State of California
AIR RESOURCES BOARD

Evaporative Emissions Control Requirements for Spark-Ignition Marine Watercraft

Resolution 15-3

February 19, 2015

Agenda Item No.: 15-2-2

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (ARB or Board) to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, section 43013 of the Health and Safety Code authorizes the Board to adopt and implement standards and regulations to control emissions from off-road or nonvehicle engine categories, including, but not limited to, spark-ignited marine watercraft (SIMW) and spark-ignited marine engines (SIME);

WHEREAS, sections 43013, 43101, and 43104 of the Health and Safety Code authorize the Board to adopt motor vehicle emission standards, in-use performance standards, and test procedures, which the Board finds to be necessary, cost-effective, and technologically feasible;

WHEREAS, section 43018(a) of the Health and Safety Code directs the Board to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to attain State ambient air quality standards at the earliest practicable date;

WHEREAS, sections 43101, 43102, 43104, 42105, and 44036.2 of the Health and Safety Code authorize the Board to adopt emission standards and test procedures to certify, control air pollution caused by, and get service information concerning, motor vehicles, and effective emission control regulations must apply these sections to other ARB-regulated mobile source categories such as SIMW and SIME;

WHEREAS, the State Implementation Plan (SIP), adopted by the Board in November 1994, and subsequent revisions, establishes the State's strategy for attaining the national ambient air quality standards for ozone in all areas of the State as required by federal law, includes the emissions reductions associated with the SIMW regulation;

WHEREAS, the 2007 amendments to the SIP adopted by the Board require action to create new emission standards for SIMW;

WHEREAS, in May 2011, the Board adopted revisions to the rulemaking calendar for California's SIP, to commit ARB to adopt new emission standards for SIMW by 2013;

WHEREAS, section 209(e) of the Federal Clean Air Act, as amended in 1990, requires that ARB receive authorization from the United States Environmental Protection Agency (U.S. EPA) Administrator to adopt and enforce standards relating to the control of emissions from non-road engines or vehicles;

WHEREAS, in October 1996, U.S. EPA finalized a rule that contained exhaust emission standards for personal watercraft (PWC) and outboard marine engines;

WHEREAS, in December 1998, the Board approved exhaust emission regulations for PWC and outboard marine engines that harmonized with U.S. EPA standards in the initial tier, then increased in stringency for the two subsequent tiers;

WHEREAS, in October 2001, the Board adopted amendments to SIMW, which as amended, set exhaust emission standards for sterndrive and inboard marine engines;

WHEREAS, in November 2005, the Board adopted amendments to the inboard and sterndrive marine engine regulations, which as amended, provided greater flexibility for on-board diagnostics implementation schedules;

WHEREAS, in July 2008, the Board adopted amendments to the SIMW exhaust emission regulation, which as amended, provided an alternate exhaust emissions standard for small and non-qualifying intermediate volume manufacturers of high performance engines;

WHEREAS, in October 2008, the U.S. EPA finalized a rule that set more stringent exhaust emission standards for PWC and outboard marine engines, new exhaust emission standards for sterndrive and inboard marine engines, and evaporative emission standards for all SIMW;

WHEREAS, in December 2011, the Board amended the certification test fuel requirements for SIME, requiring the use of certification test fuel with a 10 percent ethanol content beginning in 2020, consistent with the fuel specifications as outlined in California Code of Regulations, title 13, section 1961.2;

WHEREAS, the SIMW regulatory proposal applies to SIMW including PWC, inboard, outboard, and sterndrive marine watercraft produced on or after model year 2018;

WHEREAS, the proposed SIMW regulation, and incorporated documents, as set forth in Attachments A through F hereto include the following primary elements:

> More stringent evaporative emissions control standards, including design-based standards for fuel hoses, fuel tanks, fuel injection and diurnal venting emissions as well as test procedures for determining compliance, than those set forth by the

U.S. EPA's 2008 rule for gasoline-fueled SIMW configured with engines greater than 30 kilowatts (kW);

Adding provisions for certification, labeling requirements, enforcement, and use restrictions;

Simplifying and streamlining duplicative labeling language to allow an integrated emissions label for use on SIMW for evaporative emissions standards;

Harmonization with U.S. EPA evaporative design standards for SIMW less than or equal to 30 kW for model year 2018 and later;

Providing flexibility for manufacturers by developing multiple testing options to demonstrate adequate control of diurnal emissions; and

Requirement of design-based certification or performance standard certification for all SIMW produced in 2018 and later.

WHEREAS, the proposed SIMW test procedure, "Test Procedure for Determining Diurnal Evaporative Emissions from Spark-Ignition Marine Watercraft (TP-1501)," as set forth in Attachment B hereto includes the following primary elements:

Providing flexibility for manufacturers by developing an alternative testing option to demonstrate adequate control of diurnal emissions;

Requiring durability tests on the evaporative emissions control system to ensure that the devices continue to function as designed for the useful life of SIMW;

Preconditioning SIMW to ensure that the measured values represent steady state emissions rates; and

Preparing SIMW for stringent diurnal testing by requiring hot soak preconditioning cycles.

WHEREAS, the proposed SIMW test procedure, "Test Procedure for Determining Hot Soak Evaporative Emissions from Spark-Ignition Marine Engines (TP-1502)," as set forth in Attachment C hereto includes the following primary elements:

Providing flexibility for manufacturers by developing a testing option for carbureted engines to demonstrate adequate control of hot soak emissions; and Preconditioning SIMW components to ensure that the measured values represent steady state emissions rates.

WHEREAS, the proposed SIMW test procedure, "Test Procedure for Determining Diurnal Vented Emissions from Installed Marine Fuel Tanks (TP-1503)," as set forth in Attachment D hereto includes the following primary elements:

Requiring durability tests on the evaporative emissions control system to ensure that the devices continue to function as designed for the useful life of the SIMW; and

Harmonization of U.S. EPA test procedures to reduce duplicative testing.

WHEREAS, the proposed SIMW test procedure, "Test Procedure for Determining Permeation Emissions from Installed Marine Fuel Tanks, Marine Fuel Hoses and Marine Fuel Caps (TP-1504)," as set forth in Attachment E hereto includes the following primary elements:

Preconditioning SIMW components to ensure that the measured values represent steady state emissions rates; and

Harmonization of U.S. EPA test procedures to reduce duplicative testing.

WHEREAS, the proposed SIMW test procedure, "Test Procedure for Determining Pressure Relief Valve Performance: Durability Demonstration and Leak Test (TP-1505)," as set forth in Attachment F hereto includes the following primary elements:

Providing flexibility for manufacturers by developing an alternative testing option for pressure relief valves to demonstrate adequate control of diurnal emissions; and

Requiring durability tests on the evaporative emissions control system to ensure that the devices continue to function as designed for the useful life of the SIMW.

WHEREAS, in developing the regulatory proposal staff conducted five public workshops, released concepts for public review and comment, attended annual national boat builders conferences, and held numerous stakeholder meetings throughout the rulemaking process, in order to involve the public and affected stakeholders in the regulatory development process;

WHEREAS, the proposed regulatory action will ensure full implementation of the SIMW regulation and will achieve the intended emissions reductions from SIMWs prospectively;

WHEREAS, the proposed regulatory action will not change the existing exhaust emissions standards adopted in 2008 for SIMWs;

WHEREAS, staff prepared a Regulatory Notice and Staff Report: Initial Statement of Reasons (Staff Report) for these provisions and presented them to the Board with a single analysis of emissions, costs, and associated environmental impacts and benefits;

WHEREAS, the Board has considered the impact of this proposed regulatory action on the economy of the State;

WHEREAS, the Board has considered the community impacts of the proposed regulatory action, including environmental justice concerns;

WHEREAS, ARB's regulatory program that involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans has been certified by the Secretary for Natural Resources under Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA; California Code of Regulations, title 14, section 15251(d)), and ARB conducts its CEQA review according to this certified program (California Code of Regulations, title 17, sections 60000-60007);

WHEREAS, staff has determined the proposed regulation is exempt from CEQA under California Code of Regulations, title 14, section 15308 ("Class 8" exemption: Actions Taken by Regulatory Agencies for Protection of the Environment) because the record evidence shows that the regulation will enhance the environment by better protecting the public from health impacts associated with exposure to ozone, the regulatory process involves procedures for protection of the environment, and the regulation will not result in any significant adverse environmental impacts as described in Chapter V of the Staff Report;

WHEREAS, a public hearing and other administrative proceedings have been held according to the provisions of Chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code;

WHEREAS, the Board finds that:

Despite advances in reducing emissions from motor vehicles, California is faced with some of the most severe air pollution problems in the United States;

To meet federal and California Clean Air Act emissions reduction requirements, ARB must continue to achieve proportional and incremental reductions from all sources under its authority, including SIMW;

Control of evaporative emissions from SIMW will help to reduce ozone levels in non-attainment areas throughout California and especially in the South Coast Air Quality Management District;

More comprehensive evaporative emissions control is an essential piece of the enforceable commitments for reactive organic gas (ROG) emissions reductions in the SIP;
The California regulation of SIMW differing from federal regulation is authorized by law, and the cost of differing state regulations continues to be justified by the benefits to human health, public welfare, the environment; and

Based on the foregoing description of technical studies and the analyses performed for the SIMW Staff Report, all of the proposed regulatory actions are necessary, appropriate, cost-effective, and technologically feasible.

The proposed regulation meets the statutory requirements identified in sections 39600, 39601, 42105, 43013, 43018(a), 43101, 43102, 43104, and 44036.2 of the Health and Safety Code;

The proposed regulation was developed in an open public process, in consultation with affected parties, through five public workshops, over 40 individual meetings, and other outreach efforts, and these efforts are expected to continue;

No reasonable alternatives to the regulation considered to date, or that have otherwise been identified and brought to the attention of ARB, would be more effective at carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected entities than the proposed regulation; and

The proposed regulation is consistent with ARB's environmental justice policies and do not disproportionately impact people of any race, culture, or income.

WHEREAS, the Board further finds that:

The proposed regulation, is exempt from CEQA under California Code of Regulations, title 14, section 15308 because substantial evidence in the record shows that it will enhance the environment by better protecting the public from health impacts associated with exposure to ozone, the regulatory process involves procedures for protection of the environment, and the proposal will not result in any significant adverse environmental impacts.

Further emissions reductions than those obtained from U.S. EPA controls are achievable at a cost-effective level using existing technologies and manufacturing processes;

Setting more stringent evaporative emissions control component design standards in California will reduce hot soak and diurnal emissions by 65 percent with U.S. EPA and ARB controls combined; and

The regulatory proposal will reduce criteria pollutants precursor (1.2 tons of ROG statewide per day in 2037) and will prevent premature deaths in California and help achieve attainment of ambient air quality standards.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves for adoption 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, to title 13, California Code of Regulations, and test procedures TP-1501, TP-1502, TP-1503, TP-1504, and TP-1505 as set forth in Attachment A through F, with the modifications described in Attachment G.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to make the modified regulatory language in Attachment G, and any additional conforming modifications that are appropriate, available for public comment, with any additional supporting documents and information, for a period of at least 15 days. The Executive Officer shall consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days. The Executive Officer may present the regulation to the Board for further consideration if warranted, and if not, the Executive Officer shall take final action to adopt the regulation after addressing all appropriate modifications.

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations adopted and amended herein will not cause California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards.

BE IT FURTHER RESOLVED that the Board hereby finds that separate California emission standards and test procedures are necessary to meet compelling and extraordinary conditions.

BE IT FURTHER RESOLVED that the Board finds that the California emission standards and test procedures as adopted herein will not cause the California requirements to be inconsistent with section 209(a), (b)(1)(C), or (e)(1) of the Clean Air Act and raise no new issues affecting previous authorization determinations of the Administrator of U.S. EPA pursuant to section 209(e)(2)(A) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Executive Officer shall, upon adoption, forward the regulations to U.S. EPA with a request for a new authorization or confirmation that the regulations are within the scope of an existing authorization pursuant to section 209(e)(2)(A) of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 15-3 as adopted by the Air Resources Board.

Tracy Jensen

Tracy Jensen, Clerk of the Board

Resolution 15-3

February 19, 2015

Identification of Attachments to the Board Resolution

Attachment A: Proposed adoption of the Regulation for "Evaporative Emissions Requirements for Spark-Ignition Marine Watercraft with Gasoline-Fueled Engines" title 13, California Code of Regulations, 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 the Proposed Amendments to "Marine Exhaust Revisions", title 13, California Code of Regulations, sections 2440 and 2442 as set forth in Appendix A, and A1 to the Initial Statement of Reasons, released January 2, 2015.

Attachment B: Proposed Spark-Ignition Marine Watercraft Evaporative Emissions Test Procedure (TP - 1501) *Test Procedure for Determining Diurnal Evaporative Emissions from Spark-Ignition Marine Watercraft,* as set forth in Appendix B to the Initial Statement of Reasons, released January 2, 2015.

Attachment C: Proposed Spark-Ignition Marine Watercraft Evaporative Emissions Test Procedure (TP - 1502) *Test Procedure for Determining Hot Soak Evaporative Emissions from Spark-Ignition Marine Engines,* as set forth in Appendix C to the Initial Statement of Reasons, released January 2, 2015.

Attachment D: Proposed Spark-Ignition Marine Watercraft Diurnal Venting Emissions Test Procedure (TP - 1503) *Test Procedure for Determining Diurnal Vented Emissions from Installed Marine Fuel Tanks*, as set forth in Appendix D to the Initial Statement of Reasons, released January 2, 2015.

Attachment E: Proposed Spark-Ignition Marine Watercraft Evaporative Emissions Test Procedure (TP - 1504) *Test Procedure for Determining Permeation Emissions from Installed Marine Fuel Tanks, Marine Fuel Hoses and Marine Fuel Caps,* as set forth in Appendix E to the Initial Statement of Reasons, released January 2, 2015.

Attachment F: Proposed Spark-Ignition Marine Watercraft Evaporative Emissions Test Procedure (TP - 1505) *Test Procedure for Determining Pressure Relief Valve Performance: Durability Demonstration and Leak Test*, as set forth in Appendix F to the Initial Statement of Reasons, released January 2, 2015.

Attachment G: Staff's Suggested Modifications to the Original Proposal (Distributed at the February 19, 2015 ARB hearing)