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October 16, 2006

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Attention: Catherine Witherspoon  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

RE: Comments on Proposed Amendments to Zero Emission Bus Regulations

Dear Ms. ~~Witherspoon~~ *Witherspoon*:

I appreciate the opportunity to comment on the proposed amendments to the California Air Resources Board (CARB) Zero Emission Bus (ZEB) regulations. Reducing bus emissions is a major priority for the members of the Bay Area Zero Emission Bus Working Group, which includes the Metropolitan Transportation Commission, the metropolitan planning organization for the nine-county San Francisco Bay Area, the region's five largest bus transit operators, and the Bay Area Air Quality Management District.

We remain committed to working in partnership with CARB to improve air quality through the implementation of zero emission buses. We appreciate CARB staff's recognition that the existing ZEB regulations need to be amended, and your efforts to address our concerns. In general, we are supportive of the published draft revisions to ZEB regulations. However, we remain concerned about the potential costs of implementing the ZEB purchase requirement and the advanced demonstration. Without dedicated funding, the high cost of purchasing ZEBs and related infrastructure could compromise our ability to rehabilitate and maintain the region's transit capital plant. We are also concerned that ZEB technology, while promising, is not yet ready for large scale application, and operators may be required to purchase buses that do not provide the durability and reliability required for daily public transportation services.

We appreciate that CARB staff has acknowledged these issues, and support the proposal for Executive Officer discretion to reduce the 15 percent purchase requirement based on a sliding scale if ZEB cost, durability and reliability thresholds are not met. In order to ensure that the thresholds provide adequate safeguards for the transit operators, while still promoting the development of commercially viable ZEB technology, we suggest the following amendments to the proposed regulations:

- The cost threshold should be \$1.0 million, including the initial capital cost of the ZEB purchase, and the cost of one mid-life replacement of propulsion system components, including fuel cells and batteries. This would give manufacturers a clear target, and provides a safety net for transit properties that are concerned about the high costs of fuel cell replacements.

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- The durability threshold should be a fuel cell system warranty of 25,000 hours, which would cover the fuel cell system up to the point of its midlife replacement, thereby requiring just two fuel cells over the useful life of the bus.
- The proposed availability threshold should be separated from the reliability threshold and treated as a fourth threshold, or eliminated.
- We support the proposed reliability threshold of 10,000 miles between propulsion system-related service calls, which is comparable to diesel buses.

We are generally supportive of the proposed advanced demonstration requirements. ZEBs purchased for the initial demonstration projects should count toward the advanced demonstration requirement if the initial ZEBs are operated throughout advanced demonstration period, and if they are upgraded to current technology. This would give the Bay Area operators credit for the substantial investments they have made in the initial demonstration, and would ensure that the advanced demonstration provides data on long-term durability and reliability.

We look forward to working in cooperation with CARB to promote the development and implementation of zero emission bus technology in California. Please contact MTC staff members Kate Miller (510-817-5722, [kmille@mtc.ca.gov](mailto:kmille@mtc.ca.gov)) or Glen Tepke (510-817-5781, [gtepke@mtc.ca.gov](mailto:gtepke@mtc.ca.gov)) if you have any questions or concerns about these comments.

Sincerely,



Steve Heminger  
Executive Director

SH: GT