State of California
AIR RESOURCES BOARD

UPDATED INFORMATIVE DIGEST

REGULATION TO CONTROL EVAPORATIVE EMISSIONS FROM SPARK-IGNITION MARINE WATERCRAFT

Sections Affected: Cal. Code Regs., Tit.13: adoption of sections 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, and 2871, and amendments to sections 2440 and 2442.

Background: In spite of a significant reduction in ozone precursors, California needs additional reductions of reactive organic gases (ROG) to achieve attainment of the federal ambient air quality standard for ozone in many 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, the relative contribution of off-road sources has become more significant.

In September 2007, the Board adopted amendments to the State Implementation Plan (SIP), which comprises State and local air quality planning documents showing how and when California will meet federally mandated ambient air quality standards (AAQS). One of the measures in the 2007 SIP requires a further assessment on the feasibility of achieving additional evaporative ROG reductions from spark-ignition marine watercraft (SIMW).

Based on the 2007 SIP commitment, staff began investigating the feasibility of controlling evaporative emissions from SIMW. The investigation was formally initiated in 2007 because there were no federal and State rules or regulations in place to control evaporative emissions from SIMW. However, ARB was aware that the United States Environmental Protection Agency (U.S. EPA) was considering national evaporative standards. In October 2008, U.S. EPA finalized evaporative emissions standards for all SIMW. Implemented in 2009, the federal rule set new evaporative emissions design standards for fuel system components. However, ARB's investigation revealed that lower evaporative standards are technically feasible for SIMW and are needed to address California's unique air quality challenges. By setting more stringent standards than those adopted by U.S. EPA, ARB could feasibly obtain additional emissions reductions.

When the Board adopted the 2007 amendments to the SIP, it was expected that the evaporative emissions regulation would be considered for adoption in 2013. However, the rulemaking was delayed in order to develop an updated emissions inventory, based on improved emission factors and new usage surveys. Additional time was also needed to address a number of stakeholder concerns, notably the certification process.

Description of Regulatory Action: The primary purpose of this proposed regulation is to set more stringent evaporative emission standards than those adopted by U.S. EPA. The proposed regulation also includes provisions for certification, labeling, enforcement, and recall. The proposed regulation establishes new test procedures for determining evaporative emissions from SIMW and evaporative emissions components. ARB conducted extensive evaporative emissions testing using the latest control technology to confirm the technical feasibility of the proposed regulation.

The proposed regulation is designed to reduce ROG emissions from SIMW in order to help meet the federally mandated AAQS for ozone. The proposed regulation will provide ROG emissions reductions beginning in model year (MY) 2018. Additionally, the proposed amendments would result in reduced exposure to benzene, a toxic air contaminant. Due to reduced fuel consumption as well as ROG emissions reductions, climate co-benefits are also anticipated.

Comparable Federal Regulations: Currently, SIMW in California are required to meet the federal evaporative emissions requirements, which are specified in 40 CFR Part 1060. The federal requirements specify design standards for SIMW fuel system evaporative emissions components.

The proposed ARB regulation differs from the current federal requirements by setting more stringent standards for low permeation fuel tanks, low permeation fuel hoses, and fuel tank venting loss control beginning with MY 2018. Unlike the federal regulations, the proposed regulation also requires fuel systems be fuel-injected or have equivalent evaporative emissions performance and fuel fill deck plates that are compatible with vapor recovery systems at gasoline stations.

Changes to Underlying Laws: This regulation is not inconsistent or incompatible with existing State regulations.

Changes to the Regulation: Pursuant to Government Code Section 11346.8, ARB conducted a 15-day supplemental comment period. The 15-day changes include changes to Cal. Code Regs., Tit.13, sections 2853 and 2855, and the following test procedures:

- TP-1501 - Test Procedure for Determining Diurnal Evaporative Emissions from Spark Ignition Marine Watercraft
- TP-1503 - Modifications to the Proposed Test Procedure for Determining Diurnal Vented Emissions from Installed Marine Fuel Tanks
- TP-1505 - Modifications to the Proposed Test Procedure for Determining Pressure Relief Valve Performance: Durability Demonstration and Leak Test

Staff made changes that do not change the implementation of the regulation. These changes include modifications to two basic components as explained below:

1. Regulation

   Modifications we made in the definitions section to clarify meaning of terms in the regulation. A note to the standards was also added to clarify the alternative approach for testing pressure relief valves. The regulation allows for two methods of testing pressure relief valves and the note was added to explicitly state the use of both methods. Fill pipe requirements were modified so that manufacturers did not need to meet additional requirements beyond those intended by the regulation. Primer bulb requirements were also added as intended to ensure that ARB standards were harmonized with U.S. EPA requirements. A note was added to the compatibility standards table to exclude personal watercraft from the deck fill plate requirement because personal watercraft do not have fill necks therefore the requirement was not applicable. Finally, language was added to the fuel fill deck plate requirements to allow manufacturers the flexibility to meet the fuel fill deck design requirement with alternative methods approved by the Executive Officer.

2. Test Procedures

   A sentence was added to clarify the option to remove the fuel tank for the slosh test. This does not affect the permeation emissions results and allows manufacturers flexibility when performing testing. Carbon canister preconditioning requirements were added to ensure that the durability of the canister for emissions testing. Sentences have been added clarifying applicability of durability requirements. The vibration cycles for testing have been amended to be more representative of conditions experienced by watercraft. A sentence has been added denoting its use for design-based certification. Test temperatures have been modified to be consistent with TP-1503 to be more representative of actual watercraft conditions.

In addition to the modifications described above, additional modifications correcting grammar, punctuation and spelling have been made throughout the proposal. These changes are nonsubstantive.