

Public Workshop: Proposed Amendments to the Alternative Fuel Conversion Certification Procedures for New and In-Use Vehicles and Engines



Air Resources Board Auditorium
El Monte, California
January 22, 2013

California Environmental Protection Agency



Air Resources Board

Agenda

- Purpose
- Background
- Preliminary staff proposals
- Other items under consideration
- Next steps
- Contact information

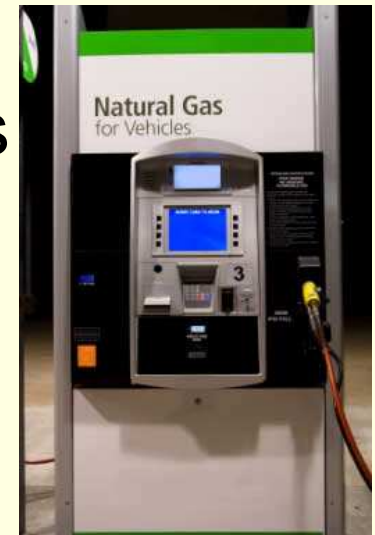


Need for Proposed Amendments

- Update and simplify the application and approval process
- Update the in-use alternative fuel certification requirements
- Better align ARB's procedures with recent changes adopted by U.S. EPA
- Streamline ARB's new and in-use alternative fuel vehicle/engine certification requirements

Background

- New vs. used (in-use) alternative fuel conversions differ
- Overview of the current New vehicle/engine conversion requirements
- Overview of the current in-use vehicle/engine conversion requirements



New vs. Used Conversions

- New vehicle/engine: equitable title has never been transferred to an ultimate purchaser
- Used (in-use) vehicle/engine: any vehicle/engine that is not “new”
- Issue: Requests for in-use conversions of previously ARB certified new vehicle/engine requires applicant to repeat certification
 - Must comply with all new vehicle/engine certification requirements

New Vehicle/Engine Certification Requirements

- Submit an application and update it for changes
- Meet the applicable emission standards and adhere to the appropriate test procedures
- Demonstrate durability
- Meet the applicable labeling requirements
- Provide emissions warranty to the ultimate purchaser
- Identify all makes and models
- Comply with on-board diagnostic (OBD) requirements

New Vehicle/Engine Regulations

- 13 CCR § 1962
 - Exhaust Emission Standards and Test Procedures – 2004 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
- 13 CCR § 1956.8
 - Exhaust Emissions Standards and Test Procedures – 1985 and Subsequent Model Heavy-Duty Engines and Vehicles
- 13 CCR § 1976
 - Standards and Test Procedures for Motor Vehicle Fuel Evaporative Emissions.
- 13 CCR § 1968.2
 - Malfunction and Diagnostic System Requirements – 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines.
- 13 CCR § 1971
 - Engine Manufacturer Diagnostic System Requirements – 2007 and Subsequent Model-Year Heavy-Duty Engines.
- 13 CCR § 1971.1
 - On-Board Diagnostic System Requirements – 2010 and Subsequent Model-Year Heavy-Duty Engines.

In-Use Vehicle/Engine Certification

- Applies to the conversion of any vehicle/engine that's not "new"
- Certification program administered by ARB's Aftermarket Parts Section
- Successful applicants receive a non-expiring Executive Order
- Allows applicants to market and sell alternative fuel retrofit systems in California

In-Use Vehicle/Engine Certification Requirements

- Comply with base vehicle/engine certification emission standards or more stringent standards
- Certification based on engine family
- Demonstrate durability
- Supplemental emission control information label
- Manufacturer's and installer's warranty
- Evaluation of impact on auxiliary emission control devices
- Comply with OBD requirements
- Installation inspection
- In-Use enforcement testing

In-Use Vehicle/Engine Regulations

- 13 CCR § 2030
 - Liquefied Petroleum Gas or Natural Gas Retrofit Systems.

- Associated Test Procedures:
 - California Exhaust Emission Standards and Test Procedures for Systems Designed to Convert Motor Vehicles Certified for 1993 and Earlier Model Years to Use Liquefied Petroleum Gas or Natural Gas Fuels

 - 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

Preliminary
Staff
Proposals

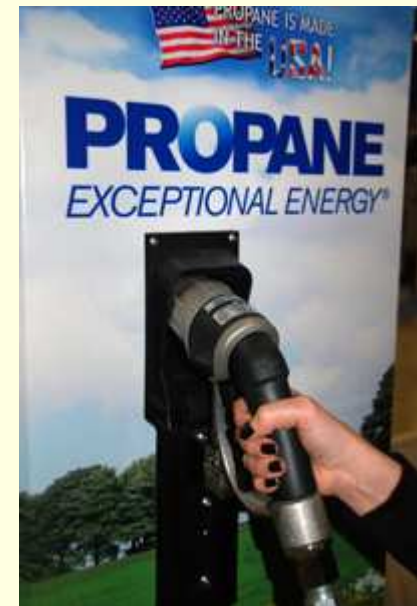


Application Process

- New vehicle/engine alternative fuel certifications will automatically qualify for aftermarket certification if requested
- Develop separate webpage for all alternative fuel conversion certification information
- Extend or renew new vehicle/engine alternative fuel certifications to allow manufacturers 1 full year of sales

Test Fuel

- Harmonize natural gas certification test fuel requirements with Federal Standards
- Investigate the feasibility of harmonizing liquid propane gas certification test fuel requirements
- Harmonize natural gas NMHC to NMOG multiplier with Federal Standards



Dual-Fuel Systems

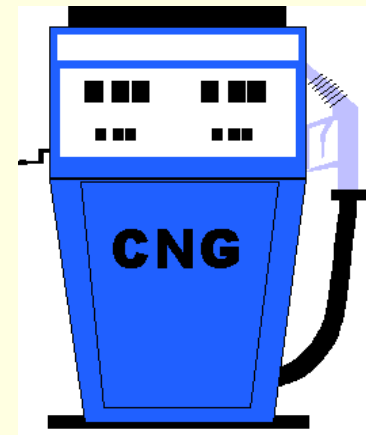
- Currently, new vehicle/engine must comply with exhaust and evaporative emission standards when operating on each fuel
- In-Use: For evaporative emissions, manufacturers can provide engineering justification for a test waiver with the original fuel
- Investigate the feasibility of allowing similar engineering justification to waive exhaust emissions testing with the original fuel

Deterioration Factors (DF's)

- Numeric factors applied to low mileage mass emissions to account for the potential increase in emissions due to mileage accumulation
- Defined as the estimate of the ratio of the true mean response at high mileage to the true mean response at low mileage
- Used to determine compliance probabilities in lieu of high-mileage emissions tests

DF's (continued)

- New and in-use alternative fuel certification allows the use of assigned DF's
- In-use requires manufacturers to validate assigned DF's within 2 years of receiving certification
- Investigating the feasibility of replacing DF validation with in-use testing
- Request for data



OBD Requirements

- Investigating the feasibility of reducing testing/recalibrating of threshold monitors
- Investigating the feasibility of reducing full useful life testing
- Considering changes that would move some testing to post-certification in lieu of pre-certification

OBD Requirements (continued)

- Changes would also require additional commitment by alternative fuel conversion manufacturers
 - Extended warranty
 - Recall provisions
- Changes may require cap on annual sales, would only be available to alternative fuel conversion manufacturers (not OEM vehicle/engine manufacturer)

Installation Control

- Regulations currently require post-conversion BAR inspection for each in-use conversion
- Investigating the feasibility of alternative installation controls
- Actively seeking stakeholder input

In-Use Compliance Testing

- In-use emissions testing is required upon order by ARB's Executive Officer
- Testing of a minimum of ten vehicles per engine family is required, but only if requested
- Staff open to reducing the requirements, actively seeking stakeholder input

Update In-Use Certification Procedures

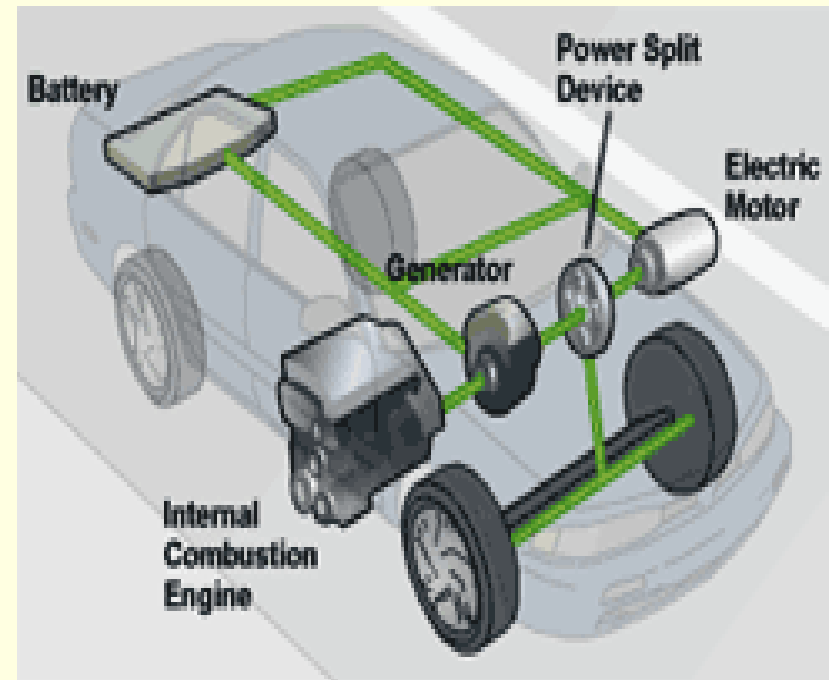
- Staff is proposing changes to §2030
 - Streamline test procedures
 - Update regulatory language
 - Where feasible, align procedures with recent changes adopted by U.S. EPA



Alternative Test Methods

- What role, if any, can alternative test methods, such as PEMS, play in the certification process?
- Are these types of systems robust enough for certification testing or should they only be used for in-use compliance?
- Actively seeking stakeholder input
- Data needs

Other Items Under Consideration



New/In-Use Hybrid Conversions

- Should hybrid conversions be included in the proposed regulatory changes?
- Is there a market demand for these types of systems?
- Complexity of conversion may need to be considered
- Actively seeking stakeholder input

Next Steps

- Please provide comments to ARB by mid February
- Next workshop tentatively scheduled for April, 2013
- Third quarter 2013 Board hearing

Contact Information

Craig Duehring
(916) 323-2361
cduehrin@arb.ca.gov

Dean Bloudoff
(916) 322-8987
dbloudof@arb.ca.gov



For More Information...

New vehicle/engine alternative fuel conversion certifications, please go to:

<http://www.arb.ca.gov/msprog/onroad/cert/ldctp/ldctp.htm>

In-use vehicle/engine alternative fuel conversion certifications, please go to:

<http://www.arb.ca.gov/msprog/aftermkt/altfuel/altfuel.htm>

Certification Contact Information

- Mr. Duc Nguyen, Manager, On-Road Light-Duty Certification Section
dnguyen@arb.ca.gov
- Ms. Kimberly Pryor, Manager, Compression-Ignition and Heavy-Duty Certification Section
kpryor@arb.ca.gov
- Mr. Tony Martino, Manager, Aftermarket Parts Section
amartino@arb.ca.gov
- Mr. Mike McCarthy, Manager, Advanced Engineering Section (OBD) mmccarth@arb.ca.gov