

## **TITLE 13. CALIFORNIA AIR RESOURCES BOARD**

### **NOTICE OF PUBLIC HEARING TO CONSIDER 2015 MODIFICATIONS TO THE ZERO EMISSION VEHICLE REGULATION**

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider approving for adoption proposed amendments to the California Zero Emission Vehicle (ZEV) Regulation.

DATE: December 17, 2015

TIME: 9:00 a.m.

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

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., December 17, 2015, and may continue at 8:30 a.m., on December 18, 2015. This item may not be considered until December 18, 2015. Please consult the agenda for the hearing, which will be available at least 10 days before December 17, 2015, to determine the day on which this item will be considered.

### **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW PURSUANT TO GOVERNMENT CODE 11346.5(a)(3)**

**Sections Affected:** Proposed amendments to California Code of Regulations, title 13, section 1962.1, and to the following document Incorporated by Reference therein: California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck, and Medium-Duty Vehicle Classes, as adopted December 17, 2008, and as last amended September 3, 2015. (The 2014 ZEV rulemaking action was approved by the Office of Administrative Law and filed with the Secretary of State on October 12, 2015, and will become effective on January 1, 2016.)

### **Background and Effect of the Proposed Rulemaking:**

The ZEV Regulation sets production requirements based on manufacturers' California sales volumes, which manufacturers must meet by generating credits through the sale of ZEVs to California drivers. Battery Electric Vehicles (BEV) and Fuel Cell Electric Vehicles (FCEV) are awarded credits based on zero emission range and fast refueling capability and documentation of actual use. Fast refueling requirements award additional credits to vehicles demonstrating replacement of 95 percent of a vehicle's range in fewer than 15 minutes. The fast refueling provision's purpose is to provide a

credit-earning mechanism for ZEVs that refuel at a rate analogous to traditional gasoline or diesel-fueled vehicles.

In October 2013, staff proposed to exclude battery swap from qualifying under the fast refueling provisions of the ZEV Regulation.<sup>1</sup> After considering input from stakeholders, the Board directed staff to amend the regulation to ensure any additional ZEV credits awarded to vehicles under the fast refueling provisions are fuel neutral and are awarded for demonstration of actual battery exchange events.

Before the amendments that went into effect in July 2014, some BEVs received ZEV credits for fast refueling based on their capability for battery swap. However, it had not been demonstrated that any battery swap events had occurred on the vehicles earning credits. Accordingly, ARB amended the ZEV Regulation in May 2014 to require actual fast refueling events (e.g., actual battery swaps) for such credits. Those amendments required manufacturers to submit data sufficient to demonstrate that eligible Fast Refueling ZEVs conducted actual fast refueling events. Those amendments also allowed an individual vehicle to earn additional ZEV credits under the fast refueling provisions for up to 25 other fast refueling vehicles within a manufacturer's fleet for a given model year. The additional credits earned could not exceed the total number of fast refueling eligible vehicles in a manufacturer's fleet for a given model year.

At the October 2014 Board Meeting, Board members expressed concern that allowing manufacturers of battery swap capable BEVs to apply up to 25 battery swap events from an individual vehicle toward the total number of qualifying fast refueling vehicles for that manufacturer would not be representative of the overall fleet's use of fast refueling as a means of range extension. The Board requested additional modifications to the ZEV Regulation to ensure that every model year (MY) 2015-2017 vehicle earning additional ZEV credits under the fast refueling provisions performs a qualifying fast refueling event.

Staff's current proposal seeks to address these concerns by amending the ZEV Regulation to require each individual vehicle earning additional ZEV credits under the fast refueling provision to document use of fast refueling. The proposed amendment would be effective for MY 2017 vehicles because MY 2015 and MY 2016 vehicles are already on the road in California.

### **Objectives and Benefits of the Proposed Regulatory Action:**

#### **Objectives**

The proposed amendments were developed to help meet the goals of the ZEV Regulation's fast refueling credit provision. These amendments are required to ensure that ZEV credits awarded for battery swap events are issued for extension of range and utility of actual in-use vehicles.

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<sup>1</sup> Battery swap, battery exchange and fast swap may be used interchangeably throughout all documents associated with this rulemaking.

## Benefits

The goal of the ZEV Regulation's fast refueling provisions is to encourage ZEV manufacturers to offer fast refueling capabilities such that ZEV drivers can obtain a similar level of utility as conventional gasoline or diesel-powered vehicle users. The fast refueling provisions are intended to reward manufacturers for providing the necessary technology to enable ZEV fueling with electricity or hydrogen at approximately the equivalent speed of conventional petroleum fuels. Ultimately, the proposed action furthers ARB's goal of promoting cleaner air.

## **DETERMINATION OF INCONSISTENCY AND INCOMPATIBILITY WITH EXISTING STATE REGULATIONS**

While developing the proposed regulatory action, ARB conducted a search of any similar regulations on this topic and concluded that these regulations are neither inconsistent nor incompatible with existing state regulations.

## **MANDATED BY FEDERAL LAW OR REGULATIONS**

This regulation is not mandated by federal law or regulations.

## **COMPARABLE FEDERAL REGULATIONS**

There are no comparable federal regulations.

## **STATE IMPLEMENTATION PLAN REVISION**

If adopted by ARB, ARB plans to submit the proposed regulatory action to the United States Environmental Protection Agency (U.S. EPA) for approval as a revision to the California State Implementation Plan (SIP) required by the federal Clean Air Act (CAA). The adopted regulatory action would be submitted as a SIP revision because it amends regulations intended to reduce emissions of air pollutants in order to attain and maintain the National Ambient Air Quality Standards promulgated by U.S. EPA pursuant to the CAA.

## **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

ARB staff 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, and all information upon which the proposed regulation is based. The report is entitled: "Proposed 2015 Modifications to the Zero Emission Vehicle Regulation".

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on ARB's website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990, on October 27, 2015.

**Final Statement of Reasons Availability**

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 ARB's website listed below.

**Agency Contact Persons**

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Ian Cullity, Air Resources Engineer, (916) 322-4380 or Elise Keddie (back-up contact), ZEV Implementation Section Manager, (916) 323-8974.

Non-substantive inquiries concerning the proposed administrative action may be directed to Trini Balcazar, Regulations Coordinator, (916) 445-9564. The Board staff compiled a record for this proposed 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.

**Internet Access**

This notice, the ISOR, and all subsequent regulatory documents, including the FSOR when completed, are available on ARB's website for this rulemaking at <http://www.arb.ca.gov/regact/2015/zev2015/zev2015.htm>

**DISCLOSURES REGARDING THE PROPOSED REGULATION**

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 regulatory action are presented below.

**Fiscal Impact / Local Mandate**

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 not 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 Government Code, title 2, division 4, part 7 (commencing with section 17500), or other nondiscretionary cost or savings to State or local agencies.

## **Significant Statewide Adverse Economic Impact Directly Affecting Business, Including Ability to Compete**

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.

## **Cost Impacts on Representative Private Persons or Businesses**

In developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. 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.

## **Statement of the Results of the Standardized Regulatory Impact Analysis pursuant to Gov. Code sec. 11346.3(c)**

The Standardized Regulatory Impact Assessment (SRIA) for this rulemaking was submitted to the Department of Finance (DOF) on June 22, 2015. Comments received from DOF on July 22, 2015 did not require changes to the regulation. Appendix C of the 2015 ZEV ISOR contains a list of DOF Comments and ARB response.

A summary of the economic impacts of the proposed regulatory action presented as part of the SRIA can be found in the Economic Impacts/Assessment section of the 2015 ZEV ISOR.

### **Effect on Jobs/Businesses:**

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 Economic Impact Analysis in the ISOR.

### **Competitive Advantages/Disadvantages for Current Businesses:**

Based on the direct cost estimation, the proposed amendment would not change the competitiveness of directly regulated entities. The underlying purpose of the fast refueling provision of the ZEV Regulation is to level the playing field between gas-powered and zero emission vehicles and is unaffected by the proposed amendment. Thus, ZEV manufacturers are not expected to face competitive disadvantages as a result of the proposed amendment.

Increase/Decrease of Investment in California:

As modeled in the SRIA, the proposed amendment would produce very small impacts on California private business investment from 2017 through 2020. The change in private investment can be linked to decreased cash flow of ZEV manufacturers resulting from reduced ZEV credit revenue, restricting potential investment in capital equipment.

Incentives for Innovation in Products, Materials, or Processes:

The proposed amendment does not change the opportunity to generate ZEV credits for manufacturing zero emission vehicles, nor would it eliminate the opportunity to generate fast refueling credits through a battery exchange program. ZEV manufacturers are still encouraged and awarded credits for innovative technologies and methods that allow for fast refueling. Implementation of the proposed amendment would only serve to ensure the integrity of the ZEV credit market.

Benefits of the Proposed Regulation:

The objective of the proposed amendments to the ZEV Regulation is to make changes to the fast refueling provisions. The proposed regulatory changes would ensure that fast refueling credits are awarded for extension of vehicle range and utility. Continued compliance with the ZEV Regulation will create a positive impact on emission benefits and air quality throughout California.

A summary of these benefits is provided, please refer to “Objectives and Benefits”, under the Informative Digest of Proposed Action and Policy Statement Overview Pursuant to Government Code 11346.5(a)(3) discussion on page 2.

**Effect on Small Business**

The Executive Officer has also determined, pursuant to California Code of Regulations, title 1, section 4, that the proposed regulatory action would not affect small businesses because small businesses are not regulated parties under these regulations.

**Housing Costs**

The Executive Officer has also made the initial determination that the proposed regulatory action will not have a significant effect on housing costs.

**Business Reports**

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the reporting requirements of the regulation, which apply to businesses, are necessary for the public health, safety, environment and welfare of the people of the State of California.

## **Alternatives**

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, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.

## **Summary of DOF Comments to the Proposed 2015 ZEV Regulation Amendment SRIA prepared for the Proposed 2015 Modifications to the ZEV Regulation and ARB Response to Comments**

ARB summarized the comments received from DOF on July 22, 2015 in response to the SRIA prepared as part of the proposed amendments to the ZEV Regulation.

### **DOF Comment 1:**

As proposed ZEV Regulation amendments were not attached, DOF is unable to conclude if the SRIA covers all impacts that may occur as a result of the amendments that will be submitted to the Office of Administrative Law for public comment.

ARB Response: ARB acknowledges that the complete proposed ZEV Regulation amendments were not available at the time the DOF reviewed the SRIA for those proposed amendments. Regulatory language will be included in Appendix A of the ISOR, and additional information and analysis will be found within the ISOR when it is available for public review.

### **DOF Comment 2:**

Impacts of the amendments are sensitive to the assumption that manufacturers would generate credits from battery swaps on a small subset of ZEVs under the baseline.

ARB Response: ARB recognizes that the impacts are sensitive to the assumptions made in the SRIA, particularly that credits would be generated by a small subset of ZEVs. That sensitivity is the basis for the proposed amendment, as the Board directed staff to reduce the amount of credits that could be generated by a small subset of the fleet.

### **DOF Comment 3:**

The SRIA should include a discussion of the impact of fewer ZEV credits available on the ZEV credit market and the resulting costs and/or benefits.

ARB Response: Manufacturers that cannot be considered independent and produce more than 4,500 vehicles per year in California, as averaged over the

previous three years, are subject to the Zero Emission Vehicle Regulation. The same requirements apply to independent low volume manufacturers that produce 10,000 vehicles per year in California averaged over the previous three years. For manufacturers subject to the ZEV Regulation requirement, the amount of a manufacturer's ZEV credit requirement is dependent on the volume of its vehicle sales for that year.

Manufacturers that are not subject to the ZEV requirement may generate ZEV credits through sales of certified ZEV vehicles in California in the same way their larger, regulated counterparts are required to do. Those manufacturers not subject to the requirement may then choose to sell ZEV credits to other manufacturers with a ZEV credit requirement. Furthermore, manufacturers subject to the ZEV Regulation requirement may also generate more ZEV credits than their requirement through sales of vehicles. Those manufacturers may sell excess ZEV credits to other manufacturers in the same way that small volume and independent low volume manufacturers may sell their ZEV credits. Manufacturers subject to the ZEV requirement may choose to purchase those surplus ZEV credits and use them to comply with the regulation instead of producing ZEV vehicles that would generate credits.

Due to the nature of the ZEV credit market and the producers and users of credits, the market is difficult to fully characterize. ARB does not regulate the ZEV credit market beyond ensuring only users and producers of credits have ownership of those credits, and that manufacturers subject to the ZEV credit requirement are meeting it. Given sufficient demand for ZEV credits, if the supply shrinks, it can be expected that the price per credit will increase. The inverse of that can also be true. If supply increases, but demand stays fixed, then the price per credit should decrease. However, all manufacturers with a ZEV requirement may choose to comply with the regulation by producing the requisite number of credit-earning vehicles. This could effectively reduce demand for ZEV credits in the market to zero.

ARB has no knowledge of the financial agreements made between manufacturers to buy and sell ZEV credits. The data that ARB does have regarding reporting numbers and compliance is considered confidential and cannot be used to characterize the market on a manufacturer by manufacturer basis. It is possible that if an unregulated manufacturer begins earning fewer ZEV credits due to regulatory change, the market may respond by increasing the value of a ZEV credit. This scenario may then induce an increase in the production of ZEVs. However, for reasons given in the explanations above, there is not sufficient publically available information to show the impact to the ZEV credit market and ZEV vehicle sales.

**DOF Comment 4:**

The impact assessment focused primarily on regulatory costs, but should also include a more substantial discussion of regulatory benefits.

ARB Response: ARB agrees with DOF in that an overall decrease in surplus credits could induce faster adoption of ZEVs, and the emissions reductions from the faster adoption do have health benefits. However, due to the nature of the ZEV market, potential changes in the adoption rate can be difficult to project and quantify. The number of credits awarded per vehicle is dynamic and depends on the technology. Different technologies earn more or fewer ZEV credits, on a per vehicle basis, depending on several factors. If a fleet mix were to change from ZEVs that earn fewer ZEV credits to favor ZEVs that earn more ZEV credits, there would be a reduction in the total number of ZEV if manufacturers choose only to meet their compliance requirement. For example, the fast refueling provision allows certain ZEVs to earn more ZEV credits than their non-fast refueling counterparts. Those extra ZEV credits would increase the supply of credits to the market where those credits would be purchased by another manufacturer to comply as opposed to producing the required vehicles. This effectively reduces the number of vehicles that may be on the road in the future.

On the other hand, all manufacturers can produce enough ZEVs to comply with their ZEV credit obligation regardless of any surplus ZEV credits that may be on the market. It is likely that manufacturers will produce enough ZEVs to meet each of their individual obligations, thus keeping them from having to purchase credits from another manufacturer. The number of credits on the market may have no bearing on the number of vehicles, resulting in no change in the projected number of vehicles on the road.

## **Environmental Analysis**

When the ZEV Regulation was proposed to the Board as part of the package of regulations referred to as the Advanced Clean Cars (ACC) Program in January of 2012, ARB prepared an environmental analysis (EA) under its certified regulatory program (California Code of Regulations, title 17, sections 60000 through 60008) to comply with the requirements of the California Environmental Quality Act (CEQA; Public Resources Code section 21080.5). The EA, included in Appendix B of the 2012 ACC ISOR entitled Appendix B: Environmental Analysis for Advance Clean Cars Regulation Package, dated December 7, 2011, determined the ACC Program could result in adverse impacts to aesthetics, air quality, and noise (both related to construction), biological resources, cultural resources, geology/soils, hazards/hazardous materials (related to accidental releases), hydrology/water quality, traffic and utilities due to construction and operation of new battery manufacturing facilities. Staff has determined that no additional environmental review is required for the current proposed amendments because there are no changes that involve new significant environmental effects or a substantial increase in severity of previously identified significant effects than previously identified in the prior 2011 ACC EA. The basis for reaching this conclusion is provided in Chapter IV of the 2015 ISOR.

## **WRITTEN COMMENT PERIOD AND SUBMITTAL OF COMMENTS**

Interested members of the public may present comments orally or in writing at the hearing and may provide comments by postal mail or by electronic submittal before the hearing. The public comment period for this regulatory action will begin on October 30, 2015. To be considered by the Board, written comments not physically submitted at the hearing, must be submitted on or after October 30, 2015 and received **no later than 5:00 pm on December 14, 2015**, and must be 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>

Please note that under the California Public Records Act (Gov. Code, § 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.

ARB requests that written and email statements on this item be filed at least 10 days prior to the hearing so that ARB staff and Board members have additional time to 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.

Additionally, the Board requests but does not require that persons who submit written comments to the Board reference the title of the proposal in their comments to facilitate review.

## **AUTHORITY AND REFERENCE**

This regulatory action is proposed under the authority granted in Health and Safety Code, sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105. This action is proposed to implement, interpret, and make specific sections 38562, 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43018.5, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43204, 43205, 43205.5 and 43206.

## **HEARING PROCEDURES**

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

Following the public hearing, the Board may approve for adoption the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also approve for adoption 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 and 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 ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990.

### **SPECIAL ACCOMMODATION REQUEST**

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing.

TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia
- Documentos disponibles en un formato alterno u otro idioma
- Una acomodación razonable relacionados con una incapacidad

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envíe un fax a (916) 322-3928 lo más pronto posible, pero no menos de 10 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

CALIFORNIA AIR RESOURCES BOARD



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Richard W. Corey  
Executive Officer

Date: October 13, 2015

*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 website at [www.arb.ca.gov](http://www.arb.ca.gov)*