UPDATED INFORMATIVE DIGEST

ADOPTION OF PROPOSED AMENDMENTS TO THE ALTERNATIVE FUEL CONVERSION CERTIFICATION PROCEDURES FOR ON-ROAD MOTOR VEHICLES AND ENGINES

Sections Affected: Adoption of proposed amendments to California Code of Regulations (CCR), title 13, § 2030 and 2031. Test procedure "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines" is proposed for adoption and is incorporated by reference in CCR, title 13, § 2030 and 2031.

Test procedure "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and subsequent Model Years and for all Model Year Motor Vehicle Retrofit Systems Certified for Emission Reduction Credit" last amended November 21, 1995 is proposed for modification and is incorporated by reference in CCR, title 13, § 2030 and 2031.

Documents Incorporated by Reference:

The following documents are incorporated by reference in the proposed new test procedure "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for 2004 and Subsequent Model Year On-Road Motor Vehicles and Engines":

Code of Federal Regulations (40 CFR), Part 86.1313-2007, dated July 01, 2011.
The following American Society for Testing and Materials (ASTM) test method listed in 40CFR, Part 86.1313-2007, dated July 01, 2011.

- ASTM Test Method Number D1945-03(2010) titled "Standard Test Method for Analysis of Natural Gas by Gas Chromatography".

California Code of Regulations, title 13 CCR § 2292.6, as amended December 8, 1999.

The following ASTM test methods listed in Title 13, CCR, § 2292.6, as amended December 8, 1999.

- ASTM Test Method Number D2163-87 titled "Standard Test Method for Analysis of Liquefied Petroleum (LP) Gases and Propene Concentrates by Gas Chromatography"
- ASTM Test Method Number D1267-89 titled "Standard Test Method for Vapor Pressure of Liquefied Petroleum (LP) Gases (LP-Gas Method)"
- ASTM Test Method Number D2598-88 titled "Standard Practice for Calculation of Certain Physical Properties of Liquefied Petroleum (LP) Gases from Compositional Analysis".
- ASTM Test Method Number D1837-86 titled "Standard Test Method for Volatility of Liquefied Petroleum (LP) Gases".

- ASTM Test Method Number D2158-89 titled “Standard Test Method for Residues in Liquefied Petroleum (LP) Gases”.
- ASTM Test Method Number D1838-89 titled “Standard Test Method for Copper Strip Corrosion by Liquefied Petroleum (LP) Gases”.
- ASTM Test Method Number D2784-89 titled “Standard Test Method for Sulfur in Liquefied Petroleum Gases (Oxy-Hydrogen Burner or Lamp)”.
- ASTM Test Method Number D2713-86 titled “Standard Test Method for Dryness of Propane (Valve Freeze Method)”.

U.S. Environmental Protection Agency (U.S.EPA) Advisory Circular 17F, dated November 16, 1982, updated January 21, 1988.

U.S. EPA National Vehicle and Fuel Emissions Laboratory guidance letter CD-12-07 (Revised) for Assigned Deterioration Factors, dated March 30, 2012.

ARB test procedure “California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” as amended December 6, 2012 and is incorporated by reference in title 13, CCR, § 1961(d).

ARB test procedure “California Non-Methane Organic Gas Test Procedures,” as amended December 6, 2012.

ARB test procedure “California Exhaust Emission Standards and Test Procedures for 2005 through 2008 Model Zero-Emission Vehicles, and 2001 through 2008 Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes,” as amended December 2, 2009 and is incorporated by reference in title 13, CCR, § 1962.

ARB test procedure “California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes,” as amended December 6, 2012 and is incorporated by reference in title 13, CCR, § 1962.1.

ARB test procedure “California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes,” adopted March 22, 2012, as last amended December 6, 2012 and is incorporated by reference in title 13, CCR, § 1962.2.

ARB test procedure “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” as amended December 6, 2012.

ARB test procedure “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles” adopted August 5, 1999, as last amended March 22, 2012 and is incorporated by reference in title 13, CCR, § 1976(c).

ARB test procedure “California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles,” adopted August 5, 1999, as amended March 22, 2012 and is incorporated by reference in title 13, CCR, § 1978(b).

ARB test procedure “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles,” as amended April 18, 2013.

ARB certification procedure “California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes,” adopted October 24, 2002.

The ARB test procedures for determining compliance with standards in title 13, CCR, § 1956.8(c)(1)(A) or (c)(1)(B) are set forth in the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines,” as amended April 18, 2013.

Background:

The increased market availability of low priced natural gas has resulted in more interest in converting light-, medium-, and heavy-duty vehicles and engines to operate on compressed natural gas and liquid propane gas. The California Natural Gas Vehicle Coalition and other alternative fuel advocates have requested that the Air Resources Board (ARB or Board) update its current regulation governing alternative fuel conversion certification procedures for on road motor vehicle retrofits, for both new and used vehicles and engines. Specific requests include: simplifying the application and approval process, providing additional time to sell conversions as “new” vehicles or engines, adding flexibility to the alternative fuel certification requirements, and streamlining the testing and demonstration requirements to allow small volume conversion manufacturers to demonstrate compliance in less time and at a lower cost.

Staff believes that providing the additional flexibility requested by industry is warranted, and is therefore proposing to amend the current alternative fuel conversion certification procedures. The proposed amendments would retain testing and demonstration requirements for the most important components of emission control systems and would waive many of the test requirements for small volume conversion manufacturers provided they can demonstrate that their alternate fuel conversion systems do not significantly alter vehicles or engines previously certified in California. The proposed amendments would also provide alternative fuel conversion manufacturers options to demonstrate compliance with requirements, and would expressly specify that approved alternative fuel conversions are effective indefinitely, provided the approved conversion system is not significantly modified from its approved configuration. Finally, the proposed amendments would allow a manufacturer to request and be issued an

Executive Order prior to completing the on-board diagnostic (OBD) system demonstrations if the manufacturer is seeking to certify its conversion system to a more stringent vehicle or engine emissions standard. Staff believes that these proposed changes will meet industry requests while preserving emissions benefits.

Objectives and Benefits:

The current requirements for obtaining ARB certification of alternative fuel conversion systems for on-road motor vehicles and motor vehicle engines were last substantively amended in 1995, and consequently do not incorporate the more stringent low emission vehicle standards (LEV II and LEV III) adopted by the Board since 1995.

In addition, the U.S. EPA recently finalized regulations for certifying alternative fuel conversion systems in on-road motor vehicles that provide converters streamlined testing and administrative requirements, including providing small volume conversion manufacturers additional flexibility from certain testing requirements.

Staff believes that the proposed amendments to existing regulations will similarly establish streamlined requirements for manufacturers of alternative fuel conversion systems, and that such amendments are needed because current demonstration requirements for certification of alternative fuel conversions are relatively time consuming and costly, which could create barriers for small volume conversion manufacturers to bring their product to market. The aim of the modifications is to reduce costs and time required to bring the conversion systems to market while preserving emissions benefits. The proposed changes will also create a single process for certifying an alternative fuel retrofit system which reduces the upfront demonstration requirements and allows systems to be sold sooner than with the current process.

Staff developed the proposed amendments through an extensive public process in less than a year. This included three public workshops and multiple workgroup meetings and teleconference calls with stakeholders. At all workshops and meetings, staff solicited comments from stakeholders and affected industry to develop staff's current proposals.

The Board's Action:

At its September 26, 2013, public hearing, the ARB adopted Resolution 13-35, which approved modifications to title 13, CCR, § 2030 and § 2031. At the hearing, staff presented and the Board approved modifications to the regulations originally proposed in the Staff Report released on August 7, 2013. The only substantive modification proposed by staff since the Staff Report was published was described in a document entitled "Staff's Suggested Modifications to the Original Proposal" that was distributed at the hearing and was Attachment D to Resolution 13-35, which was to change the Small Volume Conversion Manufacturer definition to reflect industry feedback. The Board also directed staff to make the modified text available for a supplemental public comment period of at least 15 days.

Fifteen-Day Changes:

Text of the modifications to the originally proposed regulation was made available for a supplemental 15-day comment period by issuance of a "Notice of Public Availability of Modified Text." This notice was released on December 5, 2013.

A number of changes were made to the originally proposed regulation to clarify procedures. Most of these changes were under authority granted to ARB's Executive Officer under Health and Safety Code Sections 39515 and 39516. These changes include, but were not limited to: modifications to clarify the updated procedure titles; changes to clarify the definition of "Sunset"; and modification of the definition of "Small Volume Conversion Manufacturer" to reflect industry feedback. A more complete listing of the changes to the regulation is included in the Notice of Public Availability of Modified Text. The notice and the revised regulation in underline/strikeout format are available here: http://www.arb.ca.gov/regact/2013/altfuel2013/altfuel2013.htm

COMPARABLE FEDERAL REGULATIONS

The U.S. EPA recently adopted changes to their procedures used to approve vehicles and engines that have been converted to operate on alternative fuels such as natural gas or propane (Clean Alternative Fuel Vehicle and Engine Conversions, 2011) and provide conversion manufacturers with an anti-tampering waiver.

California has more severe air quality problems than most other states and currently does not meet federal air quality standards. California also has lower emissions standards for light-duty vehicles and will need to ensure that conversions to alternative fuel still achieve the expected emissions reductions. Staff believes that the newly adopted federal regulations are not as robust as ARB's proposed changes in verifying that an alternative fuel conversion vehicle's emissions will not be higher than the original vehicle during its use. Primarily, the federal program does not require manufacturers to: (1) demonstrate durability and (2) demonstrate that once the conversion is conducted the OBD system meets the emission thresholds or malfunction criteria specified in the OBD regulations. For example, the federal program only requires the use of a modified new catalyst for OBD demonstration testing whereas ARB requires a laboratory aged catalyst, which is representative of how catalysts deteriorate and malfunction in use.

Additionally, the federal program has even less stringent requirements for conversions of older vehicles. For emission compliance, an alternative conversion manufacturer only needs to provide a technical description that shows that the base vehicle emissions will be maintained without proof. For in-use vehicles, the federal program only requires the manufacturer to attest that the OBD system is fully functional and provide a report on the OBD scanning tool without demonstrating the system performs as stated. Full citation of the federal regulation is as follows:

“Clean Alternative Fuel Vehicle and Engine Conversions.” 40 CFR parts 85 and 86 (2011).

Moreover, existing state law requires that ARB certify alternative fuel retrofit systems before they can be sold or installed in motor vehicles and motor vehicle engines.