Determining Evaporative Emissions from Off-Highway Recreational Vehicles."

Background: In spite of a significant reduction in ozone precursors, California needs additional reductions of reactive organic gases (ROG) in seeking attainment with the federal ozone standard in all areas of the State. Mobile sources have historically been the largest source of ROG emissions in California. As on-road mobile sources have become progressively cleaner, emissions from off-road sources, as well as mobile sources under federal and international jurisdiction (e.g., ships, locomotives, and aircraft) have become more prominent. A large source of ROG is from off-highway recreational vehicles (OHRV), which includes all-terrain vehicles, off-road motorcycles, and specialty off-highway vehicles.

In 2006, ARB harmonized with the U.S. Environmental Protection Agency (U.S. EPA) fuel tank and hose permeation standards as part of the OHRV exhaust emissions control regulation. These permeation standards only control a small fraction of evaporative emissions from OHRVs in California. In order to attain compliance with the 8-hour federal ambient air quality standard for ozone, it is necessary to incorporate expanded off-road mobile source emissions control into California's State Implementation Plan (State Strategy).

Description of Regulatory Action: This regulation further controls evaporative emissions from OHRVs and is in the State Strategy for demonstrating attainment with the federal air quality standard for ozone. The regulation controls evaporative emissions from OHRVs by phasing-in a one gram total organic gas (TOG) per day diurnal standard starting with model year 2018, implementing a new test procedure to measure evaporative emissions, and including provisions for certification, labeling, enforcement, recall, durability, and use restrictions. The regulation was developed in close collaboration with industry to ensure that it achieves cost-effective emission reductions without creating an unnecessary burden on the industry. The new standard and test procedure will significantly reduce future evaporative ROG emissions from OHRVs in California.

> Stringent Evaporative Emission Standard This regulation implements comprehensive evaporative emissions control for OHRVs. Specifically, the regulation sets a performance standard for diurnal emissions. Industry stakeholders proposed the stringent one gram TOG per day diurnal standard, which is very effective at controlling emissions and is supported by emissions testing data. The standard reflects an emphasis on diurnal emissions control for

two reasons. First, OHRV activity patterns include large periods of time when these vehicles are not operated and generate diurnal emissions, which contribute more than running loss and hot soak emissions. The diurnal processes account for 82 percent of evaporative emissions from OHRVs. Secondly, because OHRVs registered in California are likely to be stored in urban areas with greater air pollution control issues than the rural areas where they are typically operated, diurnal emissions control is an important element in the State Strategy for seeking attainment with the 8-hour federal ambient air quality standard for ozone.

Flexible Certification This regulation addresses economic variability in the regulated community by offering multiple certification options. It considers a manufacturer's capability to measure emissions using an expensive sealed housing for evaporative determination (SHED) enclosure. For example, manufacturers that produce less than 50 OHRVs per model year, for three consecutive model years, are eligible to certify to the small volume evaporative emission design-based standard that does not require a costly whole-vehicle SHED test.

The use of advanced fuel system technology is encouraged by allowing manufacturers to generate emissions credits from evaporative families that certify significantly below the diurnal performance standard or from certified zero-emission vehicles. Manufacturers of OHRVs may use such credits to produce evaporative families with emissions above the diurnal standard. However, no single evaporative family may exceed three times the diurnal emissions standard. The credit system encourages manufacturers to promote zero-emission vehicle technology. The regulation is written to avoid any duplicative requirements between the current exhaust and evaporative emissions regulations in labeling, testing, and certification.

New Test Procedure A new test procedure, *Test Procedure for Determining Evaporative Emissions from Off-Highway Recreational Vehicles (TP-933)* (Attachment B to Initial Statement of Reasons (ISOR)), is incorporated into the regulation. This document is the result of years of collaboration between ARB and industry to develop a test procedure that mimics real-world use and emissions.

Durability Requirements to Ensure In-Use Control Both the test procedure and regulation verify the durability of control technology. The test procedure subjects the vehicle to conditions that mimic what the evaporative emissions control components would endure throughout the useful life of the OHRV. These conditions include exposure to vibration, dust, and ultraviolet radiation. The regulation includes a warranty period of 30 months for components with replacement costs under $200 (including labor) and 60 months for more expensive components. Following the precedent set by regulations for light-duty passenger cars, replacement costs are established based on dealer list prices, as well as the standard labor price and time limits for warrantied components.

Further, durability provisions include the requirement that emissions control components must not be adversely affected by tipping over in a manner consistent with typical use, and minimize tampering by requiring tamper-resistant fasteners and careful placement of critical emissions control components.

Comparable Federal Regulations: In 2002, U.S. EPA promulgated the first evaporative emissions standards to control permeation losses from OHRV fuel tanks and hoses. ARB harmonized with these standards in 2006, by amending the OHRV exhaust regulation to include evaporative emission requirements. This regulation expands the control of evaporative emissions by setting a single whole-vehicle diurnal standard that will likely result in lower permeation from the fuel tank and the hoses. A variety of technologies are available to manufacturers for meeting the new diurnal standard. These technologies include downsized and proven on-road automobile evaporative emissions control components.

Changes to Underlying Laws: This regulation is not inconsistent or incompatible with existing State regulations. As mentioned previously, the federal OHRV evaporative emission standards are incorporated into the existing ARB exhaust emission regulations, specified in Cal. Code Regs., tit.13, § 2412. The existing evaporative emission standards contained in the exhaust regulation will not need amending, as it is presumed that all vehicles that meet the stringent one gram TOG per day diurnal standard comply with the federal permeation standards.

Changes to the Regulation: ARB conducted two 15-day change comment periods pursuant to Government Code section 11346.8. The first set of 15-day changes included, exempting red sticker OHRVs, as specified in Cal. Code Regs., tit.13, § 2412(f) from the evaporative emission standard contained in the regulation, allowing emissions credits for early compliance, making minor wording changes for clarification, and making clarifying changes to TP-933. The second set of 15-day changes corrected some numbering and reference date inconsistencies to the proposed regulatory language and test procedure.