

May 27, 2009

Plug-In Supply Inc. Comments on the Proposed Rulemaking for  
Aftermarket PHEV (OVCC HEV) Conversions

Dear California Air Resources Board,

Plug-In Supply has reviewed the California Air Resources Board's modifications to the proposed aftermarket PHEV certification requirements. Despite some changes from the original proposal, these rules would still impose a significant financial burden that threatens to put us, and other small start-up companies like us, out of business, thereby further delaying the introduction of pollution-saving plug-in hybrid electric vehicles to California's roads and squashing a growing sector of the green economy that is badly needed for California's future.

We are a small California-based start-up manufacturer that builds systems to create vehicles that the large automakers have been resisting for decades, vehicles that reduce oil dependence, air pollution, and greenhouse gas emissions. Our first product is for the Toyota Prius and 85% of it comes from companies in California.

In January, we explained how the original proposal was cost-prohibitive for small companies. The proposed tiered system still fails to address the extremely high compliance cost. We estimate that our cost of complying with the new proposed regulations will be \$1,254,000 in the first year. This number is most likely conservative, assumes a relatively brisk certification process, and is only for a single product for a single vehicle. Below is a summary of the costs associated with meeting each tier. A detailed breakdown is also attached.

Tier 1: \$7,500

Tier 2: \$175,500

Tier 3: \$204,000

Potential lost revenue in California during certification: \$1,667,000

Revenue from tiered sales: \$800,000

Total Cost: \$1,254,000

We cannot afford to comply. The proposed changes do not sufficiently address the issues that the Board directed Staff to address.

Plug-in hybrid conversions represent such a small fraction of California's automobiles and, by extension, the state's pollution, that such heavy-handed certification requirements are unwarranted. In order to keep the nascent industry alive, we recommend that CARB make several changes to the proposed regulations:

1. Raise the number of systems for Tier 1 to at least 1,000 vehicles. The high costs associated with the testing requirements of Tier 2 cannot be offset with the sale of only 10 units. There is minimal risk of an increase in air pollution as an engineering analysis addressing this issue is part of the Tier 1 requirements.
2. Reduce the battery warranty requirements to a maximum of 3 years. No battery manufacturer offers a warranty on its battery for the duration that these rules require. Requiring a warranty period greater than that offered by battery manufacturers will force companies to incorporate the cost of one or more battery replacements into the initial cost of the system, putting the conversion out of reach of many early-adopters who are key to progressing this technology.
3. Revisit the battery durability requirements. Durability testing of batteries requires years to complete. This will delay sales of plug-in conversions for several years.
4. Provide a reduced set of requirements if it can be shown that a deactivation of the conversion system reverts the vehicle to its stock performance. This applies to such areas as OBD reporting, battery warranty, and emission testing, among others.

Respectfully submitted,

Robb Protheroe  
Ben Jones  
Chuck Protheroe

On behalf of:  
Plug-In Supply, Inc.  
Petaluma, CA

Attachment:

- Certification process: Tier 1 (1 month), Tier 2 (3 months), Tier 3 (6 months)
- 500 systems/year in the first year, 50% sold in CA, \$8,000 per system

<b>Tier 1</b>	\$174,500
Engineering Analysis (Emissions)	\$3,000
Durability Test Plan	\$2,400
Initial Durability Data	\$600
Application Process	\$1,500
Lost Revenue Due to Approval Process	\$167,000
<b>Tier 2</b>	\$595,500
Emission Testing	\$150,000
Durability Testing Begins	\$15,000
OBD Compliance Plan	\$7,500
Application Process	\$3,000
Lost Revenue Due to Approval Process	\$500,000
Revenue from Tier 1 Sales	(\$80,000)
<b>Tier 3</b>	\$484,000
Durability Test Data	\$4,500
Battery Durability Test	\$27,000
OBD Approval	\$18,000
Application Process	\$12,000
Warranty (per year)	\$137,500
In-Use Testing (assumes cars pass, CARB pays for testing)	\$5,000
Lost Revenue Due to Approval Process	\$1,000,000
Revenue from Tier 2 Sales	(\$720,000)
<b>Compliance Cost in First Year</b>	<b>\$387,000</b>
Potential Lost Revenue During Process	\$1,667,000
Revenue from Tiered Sales	\$800,000
<b>Total Cost</b>	<b>\$1,254,000</b>