

State of California  
AIR RESOURCES BOARD

**Notice of Public Availability of Modified Text**

**PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE ZERO EMISSION BUS  
REGULATION**

Public Hearing Date: October 19, 2006

Public Availability Date: July 27, 2007

Deadline for Public Comment: August 11, 2007

Deadline for Public Comment Period has been extended to August 13, 2007

At its October 19, 2006, public hearing, the Air Resources Board (ARB or Board) approved the amendment of sections 2023.1, 2023.3, 2023.4 of, title 13, California Code of Regulations (CCR), which require transit agencies to purchase zero emission buses. The amendments postponed the purchase requirement for zero emission buses by three years for transit agencies on the diesel path, and two years for those agencies on the alternative-fuel path. A requirement for an advanced demonstration project was approved to improve the technology and offset many of the emission losses resulting from the postponement.

**The Board's Action**

At the hearing, the Board adopted Resolution 06-28, approving with modifications the regulations originally proposed in the Staff Report released on September 1, 2006. The modifications were made in response to comments received during the 45-day comment period. These modifications include significant changes to the discretion clause, the advanced demonstration, and the purchase requirement, in addition to some minor modifications for clarification and alignment with the original intent of the regulation. In the Resolution, the Board directed the Executive Officer to incorporate the approved modifications into the regulatory text, with such other conforming modifications as may be appropriate, and to make the modified text available for a supplemental comment period.

**Modified Text Being Made Available**

Subsequent to the hearing, staff has identified other conforming modifications that are needed to provide flexibility and to clarify the requirements of the regulations. The Board's approved modified text, with staff's subsequent modifications, is appended to this notice as Attachment 1. By this notice, the modified text and Resolution 06-28 are being made available for public comment prior to final action by the Board's Executive Officer. All of these documents are available online for public inspection at ARB's Internet website for this rulemaking at <http://www.arb.ca.gov/regact/zbus06/zbus06.htm>.

## **Summary of Proposed Modifications**

The following summarizes the proposed substantive modifications and the rationale for making the modifications. The section numbers and paragraphs are referenced as renumbered in the modified attached regulation text.

### **1. Performance and Cost Based Adjustment Clause.**

The original proposal allowed the Executive Officer to adjust the purchase requirement based on cost and performance parameters set for fuel cell buses. The Executive Officer's determination would have been made no later than July 2009 for a purchase requirement implementation of 2011, and then would have been reassessed annually by June 30<sup>th</sup> of each year following until the goals were met. If all goals were met, the 15 percent purchase requirement would be fully implemented. If these goals were not met, then the Executive Officer could reduce the purchase requirements according to the guidelines presented in the Staff Report.

The Board-approved modifications delete the originally proposed provisions allowing the Executive Officer to modify the purchase requirement. As originally proposed, ARB was directed to review zero emission bus technology and the implementation requirements by July 2009; the proposed modifications provide that based on the review, the Board will decide whether to proceed with implementation or adjust the requirements. Resolution 06-28 directs staff to update the Board with staff's assessment of zero emission bus technology and its readiness for commercialization, on or before July 2009. The staff is directed to consider the implementation criteria listed below, as well as any other relevant factors, in completing its evaluation and recommendation to the Board.

	Implementation Criteria
Purchase Cost Fuel Cell vs. Electric Trolley Bus	1.25 : 1
Fuel Cell Durability or Warranty	20,000 hours
Reliability (Miles between Propulsion Related Road Calls)	10,000 miles

The Board directed staff to remove the Availability criterion based on comments from the transit agencies. Transit agencies stated that buses could be available but still not be reliable. By making the criteria an "either/or" evaluation, an underperforming bus could qualify. The Board's direction means that only the Reliability criterion will be used.

### **2. Transition of Transit Agencies that grow into the purchase requirement after January 1, 2012.**

The Board directed Staff to evaluate an appropriate transition period – from three to five years – for those transit agencies that do not have 200 buses at the time the purchase requirement begins, January 1, 2007. Staff has concluded that a three-year transition period is most appropriate, and the modifications accordingly provide that those transit agencies that have an urban bus fleet that does not exceed 200 until after the first year of the purchase requirement, will have three years to meet their zero emission requirements. The transition time allows the transit agencies additional time to get infrastructure in place, as well as necessary staff development and training. Three years from when a transit agency first exceeds 200 urban buses is sufficient to get infrastructure in place and have zero emission buses transitioned into revenue service. There are four transit agencies that could be affected by this portion of the regulation. All four transit agencies are on the Alternative Fuel Path. These transit agencies are aware of their transitional status and three of the four were present at the October Board Hearing. Staff estimates the transit agencies not present at the board hearing may reach 200 urban buses around 2026. More than three years is not needed – all transitional transit agencies are aware of their status and those transit agencies with over 150 urban buses are required to submit annual reports.

### **3. Modifications to staff’s proposed amendments to the advanced demonstration.**

Staff originally proposed that the buses in the initial demonstration would not count towards the proposed Advanced Demonstration. Staff wanted to maximize the number of buses in the demonstration. However, since there is no assurance that the transit agencies would continue to operate the buses from the initial demonstration (VTA buses are overly outdated) this change will not reduce the number of new fuel cells produced or the number of fuel cell buses operating. It will reduce the cost to the transit operators.

To encourage transit agencies to continue to operate initial demonstration buses, the Board approved staff’s proposed modification that allows initial demonstration buses to count towards transit agencies’ obligations in the advanced demonstration provided the buses are upgraded. If the buses from the initial demonstration are retrofitted with technology to comparable to technology that would be used on new buses in the advanced demonstration, the buses can be used to meet the advanced demonstration requirement. This provision was identified at the hearing as section 2023.3(b)(2)(I) and with renumbering is now section 2023.3(b)(2)(F).

The Board did not accept staff’s initial proposal which allowed alternative fuel path transit agencies who participated in the advanced demonstration to have a one-year postponement for their purchase requirement. Instead, the Board directed staff in Resolution 06-28 to allow a two-year postponement of the alternative fuel path transit agencies’ purchase requirement, independent of their participation in the advanced demonstration. This modification is effected by a change in the dates specified in section 2023.3(c)(2). The two-year postponement to 2012 means that some of the new provisions proposed by staff are no longer necessary. In post-hearing conforming modifications, staff has accordingly deleted originally-proposed subsections

2023.3(b)(2)(B), (F), and (H). Due to these deletions, staff renumbered proposed subsection 2023.3(b)(2)(C) to become (B), proposed subsection (E) to become (C), and proposed subsection (G) to become (E). In addition, the minor modification presented by staff at the hearing adding a footnote to the table in section 2023.3(c)(4)(A) has now been deleted because it is unnecessary in light of the two-year postponement to 2012.

**4. Modify section 2023.4(f)(3)(B), (f)(4)(B), and add section 2023.4(f)(5) and (6) to ensure that staff can assess the technology in 2009.**

The Board approved modifications to the reporting requirements for the preliminary and final reports to ensure that staff receives the necessary information on the performance parameters to assess the progress of the technology. The Board also approved a modification requiring quarterly updates. In a post-hearing modification, staff has added a requirement for monthly updates in order to frequently monitor the development of each advanced demonstration before and after the bus has been delivered to the transit property. This also will allow staff to better assist a transit agency's concerns during early stages of development.

**5. Other Minor Modifications**

A modification to section 2023.3(b)(2)(C)1. clarifies that the timelines apply to multi transit agency demonstrations as well as single transit agency demonstrations.

In a post-hearing modification, staff has added section 2023.1(b)(3)(C)5. and 6. which identify the preexisting timelines for initial documentation and a financial plan for the initial demonstration. Moving the reference to the timelines from section 2023.4(f)(1) and (2) helps consolidate the milestones in one place in the regulation.

Other minor post conforming modifications were made to the regulation for clarification purposes.

Resolution 06-28 approving sections 2023.1, 2023.3, and 2023.4, as modified and all other regulatory documents for this rulemaking are available online at the following ARB internet site:

<http://www.arb.ca.gov/regact/zbus06/zbus06.htm>

**Comments and Subsequent Action**

In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to adopt sections 2023.1, 2023.3, and 2023.4, titles 13, CCR, after making them available to the public for comment for a period of at least 15 days. The Board further provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if warranted.

Written comments on the modifications approved by the Board may be submitted by postal mail, electronic mail, or facsimile as follows:

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

In order to be considered by the Executive Officer, comments must be directed to the ARB in one of the three forms described above and received by the 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.

Attachment