



September 23, 2013

Mr. Craig Duehring  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**RE: Comments to the Proposed Amendments to Alternative Fuel Vehicle Conversion Certification Procedures, Released August 7, 2013**

Mr. Duehring,

IMPCO Technologies, Inc. is extremely pleased that the California Air Resources Board is streamlining the alternative fuel vehicle conversion certification procedures. IMPCO has had extensive interaction with the ARB during this rulemaking process and sincerely commends the ARB for its collaborative effort with industry.

In summary, IMPCO supports:

- Streamlining onboard diagnostic system demonstration requirements
- Allowing the use of assigned deterioration factors
- Modifying test fuel requirements
- Allowing the use of alternative test methods
- Allowing the waiver of evaporative testing for sealed alternative fuel systems
- Allowing for the use of dual-fuel testing waivers
- Reducing time to market for certifying to a more stringent emissions standard
- Eliminating the Executive Order expiration date

However, with the exception of the final bullet point, all of the above expire after model year 2017. By 2017 there will still be a relatively small number of alternative fuel vehicles on the road and this early sunset provision will not adequately allow the market to mature.

IMPCO does not support:

- Introducing a sunset provision
- The applicability to in-use vehicles only, as opposed to both new and in-use vehicles

**About IMPCO Technologies, Inc.**

IMPCO Technologies, Inc. has been located in southern California for over 50 years and is engaged exclusively in the design, manufacture, and supply of advanced alternative fuel systems and components to enable internal combustion engines to run on clean-burning gaseous fuels such as natural gas and propane.

To illustrate our commitment to the U.S. alternative fuel vehicle market, in addition to forming an automotive division, IMPCO recently purchased several companies to position IMPCO's automotive division for success, including:

- Fuelmaker – Manufactures home natural gas refueling units (formerly owned by Honda)
- GFI Control Systems – Manufactures alternative fuel components
- Productive Concepts Inc (PCI) – A high-volume production line with a new state-of-the art facility which allows for a streamlined conversion process
- AFS – a leading developer and manufacturer of engine controllers and associated components

Streamlining the Alternative Fuel Converter (AFC) certification requirements directly and positively affects IMPCO's ability to continue its involvement in the U.S. automotive market.

### **Background**

Before an engine can be introduced for sale into the US, that engine must have an Environmental Protection Agency (EPA) Certificate of Conformity and a California Air Resources Board (ARB) Executive Order (EO). Therefore, receipt of these documents in a timely manner is critical to maintain production schedules and delivery dates to the customer. Obtaining an EO has turned into an increasingly time-consuming process and at most times is the single factor delaying the start of production.

### **Timing**

When it comes to obtaining an EO, time is of the essence. Both an ARB and an EPA certification program require a significant amount of expense and technical expertise, but the one intangible obstacle that is the most difficult to overcome is the amount of time available to the AFC to obtain an ARB EO or an EPA certificate.

EPA recognized the challenges that AFCs faced and as a result they streamlined their AFC certification requirements in 2011. Similarly, through this rulemaking ARB will “simplify the application and approval process, update the in-use alternative fuel certification requirements to better align with recent changes adopted by the U.S. EPA, and would streamline new and in-use alternative fuel vehicle and engine certification requirements while preserving emission benefits.”

### **New vs. In-Use Vehicles**

The May 1, 2013 workshop was titled “Proposed Amendments to the Alternative Fuel Conversion Certification Procedures for **New** and In-Use Vehicles and Engines”. However, the August 7, 2013 proposed amendments are now inexplicably only applicable to “In-Use” vehicles.

In all discussions taken place thus far, be it through workshops, written documentation, conference calls or meetings, the proposed amendments were equally applicable to New and In-Use Vehicles and engines. However, the applicability to New Vehicles was dropped somewhere between May 1, 2013 and August 7, 2013 without explanation.

Per EPA 40CFR §85.502, the streamlined certification process applies to:

“Clean alternative fuel conversion (or “fuel conversion” or “conversion system”) means any alteration of a motor vehicle/engine, its fueling system, or the integration of these systems, that allows the vehicle/engine to operate on a fuel or power source *different from*

*the fuel or power source for which the vehicle/engine was originally certified; and that is designed, constructed, and applied consistent with good engineering judgment and in accordance with all applicable regulations. A clean alternative fuel conversion also means the components, design, and instructions to perform this alteration.”*

In other words, the EPA Part 85 regulations are applicable to new or in-use vehicles and engines that are modified from their original, certified configuration. To maintain consistency with EPA regulations, as is the intent of this rulemaking, the proposed certification requirements should be applicable to the modification of new or in-use vehicles that have *already been certified* by an OEM. Therefore, this is truly the modification of a certified vehicle and the EO may be issued under the tampering prohibition as opposed to a new-vehicle EO.

- Propose: This regulation is applicable to both New and In-Use Vehicles. If a distinction must be made between the two types of vehicles, the new-vehicle EO will expire December 31<sup>st</sup> of the year after the test group/engine family model year and the in-use vehicle EO has no expiration date.

### **Assigned Deterioration Factors (DFs)**

ARB is proposing to disallow the use of Assigned DFs after the sunset date.

Page 33 of the proposed amendments state:

“Assigned DFs tend to be higher, more severe, than the average DF for a similar class of vehicle or engine.”... “Currently, staff believes that certifying compliance to the lower LEV III standards can only be accomplished through actual testing and demonstration of the emission control and OBD systems. Waiving these tests through an engineering evaluation is not possible because technologies that will be used to comply with the new LEV III standards will need to be more sophisticated and durable. Additionally, the proposed deterioration factors used for complying with today’s standards are unlikely to be representative of the deterioration factors for the lower LEV III standards.”

The proposal states that Assigned DFs tend to be more severe than the average DF and yet it also that these DFs might not be representative of the DFs for the lower LEV III standards. However, per the LEV III regulations, small-volume manufacturers and manufacturers of small-volume test groups will continue to be allowed to use Assigned DFs.

- Propose: remove the Assigned DF sunset provision.

### **Certification CNG Fuel Specifications**

The ARB certification CNG specifications are so stringent that it is prohibitively expensive and time-consuming to acquire.

ARB certification CNG must be specially ordered and blended by a specialty gas company such as Praxair or Scott Specialty Gases. It takes 4 to 8 weeks to manufacture, costs approximately \$150 per gallon on a gasoline BTU-equivalent basis, and there has been no demonstration that the use of non-certification CNG produces unrepresentative test results.

- Propose: remove the sunset provision for CNG certification fuel specifications, and allow manufacturers to use CNG test fuel that meets ARB over-the-road fuel specifications.

## Sunset Date

Staff is proposing to sunset the majority of the streamlining provisions after model year 2017 because “such changes may not be appropriate when lower emission standards take effect for new vehicles and engines.”

“Staff believes that some of the test procedures will need to be updated to reflect the changes in emission control and OBD systems for the 2018 model year. By 2018, the declining LEV III exhaust emission fleet average will be driving a significant portion of the light duty vehicles to lower exhaust emission levels. In addition, the heavy duty OBD standards will also be in full effect for conventional and alternative fueled engines for the 2018 model year.

However, the proposed amendments already state that the conversion manufacturer must continue to meet the OEM emissions standards:

“(c) Exhaust Emission Standards:

Exhaust emissions from alternative fuel retrofit systems that are manufactured for sale, sold, or offered for sale in California, or that are introduced, delivered or imported into California commerce and that are subject to any of the standards prescribed in this article *must not exceed the emission standards to which the base vehicle or base engine was originally certified*. The retrofit system manufacturer shall demonstrate compliance with these requirements through durability and emission testing. For heavy-duty vehicle applications where alternate test procedures have been approved by the Executive Officer, retrofit system manufacturers may propose appropriate standards for Executive Officer approval.”

Therefore, sunsetting the majority of the proposed amendments is a moot point because AFCs must already meet the lower emissions standards “when lower emission standards take effect for new vehicles and engines”.

- Propose: remove the sunset provisions and direct the ARB to review the final regulatory language in 2016 to determine if the 2018 sunset date is appropriate.

Once again, IMPCO sincerely appreciates ARB’s recognition for the need to shorten the burdensome certification process while still maintaining its commitment to preserve California’s air quality.

Please call me at (714) 656-1245 if you have any questions or comments.

Kind Regards,



Karen Szabo  
Certification and  
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