

State of California
AIR RESOURCES BOARD

**AMENDMENTS TO THE EVAPORATIVE EMISSION REQUIREMENTS FOR SMALL
OFF-ROAD ENGINES**

Resolution 16-14

November 17, 2016

Agenda Item No.: 16-10-2

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 standards and regulations to control emissions from off-road or non-vehicle engine categories, including small off-road engines (SORE);

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

WHEREAS, on September 25, 2003, the Board adopted title 13, California Code of Regulations, Division 3, Chapter 15, Article 1, Evaporative Emission Requirements for Off-Road Equipment, sections 2750 through 2773, and the incorporated Small Off-Road Engine and Equipment Evaporative Test Procedures, TP-901 and TP-902 and Small Off Road Engine Evaporative Emissions Control System Certification Procedures, CP-901 and CP-902;

WHEREAS, the 2003 State and Federal Strategy for the California State Implementation Plan (SIP) included measures that would reduce evaporative emissions of reactive organic gases (ROG) from SORE by 5.6 tons per day in 2010;

WHEREAS, achieving the reduction of SORE ROG emissions in the SIP measures requires SORE to comply with the diurnal emission standards in the SORE evaporative emissions regulations;

WHEREAS, title 13, California Code of Regulations, section 2754.2, Validation Study, outlines a validation study to be conducted for model year 2008, 2009, 2010, 2013, 2014, and 2015 SORE to confirm whether the performance-based evaporative certification

option in section 2754(a) and the design-based evaporative certification option in section 2754(b) are achieving ARB's overall emission reduction goals;

WHEREAS, diurnal emissions from SORE certified using the design-based evaporative certification option in section 2754(b) are not required under the regulations to meet the diurnal emission standard for a similar SORE certified using the performance-based evaporative certification option in section 2754(a);

WHEREAS, certification of SORE according to CP-902 using the performance-based evaporative certification option in section 2754(a) requires an applicant to measure the diurnal emissions of one engine;

WHEREAS, compliance testing SORE according to section 2765 currently requires ARB to measure diurnal emissions of five engines;

WHEREAS, evaporative emissions from SORE continue to be a significant source of air pollution;

WHEREAS, in 2008 the United States Environmental Protection Agency (U.S. EPA) adopted a rule in title 40, Code of Federal Regulations, Part 1060 (40 CFR 1060) to control fuel tank permeation, fuel line permeation, and evaporative running loss emissions from SORE;

WHEREAS, the U.S. EPA evaporative emissions rule for SORE requires a fuel tank test similar to TP-901;

WHEREAS, U.S. EPA's exhaust emissions rule for SORE in 40 CFR 1054 requires manufacturers without sufficient long-term United States (U.S.) assets to cover potential enforcement liabilities to post a bond to cover those liabilities;

WHEREAS, an Executive Order holder based outside the U.S. whose SORE was tested in the Validation Study and failed to meet the applicable diurnal emission standards did not respond to ARB's attempts to return the test engines to the Executive Order holder upon the completion of testing;

WHEREAS, if a compliance test were to be conducted on that Executive Order holder's SORE, ARB could not ensure the Executive Order holder would meet any enforcement liabilities;

WHEREAS, fuel tanks, fuel lines, and carbon canisters certified by ARB under section 2767.1 remain certified until they no longer meet the applicable emission standards;

WHEREAS, U.S. EPA requires recertification of fuel tanks and fuel lines every year;

WHEREAS, a change in design or construction of a fuel tank, fuel line, or carbon canister that could affect its evaporative emissions requires a new certification under California and federal law, as applicable;

WHEREAS, ARB certification test fuel for measuring evaporative emissions from SORE does not contain ethanol;

WHEREAS, ARB certification test fuel for measuring exhaust emissions from SORE will be required to contain ethanol by model year 2020;

WHEREAS, gasoline sold at California gasoline stations contains 10 percent ethanol;

WHEREAS, U.S. EPA certification test fuel for measuring evaporative emissions from SORE contains 10 percent ethanol;

WHEREAS, staff has proposed amendments to the evaporative emission requirements for SORE, as set forth in Appendices A through E to the Initial Statement of Reasons released to the public on September 27, 2016;

WHEREAS, the proposed amendments to the SORE evaporative emissions regulations include the following primary amendments:

Subjecting design-certified SORE to diurnal emission standards;

Reducing from five to one the number of SORE engine units needed to be tested before ARB can take enforcement action;

Requiring bonds for manufacturers without sufficient U.S. assets to cover enforcement obligations;

Requiring recertification of evaporative components every four years;

Requiring test fuel formulation to contain 10 percent ethanol to reflect motor vehicle fuel currently available in California; and

Aligning, where practical, and without compromising ARB requirements, SORE certification and test procedures with those of U.S. EPA.

WHEREAS, the proposed amendments to "CP-901, Certification and Approval Procedure for Small Off-Road Engine Fuel Tanks," include the following primary amendments:

Requiring certification of evaporative emission control systems rather than only fuel tanks;

Requiring fuel lines to comply with a permeation emission standard;

Requiring five samples of the fuel tank expected to exhibit the highest permeation rate relative to the applicable permeation emission standard of all the fuel tanks within the applicable evaporative family to be tested for certification; and

Allowing all models using fuel tanks constructed by the same process with the same material and the same permeation control to be grouped into one evaporative family rather than allowing data for one evaporative family to be carried across to other evaporative families.

WHEREAS, the proposed amendments to "CP-902, Certification and Approval Procedure for Evaporative Emission Control Systems," include the following primary amendments:

Requiring certification of evaporative emission control systems to meet the diurnal emission standards in section 2754 or 2757 of the evaporative emissions regulations;

Requiring the model of engine or equipment expected to have the highest diurnal emission rate relative to the applicable diurnal emission standard within an evaporative family to be tested for certification;

Removing the provision to carry certification data for an evaporative family across to other evaporative families to encourage the grouping of all similar models into one evaporative family; and

Requiring a U.S. EPA-assigned three-character manufacturer code to be included in the evaporative family code.

WHEREAS, the proposed amendments to "TP-901, Test Procedure for Determining Permeation Emissions from Small Off-Road Engine and Equipment Fuel Tanks," include the following primary amendments:

Requiring test fuel formulation to contain 10 percent ethanol to reflect motor vehicle fuel currently available in California;

Modifying the durability demonstration tests to be compatible with those in U.S. EPA's SORE evaporative emissions regulations;

Modifying the preconditioning procedure to be compatible with that in U.S. EPA's SORE evaporative emissions regulations and ensure a representative permeation rate will be measured during the permeation test;

Requiring fuel tanks to be sealed with a fuel cap whose permeation emissions are at least as high as the highest-emitting fuel cap that will be used with fuel tanks in the evaporative family for permeation testing; and

Modifying the permeation test procedure to be compatible with that of U.S. EPA.

WHEREAS, the proposed amendments to "TP-902, Test Procedure for Determining Diurnal Evaporative Emissions from Small Off-Road Engines and Equipment," include the following primary amendments:

Requiring test fuel formulation to contain 10 percent ethanol to reflect motor vehicle fuel currently available in California;

Modifying the durability demonstration tests to be similar to those in the proposed amended TP-901;

Modifying the diurnal emission test procedure to reflect the measurement of ethanol emissions;

Modifying the preconditioning procedure to be similar to that in the proposed amended TP-901 and ensure a representative diurnal emission rate will be measured during the diurnal emission test; and

Deleting the step that requires removing the carbon canister and purging with 400 bed volumes of nitrogen or dry air prior to the diurnal emission test.

Determining the working capacity of a carbon canister as the lower value of the butane mass supplied to the canister for the last two repeatable cycles of a test;

WHEREAS, these amendments are not expected to have a significant adverse economic impact on business or the creation or elimination of jobs;

WHEREAS, all consumers that purchase SORE are expected to experience the same nominal price increase;

WHEREAS, the California Environmental Quality Act (CEQA), Public Resources Code, section 21000, et seq., requires that state agencies consider the environmental impact of their discretionary decisions, including the adoption of regulations;

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 CEQA, Public Resources Code section 21080.5, and the CEQA Guidelines, at 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 that the proposed amendments are exempt from CEQA under the "common sense" exemption, at California Code of Regulations, title 14, section 15061(b)(3), because the record evidence shows with certainty that there is no possibility that the proposed activity may result in a significant adverse impact on the environment, as described in Chapter IV of the Staff Report;

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

WHEREAS, all persons exposed to emissions from SORE will benefit from these amendments;

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

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

WHEREAS, these regulations are at least as protective of public health as applicable federal standards, including those referenced above in 40 CFR 1060;

WHEREAS, California needs these regulations to meet compelling and extraordinary conditions that threaten its air quality;

WHEREAS, these regulations are consistent with Section 209 of the Federal Clean Air Act, section 7543 of title 42 of the United States Code;

NOW THEREFORE BE IT RESOLVED, the Board, having considered all information presented in the public hearing and other administrative proceedings regarding these regulations, and the foregoing, finds that:

The diurnal emission test results of the Validation Study outlined in title 13, California Code of Regulations, section 2754.2 suggest over 50 percent of SORE sold in California since 2008 fail to meet the applicable diurnal emission standards;

Such a failure rate would prevent the emissions reductions of ROG from SORE in the 2003 SIP from being achieved;

Subjecting design-certified SORE to the diurnal emission standards in section 2754(a) will enable ARB to ensure their compliance with those standards;

Requiring one engine to be tested for certification testing and compliance testing will align the two sets of requirements and enable ARB to conduct compliance testing on a greater number of SORE evaporative families with the same amount of resources;

Conducting additional compliance testing of SORE evaporative families will enable ARB to identify non-compliant evaporative families;

Eliminating non-compliant evaporative families will reduce evaporative emissions of ROG from SORE in California;

Reducing evaporative emissions of ROG from SORE will ensure the emissions reductions in the 2003 SIP measures for SORE are achieved;

It is desirable to reduce differences between ARB and U.S. EPA requirements for fuel tank testing without reducing the stringency of ARB requirements;

Requiring Executive Order holders without sufficient long-term U.S. assets to cover potential enforcement liabilities to post bonds to cover those liabilities will promote compliance by enabling ARB to collect appropriate penalties from Executive Order holders based outside the U.S. if those Executive Order holders are not responsive to ARB's communications;

Requiring fuel tanks, fuel lines, and carbon canisters to be recertified every four years will serve as an opportunity for the holders of Executive Orders for those evaporative components to declare that no changes have been made that would affect the components' evaporative emissions if they wish to continue to rely upon the test data collected when the components were originally certified;

A period of four years for certification of evaporative components will not create an unnecessary burden on ARB staff for processing certification applications;

It is desirable for ARB certification test fuel for measuring evaporative and exhaust emissions from SORE to have the same ethanol content as gasoline sold in California gasoline stations to ensure that testing is representative of actual emissions, and the same content as U.S. EPA certification test fuel for measuring evaporative emissions from SORE to ensure consistent requirements;

Certification of SORE to meet ARB's existing evaporative emission standards with test fuel with the same ethanol content as the gasoline used to power in-use SORE will ensure greater accuracy of the estimates of SORE evaporative emissions in California;

The proposed amendments meet the statutory requirements to adopt standards and regulations to control emissions from off-road or non-vehicle engine categories, SORE, identified in section 43013 of the Health and Safety Code;

The proposed amendments were developed in an open public process, in consultation with affected parties, through numerous public workshops, individual meetings, and other outreach efforts, and these efforts are expected to continue;

No reasonable alternatives to the amendments 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 regulations are proposed or would be as effective and less burdensome to affected entities than the proposed regulations;

The proposed amendments that benefit all consumers that purchase SORE and all persons exposed to emissions from SORE are consistent with ARB's environmental justice policies and do not disproportionately impact people of any race, culture, or income;

The proposed amendments are not expected to have a significant adverse effect on business or the creation or elimination of jobs;

The proposed amendments are exempt from CEQA under California Code of Regulations, title 14, section 15061(b)(3) because substantial evidence in the record shows with certainty that there is no possibility that the proposal may result in a significant adverse impact on the environment; and

The proposed amendments are 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 ROG, the regulatory process involves procedures for protection of the environment, and the proposal will not result in any significant adverse environmental impacts.

BE IT FURTHER RESOLVED that the Board hereby approves for adoption section 2774, and the amendments to sections 2750, 2751, 2752, 2753, 2754, 2754.1, 2754.2, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2767.1, 2768, 2769, 2770, 2771, 2772, 2773, title 13, California Code of Regulations, as set forth in Attachment A, and proposed amendments to the following documents incorporated by reference therein, as set forth in Attachments B - E:

- "CP-901, Certification and Approval Procedure for Small Off-Road Engine Fuel Tanks," adopted July 26, 2004;
- "CP-902, Certification and Approval Procedure for Evaporative Emission Control Systems," adopted July 26, 2004;
- "TP-901, Test Procedure for Determining Permeation Emissions From Small Off-Road Engine and Equipment Fuel Tanks," adopted July 26, 2004;

- "TP-902, Test Procedure for Determining Diurnal Evaporative Emissions From Small Off-Road Engines and Equipment," adopted July 26, 2004.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to determine if additional conforming modifications to the regulations are appropriate. If no additional modifications are appropriate, the Executive Officer shall take final action to adopt the regulations, as set forth in Attachment A. If the Executive Officer determines that additional conforming modifications are appropriate, the modified regulatory language shall be made available for public comment, with any additional supporting documents and information. 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 regulations to the Board for further consideration if warranted, and if not, the Executive Officer shall take final action to adopt the regulations after addressing all appropriate conforming modifications.

BE IT FURTHER RESOLVED that if there is a possibility that any modifications to the regulations made available for one or more 15-day public comment periods may affect the conclusion of the environmental analysis, the Executive Officer shall prepare and circulate any additional environmental analysis to the extent required by ARB's regulations at California Code of Regulations, title 17, sections 60000-60007, and prepare written responses to any comments received raising significant environmental issues as necessary, to present to the Board for approval along with the final regulations.

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

BE IT FURTHER RESOLVED that the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for authorization or confirmation that the regulations are within the scope of an existing authorization pursuant to section 209(e)(2) of the Clean Air Act, section 7543(e)(2) of title 42 of the United States Code, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 16-14 as adopted by the Air Resources Board.



Janice Harlan, Clerk of the Board

Resolution 16-14

November 17, 2016

Identification of Attachments to the Board Resolution

- Attachment A:** Proposed amendments to the evaporative emission requirements for small off-road engines, title 13, California Code of Regulations, sections 2750, 2751, 2752, 2753, 2754, 2754.1, 2754.2, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2767.1, 2768, 2769, 2770, 2771, 2772, 2773, and 2774, as set forth in Appendix A to the Initial Statement of Reasons, released September 27, 2016.
- Attachment B:** Proposed Amendments to CP-901, Certification and Approval Procedure for Small Off-Road Engine Fuel Tanks, as set forth in Appendix B to the Initial Statement of Reasons, released September 27, 2016.
- Attachment C:** Proposed Amendments to CP-902, Certification and Approval Procedure for Evaporative Emission Control Systems, as set forth in Appendix C to the Initial Statement of Reasons, released September 27, 2016.
- Attachment D:** Proposed Amendments to TP-901, Test Procedure for Determining Permeation Emissions from Small Off-Road Engine and Equipment Fuel Tanks, as set forth in Appendix D to the Initial Statement of Reasons, released September 27, 2016.
- Attachment E:** Proposed Amendments to TP-902, Test Procedure for Determining Diurnal Evaporative Emissions from Small Off-Road Engines and Equipment, as set forth in Appendix E to the Initial Statement of Reasons, released September 27, 2016.