

State of California
AIR RESOURCES BOARD

**Notice of Public Availability of Modified Text
and Availability of Additional Documents**

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

Public Hearing Date: November 17, 2016
Public Availability Date: May 23, 2017
Deadline for Public Comment: June 7, 2017

At its November 17, 2016, public hearing, the Air Resources Board (ARB or Board) approved for adoption the proposed amendments and additions to the evaporative emission requirements for small off-road engines in title 13, chapter 15, article 1, section 2750, et seq., of the California Code of Regulations, and the amendments to the procedures incorporated by reference:

- CP-901, *Certification and Approval Procedure for Small Off-Road Engine Fuel Tanks*
- CP-902, *Certification and Approval Procedure for Evaporative Emission Control Systems*
- TP-901, *Test Procedure for Determining Permeation Emissions From Small Off-Road Engines and Equipment Fuel Tanks*
- TP-902, *Test Procedure for Determining Diurnal Evaporative Emissions From Small Off-Road Engines and Equipment*

The proposed amendments are intended to increase compliance with the diurnal emission standards, require certification test fuel formulated to reflect motor vehicle fuel currently dispensed at California gasoline stations, and enable Small Off-Road Engine (SORE) manufacturers to obtain ARB and United States Environmental Protection Agency (U.S. EPA) certification for fuel tanks based on a common set of test results.

The Board directed the Executive Officer to determine if additional conforming modifications to the regulation were appropriate and to make any proposed modified regulatory language available for public comment, with any additional supporting documents and information, for a period of at least 15 days as required by Government Code section 11346.8. The Board further directed the Executive Officer to 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, and present the regulation to the Board for further consideration if warranted, or take final action to adopt the regulation after addressing all appropriate modifications.

The Executive Officer has determined that additional changes to the proposed amendments are necessary. These additional changes are similar to the proposed amendments and will improve the testing and certification procedures and facilitate compliance.

Preliminary estimates of the economic impacts of the proposed amendments were outlined in Chapter VI of the Initial Statement of Reasons published with the initial Notice. The estimated total cost of implementing the proposed amendments over a 5 year period was \$32.7 million (2016 dollars). This would result in an estimated maximum retail average price increase for SORE sold in California of \$3.68 per unit. The proposed 15-day changes are estimated to reduce the total cost of implementing the proposed amendments over a 5 year period to \$21.7 million (2016 dollars), reducing the estimated maximum retail average price increase for SORE sold in California down to \$2.30 per unit. To the extent the 15-day changes alter the original estimates, they will be reflected in the Economic and Fiscal Impact Statement, Form 399, that will be reviewed by the Department of Finance.

The resolution and all other regulatory documents for this rulemaking are available online at the following ARB website:

<https://www.arb.ca.gov/regact/2016/sore2016/sore2016.htm>

The text of the proposed modified regulatory language is shown in Attachment 1. The originally proposed regulatory language is shown in ~~strikethrough~~ to indicate deletions and underline to indicate additions. New deletions and additions to the proposed language that are made public with this notice are shown in ~~shaded double strikethrough~~ and shaded double underline format, respectively. Modifications to the originally proposed certification and test procedures are shown in Attachment 2 (CP-901), Attachment 3 (CP-902), Attachment 4 (TP-901), and Attachment 5 (TP-902), also shown in ~~shaded double strikethrough~~ and shaded double underline format, respectively.

In the Final Statement of Reasons, staff will respond to all comments received on the record during the comment periods. The Administrative Procedure Act requires that staff respond to comments received regarding all noticed changes. Therefore, staff will address comments received during this 15-day comment period that are responsive to this Notice, documents added to the record, or the changes detailed in Attachments 1-5.

Summary of Proposed Modifications

The following summarizes the substantive proposed modifications. It does not include all modifications to correct typographical or grammatical errors, changes in numbering or formatting, or to improve clarity. The proposed modifications are set forth in detail in Attachments 1-5 to this Notice.

1. Title 13, California Code of Regulations

In section 2751(b)(3), the sentence, "Starting January 1, 2020, it is presumed that replacement components are subject to this Article if they are capable of being used on an evaporative emission control system on a small off-road engine regulated under this Article," was added.

In section 2752, several definitions were added, updated, or deleted. In section 2752(a)(1), the definition of "coextruded multilayer fuel tank" was deleted.

In section 2752(a)(1), a new definition for "ANSI/OPEI B71.10-2013" was added.

In section 2752(a)(5), the definition of "equivalent fuel line" was updated to include additional fuel line test procedures and to clarify that fuel specified in 40 CFR Part 1065.710(b) for general testing may be used when testing fuel lines.

In section 2752(a)(8), the definition of "evaporative family" was updated to restore the inclusion of equipment models in addition to engine models in the same class that are grouped together, and to require engines with displacement less than or equal to 80 cubic centimeters to be grouped based on their fuel tanks and fuel lines.

In section 2752(a)(10), the definition of "evaporative family emission limit differential (EFELD)" was updated to be based on the model of engine or equipment within the evaporative family that is expected to exhibit the highest diurnal emission rate relative to the applicable diurnal emission standard and to restore existing language specifying that an EFELD "is applicable to the entire evaporative family represented by the model."

In section 2752(a)(12), a new definition of "fuel line" was added.

In section 2752(a)(19), a new definition of "organic material hydrocarbon equivalent" was added.

In section 2752(a)(22), a new definition of "production volume" was added.

In section 2752(a)(23), the existing definition of "reactive organic gases (ROG)" was restored and amended to include additional low-reactive organic compounds exempted by the U.S. EPA.

In section 2752(a)(25) through 2752(a)(28), new definitions of "SAE J30," "SAE J1527," "SAE J1737," and "SAE J2996" were added.

In section 2752(a)(30), the existing definition of “small production volume tank exemption” was restored.

In section 2752(a)(24), the definition of “total organic gases (TOG)” was deleted.

In section 2753(b), the requirement to determine which model in an evaporative family is expected to exhibit the lowest diurnal emissions relative to the applicable diurnal emission standard was deleted.

In section 2753(b)(2)(B), additional fuel line test procedures were included in the list of procedures that may be used to determine fuel line permeation rates. Similar changes were made throughout Attachments 1-5.

In section 2753(c), the requirement to determine which fuel tank in an evaporative family is expected to exhibit the lowest permeation emissions relative to the applicable permeation emission standard was deleted.

In section 2753(f), the requirement for an applicant who has not held an Executive Order of Certification for a previous model year to submit diurnal emission test results for all evaporative families using engines with displacement greater than 80 cc beginning in model year 2020 was deleted.

In section 2754(a), references in Table 1 to total organic gases or TOG were changed to either “organic material hydrocarbon equivalent” or “reactive organic gases” (ROG). Similar changes were made throughout Attachments 1-5.

In section 2754(b)(2), the description of types of fuel lines that must meet the permeation emission standard was deleted and replaced with the definition of “fuel line.”

In section 2754(c)(2), an existing sentence allowing an applicant to “submit the Executive Order numbers approving the fuel tank and carbon canister pursuant to section 2767.1 of this Article” was restored.

In section 2754(d) and 2754(e), the phrase, “for model year 2020 and subsequent model years,” was added.

In section 2754.1(b)(5), the requirement to determine an evaporative family emission limit differential (EFELD) for each model in an evaporative family was deleted. One EFELD will apply to the entire evaporative family. An existing sentence was restored and amended to require the EFELD to be “determined based on the diurnal test results, in accordance with

TP-902, of the model of engine or equipment within an evaporative family expected to exhibit the highest diurnal emission rate relative to the applicable diurnal emission standard.”

In section 2754.1(e), the description of sales and how to determine sales was deleted and replaced with the definition of “production volume” in section 2752. Similar changes to replace “sales” with “production volume” were made throughout Attachments 1-5.

In section 2754.1(h)(2), the requirement to obtain Executive Officer approval to use alternative methods of tracking engines for credit calculation purposes was deleted.

In section 2754.1(h)(3), a provision was added for the Executive Officer to approve or specify a different address for the submission of production volume reports. Similar changes regarding submission of reports or other correspondence were made throughout Attachments 1-5.

In section 2755, clarification was added that fuel lines used on equipment subject to the section must meet the permeation standards in the table. A permeation emission standard of 225 grams per square meter per day for fuel lines used on chainsaws was added to the permeation emission standards table.

In section 2756(c), a requirement was added for fuel caps used on engines with displacement greater than 80 cc to meet the durability requirements in TP-902 beginning in 2020. Clarification was added in the standards table that only subsections (a) and (b) apply before model year 2020.

In section 2758, language was amended to specify the implementation of the amended test procedures for determining compliance with sections 2754, 2755, and 2757. The amended test procedures will be optional for model years 2018 and 2019, and will be required for model year 2020.

In section 2759(c)(4)(D), the requirement to identify the location of manufacture on the emission label was deleted.

In section 2759(d)(1), the requirement for component certification labels to be readily visible when installed on an engine or equipment unit was deleted.

In section 2759(f), the provision to place a label under a hinged door or other readily opened or removed cover was amended to be “subject to the limitations of subsection (c)(2) of this section.”

In section 2761(f)(1), the sentence, "Production volume must be provided for each equipment type by engine family and fuel tank volume within each evaporative family," was added.

In section 2761(f)(2), the paragraph describing sales and how to calculate them was deleted and replaced with the definition of "production volume" in section 2752(a)(22).

In section 2765(a)(1), the minimum number of fuel lines, carbon canisters, or fuel tanks included in a compliance test was restored to five.

In section 2765(a)(2), the minimum number of fuel lines, carbon canisters, or fuel tanks included in a compliance test was specified as five.

In section 2765(a)(8), the provision describing a second test for any engine or equipment unit with diurnal emissions within five percent of the applicable diurnal emission standard was deleted.

Section 2765(b) describing notification of failure was modified to describe averaging of independent test results provided to the Executive Officer by an Executive Order Holder. The subsection was also amended to specify that components will be deemed to have passed compliance testing if all five samples meet the applicable standards, and to describe additional inspection or testing the Executive Officer may conduct and information the Executive Officer will consider after a failure occurs in ARB's initial testing. Clarification was added that a passing determination in subsection (b) would overcome a failing determination under subsection (a) of section 2765.

In section 2765(c)(5)(D) and 2770(a)(4), cross-references were added to clarify that a suspension of certification under section 2765 could be appealed.

In section 2766(a) and 2766(b), the exemptions for low permeation tanks and small production volume tanks were restored and made available through model year 2019. These two exemptions will not be available in model year 2020 or subsequent model years.

In section 2774(d)(1), a reference to "production volume under §1054.225" was changed to "production volume under CP-901 or CP-902."

2. CP-901

In section 5.3, additional fuel line test procedures were included in the list of procedures that may be used to determine fuel line permeation rates.

In section 6.11, the requirement to submit an engine or equipment unit for inspection or testing upon the request of the Executive Officer was modified to allow the unit to be submitted when it is available.

In section 7, the requirement to submit all test results was modified to require results only from emissions-related tests to be submitted. A provision was added to submit executive order numbers for fuel tanks and fuel lines in lieu of some of the description for these components. A requirement was added for an applicant to submit a "description of any Quality Assurance/Quality Control (QA/QC) protocols used by the applicant to ensure production fuel tanks and fuel lines in the evaporative family comply with the applicable emission standards throughout their useful life."

3. CP-902

In section 4.1, the requirement to submit all test results was modified to require results only from emissions-related tests to be submitted. Two sentences were restored that require an applicant to submit an application for certification for each evaporative family and require ARB to approve or disapprove an application within 90 days.

In section 5.14, the requirement to submit an engine or equipment unit for inspection or testing upon the request of the Executive Officer was modified to allow the unit to be submitted when it is available.

In section 6, the requirement to submit all test results was modified to require results only from emissions-related tests to be submitted. A provision was added to submit executive order numbers for fuel tanks, fuel lines, and carbon canisters in lieu of some of the description for these components. The recommended purge rate was added to the list of required information for carbon canisters in the certification application. A requirement was added for an applicant to submit a "description of any Quality Assurance/Quality Control (QA/QC) protocols used by the applicant to ensure production evaporative emission control systems and their components in the evaporative family comply with the applicable emission standards throughout their useful life."

4. TP-901

In section 3, a tolerance of 2 degrees Celsius was added to the required test temperature of 40 degrees Celsius. The discussion of potential bias due to relative humidity was deleted.

In section 5, a relative humidity measuring instrument was made an optional piece of equipment.

In section 6, clarification was added that fuel specified in 40 CFR Part 1065.710(b) for general testing may be used for this test procedure.

In section 7, the requirement for a balance calibration to be completed by an independent organization was deleted, and accuracy checks during use were deleted.

In section 8.1, the existing sentence, "tanks that have a secondary operation for drilling holes for insertion of fuel line and grommet system may have these eliminated for purposes of durability and permeation testing," was restored.

In section 8.2, the sentence, "As an alternative to rocking the fuel tank, use a laboratory sample orbital shaker table or similar device to subject the tank to a centripetal acceleration of at least 2.4 meter·second⁻² at a frequency of 2 ± 0.25 cycles per second for one million cycles," was added. This sentence is similar to an existing sentence that was deleted in the originally proposed amendments.

In section 8.4, requiring fuel cap installation cycles was made optional.

In section 10(a), the option to seal a fuel tank by fusion welding or using another technique other than using a fuel cap was restored.

In section 11(a)(2) and 11(a)(8), measuring relative humidity was made optional.

5. TP-902

In section 1, the phrase, "with gross power production less than or equal to 19 kilowatts," was removed from the applicability.

In section 2.1(c), the sentence, "as an alternative to rocking the fuel tank, use a laboratory sample orbital shaker table or similar device to subject the tank to a centripetal acceleration of at least 2.4 meter·second⁻² at a frequency of 2 ± 0.25 cycles per second for one million cycles," was added. This sentence is similar to an existing sentence that was deleted in the originally proposed amendments.

In section 3, the mention of a correction factor for ethanol was removed.

In section 4, the sentence, "Ethanol measurements in this test procedure may be omitted if the hydrocarbon mass calculated for the hot soak and diurnal emission tests in section 5.5 is multiplied by 1.08 as described in Part III.D.11. of the "California Evaporative Emission Standards and Test

Procedures for 2001 and Subsequent Model Motor Vehicles,” as last amended September 2, 2015,” was added.

In section 5, the step “Purge Carbon Canister (if equipped)” was restored in Figure 1.

In section 5.1, the sentence, “Stop the engine and add fuel to fill the fuel tank to its nominal capacity,” was added. The default preconditioning temperature range was restored to 30 ± 10 °C rather than the originally proposed 38 °C or higher.

In section 5.2, the sentences, “For evaporative emission control systems that use a carbon canister, the canister must be purged following the preconditioning period but prior to initiating the hot soak test. Purging consists of drawing 400 bed volumes of nitrogen or dry air through the canister at the canister manufacturer’s recommended purge rate,” were restored.

In section 6, clarification was added that fuel specified in 40 CFR Part 1065.710(b) for general testing may be used for this test procedure.

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

Additional Documents Incorporated by Reference and Relied Upon Added to the Record

In the interest of completeness, staff invites comments on the following additional documents relied upon added to the rulemaking record and incorporated by reference into the regulatory text:

Society of Automotive Engineers (SAE), (2012). J30: Fuel and Oil Hoses, Revised February 2012.

Society of Automotive Engineers (SAE), (2011). J1527: Marine Fuel Hoses, Revised February 2011.

Society of Automotive Engineers (SAE), (2013). J2996: Small Diameter Fuel Line Permeation Test Procedure, Issued January 2013.

These documents are available for inspection by contacting Bradley Bechtold, Regulations Coordinator, at (916) 322-6533.

Agency Contacts

Inquiries concerning the substance of the proposed regulation may be directed to Angus MacPherson, Manager, Testing and Certification Section, at (916) 445-4686 or (designated back-up contact) Christopher W. Dilbeck, Air Pollution Specialist, Testing and Certification Section, at (916) 319-0106.

Public Comments

Written comments will only be accepted on the modifications identified in this Notice. Comments may be submitted by postal mail or by electronic submittal no later than 5:00 p.m. on the due date to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

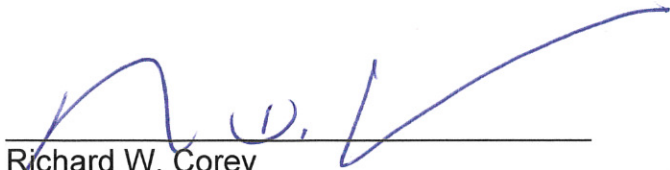
Please note that under the California Public Records Act (Gov. Code § 6250 et seq.), your written and verbal comments, attachments, and associated contact information (e.g., your address, phone, etc.) become part of the public record and can be released to the public upon request.

In order to be considered by the Executive Officer, comments must be directed to ARB in one of the two forms described above and received by ARB by 5:00 p.m., on the deadline date for public comment listed at the beginning of this notice. Only comments relating to the above-described modifications to the text of the regulations shall be considered by the Executive Officer.

If you need this document in an alternate format or another language, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 no later than five (5) business days from the release date of this notice. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Si necesita este documento en un formato alternativo u otro idioma, por favor llame a la oficina del Secretario del Consejo de Recursos Atmosféricos al (916) 322-5594 o envíe un fax al (916) 322-3928 no menos de cinco (5) días laborales a partir de la fecha del lanzamiento de este aviso. Para el Servicio Telefónico de California para Personas con Problemas Auditivos, ó de teléfonos TDD pueden marcar al 711.

CALIFORNIA AIR RESOURCES BOARD



Richard W. Corey
Executive Officer

Date: *May 22, 2017*

Attachments