

## TITLE 13. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO THE ZERO EMISSION BUS REGULATION

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to consider adoption of amendments to the California Zero Emission Bus (ZBus) Regulation. The proposed amendments would postpone the purchase requirement for zero emission buses by three years for transit agencies on the diesel path, and one to two years for those agencies on the alternative fuel path. A requirement for an advanced demonstration project is proposed to offset some of the emission losses resulting from the postponement.

DATE: October 19, 2006

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency  
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., October 19, 2006, and may continue at 8:30 a.m., October 20, 2006. This item may not be considered until October 20, 2006. Please consult the agenda for the meeting, which will be available at least 10 days before October 19, 2006, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at 916-323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at 916-323-7053.

### **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW**

**Sections Affected:** Proposed amendments to title 13, California Code of Regulations, sections 2023.1 (Fleet Rule for Transit Agencies – Urban Bus Requirements), Transit Fleet Requirements), 2023.3 (Fleet Rule for Transit Agencies – Zero-Emission Bus Requirements), and 2023.4 (Reporting Requirements for Transit Agencies).

**Background:** In February 2000, the Board confirmed its continued commitment toward improving emissions from public transportation by establishing a new fleet rule for transit agencies and more stringent emission standards for new urban bus engines and vehicles. Under the fleet rule, each transit agency was required to select a compliance

path – either the “diesel” path or the “alternative fuel” path. The regulations also included requirements regarding ZBuses, with the goal of developing zero emission transit fleets. Zero emission technologies include battery electric buses, electric trolley buses with overhead twin wire power supply, and hydrogen fuel cell buses. A zero emission bus is defined as producing zero exhaust emissions of any criteria or precursor pollutant under any and all possible operational modes and climates. The ZBus regulation consisted of two primary elements for large transit agencies – requirements that diesel path agencies initiate a ZBus Demonstration Project and a requirement that a minimum percentage of buses purchased or leased be ZBuses starting in the 2008 model year.

Under the initial regulation, transit agencies that were on the diesel path and had more than 200 urban transit buses on January 31, 2001, were required to implement a ZBus Demonstration Project. As many as three agencies could team up to share costs and resources. The buses were to begin revenue service no later than July 1, 2003, and remain in revenue service for a minimum duration of 12 calendar months. The agencies would then submit a written report on the demonstration project to the ARB’s Executive Officer no later than January 31, 2005. Five transit agencies met the criteria for having to implement a ZBus Demonstration Project.

Progress on the initial demonstration projects was mixed. Four of the five agencies selected fuel cell powered buses as the technology most likely to cost-effectively meet the required performance standards and emission requirements in the long term. At the time the regulation was developed, information available to staff indicated that fuel cells would be deployed in buses before light-duty vehicles. This was due to the buses’ ability to handle larger size and weight fuel cells. As it turned out, fuel cell and vehicle manufacturers switched their focus towards developing light-duty fuel cell applications.

In June 2004, the staff brought proposed amendments to the demonstration project requirements to the Board. After reviewing the status of technology and meeting with bus manufacturers and transit agencies, staff concluded that an adequate number of fuel cell buses were not available. The Board amended the demonstration project requirements by reducing the number of buses required to three per demonstration project, instead of three per transit agency. This brought the cost of the demonstration project back to that projected in the original rulemaking. The Board also delayed the date the demonstration project buses were to be in operation to the end of February 2006.

The originally-adopted purchase requirements remain in effect. Large transit agencies (those with more than 200 buses) on either fuel path are required to implement the ZBus purchase component of the program. For transit agencies on the diesel fuel path, a minimum 15 percent of purchase and lease agreements, when aggregated annually, for 2008 through 2015 model year urban buses must be ZBuses. For transit agencies on the alternative fuel path, the 15 percent ZBus acquisition requirement starts with model year 2010 and runs through model year 2015. Transit agencies on the diesel path must submit a compliance plan by January 2007 and transit agencies on the

alternative fuel path must submit a compliance plan by January 2009. A transit agency introducing a ZBus earlier than required will earn credits that may be used in meeting the overall acquisition requirements.

**The Proposed Amendments:** As the date for implementation of the purchase requirement for the ZBus regulation approaches, staff's assessment of technology readiness and the cost of implementation indicates that further amendments of the regulation are necessary. The proposed amendments include a delay of the ZBus purchase requirement and addition of an Advanced Demonstration Project element. They also revise other regulatory provisions to conform with and clarify the proposed amendments.

Staff is proposing that the start of the purchase requirement be postponed by three years for transit agencies on the diesel path, so that it would start with the 2011 model year. For transit agencies on the alternative fuel path, the delay would be one or two years – to the 2011 or 2012 model years – with the two-year delay applicable to alternative fuel path transit agencies choosing to participate in the Advanced Demonstration Program requirement described below. Since the purchase requirement will be delayed, staff proposes that the purchase requirement be extended through model year 2026 for transit agencies in either fuel path.

To provide performance goals and production targets for manufacturers and confidence to transit agencies, staff is proposing a provision under which no later than June 30, 2009, the Executive Officer is to evaluate the purchase cost, the fuel cell durability or warranty and reliability. The Executive Officer would be directed to reduce the percentage purchase requirement for a specified model year if specified criteria are not met. The Executive Officer would repeat this process annually.

To ensure continued development of ZBus technology and offset some of the emission losses, staff is proposing a new Advanced Demonstration Project element. Participation would be mandatory for transit agencies on the diesel path and optional for those on the alternative path. The start date of the Advanced Demonstration Project would depend on the fueling path of the transit agency: diesel path agencies to start January 1, 2009, and the alternative fuel path agencies to begin on January 1, 2010. The Advanced Demonstration Project would provide valuable information on the integration of zero emission buses within the regular fleet.

A single transit agency conducting an Advanced Demonstration Project would have to purchase a minimum of six ZBuses, which would need to be in revenue service as of January 1, 2009. An alternative fuel path transit agency could meet up to half of its ZBus minimum with near zero emission buses at a 3 to 1 ratio. Instead of a single transit agency program, agencies may join together to conduct a multi-transit agency Advanced Demonstration Project. The multi-transit agency demonstration requires a minimum of twelve buses overall, with each agency purchasing a minimum of three ZBuses. For example, a demonstration with five transit agencies participating would require 15 ZBuses, since each transit agency needs to purchase a minimum of three

buses. The near zero emission mechanism would be available for alternative fuel path transit agencies.

### **COMPARABLE FEDERAL REGULATIONS**

Currently there are no federal emission standards or requirements for zero-emission or near zero emission buses.

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

The Board staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulation, which includes a summary of the economic and environmental impacts of the proposal. The ISOR is entitled: "Staff Report: Initial Statement of Reasons: Proposed Amendments to the Zero Emission Bus Regulation."

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 website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, California 95814, or by calling (916) 322-2990 at least 45 days prior to the scheduled hearing October 19, 2006.

Upon its completion after the Board hearing, 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 website listed below.

Inquiries concerning the substance of the proposed regulation may be directed to Ms. Lesley Crowell, Air Pollution Engineer, by email at [lcrowell@arb.ca.gov](mailto:lcrowell@arb.ca.gov), or by phone at (916) 323-2913, or to Mr. Gerhard Achteлик, Manager, ZEV Infrastructure Section, by email at [gachteli@arb.ca.gov](mailto:gachteli@arb.ca.gov) or by phone at (916) 323-8973.

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Ms. Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Ms. Alexa Malik, Regulations Coordinator, at (916) 322-4011. 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/zbus06/zbus06.htm](http://www.arb.ca.gov/regact/zbus06/zbus06.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 will not create costs or savings to any state agency or in federal funding to the state, costs or mandate to any 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 savings to state agencies. The regulatory proposal directly impacts local agencies that operate transit fleets with more than 200 urban buses. Staff projects an estimated combined cost savings to these transit agencies of approximately \$59 million over the four year period beginning January 2008. Extension of the purchase requirement to cover 2016-2026 is expected to result in a combined cost increase to transit agencies of approximately \$32-58 million annually over that 11 year period, relative to no zero emission buses being purchased, but cost estimates that far in the future are necessarily speculative. The cost estimates are not indicative of the actual direct cost to transit agencies because the agencies typically receive federal and regional funds for the acquisition of buses and implementing alternative fuel infrastructure.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. Any business involved in the production or use of zero emission buses potentially would be indirectly affected by the proposed amendments. Those potentially affected are manufacturers that supply components for fuel cells, batteries, integration systems, chassis, and distributors and retailers that sell such equipment. Most of these manufacturers are located outside of California. The regulation directly impacts transit agencies that operate 200 or more urban buses.

The Executive Officer has made an initial determination that the proposed regulatory action will 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 will 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 will not affect small businesses because the modifications are discretionary and do not affect any small businesses.

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

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 relating to this matter orally or in writing at the hearing, and in writing or by email before the hearing. To be considered by the Board, written submissions not physically submitted at the hearing must be received **no later than 12:00 noon, October 18, 2006**, and addressed 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

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 that authority granted in Health and Safety Code sections 39600, 39601, 39659, 39667, 43013, 43018, 43100, 43101, 43104, and 43806. This action is proposed to implement, interpret and make specific sections 39002, 39003, 39017, 39018, 39033, 39500, 39650, 39667, 39700, 39701, 40000, 41510, 43000, 43000.5, 43009, 43013, 43018, 43102, 43701(b), 43801, 43806 of the Health and Safety Code, and section 233 and 28114 of the 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 approve 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, 1<sup>st</sup> Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon  
Executive Officer

Date: August 22, 2006