

BMW Group

March 19, 2008

Mr. James Goldstene
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, California 95814

Re: BMW Comments on the 2008 Proposed Amendments to the California Zero Emission Vehicle Program Regulations – Transition for Intermediate Volume Manufacturers

Dear Mr. Goldstene,

On February 8, 2008 CARB staff published its Initial Statement of Reason for the 2008 proposed amendments to the Zero Emission Vehicle Program Regulation. Under Point 3.7 of this Report Staff proposes specific modifications with respect to the transition for Intermediate Volume Manufacturers (IVM) before they become Large Volume Manufacturers (LVM) under the regulation.

At the CARB public meeting on May 24th last year BMW provided testimony in support of the Staff recommendation to review and to make possible adjustments to the IVM definition under the ZEV mandate. Although the Board rejected changes that would alter the volumes used for categorizing manufacturers, it recognizes that IVMs continue to be definitely smaller than the large manufacturers and changes to the requirements need to assure that these manufactures make an increased contribution toward the ZEV goals without backsliding with respect to their current overall positive clean air contribution in the State of California.

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BMW is currently an IVM and supports the staff proposal that would permit six additional years to ramp up vehicle technologies and volumes to the large manufacturer level. The proposal provides sufficient latitude for BMW to continue to focus on its core competence, the hydrogen ICE and allows it to develop long-term promising hydrogen vehicle powertrain and storage technology options, while at the same time requiring BMW now to make even a larger contribution toward the California's clean air goals and the development of ZEV enabling technologies.

BMW Contributions to Clean Air, Efficiency and Advanced Clean Technology:

Under its IVM status BMW has made significant investments over the years to advance clean engine technologies and taken a leadership role in introducing PZEV technology in six-cylinder engines. While improving the emissions of its products to this extremely low level BMW also invested heavily in technologies to further improve the efficiency of its vehicles, affecting the whole model line. As a matter of fact, according to a 2007 study by Environmental Defense BMW has improved its average fuel economy from 1990 to 2005 by 14% and dramatically reduced CO₂ emissions by 12.3% -- more than any other automaker. The next best reduction by any other automaker was 3%.



without any regulatory requirement and for more than 25 years BMW has focused and continuously invested in the development of hydrogen ICE propulsion and storage systems. BMW's achievements in this area are well documented, including its recent manufacturing of 100 hydrogen powered vehicles with a total investment of half a billion dollars. 25 of these vehicles are being operated in the state of California for which BMW also has invested into the hydrogen infrastructure. During the years BMW has kept CARB current of its activities and CARB is fully aware of our progress and the future potential this technology can make to a sustainable clean mobility future.

When CARB established the ZEV mandate, it recognized that the individual size of manufacturers matters, and wisely incorporated this aspect into the regulatory scheme to assure that all manufacturers will fairly contribute to meeting California's clean air goals. We urge CARB to maintain this flexibility, considering that the overall market has grown and a significant gap continues to exist between large and intermediate volume manufacturers.

If this compliance flexibility is not maintained, then BMW will be forced to follow the compliance path of Large Volume Manufacturers (LVM) in 2012. This will have the consequence of having to change its development efforts away from the current hydrogen internal combustion engine technology to fuel cell or battery technology. BMW has been a leading company focusing on the advancement of hydrogen ICEs and is now able to demonstrate near zero emission performance. We believe that this technology is in line with the goals of CARB to achieve a sustainable clean environment while at the same time maintaining consumers' choice in propulsion systems.

Too Early to Choose Technology Winners and Losers

We strongly urge CARB to avoid choosing winners and losers in the technology race for future sustainable automotive propulsion systems. Hydrogen propulsion and storage systems are still evolving, and breakthroughs are being aggressively pursued. BMW has pursued a hydrogen ICE and hydrogen storage path for the last 25 years, and still very much wants to be in this technology race. Since we believe the ultimate solution may involve multiple technologies, we believe it would be in CARB's best interest to provide regulatory support and flexibility for our approach.

In automotive terms, BMW is a small, independent technology-focused company with a worldwide market share of fewer than 2% and of approximately 3% in California and 1.7% in the US. Economic considerations dictate that we must concentrate our resources and development efforts in order to meet the goals of the ZEV mandate and concurrently produce globally-acceptable vehicles.

BMW Contribution to achieve ZEV Goals greater as IVM than LVM

We sincerely believe that CARB's goals are not well served if companies like BMW are forced into the LVM compliance path in the near term. BMW's relatively small resources and added value to the advancement of battery and/or fuel cell technologies for fully electrically powered vehicles would be minimal, at best. In contrast, BMW's contribution in the IVM category with respect to California's air quality outweighs by far the contribution it would be required to make as a large volume manufacturer. As a



matter of fact as an IVM in 2012 sixty percent (60%) of our volume sold in California would be PZEV vehicles. As a large volume manufacturer our combined PZEV and AT PZEV percentage would drop to less than forty percent (40%) in 2012. Thus the change in BMW's manufacturer status would have the effect of increasing its average fleet emissions, counting added evaporative and NOx exhaust emissions.

Recommendation: Additional Transition Phase with Advanced Technology Requirement

Following the May 24th Board's directive to the staff to address the issue of IVMs with respect to their transition into the large volume manufacturer program, BMW made specific recommendations to staff that are reflected under point 3.7 in the Staff Report: Initial Statement of Reason.

We believe this proposal is very stringent since it would affect a significant portion of the model line of an IVM, with both investments in PZEVs, AT PZEVs and advanced low emission technology affecting X of the volume and every model line. Thus, a transition period of at least 6 years is fully warranted.

Positive net effect:

- An increase in the stringency of compliance for transitioning IVMs;
- Maintaining the air quality benefit provided by IVMs with respect to their fleet emissions compared to becoming an immediate LVM;
- Contribution to the advanced technology portion of the ZEV mandate
- Flexibility that will allow IVMs to pursue current advanced technologies that hold promise for future sustainable clean propulsion systems and a wider choice for consumers.

We believe that this proposal would provide the flexibility suggested by the Board while assuring that companies like BMW will continue to provide the greatest air quality benefit to the state of California and at the same time contribute significantly to the advancement of low emission technology and the electrification of their vehicles as advocated under the ZEV mandate.

BMW is looking forward to a continued dialogue with the California Air Resources Board leading to the successful adoption of this IVM proposal at the March 27th Board Hearing.

Sincerely,

K. Hall
for Karl-Heinz Ziwick
BMW of North America, LLC

CC: CARB Clerk
Chairman, Mary Nichols
Board Members
Tom Cackette
Analisa Bevan

