

TITLE 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER PLUG-IN HYBRID ELECTRIC VEHICLE TEST PROCEDURE AMENDMENTS AND AFTERMARKET PARTS CERTIFICATION REQUIREMENTS ADOPTION

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to consider amendments to motor vehicle test procedures for exhaust emissions, evaporative emissions, and refueling emissions, and new requirements for certification of aftermarket conversion systems for plug-in hybrid electric vehicles.

DATE: January 22, 2009

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, CA 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., January 22, 2009, and may continue at 8:30 a.m., January 23, 2009. This item may not be considered until January 23, 2009. Please consult the agenda for the meeting, which will be available at least ten days before January 22, 2009, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document and other related material can be made available in Braille, large print, audiocassette, or computer disk. For assistance, please contact ARB's Reasonable Accommodations/Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services, or go to <http://www.arb.ca.gov/html/ada/ada.htm>.

If you are a person with limited English and would like to request interpreter services to be available at the Board meeting, please contact ARB's Bilingual Manager at (916) 323-7053.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

Sections Affected: Proposed amendments to California Code of Regulations, title 13, section 1961, and the following test procedure incorporated by reference: "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," adopted

August 5, 1999, as last amended May 2, 2008; section 1962 and the following test procedure as renamed and incorporated by reference: “California Exhaust Emission Standards and Test Procedures for 2005 through 2008 Model Zero-Emission Vehicles, and 2001 through 2008 Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes,” adopted August 5, 1999, as last amended December 19, 2003; section 1962.1 and the following test procedure as renamed and incorporated by reference: “California Exhaust Emission Standards and Test Procedures for 2009 and Subsequent Model Zero-Emission Vehicles, and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes,”; section 1976 and the following test procedure incorporated by reference: “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles,” adopted August 5, 1999, as last amended May 2, 2008; and section 1978 and the following test procedure incorporated by reference: “California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles,” adopted August 5, 1999, as last amended May 2, 2008; and the adoption of a new section 2032, title 13, California Code of Regulations, and the incorporated “California Certification and Installation Procedures for Off-Vehicle Charge Capable Conversion Systems for 2000 and Subsequent Model Year Hybrid Electric Vehicles.”

Background:

In 1990, the California Air Resources Board (ARB or the Board) adopted an ambitious regulation to significantly reduce the environmental impact of light-duty vehicles through the commercial introduction of zero emission vehicles (ZEV) into the California fleet. Over the years, the ZEV program has evolved to include hybrid electric vehicle (HEV) technologies among compliance options. The regulation includes certification standards and test procedures for HEV and ZEV technologies. The most recent changes to the ZEV regulation, considered in March 2008 included provisions that strongly encourage commercialization of plug-in HEVs (PHEV) or off vehicle charge capable (OVCC) HEVs. OVCC HEVs may charge on or off the electric power grid. In this hearing notice and the staff report, the term PHEV is used to refer to OVCC HEVs, that is, vehicles capable of charging on or off the grid.

This rulemaking focuses on adapting the current test procedures to address new configurations of PHEVs. Additional amendments in this rulemaking address HEV conversions and ZEV range testing. Aftermarket PHEV conversion system manufacturers (Conversion System Manufacturers) have developed products to convert existing HEVs to PHEVs. Certification requirements for PHEV conversion systems are proposed, as is an alternative all electric range (AER) determination for fuel cell vehicles (ZEV Range Test Procedures for Fuel Cell Electric Vehicles), based on fuel consumption.

Proposed Amendments and Adoptions:

Amend the Exhaust Test Procedures for Hybrid Electric Vehicles: To specifically address PHEVs, a new section is being included in the renamed “California Exhaust

Emission Standards and Test Procedures for 2009 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes” (Exhaust Test Procedures). This section includes a determination of an equivalent all electric range (EAER) and provides test procedures for more advanced PHEVs.

While the current Exhaust Test Procedures are appropriate for testing current HEVs and battery electric vehicles (EV), additional amendments are needed to clarify requirements for conventional HEVs and to provide for equivalency in results from EV and PHEV AER tests. In addition, current procedures are not adequate for testing PHEVs. The proposed changes more accurately determine the contribution of the electric drive and vehicle emissions from PHEVs.

Allow Alternative AER Test Procedures for Fuel Cell EVs: Staff proposes to supplement the current AER test for electric vehicles, which was designed for battery EVs, with a procedure more appropriate for fuel cell EVs. Staff’s proposal incorporates the newly revised Society of Automotive Engineers (SAE) J2572 “Recommended Practice for Measuring Fuel Consumption and Range of Fuel Cell and Hybrid Fuel Cell Vehicles Fueled by Compressed Gaseous Hydrogen.” This SAE Recommended Practice addresses both hydrogen measurement challenges and decreases the duration of the current AER Test Procedures by calculating the vehicle range based on fuel consumption.

Amend the Evaporative Emission and Refueling Related Test Procedures for PHEVs: HEVs are currently certified to comply with ARB’s evaporative emission standards according to the “California Evaporative Emission Standards and Test Procedures For 2001 and Subsequent Model Motor Vehicles” (Evap Test Procedures), and the “California Refueling Emission Standards and Test Procedures For 2001 and Subsequent Model Motor Vehicles” (ORVR Test Procedures). Much like the Exhaust Test Procedures, these procedures are adequate for testing current HEVs, but do not address the unique characteristics of PHEV technologies. The ability to recharge batteries without internal combustion (IC) engine operation offers exhaust emission benefits; however, the accurate determination of evaporative emissions decreases with decreased IC engine use. Accordingly, staff is proposing amendments to the current Evap and ORVR Test Procedures to ensure that the evaporative emissions of PHEVs are reasonably characterized for certification purposes to demonstrate compliance with the applicable evaporative emission standards.

Create a New Set of Certification Procedures for PHEV Conversion Systems: Staff is proposing to create a separate set of certification procedures to address conversions of HEVs to PHEVs. Certification of PHEV conversion systems will follow the same Exhaust, ORVR and Evap Test Procedures as described above. The addition of PHEV conversion requirements will ensure that the converted vehicle continues to meet the original emission standards under the warranty provided to the consumers.

COMPARABLE FEDERAL REGULATIONS

Currently, there are no comparable federal test procedures for PHEVs. There are no federal certification procedures for aftermarket PHEV conversion systems. There are no federal test procedures specific to fuel cell EV range.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

The Board staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: "Initial Statement of Reasons for Proposed Rulemaking for Off-Vehicle Charge Capable Hybrid Electric Vehicles: Modifications to Test Procedures and Aftermarket Parts Certification Requirements."

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikethrough format to allow for comparison with the existing regulations, may be accessed on the ARB's web site listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing on January 22, 2009.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB's web site listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Ms. Lesley Crowell, Air Resources Engineer, by email to lcrowell@arb.ca.gov or by phone at (916) 323-2913, or to Ms. Elise Keddie, Manager, ZEV Implementation Section, by email to ekeddie@arb.ca.gov or by phone at (916) 323-8974.

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Ms. Lori Andreoni, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-4011, or Ms. Amy Whiting, Regulations Coordinator, (916) 322-6533. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the ISOR and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB Internet site for this rulemaking at www.arb.ca.gov/regact/2008/phev09/phev09.htm

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action would create costs or savings to any state agency or in federal funding to the state, costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other nondiscretionary cost or savings to state or local agencies. Under the proposal, ARB will incur costs for conducting the Exhaust and Evap Test Procedures for compliance testing of PHEVs. A detailed assessment of the cost impacts of the proposed regulatory action can be found in the ISOR.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. The ARB is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action would not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the ISOR.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action may affect small businesses. Independent testing facilities may need to upgrade equipment to perform additional testing. However, the costs associated with any upgrades would be passed along to manufacturers using the facilities.

The incremental costs associated with producing and certifying PHEVs is likely to be passed on to the consumer. Staff estimates the incremental cost to be less than \$5 to \$10 per vehicle.

Conversion System Manufacturers modifying vehicles outside of the original equipment manufacturer's (OEM) warranty will see a marginal increase in current costs of about \$200 for additional application costs. However, Conversion System Manufacturers

modifying vehicles still under OEM warranty will be allowed to use the aftermarket certification process instead of recertifying the vehicle as a small volume manufacturer as currently required. As recertification costs are considerable, the proposed certification process will provide Conversion System Manufacturers with a substantial cost savings.

Cost savings are also anticipated for OEMs producing Fuel Cell EVs due to the reduction of required test cycles. The cost savings are difficult to calculate as they depend on the range of the vehicle: longer range vehicles will see larger cost savings as the number of test cycles is proportional to the range of the vehicle.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the board or that has otherwise been identified and brought to the attention of the board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

SUBMITTAL OF COMMENTS

The public may present comments orally or in writing at the meeting, and in writing or by e-mail before the meeting. To be considered by the Board, written submissions not physically submitted at the meeting must be received **no later than 12:00 noon, January 21, 2009**, and addressed 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>

Facsimile submittal: (916) 322-3928

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.

The Board requests but does not require that 30 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

STATUTORY AUTHORITY AND REFERENCES

This regulatory action is proposed under the authority granted sections 39500, 39515, 39600, 39601, 39667, 43000, 43006, 43013, 43018, 43101, 43104, and 43105, and 42107, Health and Safety Code. The action is proposed to implement, interpret, and make specific sections 39002, 39003, 39500, 39667, 43000, 43006, 43008.6, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43108, 43204, 43205, and 43205.5, Health and Safety Code; and sections 27156 and 39391, Vehicle Code.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Board may adopt the regulatory language as originally proposed, or with non substantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action; in such event the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, CA 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

/s/

James N. Goldstene
Executive Officer

Date: November 25, 2008

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs see our Web –site at www.arb.ca.gov.