

March 26, 2008

BY ELECTRONIC SUBMITTAL

**Ms. Mary Nichols, Chair
Mr. James Goldstene, Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814**

Re: Comments to 2008 Initial Statement of Reasons for the ZEV Program

Dear Ms. Nichols, Mr. Goldstene and Board Members:

Toyota wishes to thank you and your staff for working closely with us and other stakeholders over the past two years to explore ways to optimize the Zero Emission Vehicle (ZEV) program and to achieve its objective of accelerating advanced vehicle technologies. This letter provides a summary of our major comments to the February 8, 2008 Initial Statement of Reasons (ISOR).

I. Toyota and the ZEV Program

Toyota supports the goal of zero emissions from automobiles and the development of technologies in support of this goal. We believe, however, that the introduction of these technologies must be driven by market realities and customer preferences, and with mass-market commercialization always in mind. This is at the core of our thinking regarding advanced vehicle technology, and it is most clearly reflected in practice with our introduction and the steady growth of Toyota hybrid technology.

Over the past two years, Toyota and other automakers have spent considerable time and effort working with staff and the ARB's designated panel of experts, the ZEV Technical Review Panel, to provide a candid and confidential assessment of the state of various ZEV technologies. In addition to meetings in California, we have also hosted visits and detailed technical briefings for the Review Panel and ARB at our research and development headquarters in Japan. We have also responded to numerous follow-up requests and additional technical inquiries.

We would like to commend staff and the Technical Review Panel for their diligent efforts in evaluating the range of ZEV technologies. While we have some areas of disagreement, we believe that staff and the Review Panel's technical conclusions are generally accurate and well considered.

II. The February 2008 ISOR

a. Fuel Cell Floor

Toyota continues to make significant investments – both of manpower and funding – in fuel cell technology development. Our fuel cell technology, which also incorporates existing elements of Toyota hybrid technology, continues to show progress and great promise. Formidable challenges still remain, however, including cost, durability and fuel storage. Toyota is committed, however, to continuing to do its part in overcoming these hurdles. We would also note that this is an area of intense global competition among automakers: fuel cell technology development, though certainly supported by the ZEV program, will no doubt continue regardless of regulatory efforts.

The key is continuing to find ways for government and industry to work together to optimize the timing for the introduction of fuel cell vehicles at commercial volumes. We will refine the vehicles and the technology, but with fuel cell vehicles, our industry is also dependent on the parallel development of infrastructure. From a pure R&D perspective, Toyota only requires several tens of vehicles per development phase. Infrastructure must develop in parallel; the number, location and access of fueling stations will also prove critical, as will streamlining of permitting and codes and standards.

Toyota Position: The proposed fuel cell floor remains too high from the perspective of the state of the technology, costs and infrastructure. These requirements could divert resources away from the task of resolving technical challenges and coordinating vehicle development with infrastructure availability.

b. A Critical, Parallel Path: “Enhanced AT-PZEV”

As we work diligently on a hydrogen future, Toyota supports staff’s efforts to explore ways to incentivize other ZEV technologies in addition to fuel cell vehicles. In particular, Toyota believes that the consideration of plug-in hybrid electric vehicles (PHEVs) can provide meaningful flexibility to the ZEV program. Toyota agrees with staff’s assessment that PHEVs are “an even more significant technology bridge to ZEVs than conventional AT PZEVs.”

We also agree with staff and the Panel, however, that this is “not an easy offset option,” and entails “an entirely new product that has not been demonstrated.” Significant hurdles, in particular the battery, still exist and we have concerns that the large numbers proposed for Phase III may force production before vehicles and the market are ready.

Toyota Position: Toyota agrees with staff that PHEVs could serve an important role in the next phases of the ZEV program. Because of technical and commercial uncertainties, however, we believe PHEVs should be further incentivized. Early introduction credits for PHEVs should therefore ideally be increased above the staff proposal in the ISOR to accelerate their demonstration and early commercialization.

c. Optimizing PHEVs

As noted, Toyota sees great promise with PHEVs, but there are a number of critical questions that must be answered before we can arrive at an optimal platform for mass commercialization. How often will consumers charge their vehicles? How much will consumers be willing to pay to plug-in? And perhaps the most critical question is “What is the optimal balance among cost, utility and charge time for potential PHEV customers?”

Toyota has not reached any conclusions about these questions, but one thing is clear: it is best to maximize flexibility in making these decisions. For this reason, Toyota strongly supports the staff’s proposal to fix the “floor” for “Equivalent All Electric Range” (EAER) at no higher than 10 miles.

Toyota Position: Toyota agrees with staff that the EAER floor should be set no higher than 10 miles so as not to overly restrict design choices for PHEVs and to allow automakers to select the optimal balance of cost, utility, charge time and other factors.

d. Integration with Transportation Systems

Since 2001, Toyota has been a partner in UC Irvine’s innovative “ZEVNet” program of car sharing at the Irvine Transportation Center, which has pioneered the integration of ZEV program vehicles into the broader transportation picture. Through this program, riders have used our vehicles to connect with mass transit and their workplaces. This has not only introduced the concept of car sharing to these individuals and companies but has also put many potential consumers of advanced technologies behind the wheel of these vehicles.

Toyota Position: Toyota strongly supports the staff’s proposal to extend the availability of transportation system credits, but also to continue to include other advanced technologies in this “mix” beyond ZEVs alone. These integrated systems could also serve as an excellent avenue for other ZEV technologies, particularly PHEVs.

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Finally, we would like to encourage the Board and staff to look to making technical and commercial assessments of ZEV technologies a more regular and ongoing exercise. Since the progress of the current slate of ZEV technologies is subject to many factors, and new technologies will be explored and introduced, Toyota believes it is essential to “continuously improve” the ZEV program.

Thank you for the opportunity to provide these comments, and for your willingness to consider our views. Toyota remains committed to working with the ARB to improve and optimize the ZEV program to ensure that ZEV technologies are brought to mass market reality in the fastest, most effective and successful way.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Kazuo Abe', written in a cursive style.

Kazuo Abe
Vice President, Technical and Regulatory Affairs