State of California
Environmental Protection Agency
AIR RESOURCES BOARD

Supplement to the
Final Statement of Reasons for Rulemaking,
Including Summary of Comments and Agency Responses

PROPOSED AMENDMENTS TO THE CALIFORNIA ZERO EMISSION VEHICLE PROGRAM REGULATIONS

Public Hearing Date: January 25, 2001
Agenda Item No.: 01-01-1

Supplement prepared January 16, 2002

Additional Public Comments and Agency Responses

Comments Submitted by the Regulation Review Unit, California Trade and Commerce Agency Prior to the January 25, 2001 Hearing

Supp. 1. Comment. The regulations would result in numerous major cost impacts on automobile manufacturers, and ultimately auto dealers and consumers. Manufacturers must first invest in research and development for each type of ZEV they plan to produce. Next, manufacturers would incur significant costs to manufacturer 9,300 ZEVs or 94,500 PZEVs. The total cost of manufacturing the vehicles is unknown, but would be significantly more than the cost of manufacturing the same number of traditional fuel vehicles. The manufacturers would likely need to subsidize the cost of the vehicles to the consumer, to make the purchase price comparable to traditional fuel vehicles. The Staff Report states that the difference in cost between ZEVs and traditional fuel vehicles could be up to $20,000 per vehicle.

Manufacturers would need to provide trained maintenance personnel to maintain and repair ZEVs in enough locations to accommodate the mandated numbers of vehicles. Manufacturers would need to advertise the ZEVs/PZEVS to interest consumers in purchasing these relatively new products. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The commenter emphasizes the high near-term cost of producing and marketing the vehicles needed to comply with the ZEV regulation. The Board recognizes the difficulty faced by manufacturers in the near term. That is why the proposed amendments that are the subject of this rulemaking significantly reduce the burden on manufacturers in the early years. It is important to bear in mind that this rulemaking does not establish the basic ZEV requirement, but rather amends requirements that have been preexisting. Those amendments are on the whole intended to mitigate the cost impacts identified by the commenter.

Supp. 2. Comment. Manufacturers would also be responsible for placing the vehicles. The proposed regulations allow the manufacturer to claim full credit for ZEVs produced only when a vehicle is “placed”. This provision may cause automobile manufacturers to require auto dealers to accept ZEV/PZEV vehicles for sale even if the market for such vehicles does not develop. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. Because PZEVs are functionally equivalent to conventional vehicles, there is no need to develop a market for such vehicles. From the customer standpoint, PZEVs are identical to conventional vehicles. If anything, the “green” image and extended emission control system warranty (150,000 rather than 70,000 miles) will attract additional customers to PZEVs.

The requirement that ZEVs be placed in service in order to earn the maximum credit is intended to assure that vehicles are used rather than stored on a manufacturer or dealer lot. The latter approach provides no air quality benefit and does nothing to build a market or hasten vehicle commercialization.

Supp. 3. Comment. Manufacturers would be allowed to provide extended warranty coverage for batteries or fuel cell stacks for additional ZEV credits; however, such coverage would represent an additional cost impact. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The extended warranty coverage is an option available to manufacturers, rather than a requirement. Thus they would pursue this option if it reduced their overall compliance cost, but would not need to do so if their cost is increased.

Supp. 4. Comment. If the market does not develop as projected in the proposed regulations, automobile manufacturers would sustain losses from unsold ZEV inventories. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. Due to the increased credit for vehicle placement noted above, staff expects that all vehicles produced will be leased or sold. Thus it is unlikely that there will be any significant level of unsold ZEV inventory.

Supp. 5. Comment. The ARB Staff Report indicates that the market for ZEVs is limited. Despite these findings, the Regulation Review Unit could not find any evidence that the ARB completed any market studies to more accurately assess the likelihood of ZEV acceptance in the market. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The ARB did not undertake or commission any market studies as part of the 2000 Biennial Review of the ZEV program or this rulemaking. Several such studies are part of the record, however, including *Future EV Pricing*, Green Car

Institute, 2001, and *The Household Market for Electric Vehicles: Testing the Hybrid Household Hypothesis -- A Reflexively Designed Survey of New-car-buying, Multi-Vehicle California Households*, Turrentine, Thomas, K. Kurani and D. Sperling, Institute of Transportation Studies, University of California, Davis, 1995.

Supp. 6. Comment. ZEVs and PZEVs cost much more to manufacture than traditional fuel vehicles. If the manufacturers pass all of the increased cost on to the consumer, the vehicles would be priced far above any comparable vehicles on the market. The ARB Staff Report states that ZEV costs could be as much as $20,000 more than the cost of comparable traditional fuel vehicles, with batteries the most expensive component of the vehicles. The Staff Report further states on page 6 that "*Although volume production will help, a breakthrough is needed to achieve truly affordable NiMH (battery) packs*". (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The State of California does provide a number of incentives to encourage consumer interest in zero emission vehicles. Incentives of up to $9,000 per vehicle are available under the ZEV Incentive Program, to reduce the cost of leasing or purchasing the vehicle. Single-occupancy ZEVs are eligible to use car-pool lanes. Free parking for ZEVs is provided in a number of jurisdictions. All of these measures will help build the market for ZEVs. The Board recognizes that in the near term manufacturers will not be able to recover the full costs of full function ZEVs from the cost of ZEVs alone, and will have to recover those costs from the prices of other vehicles. The regulation is nevertheless necessary and appropriate to achieve a future of zero and near zero transportation technologies.

Supp. 7. Comment. ZEVs have limited ranges and require long time frames to recharge their batteries. Many of these vehicles are small and do not have comparable capacity to carry passengers and cargo as traditional fuel vehicles. The requirement to recharge the vehicle could deter consumers from purchasing ZEVs for long-distance travel. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. We agree that today's battery electric vehicles have performance limitations relative to conventional vehicles. Their capabilities nevertheless are more than adequate for a number of applications, including fleet vehicles with defined routes (e.g. Postal Service vehicles, utility vehicles), commuter vehicles, shared car programs, Neighborhood Electric Vehicles, or serving as one car in a multi-car household. Thus even though ZEVs are not candidates for long distance travel, many other possible uses remain.

As technology improves, the number of possible applications will expand. Fuel cell vehicles, for example, can be quickly refueled and therefore do not face range limitations.

Supp. 8. Comment. There is no proposed mandate to ensure sufficient infrastructure to support the numbers of ZEVs mandated for manufacture and placement. The ARB is taking steps to develop infrastructure. However, with no specific timetable or requirements to provide the infrastructure, consumers have no guarantee that there will be re-charging stations available for the mandated numbers of ZEVs. A lack of stations, or congestion at stations, could deter potential ZEV purchasers. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. As noted above, many possible applications do not require public charging infrastructure. For those that do, ARB has established an Infrastructure Working Group to address the full range of issues associated with the establishment and maintenance of charging infrastructure.

Supp. 9. Comment. The auto market has been strong in recent years, yet ZEV sales have not reached the goals set in previous ZEV regulations. Any slowdown in auto demand will make greatly expanded ZEV sales even more difficult to achieve. For example, the *UCLA Anderson Forecast* projects auto and light truck sales nationwide to fall from about 17 million units in 1999 and 2000, to about 14 million units in 2001 and 2002. The Staff Report states on page 2 that "*The 2003 ZEV mandate represents a ten-fold increase in the number of actual battery EVs on the road*". It would be difficult for the ZEV market to grow by ten times in two years, when the overall demand for autos is projected to slow significantly. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The ten-fold increase projected for 2003 in the Staff Report and cited by the commenter refers to the number of vehicles that would have been required under the original regulation, prior to the modifications adopted by the Board in January 2001. The Board recognized that such an increase would be difficult to achieve, and therefore adopted modifications that significantly reduce the 2003 manufacturer obligation.

Supp. 10. Comment. The recent disruptions in the California electricity market can be expected to add a new, yet unknown, effect on current and future electric vehicles. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The ZEV requirement does not take effect until 2003, and the number of vehicles required in the early years is quite small. During its review of the ZEV program in January 2001 the Board proceeded on the assumption that the disruptions and shortages then being experienced in the electricity market would be resolved prior to the time that any significant number of battery electric vehicles are on the road.

Moreover, under any plausible implementation scenario the effect of battery electric vehicles on electricity demand is negligible. As part of the Biennial Review staff prepared estimates of ZEV electricity demand under various scenarios. One such scenario looked at "maximum ZEV" penetration (a very unlikely result, which assumes that manufacturers build only ZEVs and thus do not take advantage of the less expensive PZEV or AT PZEV options). Even under this "maximum ZEV" scenario, staff estimated that the total electricity demand for all ZEVs on the road in 2010 would be less than one half of one percent of total expected statewide energy demand for that year.

Finally, consumer surveys and utility observations note that as many as 95 percent of the state's current EV drivers charge at night while at home, taking advantage of excess overnight generating capacity and "time of use" rates. If this charging behavior continues, the minor ZEV demand stated above would not increase the peak load (which typically occurs in late afternoon) and thus would not result in any need for increased generating capacity.

Supp. 11. Comment. RRU proposes that the ARB place more specific information into the rulemaking record concerning how regulated parties are expected to accomplish the stated goals of the regulations. Such information, possibly supplemented by additional information from the automobile industry, could provide a more accurate assessment of near-term and long-term ZEV market conditions and limitations. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. The record supports the Board's findings that the modified regulation represents the most effective path towards maintaining progress towards commercialization of ZEVs while recognizing the near term constraints due to cost, lead time, and technical challenges, and that the amended ZEV regulations remain an essential component of the State's long-term air quality strategy because of the promise and ultimate necessity of zero-emission technologies. Because the regulation provides manufacturers with considerable flexibility, it is not possible to provide more specific information regarding particular compliance strategies.

Supp. 12. Comment. RRU also proposes that the ARB conduct frequent monitoring and assessment of ZEV acceptance by consumers. Such tracking could also focus on specific constraints – for example, vehicle price, functionality, or infrastructure – that may be limiting the success of the ZEV program in the marketplace. Close tracking of the situation may identify particular limitations in the market that could be targeted and addressed. (Regulation Review Unit, California Trade and Commerce Agency)

Agency Response. We concur with this suggestion. One of the primary staff activities over the near term implementation period will be exactly the sort of monitoring and assessment suggested by the commenter. To that end staff has established three separate Working Groups focusing on Incentives, Infrastructure, and Education and Outreach, and also plans to work closely with manufacturers and other interested parties on administrative issues such as the calculation, award and tracking of ZEV credits.

Identification Of Additional Persons And Entities That Made Comments Set Forth In The Final Statement Of Reasons

Comment 1. This comment was also made by approximately 29 additional individuals.

Comment 4. This comment was also made by the cities of San Francisco, Santa Cruz, Brentwood, Beaumont, San Jacinto, Chino Hills, Grand Terrace, Redlands, Cahahy, Los Angeles and Temecula; by Assembly members Strom-Martin, Liu, Corbett, Jackson, Migden, Wayne, Steinberg, Romero, Lowenthal and Aroner; by State Senators Burton, Chesbro, Perata, Sher and Figueroa; and by the Commonwealth of Massachusetts, PG&E, 9 organizations and about 20 other individuals.

Comment 5. This comment was also made by approximately 5 additional individuals.

Comment 108. This comment was also make by Assembly members McLeod, Havice, Oropeza, and Cedillo, and UAW LETC.

Comment 110. This comment was also made by the League of California Cities, the San Gabriel Valley Council of Governments, and the city of Lynwood.

Comment 119. This comment was also made by the California Motor Car Dealers Association, 11 car or truck dealers, the Green Lining Institute, and two individuals.

Comment 121. This comment was also made by the California Manufacturers and Technology Association and one individual.

Comment 124. This comment was also made by the California Manufacturers and Technology Association.

Comment 125. This comment was also made by the California Manufacturers and Technology Association and one individual.