General Motors

Public Policy Center

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Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, California 95814

General Motors provides the following comments on the Air Resources Board's Notice of Public Availability of Modified Text ("15-Day Notice") from its March 27, 2008 public hearing to consider adoption of the 2008 amendments to the California zero emission vehicle regulation. In addition to these comments, we also support the comments submitted by the large volume manufacturers (LVMs), of which GM is a member.

GM has two primary areas of comment: (1) Establishment of the new Type G category in Enhanced AT PZEV; and (2) the 2009-2011 introduction phase-in multiplier for PHEVs. GM also has identified some clarifications/corrections not identified in the LVM comments which are discussed at the end of these comments.

Establishment of the New Type G Category In Enhanced AT PZEV

GM strongly supports the establishment of a new Type G category with an increased advanced componentry allowance based on a vehicle that can run the high-speed/high-load US06 cycle in electric mode. This will accommodate extended range electric vehicles (EREVs) such as the Chevrolet Volt. An extended range electric vehicle is a full capability electric vehicle that has zero tailpipe emissions under all real world driving conditions, including high-speed/high-load driving, as long as there is energy available in the battery (approximately the first 40 miles of driving in the case of the Volt). Once the energy in the battery is depleted to a specified minimum charge level, a range extender engine turns on and acts as a generator to provide energy to the battery that in turn is used by the electric drive to propel the vehicle and extend its range. As such, an EREV is much different in terms of its design, extent of electrification, and real-world emissions performance compared to a PHEV. A PHEV relies on power from both the internal combustion engine and the electric drive to propel the vehicle. Even a PHEV that qualifies as Type F by having the capability to run the UDDS city cycle in electric mode relies on power from both the engine and electric drive for speeds and accelerations encountered in real world driving, and therefore has tailpipe emissions each time the engine turns on (including cold start emissions the first time the engine turns on). Therefore, the Staff's proposed Type G category is fully supportable in terms of emissions performance (including fewer colds starts) and increased use of a ZEV fuel, and in terms of acknowledging technology that is much more like a pure ZEV than a PHEV is.

2009-2011 Introduction Phase-In Multiplier for PHEVs (including Type G)

The ARB Staff has proposed reducing the 3X phase-in multiplier for 2009-2011 model years to 1.25X and requiring that the manufacturer sell or lease for 3 years with an option for 2 additional years in order to qualify for the multiplier. GM supports keeping the 3X multiplier in place as is. This multiplier has been in the ZEV regulations since the 2003 ZEV rulemaking for vehicles that earn a zero emission VMT allowance (at least 10 miles urban all electric range). The ARB should not be making changes to the 2009-2011 ZEV regulations that adversely impact manufacturer's compliance plans at this late stage. In addition, the 3X multiplier provides far greater incentive for manufacturers to try to get PHEVs to market as quickly as possible.

General Motors Corporation

300 Renaissance Center, P.O. Box 300
Mail Code 482-C27-B76
Detroit, MI 48265-3000

The 15-Day Notice discusses two reasons for the proposed changes to the multiplier. First, the concern that it could result in excess banked credits which in turn could lead to "black-out periods" during which no or fewer PHEVs are produced. Second, that gold vehicles such as battery electric vehicles would earn less credit than PHEVs during 2009-2011.

Although GM supports leaving the 3X multiplier in place as is, and does not believe the first concern is realistic for the reasons stated in the large manufacturer comments, the following alternative is offered as a way of addressing the two concerns raised in the 15-day notice. The ARB could establish a varying multiplier based upon the category the credits are used toward, such as the following:

3X multiplier if credits are used toward the PZEV category
2X if credits are used toward the AT PZEV category
1.25X if credits are used toward the Enhanced AT PZEV category

This multiplier could be applicable to vehicles that earn a zero emission VMT allowance as well as ZEVs (except NEVs and Type 0 ZEVs), thereby ensuring that ZEVs would receive the same credit multiplier and at least as a high a total credit level as PHEVs. In addition, it would address the concern over potential blackout periods for PHEVs since the proposed credit multiplier for credits applied to the enhanced AT PZEV category is 1.25, the same as that proposed by Staff. Most importantly, it would provide manufacturers an incentive to bring more enhanced AT PZEVs and ZEVs to market sooner.

The 15-Day Notice also raises the concern that a higher multiplier based on credit usage would increase program complexities. This concern could be addressed by adding a separate category in the credit bank to ensure that these credits are accurately tracked.

Miscellaneous Clarifications and Corrections

The following are some miscellaneous clarifications and corrections not identified in the LVM comments. The regulatory sections identified are those contained in section 1962.1. Comparable changes would be needed in the emissions standards and test procedures document.

1962.1(c)(3)(A): 1st column, 3rd row of the table should be changed from "EAER > 10 miles" to "EAER >= 10 miles".
1962.1(c)(4)(B)1.: 1st sentence, the word "four" should be changed to "five" to reflect the addition of the new Type G category.
1962.1(c)(4)(B)1.: 2nd sentence "HEVs must qualify for the Zero-Emission VMT Allowance in section 1962.1(c)(3)(A)" should be deleted.

GM appreciates the opportunity to comment on the ZEV 15-Day Notice and will continue to work with the ARB in the future on this technology-forcing regulation.

Sincerely,

James S. Ehlmann

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