

State of California
AIR RESOURCES BOARD

Resolution 00-29

September 7, 2000

Agenda Item No.: 00-8-3

WHEREAS, the California State Implementation Plan (SIP) for ozone, adopted by the Air Resources Board (the ARB or Board) in November 1994, establishes the state strategy for attaining the ambient air quality standard for ozone in all areas of the state by 2010 as required by federal law; this plan includes, as part of the mobile source element developed by the ARB, the California Low-Emission Vehicle (LEV) program, which was approved by the Board in 1990 to provide significant reductions of ozone precursor pollutant emissions from passenger cars and light-duty trucks;

WHEREAS, the California LEV program includes a zero-emission vehicle (ZEV) element under which at least 10 percent of the passenger cars and lightest light-duty trucks produced by a large or intermediate-volume manufacturer and delivered for sale in California must be ZEVs, beginning in model year 2003;

WHEREAS, large-volume manufacturers are permitted to satisfy up to 6 percent of the 10 percent ZEV requirement with larger numbers of vehicles reflecting near-zero emitting technologies, and intermediate volume manufacturers may meet the entire 10% obligation via that route; the ZEV regulation also includes a number of credit generation and trading components that provide significant flexibility in meeting the requirements;

WHEREAS, with respect to the environment, ZEVs are the “gold standard” for vehicular air pollution control as they reduce both criteria and toxic pollutant emissions to the maximum feasible levels; high-efficiency ZEVs and hybrid electric near-ZEVs also cut emissions of carbon dioxide and other greenhouse gases;

WHEREAS, in Resolution 90-58 approving adoption of the regulations creating the California LEV program, the Board directed the staff to consult with the regulated industry and other interested parties and to prepare a report regarding the status of the implementation of the LEV program – including the ZEV requirement – for submission to Board at least every two years;

WHEREAS, in March and May of 2000, ARB staff held public workshops to solicit information regarding the status and issues related to the ZEV program such as vehicle and battery technology, infrastructure, marketability, cost, and environmental benefits;

WHEREAS, the ARB staff has evaluated the vehicle technologies and concluded that there is no technological barrier to building battery powered ZEVs but issues of cost and consumer acceptance remain; with regard to near-zero emission vehicles, technology exists which allows vehicles to achieve the required level of performance;

WHEREAS, to obtain the best available information on battery advances, costs and future trends, the ARB contracted with a Battery Panel composed of three outside experts; the Panel concluded that nickel metal hydride (NiMH) batteries are the most promising advanced technology – having both high performance and the longest useful life – but also that nickel metal-hydride battery costs are high and that mass production and further technological development is needed to reduce those costs;

WHEREAS, unlike conventional vehicles, battery powered ZEVs do not require an extensive “fueling” infrastructure since most customers will recharge at home or work, but the availability of public charging stations is nonetheless extremely important because of its influence on consumer confidence and acceptance; the public infrastructure for electric vehicles continues to expand in California, and there currently are about 400 public charging stations statewide with approximately 700 separate chargers;

WHEREAS, one issue affecting public charging infrastructure is the absence of uniform charging standards or equipment; a little more than half of all chargers are inductive, with the rest conductive;

WHEREAS, there is significant disagreement over the extent of market demand for electric vehicles; manufacturers assert that the lack of leases during the first years when vehicles were available means that the market can only absorb a few hundred ZEVs per year, while electric vehicle advocates point to current waiting lists as evidence of strong customer interest and pent-up demand; the entire market is new and product availability has been constrained to a degree that true consumer interest is exceedingly difficult to gauge;

WHEREAS, studies and surveys indicate that the primary factors affecting EV market demand are range, recharge time and competitive pricing; other important factors include public infrastructure, additional vehicle platforms, public education, and making electric vehicles available to retail customers;

WHEREAS, staff’s cost analysis concludes that both the initial and lifecycle costs of battery electric vehicles will significantly exceed those of comparable conventional vehicles in the 2003 timeframe; however, with volume production and improved technology, battery electric vehicles could ultimately become competitive on a lifecycle cost basis;

WHEREAS, the fleet-wide emissions benefits of ZEV introduction will be modest in the near term due to the relatively small penetration of ZEVs and concurrent improvements in conventional vehicles; however, on a per vehicle basis, ZEVs are significantly cleaner than even the cleanest gasoline-powered alternative and will steadily reduce emissions as their fleet penetration grows, and more importantly, ZEVs have no risk of in-use emission control system failures; and

WHEREAS, ZEVs can make significant positive contributions in other environmental areas including water and hazardous waste reduction;

WHEREAS, vehicles powered by grid electricity increase the fuel diversity of California's transportation energy system; this reduces the State's dependence on foreign oil and contributes to greater stability in the overall transportation fuels market.

NOW, THEREFORE, BE IT RESOLVED that the Board finds the ZEV program to be an essential component of the State's long-term air quality strategy.

BE IT FURTHER RESOLVED that the basic ZEV requirements be retained and implemented in California.

BE IT FURTHER RESOLVED that the Board finds that the ZEV program has brought about significant technological advances through automakers' efforts to develop electric vehicles and interest in developing alternatives to electric vehicles.

BE IT FURTHER RESOLVED that the Board finds that the ZEV program is responsible for a renewed national and international focus on electric vehicles and related clean vehicle technologies.

BE IT FURTHER RESOLVED that the Board directs the staff to develop and propose regulatory modifications and other steps that address the challenges associated with the successful long- term implementation of the ZEV program – in particular the need for product availability and market stability, the need to greatly enhance public awareness and education of the attributes and benefits of ZEV technologies, and the need to reduce or mitigate the high initial costs of vehicles and batteries in low-volume production – and that result in a sustainable market for ZEVs.

BE IT FURTHER RESOLVED that such proposed regulatory modifications shall be brought to the Board as quickly as possible.

I hereby certify that the above is a true and correct copy of Resolution 00-29, as adopted by the Air Resources Board.

Marie Kavan, Clerk of the Board