

## UPDATED INFORMATIVE DIGEST

### **Adoption of Amendments to the California Zero-Emission Vehicle Regulations: Treatment of Majority Owned Small and Intermediate Volume Manufacturers and Standardization of Charging Systems for the Zero Emission Vehicle Program**

**Sections Affected:** Amendments to title 13, California Code of Regulations (CCR), sections 1900(b) and 1962(b), and adoption of title 13, CCR, section 1962.1, which incorporates by reference, *Society of Automotive Engineers (SAE) Surface Vehicle Recommended Practice, J1772 REV NOV 2001, SAE Electric Vehicle Conductive Charge Coupler.*

### **Background**

The California zero-emission vehicle (ZEV) regulations were originally adopted by the Air Resources Board (ARB or Board) in 1990, as part of the first California low-emission vehicle (LEV I) regulations. The ZEV program is an integral part of California's mobile source control efforts, and is intended to encourage the development of advanced technologies that will secure increasing air quality benefits for California now and into the future. The ZEV regulations nominally require that, starting with the 2003 model year, 10 percent of the passenger cars and lightest light-duty trucks produced and delivered for sale in California by all but small volume manufacturers be ZEVs – vehicles with no emissions. However, there are mechanisms under which a manufacturer may satisfy part – or in some cases all – of its ZEV obligation with partial ZEV allowances generated from vehicles with extremely low emissions.

At a January 25, 2001 public hearing, the Board approved major changes to the ZEV regulations that will significantly reduce the number of ZEVs required during the near term. These amendments, which are being reviewed by the Office of Administrative Law as of the beginning of May 2002, will also result in an increase in the number of ZEVs, including battery electric vehicles, over time. The Board did not resolve all the issues related to the success of the ZEV program at the January 2001 hearing. The Board directed staff to investigate two issues and come back with recommendations in June 2001. The first issue pertained to the treatment of majority owned small or intermediate volume manufacturers, for purposes of delineating ZEV requirements. The second issue was the standardization of charging systems for battery electric vehicles.

Following a June 28, 2001 public hearing, the Board has now adopted amendments that make two additional changes to the California ZEV regulations: (1) requiring aggregation of the vehicle sales volumes of two manufacturers in determining whether either manufacturer is a small or intermediate-volume manufacturer subject to less stringent ZEV requirements, whenever one has a majority ownership in the other, and (2) requiring a single charging system – on-board conductive – for battery electric vehicles and some hybrid electric vehicles, starting with the 2006 model year.

## **Amendments Regarding the Treatment of Majority Owned Small or Intermediate Volume Manufacturers**

Under the ZEV regulation, a small-volume manufacturer is exempt from all ZEV percentage requirements, although it may generate ZEV credits if it chooses to do so. "Small-volume manufacturer" is defined as a manufacturer with annual California sales of less than 4,500 new passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles and heavy-duty engines based on the average number of vehicles sold for the three previous consecutive years.

An intermediate-volume manufacturer is permitted to meet its percentage ZEV requirement with up to 100 percent partial ZEV allowance vehicles or credits generated by such vehicles. For the 2003 and subsequent model years, "intermediate-volume manufacturer" has been defined as a manufacturer with California sales between 4,501 and 35,000 light- and medium-duty vehicles based on the average number of vehicles sold for the three previous consecutive years. The ZEV amendments approved in January 2001 will increase the cut-off for the maximum number of vehicles to 60,000 per year.

For purposes of the ZEV requirements, the definitions of small and intermediate-volume manufacturers do not address the effect of partial or full ownership of one manufacturer by another. In the past, the ARB has not aggregated production volumes in such situations as long as the two manufacturers were operationally independent, although application of this criterion has not always been straightforward. In recent years, there has been a good deal of consolidation among vehicle manufacturers, with several previously-independent manufacturers becoming wholly or majority owned by others. For instance, Ford wholly owns Volvo and Jaguar, and General Motors wholly owns Saab.

The new amendments establish aggregation requirements when determining whether a manufacturer will be treated as a small or intermediate-volume manufacturer for purposes of the ZEV requirements. The California sales of two or more manufacturers are to be aggregated if one has a greater than 50 percent equity ownership in the other. There will also be aggregation where both manufacturers are greater than 50 percent owned by a third party. The new aggregation requirements will become applicable in the 2003 model year, since that is the first model year in which the percentage ZEV requirements apply. A manufacturer who ceases to be a small or intermediate volume manufacturer in the 2003 model year due to the new aggregation requirements in majority ownership situations will generally become subject to the stepped up requirements in the 2006 model year – four years after the 2002 model year. However, where the new aggregation requirements trigger aggregation in a situation where majority ownership in a manufacturer occurred prior to the 2001 model year, the manufacturer must comply with the stepped up ZEV requirements in the 2010 model year.

## **Standardization of Charging Systems**

The current number of electric vehicles (EVs) in California in 2001 was just over 2,000, with the number expected to rise to an estimated 100,000 by the year 2010. With this large expansion of EVs, the Board has adopted a new regulation requiring a single charging system designed to ensure a smooth progression towards the commercialization of EVs. Now is the ideal time to select a single charging system while vehicle volumes are low.

The new regulation requires that an on-board conductive charging system be used on most battery electric vehicles and some hybrid electric vehicles, starting with the 2006 model year. Neighborhood electric vehicles, and other battery electric vehicles only capable of Level 1 charging, will not be subject to the requirements. Similarly, the requirements will not apply to hybrid electric vehicles that are only capable of Level 1 charging, or are not grid-connect. Any 2006 or subsequent model year vehicle subject to the requirements will have to be equipped with a conductive charger port that meets all of the specifications in the Society of Automotive Engineers (SAE) Surface Vehicle Recommended Practice J1772, REV NOV 2001, "SAE Electric Vehicle Conductive Charge Coupler."

The lack of a single charging system contributes to the public perception that the EV market is not yet mature and represents a significant barrier to marketing EVs to the public. Public charging and workplace charging increases the convenience and enhances consumer confidence in driving EVs. The current public charging system has caused consumers confusion because different public charging sites have different charging systems. A standardized EV charging system will greatly enhance the access and utility of the public charging system by creating a situation analogous to the refueling of gasoline vehicles in which all gasoline pumps and nozzles are standardized for all vehicles. A standardized charging system will ensure that every EV plug will fit every EV.