

# EPA Proposes New Compliance Options for Clean Alternative Fuel Vehicle and Engine Conversions

The U.S. Environmental Protection Agency (EPA) is proposing to amend the current regulations for aftermarket fuel conversions, which took effect on September 21, 1994 (40 CFR part 85 subpart F). This proposal updates regulations that apply to manufacturers of light-duty vehicle and heavy-duty highway vehicle and engine clean alternative fuel conversion systems. The proposed revisions would streamline the compliance process while maintaining environmentally protective controls.

## Overview

While the vast majority of vehicles in the United States are designed to operate on gasoline or diesel fuel, there has been a growing interest from the public in aftermarket fuel conversion systems. These systems allow gasoline or diesel vehicles to operate on alternative fuels such as natural gas, propane, alcohol, or electricity. Use of clean alternative fuels opens new fuel supply choices and can help consumers address concerns about fuel costs, energy security, and emissions.

EPA supports such innovation and encourages the development of clean aftermarket technologies that enable broader transportation fuel choices. At the same time EPA is responsible for ensuring that all vehicles and engines sold in the United States, including aftermarket conversions, meet emission standards. EPA is proposing a new approach that would simplify and streamline the process by which manufacturers of clean alternative fuel conversion systems may demonstrate compliance with vehicle and engine emissions requirements. The new options would reduce some economic and procedural impediments to clean alternative fuel conversions while maintaining environmental safeguards to ensure that acceptable emission levels from converted vehicles are sustained. The proposed rule would cover conversions of light-duty vehicles and heavy-duty highway vehicles and engines, and would apply to all clean alternative fuels.

Current EPA regulations require vehicle and engine conversion systems to be covered by a certificate of conformity to gain a regulatory exemption from potential tampering charges. EPA evaluated this requirement and believes it is appropriate to introduce new flexibilities for all clean alternative fuel converters and expand the compliance options in certain conversion situations. EPA proposes to amend the regulatory procedures in 40 CFR part 85 subpart F and part 86 to establish these new compliance options.

The proposed approach builds on the concept that it is appropriate to treat conversion requirements differently based on the age of the vehicle or engine being converted. Testing and compliance procedures would differ based on the age category of the vehicle or engine that is converted: new and nearly new, intermediate age, or outside useful life. All conversion manufacturers would need to demonstrate compliance with EPA requirements, but the requirements would differ among age categories. EPA expects the streamlined approach to result in a cost savings for many converters.

## **Key Elements of the Proposed Rulemaking**

The Clean Air Act prohibits changing a vehicle or engine from its certified configuration. Alternative fuel conversion systems alter one or more elements of a vehicle or engine's original configuration to enable operation on a new fuel. This action provides a compliance option that allows conversion manufacturers to make the necessary changes without violating the law. It also establishes a clear and comprehensive compliance pathway for alternative fuel converters to gain exemption from the prohibition against tampering.

The proposed compliance program would enable conversion manufacturers to qualify for an exemption when they demonstrate that the converted vehicle or engine satisfies EPA emissions requirements. The specific notification (application) and demonstration requirements would differ based on the age of the vehicle or engine being converted. The notification and demonstration requirements for new and nearly new vehicles and engines would remain very similar to current certification requirements. The requirements for intermediate age vehicles and engines would involve testing and submission of data to show that the converted vehicle or engine continues to meet applicable standards. EPA is seeking comment on three possible demonstration options for vehicles and engines that have exceeded their regulatory useful life. These age-based categories and requirements are summarized below:

## Overview of Proposed Program Elements

<u>Vehicle/Engine Age</u>			<u>Conversion Manufacturer Requirement</u>		<u>Certificate Issued?</u>
Category	Applicability	Example for 2010 <sup>1</sup>	Demonstration	Notification	
New	MY >= current calendar year - 1	MY 2009, 2010, 2011 and < useful life mileage	Exhaust, Evap, and OBD testing <sup>2</sup>	Certification application	Yes
Intermediate age	MY <= current calendar year - 2 and < useful life	MY 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 and < useful life mileage	Exhaust and Evap testing + OBD attestation	Data submission <sup>3</sup>	No
Outside useful life	Exceeds useful life	MY2000 and older or > full useful life in mileage	Seeking comment on three options	Compliance application	No

### Proposed Age-Based Demonstration and Notification Requirements

All conversion manufacturers would be required to demonstrate to EPA that the conversion satisfies technical criteria, but the demonstration and notification process would differ depending on vehicle or engine age. The demonstration and notification would apply to a group of vehicles or engines that share similar technology, known as a test group or engine family. The test group/engine family criteria would also differ somewhat based on age of the vehicles or engines being converted.

#### New and nearly new vehicles and engines

- This category would cover vehicles and engines less than about two years old: those of a model year that is greater than or equal to the current calendar year minus one.
- The compliance demonstration requirement would remain very similar to the current certification requirement. Manufacturers would need to conduct certification tests to demonstrate that the converted vehicle or engine complies with exhaust and evaporative emission standards and with on-board diagnostics (OBD) requirements.
- The notification requirement would also remain the same as the current certification application process.
- Converted vehicles and engines that satisfy the demonstration and notification requirements would be issued a certificate of conformity.

<sup>1</sup> This example is for Light-duty Tier 2 vehicles which have a useful life of 10 years or 120,000 miles

<sup>2</sup> Exhaust and Evap refers to all exhaust emission testing and all evaporative emission and refueling emission testing required for new vehicle certification, unless otherwise excepted.

<sup>3</sup> EPA is proposing that the compliance notification process for intermediate age and outside useful life conversion would be an electronic submission of data and supporting documents.

- The proposed regulations introduce some important flexibilities that would be available to most manufacturers of new and nearly new vehicle/engine conversion systems:
  - Manufacturers could apply a single set of test data to a broader set of candidate vehicle/engine conversions than is currently allowed.
  - The same data could be used to qualify for the intermediate-age program once the vehicle or engine group ages and meets the intermediate-age threshold, at which time annual re-certification would no longer be required.

## **Intermediate age vehicles and engines**

- The intermediate age category would cover vehicles and engines at least two years old (those of a model year less than or equal to the current calendar year minus two) but still within their regulatory useful life.
- The compliance demonstration would involve conducting exhaust and evaporative emissions tests to show that the converted vehicle or engine meets applicable standards.
- The notification requirement would involve submitting the test data to EPA, along with an attestation that the OBD system will continue to function properly after conversion.
- Converters would be permitted further flexibilities for expanded test groups.
- No certificate would be issued, and annual re-certification would not be required.

## **Outside useful life vehicles and engines**

- The outside useful life age category would cover vehicles/engines that have exceeded their regulatory useful life.
- The proposal seeks comment on three options for the outside useful life compliance demonstration, with the intent to finalize one demonstration requirement:
  - Option 1: Manufacturers would submit a sufficiently detailed description to show that the conversion technology is technically sound and is applied according to principles of good engineering judgment.
  - Option 2: Manufacturers would conduct testing as in the intermediate age program and submit data to show that either a) the converted vehicle or engine is able to meet standards applicable inside useful life, or b) emissions do not increase after conversion.
  - Option 3: Manufacturers would submit a technical description as in Option 1, and also an OBD scan report from the converted vehicle or engine to show that the OBD system continues to function properly.
- The notification requirement, as for the intermediate age program, would involve submitting the required information, data, and/or OBD attestations to EPA. Converters would be permitted further flexibilities for expanded test groups. No certificate would be issued, and annual re-certification would not be required.

## Technical Amendments

EPA is proposing several technical amendments to 40 CFR part 86, subpart S that update the exhaust and evaporative emission testing requirements for both OEM and converted gaseous-fueled vehicles. The amendments will allow flexibility in determining compliance with EPA non-methane organic material standards, and allow manufacturers of gaseous-fueled vehicles to submit statements of compliance in lieu of test data to demonstrate compliance with exhaust formaldehyde and evaporative emissions standards.

## Public Participation Opportunities

We welcome your comments on this rule. Comments will be accepted beginning when this proposal is published in the Federal Register and will be accepted through July 23, 2010. All comments should be identified by Docket ID No. EPA-HQ-OAR-2009-0299 and submitted by one of the following methods:

Internet: [www.regulations.gov](http://www.regulations.gov)

E-mail: [A-and-R-Docket@epa.gov](mailto:A-and-R-Docket@epa.gov)

Mail:

Environmental Protection Agency  
Air and Radiation Docket and Information Center (6102T)  
1200 Pennsylvania Avenue NW  
Washington, DC 20460

Hand Delivery:

EPA West building  
EPA Docket Center (Room 3340)  
1301 Constitution Avenue NW  
Washington, DC

You should consult the Federal Register notice for this proposal for more information about how to submit comments, when the comment period will close, and about where and when public hearings will be held. A copy of Federal Register notice can be found on our website listed below.

## For More Information

For further information about this proposal, please contact Amy Bunker, telephone number: (734) 214-4160; fax number: (734) 214-4053; email address: [bunker.amy@epa.gov](mailto:bunker.amy@epa.gov).

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