

## Joint Comments

From the Alliance of Automobile Manufacturers and Global Automakers  
Re: FTC Proposed Rule on Retail Fuel Pump Posting Content  
79 FR 18850 (April 4, 2014)

### **Fuel Rating Rule Review 16 CFR Part 306, Project No. R811005**

The Alliance of Automobile Manufacturers (Alliance)<sup>1</sup> and the Association of Global Automakers, Inc.<sup>2</sup> (Global Automakers) together represent virtually every company selling new light and medium duty vehicles in the United States (U.S.). Auto manufacturing is a cornerstone of the U.S. economy, supporting eight million private-sector jobs, \$500 billion in annual compensation, and \$70 billion in personal income-tax revenues. We appreciate the opportunity to comment on the Federal Trade Commission (FTC) proposal at 79 FR 18850 (April 4, 2014).

#### **Summary:**

Automakers strongly support the FTC's efforts to establish appropriate rating and certification requirements for alternative fuels, and to provide needed information to consumers at the fuel pump about the products offered for purchase, including these proposed posting content regulations for alternative fuels.

We support the stated goal of helping purchasers identify the correct fuel for their vehicles (79 FR at 18850) to minimize mis-fueling. Toward that end, we are providing recommendations below on additional pump label contents that are critical for consumers. For ANY alternative fuel greater than (>) E10 or Biodiesel >B5, we urge the Commission also to insert the word "WARNING" at the top of the label and the phrase "Check Your Owner's Manual" at the bottom, given ongoing risks to the majority of existing, in-use non-FFV vehicles and non-road equipment, as discussed below. We also support expanding the FTC proposed statement "May Harm Other Engines" for the reasons provided.

In addition, we urge the FTC to go further and require that ALL gasoline and gasoline blend fuel, including E0, E10, E15, et al. up to, but not yet including, Ethanol Flex Fuel as defined by ASTM International as 51-83% Ethanol blend<sup>3</sup>, display the relevant octane rating as well, for the reasons given below, a recommendation also supported by some states in prior comments.

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<sup>1</sup> BMW Group, Chrysler Group LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars, Toyota, Volkswagen Group and Volvo Cars, see [www.autoalliance.org](http://www.autoalliance.org) for further information.

<sup>2</sup> Aston Martin, Ferrari, Honda, Hyundai, Isuzu, Kia, Maserati, McLaren, Nissan, Subaru, Suzuki, and Toyota, see [www.globalautomakers.org](http://www.globalautomakers.org) for further information.

<sup>3</sup> For the time being there is not a practical means to determine octane rating for Ethanol Flex Fuel, given the broad range of potential ethanol content and thus the varying composition of the product sold at retail.

We also support adding the proposed infrared octane test method for compliance use, *so long as* the ASTM *engine* tests for octane (D2699 and D2700) are expressly included in the regulation as the referee methods in case of a conflict, a condition also supported by other stakeholders, including Tesoro, in prior comments to the FTC (see 79 FR at 18857).

### FTC Proposed Ethanol Blend Gasoline Pump Labels -- Important Recommended Changes:

1. We agree that consumers should have access to retail pump posting of numeric (%) ethanol up to Ethanol Flex Fuel/ E85<sup>4</sup> (as well as biodiesel) content of fuels offered. Vendors control the product selections offered, including at blender pumps. However, automakers urge the Agency to require specific labeling in units of 5% for blends up to 51-83% (Ethanol Flex Fuel) , *e.g.*, for E20, 25 and 30, etc., rather than units of 10% as the FTC has proposed.<sup>5</sup> For example, Underwriters Laboratories,<sup>6</sup> the well-known independent scientific company and global leader in testing, inspection, certification, auditing, and validation, provides a "listing" for retail gasoline dispensers for gasoline-ethanol blends up to 25% ethanol.<sup>7</sup> These commercially available dispensers make this a likely retail grade in the future. Using units of 5 avoids the potential perception that FTC's proposed units of 10 somehow inhibit the ability to market an E25 fuel [albeit the proposed regulatory language in the NPRM allows the option for labeling the exact % ethanol content in proposed Sec. 306(12)(a)(4)(A)].

We also concur with the FTC that flexibility may be needed to adapt these Agency regulations over time to respond to actual fuel developments.

2. We recommend the following changes to the proposed intermediate ethanol gasoline labels. This approach represents consensus among several engine products groups, as noted below.<sup>8</sup>
  - a. Add the word "**WARNING**" at the top of the label
  - b. Maintain the proposed phrase: "USE ONLY IN FLEX-FUEL VEHICLES"

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<sup>4</sup> Ethanol Flex Fuel, which term replaces "E85" can be 51-83% ethanol pursuant to the new ASTM Standard D5798, as noted in the FTC NPRM Preamble, 79 FR at 18856.

<sup>5</sup> For 51-83% Ethanol Flex Fuel as defined by ASTM Standard D5798, one label would be sufficient so long as it shows the potential range of ethanol content.

<sup>6</sup> See UL.com

<sup>7</sup> See for example, certain Gilbarco, and Dresser Wayne dispensers UL approved for up to E25, at <http://www.gilbarco.com/us/content/gilbarco-introduces-encore-s-e25-compatible-dispensers-and-new-single-hose-11-ethanol-blende>

<http://www.wayne.com/index.cfm/go/content-detail/dresserpage/Ovation-Eco-Fuel-Now-UL-Approved/>

<sup>8</sup> Alliance, Global Automakers, Outdoor Power Equipment Institute and National Marine Manufacturers Association

- c. Substitute (and increase the font size) for the proposed FTC label phrase “MAY HARM OTHER ENGINES” to now say:

**DO NOT USE IN OTHER ENGINES  
MAY CAUSE HARM**

- d. Prominently add (at bottom of label): “CHECK YOUR OWNER’S MANUAL”

Automakers advocate that a stronger term -- “WARNING” -- be used at the top of any posting for >E10 blends, given the potential risks to consumer vehicles and non-road equipment. We continue to support this language to maximize attention to the label content. (We disagreed, along with other engine manufacturers, with the United States Environmental Protection Agency’s (US EPA) use of the word “ATTENTION” on the E15 label because it was not strong enough, and disagreed with its placement on the diagonal).

We support including both a prescriptive instruction: “DO NOT USE IN OTHER ENGINES” and an incentivizing statement in the next line of “MAY CAUSE HARM” in lieu of FTC’s proposed “MAY HARM OTHER ENGINES”. The “*May Harm...*” does not convey the intended absolute prohibition on its use for non-flex-fuel equipment, whereas “Do Not Use...” is a clear, simple instruction. Adding “May Cause Harm” provides the reason for this instruction. These changes would be more consistent with but more streamlined than the wording on the EPA E15 label.<sup>9</sup> We also recommend increasing the font size for these phrases to ease reading them.

Vehicle and other engine manufacturers have consistently urged that pump labels include the phrase “CHECK YOUR OWNER’S MANUAL.” This reference to vehicle (and non-road equipment) owner’s manuals is made for good reason, as they are the primary sources of ongoing guidance to consumers, including for identifying appropriate fuel and other service fluids for their vehicle, and conditions of warranty coverage. We had supported the FTC’s own proposed inclusion of this language in its prior NPRM in our 2010 comments and to EPA in our comments on the US EPA Mis-fueling NPRM<sup>10</sup>.

Recently, the State of Nevada added Check Owner’s Manual language to the gasoline pump label in the event a metallic additive is used (which use is against OEM advice<sup>11</sup>). The State of Missouri passed legislation (SB506) delegating to regulators the task of reviewing retail pump labeling, and automakers and other stakeholders continue to advocate that it include Check Owner’s Manual language. However, a uniform federal label would be far preferable to a patchwork of state initiatives.

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<sup>9</sup> EPA E15 label reads in part: Do not use in other vehicles, boats, or gasoline-powered equipment. It may cause damage and is **prohibited** by federal law. See 79 FR at 18856.

<sup>10</sup> Alliance Comments dated January 3, 2011 to EPA E15 Mis-fueling NPRM (November 4, 2010), Docket No. EPA-HQ-OAR-2010-0448. Final Rule at 76 FR 44406 (July 25, 2011).

<sup>11</sup> See Worldwide Fuel Charter, 5<sup>th</sup> edition, available from [www.autoalliance.org](http://www.autoalliance.org)

Every gasoline >E10 and every Biodiesel > B5 should contain this “Check Your Owner’s Manual” language on the retail dispenser label. We do not agree that the language “USE ONLY IN FLEX FUEL VEHICLES” will be comprehensive or effective enough on its own, especially if consumers are met with a blender pump with four or five choices of gasoline blends that may appear elective by price, but are not all “backward compatible” for all vehicles and equipment in use. In addition, in the future more permutations of fuels and compatible vehicles may come about, further fragmenting the fleet into vehicles that can and cannot use mid-level blends. As a result, such changes will add additional complexity to the fuels market place. Consistent referral to the owner’s manual for specific service guidance is a principle that should be incorporated into consumer oriented fuel ratings and labels. Furthermore, the proposed FTC phrase assumes that customers know what a Flex Fuel vehicle is, which may not be the case.

While US EPA declined to include this Owner’s Manual statement in its E15 label, we think this remains a serious and significant flaw.<sup>12</sup> However, the risk to consumers with vehicles not designed for >E10 use would be best managed by referring the consumer to the owner’s manual for guidance. As noted below, the test data completed after US EPA’s final E15 rule continued to document potential adverse effects of concern for in-use vehicles in the ongoing current fleet.

We urge the FTC to include the “CHECK YOUR OWNER’S MANUAL” retail pump label language for all fuels >E10 or >B5 for biodiesel. This would be consistent with the FTC’s own initial 2010 proposal, with recommendations from states (*e.g.*, Tennessee per 79 FR at 18853), and would help reduce mis-fueling.

### **The FTC Should Mandate that the AKI Octane Rating be Posted for Alternative Blend as well as Conventional Gasoline in a Separate Label (Yellow) as Currently Posted**

Consumers have come to expect and have a right to know the octane rating of the fuel offered for sale (as RON+MON/2 or AKI). The correct octane rating for the vehicle is provided in the vehicle owner’s manual and therefore the correlating octane information should be available from the rating on the retail pump. This familiar information should be posted in the same manner for alternative intermediate ethanol blends. New York had also supported including the octane rating in addition to the alternative fuel rating (79 FR at 18853). This octane rating label will also support compliance/enforcement to be sure the correct octane tracks with the blend, and is not inappropriately low due to lower octane BOB (Blendstock for Oxygenate Blending) used to make Intermediate Blends.<sup>13</sup> As noted above, at this point an octane AKI

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<sup>12</sup> EPA noted that they did not include the owner manual statement for several reasons, including that the FTC had proposed to include it but had not completed its rulemaking. See Final Rule, “Regulation to Mitigate Mis-fueling of Vehicles and Engines With Gasoline Containing Greater Than Ten Volume Percent Ethanol and Modifications to the Reformulated and Conventional Gasoline Programs,” 76 FR 44406 (July 25, 2011) at 44477 (fn.13).

<sup>13</sup> Regarding octane levels for IEBs, See ASTM 2699 and 2700, and SAE Report 2012-01-12274 (4/16/2012), Anderson *et al.*, “Octane Numbers of Ethanol-Gasoline Blends: Measurements and Novel Estimation Method from Molar Composition”.

posting for Ethanol Flex Fuel (E51-83%) as defined by ASTM International is not yet practically feasible given variable composition.

### **The FTC Should Coordinate with NHTSA on its NPRM for On-Vehicle Labels for Alternative Fuels**

The U.S. Department of Transportation, National Highway Transportation Safety Administration recently proposed regulations to govern consumer protection content for “on vehicle” placement regarding Alternative Fuels (79 FR 9792, February 20, 2014). A copy of the FR notice, and Alliance and Global Automakers comments dated April 21, 2014 are attached to these comments. The NHTSA proposal addresses “E85” and the FTC addresses “Ethanol Flex Fuel” as defined by ASTM International, so coordination in an effort to minimize potential consumer confusion (e.g., on nomenclature) is recommended prior to final regulations.

### **Fuel Pump Labels Are Warranted and Should Alert Consumers to the Risks of Using Alternative Blends in Vehicles Not Intended for Such Use**

Automakers support use of alternative fuels, including ethanol blends. However, we continue to have strong concerns about the risks for consumers from mis-fueling vehicles with ethanol blends for which the vehicles were not designed, whether E15, E25 or another blend.<sup>14</sup> We continue to strongly disagree with the approach taken by US EPA in granting waivers for E15 use in Model Year (MY) 2001 and later vehicles that were not made to run on greater than E10 fuel. Although some new non-Flex Fuel (non FFV) vehicles manufactured since MY 2012 are E15 capable, many other new vehicles as well as older models are not.

Risks from use of E15 or intermediate ethanol blends in vehicles not designed for their use include mechanical damage on engine parts, and the fuel pump. In addition Malfunction Indicator Lights (MIL) may illuminate without a vehicle problem, solely due to the mis-fueling of the vehicle. This will result in a reduction in customer confidence in the On Board Diagnostics (OBD) system, increasing the likelihood that legitimate MIL lights will be ignored. A recent publication provides an overview of test findings in on-road vehicles subject to the EPA waiver allowing E15 use.

It concludes:

Industry and government, separately and together, have expended millions of dollars on testing IEBs [Intermediate Ethanol Blends] over the last several

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<sup>14</sup> Likewise, we have concerns about mis-fueling with higher biodiesel blends than the vehicle was intended to use, such as B10 or B20 in a vehicle made to use no greater than B5. For example, the State of Minnesota has a statute requiring sale *solely* of minimum B10 as #2 diesel in summer months (HF2746 Second Engrossment, See Section 9) and the 270 day letter condition has been met, thereby activating an effective date of July 1-September 30, 2014, and May 1-September 30 thereafter, an approach to which we and others have strongly objected to no avail. Minnesota’s law further requires sale solely of minimum B20 for motor vehicle diesel fuel in 2018, if certain statutory conditions are met.

years. Representative and sensitive vehicles and fuel system components were identified for testing to provide direction on the impact of moving the 2001 and newer on-road fleet from E10 to E15. Although the IEB testing program is extensive, only a subset of the vehicle model variants and use conditions could be tested. The studies suggest that though most of the 2001 and newer vehicle models tested will probably perform satisfactorily with IEBs, some will be at risk if run on blends with greater than 10% ethanol.<sup>15</sup>

See also specific individual publications listed by the Coordinating Research Council for intermediate ethanol blends (at [www.crcao.org](http://www.crcao.org)). Attached also is a copy of the Joint Auto/Energy Assessment of an October 2013 Renewable Fuels Association-funded report on the effects of Intermediate Ethanol Blends.

Serious risks for E15 use in non-road equipment will be addressed in comments from those stakeholders, and see, for example, D. Hilbert "High Ethanol Fuel Endurance: A Study of the Effects of [E15] in....Outboard Marine Engines" October 2011.<sup>16</sup>

EPA itself was very restricted in its analysis of the effects of E15, limiting its conclusion to the emissions control system. "Thorough testing has now shown that E15 does not harm emissions control equipment in newer cars and light trucks," said EPA Administrator Lisa P. Jackson.<sup>17</sup> The limited scope of EPA's determination is in line with Clear Air Act section 211(f)(4) which states:

The Administrator, upon application of any manufacturer of any fuel or fuel additive, may waive the prohibitions established under paragraph (1) or (3) of this subsection or the limitation specified in paragraph (2) of this subsection, if he determines that the applicant has established that such fuel or fuel additive or a specified concentration thereof, and the emission products of such fuel or fuel additive or specified concentration thereof, will not cause or contribute to a failure of any emission control device or system (over the useful life of the motor vehicle, motor vehicle engine, nonroad engine or nonroad vehicle in which such device or system is used) to achieve compliance by the vehicle or engine with the emission standards with respect to which it has been certified pursuant to sections 7525 and 7547 (a) of this title. The Administrator shall take final action to grant or deny an application submitted under this paragraph, after public notice and comment, within 270 days of the receipt of such an application. **[Emphasis added].**

EPA offers no conclusions on any vehicle equipment beyond that installed to control emissions.

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<sup>15</sup> See A. Hochhauser and C. Schleyer, *Summary of Research on the Use of Intermediate Ethanol Blends in On-Road Vehicles* © published in American Chemical Society "Energy & Fuels" available at <http://pubs.acs.org/doi/abs/10.1021/ef5004232>

<sup>16</sup> NREL/SR-5400-52909, [www.nrel.gov/docs/fy12osti/52909.pdf](http://www.nrel.gov/docs/fy12osti/52909.pdf)

<sup>17</sup> <http://yosemite.epa.gov/opa/admpress.nsf/0/BF822DDBEC29C0DC852577BB005BAC0F>

Congressman James Sensenbrenner, Vice-Chairman of the House Committee on Science, Space and Technology, asked 12 automakers about their positions on the potential for E15 damage, warranty coverage of E15 and the effects of E15 on fuel efficiency. In their responses<sup>18</sup> (copies attached), the automakers were consistent in stating that there was a real potential for vehicle damage from E15, that this damage would not be covered by new vehicle warranty, and that the use of E15 could reduce fuel efficiency.

The FTC refers to EPA's complementary regulations to *prevent* mis-fueling with E15.<sup>19</sup> The regulations, as the title makes clear, are for "...*mitigation* of the mis-fueling of vehicles and engines..."<sup>20</sup> A reading of the document indicates that EPA does not expect these rules to *prevent* mis-fueling. In fact, as noted in footnote 12 of these comments, EPA appeared to anticipate separate FTC requirements. These would be able to address broader impacts on consumers than just emissions control effects. Further, EPA's requirements fail to address liability issues for damage claimed to be attributable to use of E15 fuel. Therefore, a strong consumer warning is appropriate.

As part of the Engine Products Group, automakers and other engine manufacturers brought suit to challenge US EPA's Waiver Decisions, and *also* its companion final rule on E15 Mis-fueling Mitigation, based in part on the inadequate pump warning for consumers. That mis-fueling rule lawsuit is ongoing. A decision by the U.S. Court of Appeals in the DC Circuit is expected later this year.<sup>21</sup> Because the lawsuit is not yet resolved, and could result in a remand and subsequent new rulemaking by EPA, it would be premature for the FTC to given any final or unconditional deference/exemption to the US EPA E15 Pump Label at this time (see 79 FR at 18850).

Likewise, non-road engine equipment manufacturers have continued to urge better outreach for their consumers regarding documented dangers of incompatible fuels and have initiated their own "Look Before You Pump" campaign. See comments responding to this NPRM by the Outdoor Power Equipment Institute, Marine Manufacturers, and others. Additional concerns around alternative fuel use include availability of so-called legacy fuels like E0 (or E10), and physical proximity of fuel pumps/nozzles contributing to mis-fueling.

### **Mis-fueling Incidents Underscore the Need for Strong Labels**

We are not aware of any published studies systematically observing or otherwise documenting mis-fueling events, or for E15 or E85 mis-fueling in particular. However, the absence of data does not mean the absence of such events. In fact, we do know that mis-fueling continues to occur far too often for use of diesel instead of gasoline fuel, and vice versa. Just running a Google search on the term "misfueling diesel and gasoline" brings up thousands of articles,

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<sup>18</sup> <http://sensenbrenner.house.gov/news/documentsingle.aspx?DocumentID=249952>

<sup>19</sup> FTC, 79 FR at 18855

<sup>20</sup> EPA, 76 FR 44406

<sup>21</sup> *Alliance of Automobile Manufacturers v. EPA* 11-1334 and 11-1344 (US Ct. App. for the District of Columbia)

including a recent bulletin from the UK Automobile Association saying 150,000 reported cases of mis-fueling occur annually in Britain alone,<sup>22</sup> an SAE article on such mis-fueling,<sup>23</sup> and numerous 2013 articles about Volkswagen (and other carmakers) retrofitting diesel vehicles due to mis-use of gasoline in diesel vehicles in the United States.<sup>24</sup>

There are a very limited number of stations selling E15 (about 75), many of them only recently, out of estimated 157,000 US fuel dispensing facilities (including marinas) as of 2011 (see API website, [www.api.org](http://www.api.org)), but US EPA has apparently not used resources to study mis-fueling with E15, despite widespread stakeholder and legislative concerns about it.

### **The FTC Has the Statutory Authority to Issue the Proposed Amendments**

Automakers concur that for the reasons stated in the Preamble, the FTC has the legal authority to issue the scope of amendments in this NPRM, to promulgate labels for ethanol blend gasoline, and to address not only octane level and intermediate blend ethanol % ratings, but to caution consumers about potential harm from use of improper fuel for their vehicles.

The FTC has both ample statutory authority under the Petroleum Marketing Practices Act (“PMPA”)<sup>25</sup> and regulatory authority under its Fuel Rating Rule, 16 CFR Part 306, to require pump labels for ethanol blended gasoline.

Under PMPA, Congress directed the FTC to regulate methods for fuel rating, fuel certification, and the posting of service station pump labels.<sup>26</sup> The PMPA originally applied only to gasoline but Congress amended the law in 1993 to allow it to be applied to liquid alternative fuels. Any violation of the PMPA is considered an unfair or deceptive act or practice under the Federal Trade Commission Act, 15 USC Sec. 2823(e).

The FTC issued its revised Fuel Rating Rule in 1993 to cover all alternative liquid fuels distributed for use in any motor vehicle, including ethanol, E85, biodiesel, liquefied natural gas, and coal-derived liquids.<sup>27</sup>

In 2009, the FTC solicited comments on a proposed fuel rating rule, and after review of those comments, the Agency published the 2010 NPRM, with specific changes to the ethanol blend fuel provisions, but without a final resolution. The Alliance provided comments in both rulemakings.

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<sup>22</sup> <http://www.theaa.com/motoringadvice/fuels-and-environment/misfuelling.html>

<sup>23</sup> See Mikkonen and Engman, “Misfueling: What if Gasoline is Fueled Into a Diesel Car and Vice Versa?” SAE Report 2013-01-2692 available from [www.sae.org](http://www.sae.org).

<sup>24</sup> See for example, <http://www.autoweek.com/apps/pbcs.dll/article?AID=20130522/car>

<sup>25</sup> 15 USC Sec. 2801 *et seq.*

<sup>26</sup> 15 USC Sec. 2822

<sup>27</sup> 58 FR 41335, 41358 (August 3, 1993)

The April 4, 2014 NPRM proposes new and modified provisions for posting fuel ratings (by attaching a label to the retail fuel pump). The FTC already is authorized under the current fuel rating rule to provide precise specifications on the content, size, color, font and placement of the labels.<sup>28</sup>

Prior ethanol industry comments to the contrary are in error, and inconsistent with the Agency's statutory and regulatory authorities, as previously amended. While some commenters have alleged that warning labels for ethanol blend gasoline are unnecessary and unfair, helping purchasers identify the correct fuel for their vehicles is not only authorized but completely consistent with the FTC's mission and goals to promote consumer protection, by providing consumers with access to accurate information.<sup>29</sup>

**The FTC's Proposed Use of Infrared Octane Test for Screening/Compliance Should Be Amended**

We support adding the proposed infrared octane test for compliance use, *so long as* the FTC regulations at 306.0 (b)(iii) specifically add language that the ASTM *engine* tests for octane (D2699 and D2700) will serve as the referee methods in the event of a conflict. Other stakeholders, including Tesoro have supported this explicit condition. Automakers require use of fuels with specific octane ratings, based on ASTM D4814, *Standard Specification for Automotive Spark Ignition Engine Fuel*, which in turn references ASTM D2699 and D2700 as the *only* methods for the measurement of fuel octane ratings. It is appropriate for FTC to follow this consensus standard in setting the referee methods. We disagree with the FTC proposal not to include this condition.

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Thank you for the opportunity to comment. Please feel free to contact us with any questions.

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**Attachments:** Auto/Energy Assessment of RFA-Funded NREL Review of MLB; NHTSA 2/20/14 NPRM, with ALLIANCE and Global Automaker Comments in response 4/21/14; Sensenbrenner Letters on E15.

<sup>28</sup> 16 CFR Parts 306.10 and 306.12.

<sup>29</sup> [www.ftc.gov/about-ftc](http://www.ftc.gov/about-ftc)

\* F. JAMES SENSENBRENNER, JR.  
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July 5, 2011

The Honorable Lisa Jackson  
Administrator  
The Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20004

Dear Administrator Jackson,

The Environmental Protection Agency (EPA) is increasingly out of touch with American consumers. Rebuilding our economy doesn't require that we sacrifice our environmental ideals, but the costs of agency actions must be balanced against the environmental benefits. Increasingly, the EPA seems focused on regulatory action with crippling costs and, at best, minimal environmental benefits.

The EPA recently issued a waiver to allow gasoline blends of up to 15% ethanol (E15) in cars and trucks of model year 2001 and later. This decision was apparently based on narrow Department of Energy testing that did not consider the effect that E15 would actually have on car engines.

On June 1, 2011, I wrote to 14 auto manufacturers and asked 3 questions: (1) Will E15 damage engines of model year 2001 and later? (2) Will your warranties cover damage from E15? and (3) Will E15 negatively affect fuel efficiency?

Engine manufacturers have been nearly unanimous in their beliefs that E15 will damage engines, void warranties, and reduce fuel efficiency. In difficult economic times, consumers need to get more miles from a gallon of gas and extend the lives of their cars. EPA's waiver threatens the already precarious financial situation of American families with no discernible environmental benefit.

I have attached all the responses, but want to highlight quotes from each manufacturer:

**Chrysler:** "We are not confident that our vehicles will not be damaged from the use of E15 . . . The warranty information provided to our customers specifically notes that use of the blends beyond E10 will void the warranty."

**Ford:** "Ford does not support the introduction of E15 into the marketplace for the legacy fleet . . . Fuel not approved in the owner's manual is considered misfueling and any damage resulting from misfueling is not covered by the warranty."

**Mercedes-Benz:** "Any ethanol blend above E10, including E15, will harm emission control systems in Mercedes-Benz engines, leading to significant problems."

**Honda:** "Vehicle engines were not designed or built to accommodate the higher concentrations of ethanol . . . There appears to be the potential for engine failure."

**Mazda:** "The record fails to demonstrate that motor vehicles would not be damaged and result in failures when run on E15."

**Toyota:** "Toyota cannot recommend the use of fuel with greater than E10 for Toyota vehicles currently on the road . . . Our policy remains that we will not provide warranty coverage for issues arising from the misuse of fuels that exceed specified limits."

**Nissan:** "We are not at all confident that there will not be damage to MY 2001 and later vehicles that are fueled with E15. In our view the record fails to demonstrate that motor vehicles . . . would not be damaged and result in failures when run on E15."

**Volkswagen:** "Volkswagen agrees that the EPA did not conduct an adequate test program when E15 was considered and then approved for use in conventional vehicles. . . Our current warranty will not cover problems stemming from the use of E15."

**Volvo:** "The risks related to emissions are greater than the benefits in terms of CO<sub>2</sub> when using low-blend E15 for variants that are designed to E10."

**BMW:** "BMW Group engines and fuel supply systems can be damaged by misfueling with E15 . . . Damage appears in the form of very rapid corrosion of fuel pump parts, rapid formation of sludge in the oil pan, plugged filters, and other damage that is very costly to the vehicle owner."

**Hyundai:** "The EPA tests failed to conclusively show that the vehicles will not be subject to damage or increased wear."

**Kia:** "EPA testing failed to determine that vehicles will not be subject to damage or increased wear."

And the problems do not stop there. On June 22, 2011, I sent a second letter to small engine manufacturers. While the EPA's waiver does not apply to small engines, many small engines are fueled remotely—gasoline is initially filled into a container which is then used to fuel the engine. This creates a substantial risk of misfueling despite the EPA's labeling efforts. In my June 22 letter, I asked small engine manufacturers if they were confident that the EPA had done enough to avoid misfueling and whether they thought E15 would damage their engines. In the limited responses I have received, small engine manufacturers have expressed significant concerns. These responses are also attached.

E15 is a product that simply does not belong in the marketplace. I am writing to urge the EPA to heed these warnings and reconsider its E15 waiver. In furtherance of my work on the House Science, Space and Technology Committee and on behalf of my constituents, please respond to the following questions by July 21, 2011:

1. Did the EPA consider the effects E15 would have on engine durability and fuel efficiency before granting its waiver?
2. Is the EPA confident that E15 will not damage car engines in model years 2001 and later?

3. What effect does the EPA believe that B15 will have on fuel economy?
4. Does the EPA believe that its recent labelling safeguards for B15 will be sufficient to prevent misfueling in car and truck engines older than model year 2011 and in small engines?

I greatly appreciate your prompt response and attention to this matter.

Sincerely,

F. James Sensenbrenner, Jr.  
Vice-Chairman, House Committee on Science, Space, and Technology

cc: The Honorable Ralph Hall  
Chairman, Committee on Science, Space, and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space, and Technology



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July 1, 2011

The Honorable F. James Sensenbrenner, Jr.  
Vice-Chairman, House Committee on Science, Space and Technology  
United States House of Representatives  
Room 2499  
Rayburn House Office Building  
Washington, DC 20515-5101

Dear Vice-Chairman Sensenbrenner,

Thank you for your June 1, 2011 letter to Kia Group President and Chief Executive Officer Byung Mo Ahn inquiring on Kia's views of ethanol blends and the Environmental Protection Agency (EPA) efforts to change the levels of use by 50 percent or to an E15 level. We are honored to be asked to comment on your work for the House Committee on Science, Space and Technology and are pleased to respond to your specific questions on E15.

Overall, Kia believes more testing is required before introducing a new fuel into the marketplace. Scientific review can determine the positive and negative impact a new fuel can have on air quality, consumer acceptance and engine durability.

We have addressed your questions outlined in the June 1 letter:

*Question One on confidence that our cars and trucks from model year 2001 and later will not be damaged by or wear out more quickly from the use of E15; EPA testing failed to determine that vehicles will not be subject to damage or increased wear. Therefore Kia has no basis to conclude that vehicles will not be damaged by or wear out faster due to the use of E15.*

*Question Two concerning current warranties and potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later; On pages 9-10 of the Warranty Manual, Kia states: "Improper maintenance or the use of other than the specified fuel, oil or lubricants recommended in your Owner's Manual. It is your obligation to ensure that you obtain all fuels, oils and lubricants from reliable vendors using quality products which meet the Kia specifications identified in your Owner's Manual. In the event that problems result to your vehicle due to service from vendors who use reduced quality products, your vehicle warranties will not provide coverage."*



Kia Motors Corporation Washington Office  
1660 L Street, NW, Suite 201  
Washington, DC 20036  
Tel: 202-503-1515 Fax: 202-503-1516

**Kia's Owner's Manual in section 1, page 3 provides that owner's shouldn't use anything greater than 10% ethanol and that a 15% mixture will damage the vehicle. (Kia Warranty and Owner's Manuals are attached for your review)**

***Question Three on the effect of E15 on the fuel efficiency of our engines; Kia believes that E15 will lead to degradation in fuel efficiency due to the lower energy content than gasoline.***

Thank you for your letter and the opportunity to share our views on E15. If you have further comments or questions, I can be reached on 202 503-1515 or [jta@kia-dc.com](mailto:jta@kia-dc.com).

Sincerely,

John T. Anderson  
Director, Kia Government Affairs

cc: The Honorable Ralph Hall  
Chairman, Chairman Committee on Science, Space and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space and Technology

Mr. Byung Mo Ahn  
Group President and Chief Executive Officer  
Kia Motors America

# HONDA

Honda North America, Inc.  
1001 G Street, N.W., Suite 950  
Washington, D.C. 20001  
Phone (202) 681-4400

June 13, 2011

Hon. F. James Sensenbrenner, Jr.  
Vice Chairman  
Committee on Science, Space, and Technology  
House of Representatives  
Washington, D.C. 20515-4905

Dear Mr. Vice Chairman:

Mr. Tetsuo Iwamura, President and Chief Executive Office of American Honda Motor Company, Inc., has asked that I respond to your June 1, 2011, letter regarding the Environmental Protection Agency's recent approval of a blend of 15 percent ethanol (E15) for use in cars and trucks of Model year 2001 or later. You have raised the following three questions:

1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?

As you know, the Clean Air Act requires motor vehicle manufacturers to certify that the vehicles they sell will meet or exceed emissions standards in effect at the time each vehicle is introduced into commerce. There are specific testing protocols that must be employed for certification, including specifications for fuels used in the vehicles during testing. As a result, we engineer our vehicles to meet or exceed the standards utilizing the prescribed test fuel, which never has contained ethanol. However, given the fuels prevalent in the market over the last decade, the engines in Model Year 2001 later vehicles were built to operate on fuels with ethanol concentrations of up to 10% (E10).

Authorizing the sale of E15 in 2010 for vehicles built after 2001 presents an obvious problem for auto manufacturers – vehicle engines were not designed or built to accommodate the higher concentrations of ethanol. The differences between E10 and E15, including E15's higher oxygen content, lower energy content and heightened corrosivity, require use of more robust component materials and different engine calibrations. The engines in our Model Year 2001 and later vehicles do not have those necessary materials or calibrations.

In our owner's manuals, Honda requires its customers to refuel their vehicles with E10 or below. The impact of E15 on our engines is not completely known at this stage, although there appears to be the potential for engine failure. During the EPA's consideration of the partial waiver approving the use of E15, Honda and its trade association, the Association of International Automobile Manufacturers (AIAM) (now known as Global Automakers), urged the agency to defer its decision until such time as the testing program on the impact of E15 on vehicles is complete. The testing is being managed by the Coordinating Research Council (CRC), an independent organization funded by the automobile and oil industries, with limited contributions from the U.S. government. Honda is a member of the CRC and active in its testing.

It is unfortunate that EPA did not wait for the results of the seven major test programs that are being undertaken by CRC. These programs include critical tests for engine durability and fuel system material compatibility. Potential E15-related failures have already been identified in some of these programs, including the possible confounding of a vehicle's on-board diagnostic system. This can lead to illumination of the "check engine" light when in fact there is no malfunction, or the failure of the light to illuminate when there is a problem.

Because E15 has not been in the market and our engines were not designed for its use, we do not have a detailed understanding of the implications of the widespread use of the fuel in our vehicles. However, these early results from the CRC testing cause us concern. The CRC studies are due to be completed beginning in late-2011.

**2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?**

As noted above, Honda products were designed, built and certified to operate on E10 and below. Use of higher blends could compromise the vehicle's warranty.

**3. Will E15 affect the fuel efficiency of your engines?**

Ethanol contains less energy than gasoline on a gallon-for-gallon basis. Accordingly, customers can expect to experience about 5% - 6% inferior fuel economy using E15 rather than E0 (the difference between E10 and E15 will be smaller). Customers using E85 (in a vehicle designed to use E85) instead of E10 will experience about a 27% decrease in fuel economy. For example, a vehicle that gets 300 miles to the tank on today's gasoline will likely achieve only about 219 miles to the tank with E-85.

If you have further questions regarding E15, please feel free to contact me at (202) 661-4400.

Sincerely,

Edward B. Cohen  
Vice President  
Government & Industry Relations

cc: The Honorable Ralph Hall, Chairman  
Committee on Science, Space, and Technology

The Honorable Eddie Bernice Johnson, Ranking Member  
Committee on Science, Space, and Technology



Jody Trapasso  
Senior Vice President  
External Affairs

June 23, 2011

The Honorable F. James Sensenbrenner, Jr.  
Vice-Chairman  
House Committee on Science, Space and Technology  
U.S. House of Representatives  
2449 Rayburn House Office Building  
Washington, DC 20515-4905

Dear Vice-Chairman Sensenbrenner:

Sergio Marchionne asked me to respond to your June 1, 2011 letter requesting information about the Environmental Protection Agency's (EPA or Agency) decisions to allow the use of 15 percent ethanol (E15) in passenger cars and light trucks beginning with the 2001 Model Year (MY).

Beginning in the late 1970's, Chrysler was one of the first automakers to endorse and support the use of "gasohol" (i.e., gasoline with up to 10 percent ethanol, or E10). Since then, all of our conventional gasoline-fueled cars and trucks have been designed and warranted for E10 operation. Chrysler has also produced Flexible-Fuel Vehicles (FFVs) since the 1998 MY and voluntarily committed that 50 percent of our fleet produced by 2012 will be capable of operating on renewable fuels. These vehicles are designed, warranted and developed to operate on gasoline, E85 ethanol or any blend in between.

While Chrysler has been a strong advocate of renewable fuels, we have concerns about the potential harmful effects of E15 in engines and fuel systems that were not designed for use of that fuel. In cooperation with other automakers, we have been conducting tests of vehicles in the 2001 and later model year vintage to assess the effect of E15 on their engines and fuel systems. Prior to EPA's decisions to allow E15, we had requested that the Agency defer from making any decisions regarding higher ethanol blends for conventional vehicles until existing testing programs have been completed and the data fully evaluated.

Provided below are answers to the three specific questions asked in your letter.

**1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?**

No, we are not confident that our vehicles will not be damaged from the use of E15. While future products could be designed to accommodate E15 or other mid-level blends of ethanol, testing to date suggests that both newer and older models (non-FFVs) may experience more engine wear and fuel system damage from the use of E15.

**2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?**

No. Chrysler's conventional vehicles (non-FFVs) are only warranted for use of E10. The warranty information provided to our customers specifically notes that use of blends beyond E10 will void the warranty.

**3. Will E15 affect the fuel efficiency of your engines?**

Yes. The energy content (Btu/gallon) of fuel decreases as the ethanol concentration increases. As a result, we expect the fuel efficiency of our conventional products (non-FFVs) to decrease with any increase in ethanol content.

I hope that this information responds to your request. Please do not hesitate to contact me if you need any additional information.

Sincerely,

Jody Trapasso



Susan M. Clonke  
Group Vice President-Sustainability,  
Environment & Safety Engineering

World Headquarters  
One American Road  
Dearborn, MI 48126-2798 U.S.A

June 8, 2011

The Honorable James Sensenbrenner, Jr.  
Vice-Chairman, House Committee on  
Science, Space, and Technology  
Rayburn House Office Building, Room 2449  
Washington, D.C. 20515

Dear Vice-Chairman Sensenbrenner:

Alan Mulally has asked me to respond to your letter of June 1 regarding the introduction of E15 fuel into the marketplace.

At Ford, we recognize the need to increase the use of biofuels to meet the country's goals of energy security and reduced greenhouse gas emissions. Ford has produced, and continues to offer, a substantial number of flexible fuel vehicles (FFV) capable of operating on E85 (85% ethanol) across many models. The renewable fuel standard, passed into law in 2007, requires 36 billion gallons of biofuels to be blended into transportation fuel by 2022. In order to meet that goal, the country needs to increase the use of ethanol beyond the 10% (E10) used today, but needs to do so in a fashion that does not have a negative impact on the legacy fleet.

This can be accomplished by taking a prospective approach to the introduction of mid-level blends whereby manufacturers, provided with enough lead time, can design new vehicles with the capability of accommodating the new fuel. Likewise, the lead time will give fuel providers an opportunity to prepare to make the new fuel available nationwide. In contrast, an approach in which fuel specifications are changed abruptly, and the new fuel is allowed to be used on vehicles that were not designed for it, is likely to lead to undesirable outcomes for consumers, the new fuel, and the legacy vehicles.

Below are answers to your specific questions:

**Q1 Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?**

Ford does not support the introduction of E15 into the marketplace for the legacy fleet. The entire legacy fleet of non-FFVs, including vehicles built in model year 2001 and later, consists of vehicles that were designed to operate in a range of fuels from pure gasoline up to a blend of 10 percent ethanol (E10) -- not E15. We remain concerned that legacy fleet, operating on a fuel the vehicles were not designed for, will not meet customer expectations for quality, durability, performance and fuel economy, as well as legal requirements to meet emission standards and

on-board diagnostic regulations. Efforts to increase renewable fuel use must be carried out in a way that does not create undue risks and problems for existing vehicles on the road.

**Q2 Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?**

The owners' manuals for these legacy vehicles do not identify E15 as a fuel that may be used in the vehicles. They go on to say that the use of a fuel not approved in the owners' manual is considered misfueling, and that any damage resulting from misfueling is not covered by the warranty. To the extent that E15 is introduced into commerce, we will work with our customers and dealerships as best we can to address any potential concerns, but we cannot redesign vehicles that have already been built and sold.

**Q3 Will E15 affect the fuel efficiency of your engines?**

Going from the generally available E10 fuel to E15 will not have a significant impact on the efficiency of the engine, but because ethanol contains less energy per a given volume of fuel, customers will experience slightly lower miles per gallon when driving on E15 versus E10.

Ford appreciates the opportunity to provide our views on this subject. Thanks again for your continued support of the automotive industry.

Sincerely,

Susan M. Cischke  
Group Vice President  
Sustainability, Environment & Safety Engineering  
Ford Motor Company

cc: The Honorable Ralph Hall  
Chairman, Committee on Science, Space, and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space, and Technology

Mazda North American Operations

James J. O'Sullivan  
President and CEO



June 7, 2011

The Honorable F. James Sensenbrenner  
Vice-Chairman  
House Committee on Science, Space and Technology  
United States House of Representatives  
2449 Rayburn House Office Building  
Washington, D.C. 20515-4905

Dear Vice-Chairman Sensenbrenner:

We appreciate receiving your June 1, 2011 letter regarding EPA's two partial waiver decisions that permit the sale of gasoline containing up to 15 percent ethanol (E15) for 2001 model year (MY) and newer passenger cars and light trucks. We believe that increasing the allowable ethanol content in gasoline by 50 percent will have unintended consequences for auto manufacturers, consumers, fuel suppliers and distributors. Mazda's primary concern about an E15 waiver is the overriding need for consumer satisfaction.

Specifically, your letter asks for responses to the following three questions. Our responses are provided below.

1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?

No, we are not at all confident that there will not be damage to MY 2001 and later vehicles that are fueled with E15. In our view, the record fails to demonstrate that motor vehicles (other than RPVs) would not be damaged and result in failures when run on E15. No Mazda vehicles were included in the models tested by the government.

2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?

Mazda vehicles covered by the waiver were designed to use a maximum of E10. The direction in the owner guides of Mazda vehicles reflects the fact that they were not designed to run on E15. EPA regulations allow manufacturers to deny warranty coverage for vehicles damaged due to mis-fueling (based on the owner's manual instructions). We are encouraging Mazda vehicle owners to continue to consult their owners' manuals for information regarding the appropriate fuel for their vehicles.

Mazda owner's manuals specify the following:

*"Your vehicle can use only oxygenates that contain no more than 10 percent ethanol by volume. Harm to your vehicle may occur when ethanol exceeds this recommendation, or if the gasoline contains any methanol."*

*"Vehicle damage and drivability problems resulting from the use of the following may not be covered by the Mazda warranty.*

- *Gasohol containing more than 10% ethanol.*
- *Gasoline or gasohol containing methanol.*
- *Leaded fuel or leaded gasohol."*

**3. Will E15 affect the fuel efficiency of your engines?**

Yes. A gallon of ethanol has lower energy content than a gallon of gasoline. Therefore, any increase in ethanol content will necessarily degrade fuel economy.

Thank you for considering our views. If you have any questions about this information, please contact Barbara Nocera at [bnocera@mazdausa.com](mailto:bnocera@mazdausa.com) or 202.467.5096.

Sincerely,

James J. Sullivan

cc: The Honorable Ralph Hall  
Chairman, Committee on Science, Space, and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space, and Technology

# BMW Group

June 23, 2011

The Honorable F. James Sensenbrenner, Jr.  
Vice-Chairman  
House Committee on Science, Space, and Technology  
United States House of Representatives  
Washington, DC 20515-4905

Dear Mr. Vice-Chairman:

This is in response to your June 1, 2011 letter regarding the recent approvals by the EPA to permit a gasoline blend of 15 percent ethanol (E15) for use in model year 2001 and later passenger cars and light trucks. Our Chairman asked me to respond to your request.

On behalf of BMW of North America, LLO (BMW NA), please find below your questions followed by our answers.

**1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?**

BMW NA Response: No. BMW Group engines and fuel supply systems can be damaged by misfueling with E15. BMW has designed its engines and fuel systems to operate with gasoline up to E10 and our owners have already experienced damage when, for example, a gasoline terminal mixes greater than 10% ethanol into the tanker. As a result of periodic damage, BMW NA has issued Service Information Bulletins (attached) warning of potential damage, and our dealers have ethanol test kits to measure the percentage of ethanol in the vehicle's tank.

Damage appears in the form of very rapid corrosion of fuel pump parts, rapid formation of sludge in the oil pan, plugged filters, and other damage that is very costly to the vehicle owner.

As you would expect, engines and fuel systems already on the road cannot be retroactively designed to be compatible with ethanol blends higher than used for the original design.

**2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?**

BMW NA Response: No. Our warranty states that it does not cover malfunctions caused by use of fuels containing more than 10% ethanol. Our dealers have an alcohol detection tool to identify ethanol blends that exceed the allowable 10% maximum. We anticipate that the owners of vehicles damaged by higher levels of ethanol will be frustrated, notwithstanding the warnings contained in our warranty booklets.

Company  
BMW of North America, LLO

BMW Group Company

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E-mail  
Tom.Baloga@bmwna.com



### **3. Will E15 affect the fuel efficiency of your engines?**

Response: Yes. Engine compression ratios, turbo-charging pressures, and control mapping are designed to optimize fuel economy, performance, and emissions based on a maximum of E10. Since ethanol has about 34% less energy than gasoline, an engine designed to run on up to E10 will suffer a corresponding loss in fuel economy. More importantly, use of ethanol blends higher than E10 in the wrong engines will result in drivability problems at high and low temperatures including hard starting, stalling, and hesitation.

### **Recommendations**

BMW NA respectfully makes the following recommendations if increased percentages of ethanol in gasoline are required:

- Legacy E10 gasoline must be required by law for the next 15 years to accommodate vehicles, motorcycles, and other power equipment currently in use that would be damaged by E10+.
- Implementation of effective efforts to prevent misfueling, including requiring strong language on pump labels on E10+ pumps that warn of damage from misfueling and advise users to "Check your owner's manual for ethanol warnings," and consider the use of a different nozzle size for E10+ pumps to diminish the chance of inadvertent misfueling.
- An ethanol misfueling owner reimbursement clearinghouse, funded by the ethanol industry, should be established by law to allow owners to recoup repair costs from misfueling damage. Vehicle OEMs and gas station owners should be indemnified from damages caused by misfueling.
- By law, before a gas station storage tank is filled with ethanol blends greater than E0 or E10 for the first time, the tank must be cleaned and filters installed to prevent newly-dissolved dirt caused by water and alcohol from being pumped into consumers' tanks.
- In general, we favor the introduction of an increase to E20 in ethanol content together with a 5 year minimum lead time for engine and fuel system developers.

If you or your staff has further questions, please contact me at 201-571-5071.

Sincerely,

Thomas C. Baloga  
Vice President, Engineering US

cc: The Honorable Ralph Hall  
Chairman, Committee on Science, Space, and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space, and Technology

Enclosures



# Service Information

Fuel Systems

B13 05 10

Page 1 of 2

April 2011

Technical Service

This Service Information bulletin replaces SI B13 04 06 dated August 2006.

## SUBJECT

### Testing Fuel Composition

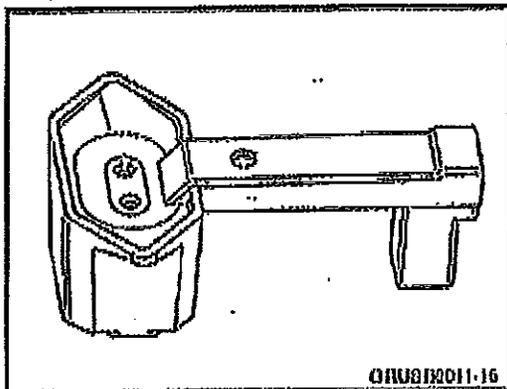
## MODEL

All

## SITUATION

Fuel blends containing a high percentage of alcohol (10% and above), mainly ethanol, are becoming more commercially available. Usage of E85 or any other high alcohol content blend (e.g., E30) in BMW vehicles will cause various drivability complaints (cold start problems, stalling, reduced performance, poor fuel economy, etc.); may cause excessive emissions; and may cause irreversible damage to engine, emission control and fuel delivery systems due to incompatibility of materials with alcohols. Refer to SI B13 01 06 Alcohol Fuel Blends in BMW Vehicles for complete details.

In order to correctly diagnose various drivability complaints caused by fuel blends with a high level of ethanol content, BMW is providing you with an electronic fuel composition tester.



Fuel Composition Tester  
P/N 83 30 0 439 685

Refer to B04 04 11 for more details.

## PROCEDURE

### Safety Precautions:

- Gasoline is highly flammable; observe normal precautions for working with flammable liquids. Perform all tests away from any source of ignition. A class B fire extinguisher must be available.
- Wear protective eye protection with side shields and Nitrile rubber gloves for handling the tester.
- Please adhere to any applicable OSHA regulations when handling gasoline.
- Dispose of the mixture according to local, state and federal regulations.

Refer to the attached procedure for testing the fuel composition of gasoline.

**WARRANTY INFORMATION**

Component damage, malfunctions, or any drivability problems verified to be caused by the use of fuels containing more than 10% ethanol (or other oxygenates with more than 2.8% oxygen by weight) will not be covered under BMW warranties as this is not considered a defect in materials or workmanship. Always document the results found on the vehicle repair order whenever performing this test.



# Service Information

Fuel Systems

B13 01 06

Page 1 of 2

May 2011

Technical Service

This Service Information bulletin supersedes SI B13 01 06 dated September 2008.

Changes to this revision are identified by a black bar.

## SUBJECT

### Alcohol Fuel Blends in BMW Vehicles

## MODEL

All with gasoline engines

## SITUATION

Fuel blends containing a high percentage (above 10%) of alcohol, mainly ethanol, are becoming more commercially available. Customers inquire about the possibility of using alcohol fuels (e.g., E85) in BMW vehicles.

## INFORMATION

Fuels containing up to and including 10% ethanol; or other oxygenates with up to 2.8% oxygen by weight, that is, 15% MTBE (methyl tertiary butyl ether); or 3% methanol plus an equivalent amount of cosolvent will not void the applicable warranties with respect to defects in materials or workmanship.

Usage of such alcohol fuel blends may result in drivability, starting, and stalling problems due to reduced volatility and lower energy content of the fuel. Those drivability problems may be especially evident under certain environmental conditions such as high or low ambient temperatures and high altitude.

Only specially adapted vehicles (FFV - Flexible Fuel Vehicles) can run on high alcohol fuel blends. BMW, for the various technical and environmental reasons explained below, does not offer FFV models.

Usage of E85 or any other high-alcohol content blend (e.g., E30) in BMW vehicles will cause various drivability complaints (cold-start problems, stalling, reduced performance, poor fuel economy, etc.); may cause excessive emissions; and may cause irreversible damage to engine, emission control and fuel delivery systems due to incompatibility of materials with alcohols.

### General Notes Regarding E85 Fuel

E85 fuel contains 85% (by volume) ethanol and 15% gasoline. Ethanol can be produced chemically from ethylene or biologically from grains, agricultural wastes, or any organic material containing starch or sugar. In the US, ethanol is mainly produced from corn and is classified as a renewable fuel.

Similar to gasoline, ethanol contains hydrogen and carbon with additional oxygen molecules built into its chemical chain. This chemical structure makes ethanol's burning process slightly cleaner than gasoline (lower tailpipe emissions).

On the other hand, due to lower carbon content, ethanol provides 27% less energy (for identical volume) than gasoline, resulting in reduced fuel economy of E85 vehicles (approximately 22% higher consumption). Increased fuel consumption requires appropriately enlarged fuel tank capacities (usually a 30% increase), and specific DME calibrations for E85 lower stoichiometric air/fuel ratio (10 compared to 14.7 for gasoline engines).

E85 fuel volatility is typically lower than gasoline (RVP 6-10 psi, compared to 8-15 psi for gasoline). Lower fuel volatility will reduce vehicle evaporative emissions, but it may cause cold-starting problems, especially with lower ambient temperatures.

Under certain environmental conditions, mainly lower ambient temperatures, ethanol separates from the gasoline/alcohol mixture and absorbs water. The ethanol-absorbed water molecules are heavier than gasoline or ethanol; they remain at the bottom of fuel tank and, when introduced into the combustion process, they tend to form an extremely lean mixture resulting in misfire, rough idle and cold-starting problems.

Certain materials commonly used with gasoline are totally incompatible with alcohols. When these materials come in contact with ethanol, they may dissolve in the fuel, which may damage engine components and may result in poor vehicle drivability.

Some metals (e.g., zinc, brass, lead, aluminum) become degraded by long exposure to ethanol fuel blends. Also, some nonmetallic materials used in the automotive industry such as natural rubber, polyurethane, cork gasket material, leather, polyvinyl chloride (PVC), polyamides, methyl-methacrylate plastics, and certain thermo and thermoset plastics degrade when in contact with fuel ethanol.

In order to safely and effectively operate a motor vehicle running on E85, the vehicle must be compatible with alcohol use. Some manufacturers have developed vehicles called FFV (Flexible Fuel Vehicle) that can operate on any blend of ethanol and gasoline (from 0% ethanol and 100% gasoline to 85% ethanol and 15% gasoline). Ethanol FFVs are similar to gasoline vehicles, with main differences in materials used in fuel management and delivery systems, and DME control module calibrations. In some cases, E85 vehicles also require special lubricating oils.

Aftermarket conversions of gasoline-powered vehicles to ethanol-fueled vehicles, although possible, are not recommended, due to internal materials and DME software incompatibility as well as the high costs of conversion.

In order to correctly diagnose various drivability complaints caused by fuel blends with a high level of ethanol content, refer to SI B13 05 10, Testing Fuel Composition for applicable tools and procedures.

### WARRANTY INFORMATION

Components damage/malfunctions or any drivability problems caused by the use of fuels containing more than 10% ethanol (or other oxygenates with more than 2.8% oxygen by weight) will not be covered under BMW warranties with respect to defects in materials or workmanship.



Mercedes-Benz

Mercedes-Benz USA, LLC

Ernst H. Lieb  
President and CEO

June 10, 2011

The Honorable F. James Sensenbrenner, Jr.  
2449 Rayburn House Office Building  
Washington, DC 20515-4905

Dear Congressman Sensenbrenner:

Thank you for your letter regarding the Environmental Protection Agency's (EPA) decision to approve E15 for use in cars and trucks of Model Year 2001 or later. I appreciate the opportunity to respond to your inquiry.

Biofuels play an important part in strengthening our nation's energy security. But, like you, I am concerned over the EPA's decision to grant a waiver for E15 use in certain model year cars and trucks. A premature introduction of E15 into the marketplace will heighten consumer confusion and undercut studies already underway that aim to evaluate the effects of increased ethanol blends on vehicle parts and systems.

As you may know, numerous organizations across the United States have commented on the EPA's decision. Automakers are not alone in voicing their opposition. Among others, the auto industry is joined by organizations representing agriculture, small engine manufacturers, and small business owners in uniformly opposing this premature decision on ethanol.

Throughout its operations in the U.S., Mercedes-Benz has provided the most advanced engine and emission control systems to meet the requirements of the U.S. market. All current Mercedes-Benz fleet vehicles and series model lines up to MY 2011 are designed and tested for the use of E10. We have relied on this E10 blend in our vehicle design, and any ethanol blend above E10, including E15, will harm emissions control systems in Mercedes-Benz engines, leading to significant problems with certification, in-use testing, emissions performance and fuel economy.

Mercedes-Benz customers who misfuel with E15 will force the Company to face a host of product-liability actions. Although the Mercedes-Benz warranty in the owner's manual is clearly restricted to claims involving "proper maintenance," it would be impossible for the Company to prove that the vehicle damage is due to customer misfueling.

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[www.MFUSA.com](http://www.MFUSA.com)

The deterioration, early wear, and aging process depend on how much and how often customers misfuel. Thus, Mercedes-Benz and other manufacturers will be forced into legal actions at a serious disadvantage.

More information on the compatibility of higher ethanol blends in vehicles must be obtained—we simply need more research on the possible negative effects this could have on engines and vehicle components.

At Mercedes-Benz, consumer satisfaction is paramount. Anything that might jeopardize our customer's perception of quality, performance, and safety of a Mercedes vehicle is of deep concern. For this reason, we have steadfastly opposed the EPA's decision to increase ethanol blends without full, comprehensive study. I am pleased that auto manufacturers have been joined by dozens of other associations and industries in voicing similar objections.

Congressman, thank you for your leadership on this issue. Again, thank you for contacting me.

Sincerely,

# TOYOTA

**TOYOTA MOTOR NORTH AMERICA, INC.**

WASHINGTON OFFICE

801 THIRTEENTH STREET, NW, SUITE 910 SOUTH, WASHINGTON, DC 20005

TEL: (202) 775-1700

FAX: (202) 822-0928

June 13, 2011

The Honorable F. James Sensenbrenner, Jr.  
Vice Chairman  
House Committee on Science, Space, and Technology  
Room 2449 Rayburn House Office Building  
Washington, DC 20515

Dear Vice Chairman Sensenbrenner:

I am writing in response to your June 1, 2011 letter to James Lentz concerning the Environmental Protection Agency's (EPA's) approval of E15 for use in 2001 model year and later vehicles.

Toyota strongly supports the development of alternative fuels to help reduce dependence on foreign oil and potentially reduce vehicle emissions. However, along with many other automobile manufacturers, Toyota is concerned about the EPA waivers approving use of E15 for 2001 model year and newer vehicles. As you may know, Toyota is a member of the Alliance of Automobile Manufacturers and the Association of Global Automakers, and these trade associations have joined with the National Marine Manufacturer's Association and the Outdoor Power Equipment Industries to challenge EPA's E15 waiver decisions.

Listed below are the questions from your letter along with Toyota's response:

- 1) Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?

**RESPONSE:** With the exception of the Flexible Fuel Vehicle (FFV) versions of our Tundra and Sequoia (which were designed specifically for the higher ethanol-based fuel), all Toyota, Lexus and Scion models on the road today have only been designed for fuels with up to 10% ethanol (E10). Moving from E10 to E15 represents a 50% increase in the alcohol content of the fuel compared to what the vehicles were designed to accept. Unfortunately, the data considered in connection with EPA's E15 waivers does not adequately determine the effect of this change on Toyota's legacy fleet. Accordingly, Toyota cannot recommend the use of fuel with greater than E10 (10% ethanol) for Toyota vehicles currently on the road, except for the FFV's.

- 2) Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?

**RESPONSE:** The vehicle owner's manual for Toyota, Lexus and Scion vehicles clearly recommends against using fuels with ethanol content greater than 10%, except for the FFV's, which can use fuels up to 85% ethanol. Our policy remains that we will not provide warranty coverage for issues arising from the misuse of fuels that exceed specified limits.

3) Will E15 affect the fuel efficiency of your engines?

**RESPONSE:** Because a gallon of ethanol has lower energy content than a gallon of gasoline, higher level ethanol blends will generally result in lower real-world vehicle fuel economy.

Toyota recognizes that ethanol and other renewable fuels will continue to play an important role in US energy policy. But, rather than pursue a *retrospective* solution that carries substantial risks for consumers, automakers, equipment makers and fuel providers, we need a *prospective* solution that provides adequate lead time for vehicle development, fueling infrastructure modifications and misfueling prevention measures. In support of this notion, and to avoid a continually moving target, Toyota stands ready and willing to develop E20 compatible vehicles in the future provided these issues are addressed.

We welcome the opportunity to work with key stakeholders in Congress, the regulatory agencies, the auto industry, the fuel industry and others to examine a practical pathway forward. Please contact me if you have any questions or need any additional information.

Sincerely,

Thomas J. Lehner  
Vice President, Government & Industry Affairs  
Toyota Motor North America

# VOLKSWAGEN

GROUP OF AMERICA

June 9, 2011

The Honorable F. James Sensenbrenner, Jr.  
Vice-Chairman, House Committee on Science, Space, and Technology  
U.S. House of Representatives  
2449 Rayburn House Office Building  
Washington, D.C. 20515-4905

Dear Congressman Sensenbrenner,

Thank you for your June 1 letter to Jon Browning inquiring about Volkswagen Group of America's position on EPA's decision to allow E15 for use in cars and trucks of model year 2001 or later. Mr. Browning is out of the country and has asked that I respond on his behalf. We appreciate your leadership on this issue and support your legislation to block the implementation of this rule. Below please find our responses to your questions.

*1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?*

Volkswagen does not have complete confidence that our vehicles will have no problems related to the use of E15. During the development of existing products no manufacturer tested for E15, since this fuel was not considered as a possible fuel when these vehicles were designed and tested. There is risk that a population of these existing vehicles could experience some type of problem due to E15.

Volkswagen agrees that the EPA did not conduct an adequate test program when E15 was considered and then approved for use in conventional vehicles. The auto and petroleum industry, through the CRC organization, conducted some limited testing of five vehicle areas where it was felt E15 could cause problems with some population of 2001 and newer vehicles. These five areas of concern are the following: base engine durability, catalyst durability, fuel system components, evaporative emissions systems and on board diagnostic (OBD) systems. The CRC testing indicated that some vehicles may be subject to problems related to E15 in the areas mentioned. It is possible that Volkswagen vehicles are included in the population of vehicles that could experience problems.

MICHAEL LOISCHELLER  
EXECUTIVE VICE PRESIDENT &  
CHIEF FINANCIAL OFFICER

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**2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?**

No. Our current warranty will not cover problems stemming from the use of E15. Our owner's manuals currently recommend the use of E10 fuels. We disagree with the EPA decision to allow E15 in 2001 and newer vehicles and our advice to our customers is to follow the recommendation found in the owner's manual.

**3. Will E15 affect the fuel efficiency of your engines?**

Yes, E15 will affect fuel economy negatively. Ethanol has less energy content than gasoline and a higher percentage of ethanol will result in lower fuel economy. Ethanol has higher octane but there is no assurance the increased ethanol will raise the octane of the fuel, since the octane of the base gasoline can be lowered if a higher level of ethanol is used.

In summary, Volkswagen Group of America supports renewable fuels and increased use of ethanol, but disagrees with the EPA's approach to use a higher blend in older vehicles not designed to use this fuel. A more sensible approach is to set a higher level blend in the future with adequate lead time for the industry to design their vehicles to the prescribed higher blend level. The blend level should be set such that the RFS II requirements are fulfilled. The result would be vehicles designed for and optimized to a new higher ethanol fuel. This new fuel should also have a new requirement for a higher octane value that vehicle manufacturers can design to in order to optimize CO2 emissions. Finally, E10 should remain on the market for legacy product.

Again, thank you for recognizing this issue as problematic for manufacturers, and ultimately consumers. Please do not hesitate to contact our Vice President of Government Relations, Anna Schneider, with further questions.

Sincerely,

Michael Lohscheller

cc: Anna Schneider

# **VOLVO**

Volvo Car Corporation

The Honorable F. James Sensenbrenner, Jr., Vice-Chairman  
House Committee on Science, Space, and Technology  
Room 2449  
Rayburn House Office Building  
Washington, DC 20515-4905

Date	Telephone In/Calling	Telefax	Our reference
2011-06-02			

Dear Vice-Chairman Sensenbrenner:

In response to your letter of June 1, 2011 regarding possible concerns of Volvo Car Corporation (VCC) and other constituents about EPA's recent approval of a blend of 15 percent ethanol (E15) for use in cars and trucks of Model Year 2001 or later, Volvo would like to offer the following answers to the questions posed in your letter.

1. Damage or wear from the use of E15 in model year 2001 and later Volvo vehicles:  
Volvo would expect accelerated engine wear and reduced durability over the lifetime of any vehicle engine subjected to E15 use. Field studies done at markets with rising blends above E10 has shown signs of premature ageing of rubber components in the fuel distribution system, which poses an increased risk regarding evaporative emissions. Volvo vehicles currently meet evaporative and exhaust emission performance and durability requirements using fuel containing not more than 10 percent ethanol (E10). While wear and tear at the federal useful life standard of 10 years/120,000 miles would already be concerning, California's Zero Emission Vehicle useful life standard of 15 years/150,000 miles would pose an even greater concern.

Volvo currently markets modified variants that can handle higher levels of ethanol than E10 in some markets

- Volvo has not currently scheduled to include variants in the U.S. market that can cope with higher ethanol concentrations than 10%
- We can not modify already produced cars to minimize the risk of the described customer and environmental problems.

2. Warranty coverage of potential problems stemming from the use of E15: Volvo owner's manual specifies a maximum 10 percent allowable ethanol content. The owner's manual also stresses the importance of proper vehicle care and maintenance, including the use of approved fuels, fluids, and lubricants.

Volvo's warranty, spelled out in a Warranty and Maintenance Records Information booklet, reserves the right to deny warranty coverage for damage caused by or under limited but specific circumstances, which expressly include:

*"The use of fuel and/or oil, or other fluids which do not meet the Volvo-approved standards as set forth in the Owner's Manual, Volvo Service Literature or [in this] booklet."*

However, it must also be understood that federal law puts the burden on the manufacturer to prove cause of emission failure. Therefore, any manufacturer would be prevented from arbitrarily assigning blame to the use of E15; such a determination must be supported by evidence. That kind of evidence can be elusive, given the uncertainty of histories of use of most motor vehicles.

3. E15's effect on vehicle fuel consumption: Ethanol contains less energy than gasoline. E10 already causes an increase in fuel consumption over unblended fuel. Volvo estimates that an increase in ethanol to 15 percent will degrade fuel economy and increase fuel consumption by a further 2.5 percent.
4. E15, an environmental aspect

Bringing a higher content of ethanol in the existing fuel market can be an opportunity to introduce alternative fuels. If focusing on the environmental aspect, the introduction of alternative fuels is in general a multistep process, the impact on the source of fuel and how it used.

Important environmental benefit is a reduction of the use of fossil fuels and replacing it with renewable fuel. In other words, it affects the CO<sub>2</sub> balance positively.

The low-blend of ethanol, E10 and E15, causes fuel consumption to increase as described in paragraph 3 but CO<sub>2</sub> emissions are expected to be unchanged or better when used. According to Volvo's calculations, CO<sub>2</sub> emissions from E15 will be roughly equivalent to E10.

In this case, where the E15 is made available for all passenger car types from MY2001 designed to E10 but not E15, arises an environmental dilemma. The benefits when you utilize E10 to E15 to reduce CO<sub>2</sub> the effect does not occur, it remains unchanged.

As described in paragraph 1, it is Volvo's engineering assessment that there is a likelihood of accelerated engine wear and rubber fuel system components are most likely to age prematurely, thus, adding an emission risk with respect to evaporative emissions.

Volvo's summation leads to the conclusion that by introducing the E15 for variants that are designed to E10, will add to the risk associated with respect to emissions while there is

**VOLVO**

Volvo Car Corporation

3 (3)

a no significant improvement in CO2 when using E15 instead of E10. Thus arise the conclusion that the risks-related to emissions are greater than the benefits in terms of CO2 when using low-blend E15 for variants that are designed to E10. Thank you for considering our views. If you have any questions about the information, please contact Katherine Yehl at [kyehl@volvocars.com](mailto:kyehl@volvocars.com) or (202) 412-5935.

Sincerely,

Doug Speck  
President and CEO  
Volvo Cars of North America, LLC



## HYUNDAI MOTOR COMPANY

Washington Office  
1660 L Street, NW, Suite 620  
Washington, DC 20036  
TEL: (202) 296-6550 FAX: (202) 296-6436

June 30, 2011

The Honorable F. James Sensenbrenner  
Vice-Chairman  
Committee on Space, Science and Technology  
United States House of Representatives  
2449 Rayburn House Office Building  
Washington, DC 20515-4905

Dear Vice-Chairman Sensenbrenner:

Thank you for your June 1, 2011 letter to John Krafcik, President, Hyundai Motor America ("Hyundai") regarding the Environmental Protection Agency's (EPA) partial waiver decisions permitting the use of gasoline blended with up to 15 percent ethanol (E15) in 2001 model year (MY) and newer passenger cars and light-duty trucks.

Hyundai recommends that before any new fuel is introduced into the marketplace, comprehensive, independent and objective scientific testing be completed to show that the fuel will not increase air pollution, harm engines, or endanger consumers. Further, Hyundai recommends the establishment of adequate protections to prevent misfueling.

Your letter asks for responses to several questions regarding E15. The questions and Hyundai's responses are shown below.

1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly for use of E15?

*The EPA tests failed to conclusively show that the vehicles will not be subject to damage or increased wear. Hyundai therefore has no basis to conclude that its vehicles will not be damaged by or wear more quickly due to the use of E15.*

2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?

*Hyundai owner's manuals state: "Vehicle damage or drivability problems may not be covered by the manufacturer's warranty if they result from the use of gasoline containing more than 10 percent ethanol..." The manuals also state "Do not use gasoline (gasoline-ethanol mixture) containing more than 10 percent ethanol..."*

3. Will E15 affect the fuel efficiency of your engines?

*E15 will negatively affect the fuel efficiency of Hyundai engines because ethanol has lower energy content than gasoline.*

Thank you for the opportunity to share our recommendations and to respond to your questions. If you have any questions about this information, please me at [kmhennessey@hyundai-dc.com](mailto:kmhennessey@hyundai-dc.com) or at 202-296-5550.

Sincerely,

Kathleen M. Hennessey  
Vice President -- Government Affairs

cc: The Honorable Ralph Hall  
Chairman, Committee on Science, Space and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space and Technology

John Krafcik  
President, Hyundai Motor America



Andrew J. Tavi  
VP Legal and Government Affairs,  
and General Counsel

NISSAN NORTH AMERICA, INC.

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June 17, 2011

The Honorable F. James Sensenbrenner, Jr.  
Vice Chairman  
House Committee on Science, Space and Technology  
United States House of Representatives  
2449 Rayburn House Office Building  
Washington, DC 20515-4905

Dear Vice Chairman Sensenbrenner:

We appreciate receiving your letter dated June 1, 2011 regarding EPA's two partial waiver decisions that permit the sale of gasoline containing up to 15 percent ethanol (E15) for 2001 model-year (MY) and newer passenger cars and light trucks. We believe that increasing the allowable ethanol content in gasoline by 50 percent will have unintended consequences for auto manufacturers, consumers, fuel suppliers and distributors. Nissan's primary concern about these E15 waivers is the overriding need for consumer safety and satisfaction.

Specifically, your letter asks for responses to the following three questions. Our responses are provided below.

- 1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from use of E15?

No, we are not at all confident that there will not be damage to MY 2001 and later vehicles that are fueled with E15. In our view the record fails to demonstrate that motor vehicles (other than FFVs) would not be damaged and result in failures when run on E15.

- 2. Will your current warranty cover potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later?

No. Nissan vehicles covered by the waiver were designed to use a maximum of E10. The direction in the owner manuals of Nissan vehicles reflects the fact that they were not designed to run on E15. EPA regulations allow manufactures to deny warranty coverage for vehicles damaged due to mis-fueling (based on the owner's manual instructions). We are encouraging Nissan vehicle owners to continue to consult their owner's manuals for information regarding the appropriate fuel for the vehicles.

- 3. Will E15 affect the fuel efficiency of your engines?

Yes. A gallon of ethanol has lower energy content than a gallon of gasoline. Therefore, any increase in ethanol content will necessarily degrade fuel economy.

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The Honorable F. James Sensenbrenner  
June 17, 2011  
Page 2

Thank you for considering our views. If you have any questions about this information, Please contact Tracy Woodard at [tracy.woodard@nissan-usa.com](mailto:tracy.woodard@nissan-usa.com) or 615-725-2377.

Sincerely,

Andrew J. Tavi  
Vice President, Legal and Government Affairs,  
and General Counsel

CC: The Honorable Ralph Hall  
Chairman, Committee on Science, Space and Technology

The Honorable Eddie Bernice Johnson  
Ranking Member, Committee on Science, Space and Technology



Robert E. Ferguson  
Vice President  
Global Public Policy

---

General Motors Company  
25 Massachusetts Avenue, NW  
Suite 400  
Washington, DC 20001  
Phone: 202-775-5067  
Fax: 202-775-5023

Via Fax: 202-225-3190

July 6, 2011

The Honorable F. James Sensenbrenner, Jr.  
United States House of Representatives  
2449 Rayburn House Office Building  
Washington, D.C. 20515

Dear Mr. Sensenbrenner:

Thank you for your letter of June 1, 2011, to General Motors Chairman and CEO, Dan Akerson, regarding EPA's recent approval of a partial waiver for use of E15 in light duty cars and trucks for model years 2001 and later. The questions that you raise in your letter are certainly timely and important.

General Motors, as part of the Alliance of Automobile Manufacturers, has commented extensively to EPA on the potential adverse effects of increasing ethanol content in gasoline by 50% and allowing its use in vehicles not designed for its use. In addition to the concerns expressed in our specific responses to your questions regarding the 2001 and newer model year products provided below, we are very concerned about the possibility of mis-fueling in pre-2001 vehicles and our marine products in contravention of EPA intentions and regulations. It is clear to us, as it is to others, that the controls envisioned by EPA will not prevent such mis-fueling situations from occurring.

With regard to the specific questions raised in your letter, the following are our specific responses:

1. Are you confident that your cars and trucks from model year 2001 and later will not be damaged by or wear more quickly from the use of E15? **Response:** No, we are not confident that our cars and trucks from model year 2001 and later will be undamaged by the use of E15 nor are we confident that they will not wear more quickly from the use of E15. As Administrator Jackson made clear in her remarks, EPA's analysis focused on the effects of E15 on emissions systems rather than overall durability. GM, along with many others, encouraged EPA to wait for on-going testing to be completed prior to making a decision on the E15 waiver request.

The Coordinating Research Council (CRC)\* is managing several on-going tests. One of these has documented deterioration in engine valve sealing in late model vehicles as a result of E15 and E20 usage. This deterioration was expected to a degree, because modifications were made to these components for use in vehicles designed to operate on E85. Some proportion of vehicle engines that were not designed for E85 use are likely to prove sensitive to increased ethanol levels and the CRC testing is finding that to be the case.

July 6, 2011

Page 2

Another CRC test program has discovered anomalous performance of tank fuel system components. Again, many of these components are upgraded for ethanol tolerance on Flexfuel vehicles. A program to follow-up these screening tests is now being started to develop statistical data.

CRC testing also predicts an increase in vehicle performance problems that will trigger illumination of the vehicle Malfunction Indicator Light (MIL) as a result of increased ethanol in the fuel. This malfunction would not represent a real vehicle fault and the correction would be a return to the recommended fuel. Concerns have been raised with the EPA by the New York Department of Environmental Quality, among others, about how these false MILs would affect driver's response to illuminated MILs and the state inspection and maintenance programs that rely on these signals. Further testing to confirm this result is on-going.

There are five CRC test programs on-going. Three of these, Base Engine Durability, On-Board Diagnostics (OBD) Evaluation, and Vehicle Fuel Systems Durability, are expected to finish in 2011. The other two, Evaporative Emissions Durability and Emissions Inventory and Air Quality Modeling, are expected to complete in 2012. These are lengthy test programs because durability effects over a substantial portion of a vehicle's life cannot be evaluated quickly nor without rigorous vehicle testing.

2. Will your current warranty cover the potential problems stemming from the use of E15 in cars and trucks from model year 2001 and later? **Response:** Our current owner's manuals instruct owners not to use fuel containing more than 10% ethanol unless they are FlexFuel vehicles. Not following these instructions would constitute mis-fueling. Vehicle damage attributed to mis-fueling would not be covered under the new vehicle warranty.

3. Will E15 affect the fuel efficiency of your engines? **Response:** The increased ethanol content will affect vehicle volumetric fuel economy (MPG), which is what our customers are most concerned about. Ethanol has only two thirds the volumetric energy content of gasoline. Adding 5% ethanol to E10, making E15, should reduce vehicle volumetric fuel economy by approximately 1.7%. This would make a total reduction relative to gasoline of approximately 5.1%. DOE testing cited by EPA in its E15 waiver has extensively documented fuel economy losses that match these theoretical predictions.

We hope these answers help frame the issues that still need to be fully addressed in evaluating the appropriateness of EPA granting an E15 waiver. Thank you for inquiring about these important issues.

Sincerely,

\* <http://www.crcao.org/about/index.html> ,  
<http://www.crcao.org/news/Mid%20Level%20Ethanol%20program/index.html>

## What the RFA-Funded NREL Report<sup>1</sup> on E15 Testing Got Wrong About the CRC Research and What It Left Out About the DOE Catalyst Study: An Assessment by Automotive and Energy Companies<sup>2</sup>

### The Coordinating Research Council (CRC)<sup>3</sup> E15/20 Gasoline Blend Research Program:

- For over 70 years, CRC has been, and continues to be, the gold standard for conducting technically sound and robust fuels and automotive research.
- The CRC studies on effects of Mid-Level Ethanol Blend Gasoline [E15 (15% ethanol)/E20 (20% ethanol)] on light duty vehicle engine and fuel systems' durability were designed and managed by senior fuels and automotive company experts, reflecting hundreds of years of combined experience doing this type of scientific research. They employed testing procedures based on protocols used in the automotive industry to ensure product integrity.
- Automotive and energy companies stand behind the CRC research program and conclusions stated in the respective CRC Final Reports (found at [www.crao.org](http://www.crao.org), see fn. 6 *et seq.*):
  - ✓ **Engine durability study:** Two popular gasoline engines used in light-duty automotive applications of vehicles from model years 2001 through 2009 failed tests and showed excessive mechanical wear when operated on intermediate-level ethanol blends (E15 and E20).
  - ✓ **Fuel systems durability study:** While some fuel systems in modern vehicles survived testing in mid-blend ethanol fuels (E15 and E20), others experienced failures damaging fuel system operation.
- Any adverse effect finding on ethanol blends identifies a risk that can be meaningful and costly to consumers, and thus is a concern for automotive and energy companies. Our customers' vehicles, especially those not designed to run on E15, should not be put at risk.

### Why Did Automotive and Energy Companies Undertake CRC Research on Ethanol Blends?

The overriding needs for vehicle safety and consumer satisfaction are the primary concerns of automotive and energy companies regarding E15. A vehicle purchase is the largest expenditure for most consumers, after their home. Despite extensive comments advising against it, U.S. EPA acted prematurely to finalize its regulation to allow E15 use, *without* waiting for all the results of the CRC comprehensive test program supported by both the auto and energy companies. The ethanol producers' desire to sell more ethanol for domestic gasoline use, and U.S. EPA's policy to advance the amount of alternative biofuel use, led to related 2010 and 2011 final decisions by U.S. EPA that permit 50% more ethanol (i.e., from 10% to 15%) to be used in gasoline for a substantial portion of the pre-existing vehicles in the on-road fleet (MY 2001 and newer).

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<sup>1</sup> McCormick, R.L., *et al.*, National Renewable Energy Laboratory, *Review and Evaluation of Studies on the Use of E15 in Light-Duty Vehicles*, prepared for the Renewable Fuels Association, October 2013.

<sup>2</sup> Members of the Alliance of Automobile Manufacturers, the Association of Global Automakers, and the American Petroleum Institute contributed to this assessment.

<sup>3</sup> The Coordinating Research Council (CRC) is a non-profit organization that directs, through committee action, engineering and environmental studies on the interaction between automotive/other mobility equipment and petroleum products. It has been doing so since 1942.

The subsequent outcome of this comprehensive CRC effort corroborates the legitimate concerns of automotive companies that sell and warranty vehicles, and energy companies who stand behind the quality of their fuel products. Indeed, even AAA, an organization that has considerable credibility on consumer and vehicle-related issues, expressed serious concerns about E15 safety and customer acceptance, including at a U.S. House of Representatives hearing in 2013<sup>4</sup>.

### **What the RFA-Funded Report Got Wrong About the CRC Research**

In our view, the NREL report<sup>5</sup> funded by the Renewable Fuels Association (RFA) downplays or ignores problems related to E15 use that were identified by CRC research. This is troubling, given that NREL was an active participant on the technical oversight panels for two of the CRC studies which NREL subsequently reviewed in its report for the RFA.<sup>6,7</sup> At no point did NREL raise any concerns with respect to the robustness of the CRC studies.

### **Specific Rebuttals to the RFA-Funded Report Regarding CRC Research:**

- **Lack of E10 testing:** It is standard practice in experimental designs to test at extreme points and also at a mid-range point to gather the most amount of information in the most efficient and cost-effective way possible. This practice was followed in this project, so E0, as the existing U.S. EPA certification test fuel, and E15 or E20 as the potential new fuel options, were tested, rather than E10. The U.S. DOE, in its own study of catalyst durability, did not include E10 as a reference fuel.
- **One engine failed on E0 (0% ethanol):** While some engines are built with higher resilience to engine wear than others, there is an additional wear effect associated with the increased ethanol content in the fuel. Post-test inspections of the particular engine that also failed on E0 showed that the wear on E15 and E20 was *greater* than for E0, as determined by the OEM experts from the company that designed the engine.
- **Test Engine selection:** As stated in the CRC Final Report, test engines were recommended by the OEMs themselves. The selected engines represented some popular engines in use today in the on-road fleet. Vehicles with these engines were sourced from the on-road fleet by an independent test lab, and were accepted solely on the basis that they were mechanically sound and ready to test. All of the vehicles tested in the CRC studies were within the set of model year vehicles covered by the EPA waiver.
- **Leak-down criteria:** Engine failure was not determined solely on whether it met the criterion of 10% maximum cylinder leakage. The 10% leak-down criterion (in a test pushing pressurized air through the cylinder to look for leaks) was only used as an indicator that the engine should be inspected. The

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<sup>4</sup>Testimony by Robert L. Darbelnet, President and CEO, AAA, before the U.S. House Committee on Energy and Commerce, Subcommittee on Energy and Power, July 23, 2013.

<sup>5</sup>McCormick, R.L., *et al.*, National Renewable Energy Laboratory, *Review and Evaluation of Studies on the Use of E15 in Light-Duty Vehicles*, prepared for the Renewable Fuels Association, October 2013

<sup>6</sup>Coordinating Research Council, *Durability of Automotive Fuel System Components Exposed to E20* CRC Report No. 662, December 2011. available at [www.crcao.org](http://www.crcao.org)

<sup>7</sup>Coordinating Research Council, *Intermediate-Level Ethanol Blends Engine Durability Study* CRC Report No. CM-136-09-1B, April 2012, available at [www.crcao.org](http://www.crcao.org)

CRC Final Report clearly shows that the failure criterion was determined by the OEM inspection of the parts to determine if there was fuel-related excessive wear. In fact, three engines showed more than 10% leak-down on E20, but more testing was deemed unnecessary because after inspection the vehicles passed on E20.

- **Fuel system durability:** The results of the fuel systems durability studies are crystal clear and conclusive – six replicate tests of a particular fuel pump design failed repeatedly on E15, but not on E10 or E0. This result is significant.

Automotive and energy companies stand behind the CRC research and conclusions in the Final Reports.

### **Important Omissions in the NREL Report Regarding the DOE Study on Vehicle Catalysts**

We think EPA misused the U.S. DOE (Dept. of Energy) Catalyst Study on the emissions control system in drawing conclusions about E15 impact on other vehicle parts that this study was not intended to assess. The RFA-funded report touts the DOE Catalyst Durability Study<sup>8</sup> as a large scale test program that showed that “...no fuel related issues were apparent with the E15 and E20 fuels.” It also notes that the engines from some of the vehicles used in this program were torn down and that no fuel-related issues were identified upon subsequent inspection.

It is important to note, however, that the RFA sponsored report failed to mention that the DOE Catalyst Durability Study was not designed to investigate potential fuel-related issues with any vehicle component other than the catalyst (for the emission control system -- intended to capture emissions from the vehicle). It was a catalyst durability study and it employed test protocols and procedures that were only intended to evaluate catalyst performance.

In fact, DOE didn't decide to inspect the engines until the catalyst durability program was almost completed (and hadn't inspected them before testing for purposes of comparison). There are also concerns that the driving cycle used in the DOE Catalyst Study was not severe enough to represent the range of typical customer driving conditions. The driving cycle selected was not as severe as that used by auto manufacturers for durability testing. An absence of findings in the DOE study is not definitive, and indeed, the CRC engine durability testing did produce some findings of engine wear with E15.

Moreover, one vehicle type that experienced catalyst damage in another test program<sup>9</sup> was deliberately excluded by DOE and EPA from the DOE Catalyst Study. Including this model in the DOE study would have helped probe the earlier finding, and as well as the accuracy of the DOE Catalyst Study protocol.

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<sup>8</sup> West, B.H., et al, Oak Ridge National Laboratory, *Intermediate Ethanol Blends Catalyst Durability Program*, February 2012, ORNL/TM-2011/234

<sup>9</sup> *Market Barriers to the Uptake of Biofuels Study - A Testing Based Assessment to Determine Impacts of a 20% Ethanol Gasoline Fuel Blend on the Australian Passenger Vehicle Fleet*. Report to Environment Australia. Orbital Engine Company, Available at: <http://www.environment.gov.au/archive/fuelquality/publications/testing-passenger-fleet/pubs/gasoline.pdf>

## **The RFA-Funded Report Downplayed the Impacts of E15 on Onboard Diagnostics**

The RFA-funded report generally downplays the studies relating to the impact of E15 on exhaust and evaporative emissions and on onboard diagnostics (OBD) affecting Malfunction Indicator Lights (MILs, e.g., “check engine” lights). We argue the contrary: any failure is likely to be meaningful to consumers, and thus, a concern for automotive and energy companies. Both CRC<sup>10</sup> and U.S. DOE’s Oak Ridge National Laboratory<sup>11</sup> (ORNL) studied the impacts of higher ethanol levels on the potential for MIL failures. These studies concluded that some 2001 and newer vehicles can operate on E15 without check engine light failures, but a few models are sensitive to the triggering of check engine lights on E15, which potentially translate to unnecessary costs for the owners of a significant number of vehicles on the road today.

Importantly, the RFA/NREL paper omits two of the main conclusions (emphasis added) from the last page of the ORNL paper that support the concerns of the automotive and energy companies:

*“Results show that MIL illumination should increase with ethanol content, but the rates of illumination will vary significantly by vehicle model. Thus, experience for a given vehicle model may differ quite significantly from a fleet-average estimate of MIL illumination rates.”*

And:

*“Some vehicle models do not appear to be at significant risk for a substantial number of MIL illuminations with E15 fuel, and a smaller number do not appear to be at significant risk even if E20 is used. One OEM (original equipment manufacturer) appears to be at higher risk of experiencing a significant number of MIL occurrences with E15 use than other OEMs.”*

## **Conclusion**

We disagree with the overarching conclusions expressed in the NREL study sponsored by the RFA. Based on the various adverse effects identified in the body of E15 testing for adverse vehicle effects as a whole<sup>12</sup>, auto and energy companies continue to have concern about sale of E15 for vehicles not designed for its use. Automakers continue to urge regulators to mandate retail gasoline pump warning language that would advise consumers to consult their vehicle owner manuals before using this fuel.

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<sup>10</sup> Coordinating Research Council, *Impact of Ethanol Blends on the OBDII Systems of In-Use Vehicles*, Report No. 662, August 2013, available at [www.crao.org](http://www.crao.org)

<sup>11</sup> “Investigating Malfunction Indicator Light Illumination Due to Increased Oxygenate Use in Gasoline”, available as SAE International paper number 2012-01-2305

<sup>12</sup> “Summary of Research on Use of Intermediate Ethanol Blends in On-Road Vehicles”, Albert M. Hochhauser and Charles H. Schleyer, Energy & Fuels; a peer-reviewed article which can be found at: <http://pubs.acs.org/articlesonrequest/AOR-nrFyufYhBxjaWf7hNBx>



# FEDERAL REGISTER

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Vol. 79

Thursday,

No. 34

February 20, 2014

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Part II

## Department of Transportation

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National Highway Traffic Safety Administration

49 CFR Part 575

Alternative Fuel Vehicle Badging, Fuel Compartment Labels and Consumer Information on Alternative Fuel Usage; Proposed Rule

**DEPARTMENT OF TRANSPORTATION**

**National Highway Traffic Safety Administration**

**49 CFR Part 575**

[NHTSA-2010-0134]

RIN 2127-AK75

**Alternative Fuel Vehicle Badging, Fuel Compartment Labels and Consumer Information on Alternative Fuel Usage**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** NHTSA is proposing to require badges, labels and owner's manual information for new passenger cars, low speed vehicles (LSVs) and light-duty trucks rated at not more than 8,500 pounds gross vehicle weight in order to increase consumer awareness regarding the use and benefits of alternative fuels. In the Energy Independence and Security Act of 2007 (EISA), Congress directed the Secretary of Transportation to develop and implement varied and wide-ranging consumer information and education initiatives related to fuel economy, greenhouse gas, alternative fuels and thermal management technologies. NHTSA is implementing these new information and education initiatives through several different rulemakings.

This proposed rule would implement specific statutory mandates that manufacturers be required to: Identify each vehicle capable of running on an alternative fuel by means of a permanent and prominent display affixed to the exterior of the vehicle; add proposed text describing the capabilities and benefits of using alternative fuels to the owners' manuals provided for alternative fuel vehicles; and identify each vehicle that is capable of running on an alternative fuel by means of a label in the fuel filler compartment.

**DATES:** Comments must be received on or before April 21, 2014. See the **SUPPLEMENTARY INFORMATION** section on "Public Participation" for more information about written comments.

**ADDRESSES:** You may submit your comments, identified by Docket ID No. NHTSA-2010-0134, by any of the following methods:

*http://www.regulations.gov:* Follow the online instructions for submitting comments.

*Fax:* NHTSA: (202) 493-2251.

*Mail:* Docket Management Facility, M-30, U.S. Department of

Transportation, 1200 New Jersey Avenue SE., West Building, Ground Floor, Rm. W12-140, Washington, DC 20590, Attention Docket ID No. NHTSA-2010-0134.

*Hand Delivery:* Department of Transportation, 1200 New Jersey Avenue SE., West Building, Ground Floor, Rm. W12-140, Washington, DC 20590, Attention Docket ID No. NHTSA-2010-0134 between 9 a.m. and 5 p.m. Eastern Time, Monday through Friday, except Federal holidays.

*Instructions:* Regardless of how you submit comments, you should mention Docket ID No. NHTSA-2010-0134 or the Regulatory Identification Number (RIN) 2127-AK75 for this rulemaking. You may call the Docket Management Facility at 202-366-9826. For detailed instructions on submitting comments and additional information on the rulemaking process, see the Public Participation heading of the **SUPPLEMENTARY INFORMATION** section of this document. Note that all comments received will be posted, except as noted below, without change to *http://www.regulations.gov*, including any personal information provided.

*Docket:* All documents in the dockets are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the Docket Management Facility, M-30, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building, Ground Floor, Rm. W12-140, Washington, DC 20590. The Docket Management Facility is open between 9 a.m. and 5 p.m. Eastern Time, Monday through Friday, except federal holidays.

*Privacy Act:* Anyone is able to search the electronic form of all comments received in any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-78) or you may visit *http://www.dot.gov/privacy.html*.

**FOR FURTHER INFORMATION CONTACT:**

*For technical issues:* Gregory Powell, National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., Washington, DC 20590. Telephone: (202) 366-5206.

*For legal issues:* Lily Smith, National Highway Traffic Safety Administration,

1200 New Jersey Avenue SE., Washington, DC 20590. Telephone: (202) 366-2992.

**SUPPLEMENTARY INFORMATION:**

**List of Acronyms and Abbreviations**

- AFDC Alternative Fuels and Advanced Vehicles Data Center
- Alternative Fuel Motor vehicle fuel defined by 49 CFR 32901(a)(1)
- B20 Biomass-based diesel blend or biodiesel blend that contains a mixture of not more than 20% biodiesel in volume and 80% petroleum-based diesel
- B100 100% biodiesel
- Biodiesel A fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats and which meets the specifications of ASTM D 6751
- BEV Battery electric vehicle
- CAFE Corporate average fuel economy
- CBI Confidential business information
- CFR Code of Federal Regulations
- CNG Compressed natural gas
- DOE Department of Energy
- DOT Department of Transportation
- DVD Digital video disc
- E85 A mixture of 85% ethanol and 15% gasoline
- EISA Energy Independence and Security Act of 2007
- EO Executive order
- EPA Environmental Protection Agency
- EREV Extended range electric vehicle
- EV Electric vehicle
- FCV Fuel cell vehicle
- FE Fuel economy
- FFV Flexible fuel vehicle
- FHWA Federal Highway Administration
- FTC Federal Trade Commission
- GHG Greenhouse gas
- GVWR Gross vehicle weight rating
- HEV Hybrid electric vehicle
- ISO International Organization for Standardization
- LPG Liquefied petroleum gas
- LSV Low speed vehicle
- MPG Miles per gallon
- MY Model year
- NAICS North American Industry Classification System
- NFPA National Fire Prevention Association
- NHTSA National Highway Traffic Safety Administration
- NPRM Notice of proposed rulemaking
- NTTAA National Technology Transfer and Advancement Act of 1995
- OCR Optical character recognition
- OMB Office of Management and Budget
- PHEV Plug-in hybrid electric vehicle
- PRA Paperwork Reduction Act
- RFA Regulatory Flexibility Act
- SAE Society of Automotive Engineers

**Table of Contents**

I. Executive Summary .....	8
II. What research did the Agency conduct regarding possible options for this proposal? .....	13
III. What is the Agency proposing? .....	30
IV. What are the estimated costs and benefits of the proposal? .....	60
V. Enforcement and Compliance .....	76
VI. Public Participation .....	78

VII. Regulatory Notices and Analyses .... 82  
 VIII. Regulatory Text ..... 92

**I. Executive Summary**

In this notice, NHTSA is proposing to require badges, labels and owner's manual information for new passenger cars, low speed vehicles, and light-duty trucks rated at not more than 8,500 pounds gross vehicle weight in order to increase consumer awareness regarding the use and benefits of alternative fuels, as required by the Energy Independence and Security Act of 2007 (EISA).<sup>1</sup> The overarching goal of EISA is to move the United States toward greater energy independence and security, given that the United States imports a substantial amount of its petroleum, two-thirds of which is used to fuel vehicles in the form of gasoline and diesel, which can be vulnerable to supply disruptions and price volatility. Renewable alternative fuels produced in the United States are less vulnerable to the supply disruptions and price variability associated with imported fuels. Helping the public to better understand the benefits of these alternative fuels and to better recognize the vehicles that use them should increase their use, thereby replacing petroleum use and increasing national and energy security. Thus, in EISA, Congress directed the Secretary of Transportation, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency (EPA), to develop and implement consumer information and education initiatives related to fuel economy, greenhouse gas (GHG), alternative fuels and thermal management technologies, all aimed at reducing our nation's dependence on imported petroleum. This requirement has been codified at 49 U.S.C. 32908(g), hereafter referred to as simply "32908(g)." The Secretary's authority to develop and implement these programs is delegated to the Administrator of NHTSA.<sup>2</sup>

32908(g) requires the agency to undertake rulemaking to address consumer information on automobile fuel economy and the use of alternative fuels in three different ways, which the agency is implementing in three distinct phases.

In the recently-completed first phase, NHTSA established requirements for automobile manufacturers to label new automobiles sold in the United States with information about their performance in terms of fuel economy, greenhouse gas emissions, and smog-forming emissions, with rating systems to help consumers compare automobiles in terms of this performance at the point of purchase. NHTSA established these requirements in a joint rulemaking with the EPA,<sup>3</sup> which also has authority (under 49 U.S.C. 32908(b)) to regulate new automobile fuel economy labels. The agencies sought in that joint rulemaking both (1) to implement NHTSA's 32908(g) authority by providing the new rating system to help consumers compare vehicles' fuel economy, GHG, and other emissions performance at the point of sale, and (2) to implement revisions sought by EPA and NHTSA to update the existing labels and help them better convey information for advanced technology vehicles entering the marketplace, such as compressed natural gas vehicles (CNG), plug-in hybrid electric vehicles (PHEV), battery electric vehicles (BEV), and fuel cell vehicles. The final rule establishing the new labeling requirements was published on July 6, 2011,<sup>4</sup> and can be found on NHTSA's Web site at <http://www.nhtsa.gov/fuel-economy>.

This notice initiates the second phase of rulemaking to implement the EISA requirements for consumer information and education about alternative fuels. 32908(g) requires NHTSA to develop regulations to require new automobiles to display certain information about their capability to operate on alternative fuels. First, NHTSA must require

vehicle manufacturers to affix new automobiles sold in the United States with a "permanent and prominent display" that indicates the vehicle is capable of operating on an alternative fuel;<sup>5</sup> second, NHTSA must require manufacturers to attach a label to the fuel tank filler compartment of vehicles capable of operating on alternative fuels that indicates the form of alternative fuel that the vehicle is capable of operating on; and third, NHTSA must require manufacturers to include in the owner's manual, of vehicles that are capable of operating on alternative fuels, information which describes that capability and the benefits of using alternative fuels, including their renewable nature and environmental benefits.<sup>6</sup>

NHTSA is therefore proposing the following specific requirements in this rulemaking, as directed by EISA. To implement the permanent and prominent display mandate, the rule proposes to require a badge specifying in natural language which alternative fuel the vehicle is capable of operating on. The badge would be positioned on the rear of the vehicle, either directly below or to the right of the vehicle model name. To implement the fuel compartment label mandate, the rule proposes to require a label on the exterior of the fuel cap or fuel compartment access door that clearly states the alternative fuel type, and depending on the type, the proper/safe capacities for replenishing the fuel supply. To implement the owner's manual mandate, the rule proposes to require manufacturers to include standardized text that describes the capabilities and benefits of using alternative fuels. Sections II and III of this proposal provide more detailed information about each of these requirements.

The agency has estimated the total costs of the proposal in Table I-1 and Table I-2 below.

**TABLE I-1—ESTIMATED INDUSTRY COSTS FOR PROPOSAL IN FIRST MODEL YEAR (2012\$)**

	Low	High
Permanent and Prominent Display Badge .....	\$6,713,112	\$13,292,937
Tooling (all fuel types) .....	41,064	284,287
Fuel Compartment Label .....	.....	827,436
Owner's Information .....	.....	348,352
<b>Total .....</b>	<b>7,929,963</b>	<b>14,753,011</b>

\* Values derived from Projected MY2017 Industry Volume of Alternative Fuel Vehicles (Including LSVs)

<sup>1</sup> 49 U.S.C. 32902(g), Public Law 110-140.

<sup>2</sup> 49 CFR 1.95; CFR 501.2(a)(8).

<sup>3</sup> 79 FR 39478, July 6, 2011

<sup>4</sup> 76 FR 39478. The NPRM for this rulemaking was published at 75 FR 58708 and the rulemaking docket number is NHTSA-2010-0087, which can be accessed at [regulations.gov](http://regulations.gov).

<sup>5</sup> As defined by 49 U.S.C. 32901(a)(1).

<sup>6</sup> 49 U.S.C. 32908(g)(1).

TABLE I-2—ESTIMATED ANNUAL INDUSTRY COSTS FOR PROPOSAL AFTER THE FIRST MODEL YEAR (2012\$)

	Low	High
Permanent and Prominent Display Badge .....	\$6,713,112	\$13,292,937
Fuel Compartment Label .....	.....	827,436
Owner's Information .....	.....	328,081
<b>Total .....</b>	<b>7,868,629</b>	<b>14,448,453</b>

\*Values derived from Projected MY2017 Industry Volume of Alternative Fuel Vehicles (Including LSVs)

The agency believes that the benefits of this proposal will be higher than the costs, as the national and energy security benefits gained from even a modest increase in consumer purchases of alternative fueled vehicles would likely outweigh the relatively low anticipated cost of the proposed requirements. As information on the effects of these badges on consumer purchases is not available, a quantitative assessment of the benefits was not possible at this stage. Further discussion of the anticipated costs and benefits of the proposal can be found in Section IV.

In the subsequent third phase of implementing the 32908(g) requirements, NHTSA will develop a consumer information campaign to improve understanding of automobile performance in terms of fuel economy, GHG and other pollutant emissions, as well as to inform consumers of the benefits of using alternative fuels and where fueling stations are located. Given the complexity of the consumer research needed to implement this provision, the agency anticipates that this rulemaking will be proposed in 2015, after NHTSA completes research about appropriate and effective consumer messaging.

## II. What research did the Agency conduct regarding possible options for this proposal?

As part of the development of this NPRM, NHTSA sought and considered available existing information and research from federal agencies, automotive manufacturers and suppliers. NHTSA made several visits to passenger car and light truck retailers and public auto shows to learn more about how individual manufacturers already use badges and labels to identify alternative fuel vehicles. In addition, NHTSA conducted online research of currently available manufacturer production labels, badges, consumer education materials and information provided to owners. NHTSA staff also held discussions with manufacturers, trade groups and suppliers to increase agency awareness and understanding of

existing materials.<sup>7</sup> Some manufacturers also directed the agency to industry label and badge suppliers for additional information.

Additionally, in order to benefit from the expertise of other federal agencies active in alternative fuel vehicle issues, NHTSA consulted with the Federal Highway Administration (FHWA), the Federal Trade Commission (FTC), and the Department of Energy (DOE). The agency discussed potential content of proposed owner's manual information with the FTC to understand further the requirements and content of the FTC (until recently) required<sup>8</sup> alternative fuel point of sale label found on all new alternative fuel vehicles sold in the U.S. The agency believes it may be helpful to consumers to provide consistency with information contained on the FTC Alternative Fuel label. The agency discussed the required content of the FTC label, including what points of the label were important for the consumer, with the intent of including similar information where possible. Consultation with the FHWA focused on current symbols used for alternative fuels.

Finally, the agency also consulted with DOE regarding content of the DOE/EPA fueleconomy.gov<sup>9</sup> Web site and the DOE alternative fuels and advanced vehicles data center<sup>10</sup> Web site. While most of the experience that these agencies have accumulated does not relate directly to the issues in this NPRM, NHTSA has done its best to extrapolate from the experience of these agencies to our current rulemaking. The interactions with FHWA gave NHTSA

<sup>7</sup> NHTSA's records of these meetings are available in the docket for this rulemaking.

<sup>8</sup> In April of 2013, the Federal Trade Commission issued final amendments to the Alternative Fuels Rule, eliminating the point of sale labels that were previously required by the FTC on alternative fuel vehicles (AFVs), citing that similar information is incorporated on recently revised fuel economy and emissions point of sale labels required by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation. ("FTC Amends Alternative Fuels Rule to Make Compliance Easier" last accessed: January 2, 2014)

<sup>9</sup> [www.fueleconomy.gov](http://www.fueleconomy.gov) (last accessed January 27, 2014).

<sup>10</sup> [www.afdc.energy.gov/afdc/](http://www.afdc.energy.gov/afdc/) (last accessed January 27, 2014).

an improved understanding of approved symbols as described in greater detail in Section II.A. Regarding consultation with DOE, the agency was informed of many useful tools and information that were determined to be more applicable to the consumer education campaign, which will constitute the third phase of implementing the 32908(g) requirements.

The agency notes that it did not conduct original research on consumer messaging in developing the proposal for this phase of the EISA consumer information requirements. The EISA requirements for badging, fuel tank compartment labeling, and owner's manual information are fairly straightforward. Unlike the fuel economy labeling requirements, the requirements being proposed in this rulemaking are not intended to facilitate direct consumer comparison of multiple vehicles or pieces of vehicle equipment; instead, they are simply intended to inform consumers about the alternative fuel capabilities of the vehicles already in front of them. Because the agency is trying to provide clear, basic information through this rulemaking and not trying to aid or influence consumer choice, the agency concluded that original research would not contribute sufficiently to improving the usefulness of the required information in order to justify the expenditure of resources.

NHTSA has identified several states at the time of this proposal<sup>11</sup> that promote the use of alternative fuel vehicles. Some have implemented programs, such as California's Clean Air Vehicle program, that provide High Occupancy Vehicle (HOV) lane access for labeled or specially plated alternative fuel vehicles. These programs often require the vehicle owner to apply a badge, sticker, or special license plate that identifies the vehicle as an alternative fuel, low emission, or "clean-" vehicle, but do not regulate the manufacturers of alternative fuel vehicles or provide consumer information on specific types

<sup>11</sup> The states include Arizona, California, Colorado, Florida, Georgia, Hawaii, Maryland, New Jersey, New York, North Carolina, Tennessee, Utah and Virginia.

and benefits of alternative fuel vehicles. However, states may have an interest in this proposal, and we welcome comment from state and local officials and other interested persons.

Further, several there are several Federal requirements regarding the acquisition of alternative fuel vehicles for Federal vehicle fleets. Specifically, Energy Policy Act (EPA) 1992 sets statutory requirements for the acquisition of AFVs by Federal agencies. Executive Order 13423 directs Federal agencies to use PHEVs when commercially available at a cost reasonably comparable to non-PHEVs, while Executive Order 13514 establishes vehicle sustainability goals that encourage the purchase of AFVs. As with the state programs noted above, these and similar programs may benefit from vehicle badging, and we welcome comment from relevant officials and other interested persons.

The sections below describe in more detail how NHTSA developed this proposal. The agency seeks comments on the information presented in this proposal and whether other relevant information should be considered for the final rule. We encourage the submission of comments to the docket. For comments that recommend additional information be considered, it is requested the commenter include an explanation of how the agency should incorporate that information into the final rule.

#### *A. Alternative Fuel "Permanent and Prominent Display"*

Based on the information gathered by the agency, manufacturer-specific alternative fuel vehicle badges vary widely in design from manufacturer to manufacturer, sometimes as a result of the efforts to link the badging with overarching corporate goals regarding advanced technologies and alternative fuel usage.

After identifying that some manufacturers have already invested substantially in developing badges to help establish and promote a positive image for their companies and to promote the use of alternative fuels, the agency next assessed whether standardization of existing labels or badging for alternative fuel vehicles would in fact be beneficial, and if so, what form that standardization should take.

As one example, Ford uses a "Road and Leaf" symbol that depicts, as the title implies, a road leading to a green leaf. The symbol may appear on their vehicle's lift-gates, front doors and engine appearance covers, or on other areas of the vehicle. Ford then

incorporates this symbol into many other badges on vehicles across its model line-up that are equipped with different "environmentally-conscious" technologies. Some examples of this include: The "Road and Leaf" incorporated into a "Flex-Fuel" badge to indicate ethanol-operating capability; a "B20" badge to indicate that a diesel vehicle is capable of operating on a small percentage of biodiesel; and an "EcoBoost" badge to indicate that a vehicle uses direct-injection, turbocharging and downsizing engine technologies to deliver performance similar to a larger displacement engine with the higher fuel efficiency of a smaller displacement engine. In addition, the symbol is applied to its hybrid and battery electric vehicles. (See Figures II.A-1 through II.A-6 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

Another example of a corporate-wide program is the "Flex Fuel" badge used by GM. In 2006, GM conducted an extensive E85 awareness campaign promoting the ethanol capabilities of its vehicles under the banner of "Live Green, Go Yellow." The "Live Green, Go Yellow" campaign kicked off during Super Bowl XL in television ads promoting the use of the clean, alternative fuel in GM's flexible fuel vehicles. In conjunction with this campaign, GM began applying "Flex Fuel" badges to vehicles capable of ethanol operation and using yellow-colored fuel filler caps for those vehicles as a tie-in to the larger campaign.<sup>12</sup> (See Figures II.A-7 through II.A-8 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

Ford and GM explained to NHTSA in meetings with the agency that they undertake these cross-product campaigns to promote their investment in environmentally friendly and alternative fuel technologies, which they believe will help foster consumer enthusiasm for their vehicles with these technologies. If consumers are more likely to purchase these vehicles as a result of this marketing investment, then manufacturers will be more likely to recoup their investment in technologies that reduce petroleum consumption (and increase their perception as a socially-responsible corporation), potentially leading to more investment in technologies that reduce petroleum consumption and benefiting the U.S.

<sup>12</sup> "GM: 'Live Green Go Yellow'; [http://www.greencarcongress.com/2006/01/gm\\_live\\_green\\_g.html](http://www.greencarcongress.com/2006/01/gm_live_green_g.html) (last accessed January 27, 2014).

through reduced petroleum consumption.

In addition to the examples from Ford and General Motors, the agency also learned of campaign-derived, exterior badges used by manufacturers such as Hyundai and Nissan. The "Blue drive" exterior badge was developed in support of Hyundai's corporate branding campaign to represent "Hyundai's comprehensive overhaul of thinking green."<sup>13</sup> (See Figure II.A-9 in "Examples of Existing Alternative Fuel Badges and Symbols," Docket NHTSA-2010-0134). At its April 2011 introduction, the redesigned MY 2012 Versa was "the first Nissan model in the U.S. to use the new Nissan "Puredrive" designation. The automaker will put that label onto models that use Nissan's most advanced technologies to promote eco-friendly driving and to cut CO2 emissions."<sup>14</sup> (See Figure II.A-10 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

Other alternative fuel vehicle manufacturers appear to take a less comprehensive approach or may do very little in regard to badges. For example, Honda currently applies labeling in response to the requirements of some states for manufacturers of gaseous fueled vehicles, which are based on recommendations developed by the National Fire Protection Association (NFPA).<sup>15</sup> (See Figure II.A-11 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

Some manufacturers do not produce any alternative fuel vehicles for sale in the United States. These manufacturers do not have any current campaigns to promote alternative fuels technologies.

The agency also conducted additional research regarding vehicle badge text sizing and coloring. The agency took a closer look at these two design aspects to obtain a better understanding of how they may factor into this proposal. The agency surveyed a collection of twenty vehicles with unique vehicle model and technology-related badges. This collection included badges dedicated to differing technologies such as stability control, engine size or type, driveline or

<sup>13</sup> Hyundai BlueDrive campaign information <http://www.hyundaiusa.com/about-hyundai/environment/> (last accessed January 27, 2014)

<sup>14</sup> "Nissan Versa gets radical new look, better gas mileage" USA Today. <http://content.usatoday.com/communities/driveon/post/2011/04/nissan-versa-radical-new-style-11000-july-sale-new-platform/1> (last accessed: January 27, 2014).

<sup>15</sup> NFPA 52: Vehicular Gaseous Fuel Systems Code. <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=52> (last accessed January 27, 2014).

alternative fuel capability. In all, 34 badges were evaluated representing 19 different vehicle models and nine different vehicle brands.

Overall, the agency learned the average size of text found on vehicle badges across both model and

technology specific badges was approximately 18.4 millimeters. The text sizes ranged from approximately 4.75 millimeters to 31 millimeters for technology-specific badges with an average of approximately 16.4

millimeters. Model name badges were slightly more consistent with a range of 15 millimeters to 42 millimeters and an average of approximately 20.3 millimeters. Please see Table II-1 for badge and measurement details.

TABLE II-1—VEHICLE BADGE TEXT APPROXIMATE SIZES

Make	Model	Model name		Technology badge		Comment
		High (mm)	Low (mm)	High (mm)	Low (mm)	
Audi	Q7	35	27	23	23	TDI (Diesel) Badge.
BMW	530i	22	22	(*)	(*)	No Technology Badge.
Chevrolet	Malibu	17	17	31	17	Hybrid badge.
Chevrolet	Express (Van)	26	26	13	13	Stabilitrak—Foil with Overlay.
Chevrolet	Uplander	20	20	17	4.75	Flex Fuel (yellow).
Chevrolet	Express (Van)	**26	**26	27	27	Standard CNG Diamond Symbol.
Chevrolet	Suburban	20	20	(*)	(*)	Flex Fuel (green).
Chevrolet	Impala	20	20	**17	**4.75	Flex Fuel (yellow) overall badge height is approximately 21 mm.
Dodge	Caravan	20	20	11	5	Flex Fuel with E85 Ethanol.
Dodge	Avenger	15	15	**11	**5	Flex Fuel—same as Caravan. Badge height is 15 mm.
Ford	Fusion	15	15	15	15	Hybrid badge letters. Road and Leaf symbol is approximately 50 mm.
Ford	Focus	15	15	(*)	(*)	Height is based on sub-model "SE" designation.
Ford	Explorer	22	22	14	14	Size is for roll stability control (RSC) designation—Advance Trac text above RSC is 10 mm.
Ford	F-150	18	18	10	10	Flex Fuel—Two Rows of 10 mm text.
Honda	Accord	22	15	25	25	V6 Badge.
Honda	Insight	15	15	14	14	Hybrid badge—overall height is ~20 mm.
Jeep	Liberty	42	32	21	21	Height is based on "3.7L" engine designation—4x4 badge same.
Toyota	Camry Hybrid	15	15	5	5	Three rows of 5 mm text—Hybrid Synergy Drive.
Toyota	Highlander	23	23	20	19	4WD Badge.
Volkswagen	Jetta	17	17	17	17	2.5L Engine designation.

\* Indicates no badge.

\*\* Duplicate measurement not included in calculations.

Average Text Height (mm)				
Ranges Model and Technology Badges—High to Low	21.0	19.7	17.5	15.3
Averages Model and Technology Badges	20.3		16.4	
Overall	18.4			

With respect to badge color, the agency found that most badges surveyed had a chrome or silver finish. Most of the badges surveyed had letters (particularly the vehicle model names) finished in chrome. The majority of the technology badges consisted of chrome letters; however, in some cases the text was displayed in a dark color, usually black, recessed into a chrome background.

Based on information obtained from manufacturers and through research as part of the development of this proposal, NHTSA learned that some vehicle manufacturers have made significant investments in promoting alternative fuel and other advanced technologies that reduce petroleum

consumption. These manufacturers view their efforts as contributing positively to their brand image, through both traditional campaigns and, in some cases, tying-in those campaigns by applying badges to their vehicles. The agency believes that, based on manufacturers' experience with how badging designs deliver alternative fuel information to consumers, it is important to carefully consider the views of the manufacturers, as well as their investments developing and promoting alternative fuel usage.

NHTSA also conducted research on whether widely-accepted symbols exist for alternative fuels that the agency might consider for use in alternative fuel vehicle badging. This included

investigation of symbols used by the FHWA and those defined jointly by the International Organization for Standardization (ISO) and the Society of Automotive Engineers (SAE).

The FHWA currently specifies symbols associated with alternative fuels as part of their "General Service Signs" included in the Manual on Uniform Traffic Control Devices.<sup>16</sup>

<sup>16</sup> The National Manual on Uniform Traffic Control Devices (MUTCD) defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. See 23 CFR Part 655, Subpart F. The MUTCD is also available at <http://mutcd.fhwa.dot.gov/index.htm> (last accessed January 27, 2014). Within the MUTCD, FHWA prescribes a number of standardized symbols for

These symbols are intended for application to official interstate signage typically found in advance of interstate highway exit ramps, and include symbols (and sometimes supporting language) for vehicle electricity charging stations, and ethanol (E-85 in particular) and propane fueling stations, among others. However, the FHWA's General Service Signs symbols do not cover all alternative fuels. (See Figure II.A-12 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

ISO and SAE have developed a fuel symbol for use on vehicle controls, indicators, and warning lamps in passenger cars, light and heavy commercial vehicles, and buses, to help standardize fuel identification and increase consumer understanding. The symbols depict a typical fuel station pump and guidelines for specifying the fuel type that should be represented at the base of the symbol. There are SAE/ISO symbols for multiple fuel types, including some, but not all, of the alternative fuels covered by this proposal (e.g., liquefied petroleum gas (LPG), CNG, diesel, hydrogen, etc.).<sup>17</sup> (See Figure II.A-13 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

NHTSA and the EPA jointly required symbols designating vehicle fuel type on the new fuel economy and environment labels discussed above. These symbols identify seven different vehicle technologies: gasoline, diesel, ethanol flexible fuel vehicles, compressed natural gas, battery electric, fuel cell, and plug-in hybrid vehicles, and theoretically could be used as a starting point for badging purposes. However, as with the FHWA symbols, some potential alternative fuels are not currently addressed.

The National Fire Protection Association (NFPA) currently provides guidance on labeling of compressed natural gas vehicles that has been incorporated into some state laws, as noted in the Honda labeling discussed previously. (See Figure II.A-11 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134). The NFPA-recommended label has the letters

"CNG," in white or silver, centered in a diamond shape with blue background. The NFPA label is intended to inform first responders (and others that may come in contact with or attempt to repair a damaged vehicle) that a vehicle may carry different fire risks than that of a conventional-fuel vehicle, and should be handled with those different risks in mind. Some states mandate the use of the "blue diamond," presumably to maximize the safety of crash response by assisting first responders, who have been trained to recognize the meaning of the symbol. It would presumably also assist first responders if manufacturers added the label to their vehicles voluntarily. NHTSA recognizes that there may be safety benefits associated with standardizing the use of such symbols.

However, NHTSA believes the purpose of the EISA requirement is to inform the general public of the type of alternative fuel the vehicle uses regardless of their level of familiarity with alternative fuels. While the use of an acronym in the NFPA labels is sufficient for first responders because they are already familiar with this fuel type and its shorthand, we are not convinced that it would effectuate EISA's goal of consumer education better than the natural language "natural gas" badge proposed here. NHTSA therefore believes the "natural gas" badge proposed in this rule will provide consumer education benefits not currently provided by the NFPA label. NHTSA also believes the standardization provided by the proposed "natural gas" badge is an additional benefit not served by the NFPA label, which is not mandatory in most states.

NHTSA seeks comment on any potential overlap or conflicts between the proposed badge for natural gas and the existing NFPA "CNG" label. Specifically, NHTSA seeks comment on whether the existing NFPA label already serves the consumer education purpose of this proposal due to a high level of consumer familiarity with the "CNG" acronym. If commenters support NHTSA considering the existing NFPA label for consumer education purposes, NHTSA requests that commenters provide data that shows existing consumer familiarity with the NFPA label and the CNG acronym.

In summary, the agency found that, while there appear to be consensus standards for symbols for some alternative fuels, those standards do not cover the range of fuels that NHTSA believes it needs to address in this proposed rulemaking. Moreover, the agency is not persuaded at this time that

the symbols required by those standards, even if they did cover the full range of alternative fuels, would necessarily be complementary to the exterior vehicle appearance. The FHWA General Service Signs symbols are used for fuel and charging stations and might not integrate well with existing exterior badges if placed on a vehicle. Further, both the FHWA symbols and the SAE/ISO fuel symbols may not clearly communicate the differences between alternative fuels beyond the short and standardized acronyms located on the fuel pump symbol. As a result, the agency does not believe that the symbols established by the consensus standards are particularly useful for adoption as permanently affixed vehicle badges in this proposed rulemaking, as these symbols were not developed for use on vehicle exteriors and/or as a component of larger campaigns. After assessing whether standardization of existing manufacturer labels or badging would best serve the informative purpose of this proposal, the agency concluded that the existing market examples do not lead to a clear conclusion that one approach is superior to another.

#### B. "Owner's Manual Information" for Alternative Fuel Capable Vehicles

While reviewing information currently provided to owners, the agency learned that vehicle manufacturers producing vehicles capable of operating on alternative fuels provide owners with information regarding the alternative fuel capability, typically in the owner's manual. Manufacturers generally provide information that they believe is important for owners to understand regarding safe operation and maintenance of their alternative fuel vehicles. However, the agency found that manufacturers currently provide very little to no substantive information regarding the energy security and environmental benefits of alternative fuels.

In looking for information that could be required for inclusion in owner's manuals, NHTSA also considered alternative fuel information developed by other federal government agencies. The agency found various forms and depths of alternative fuel information from federal agencies. Federally-developed alternative fuel information is disseminated through agency Web sites and printed materials. This information can be highly scientific or very cursory depending on the target audience or the message conveyed.

The DOE's Alternative Fuels and Advanced Vehicles Data Center

highway signs referring to alternative fuel availability, as discussed above. See <http://mutcd.fhwa.dot.gov/html/2009/part2/part2i.htm> (last accessed January 27, 2014).

<sup>17</sup> See SAE J2402: "Road Vehicles—Symbols for Controls, Indicators, and Tell-tales", published January 2010, symbols number(s) C.09, Z.03. SAE J2402 is available on file with the agency and can be purchased at [http://standards.sae.org/j2402\\_201001/](http://standards.sae.org/j2402_201001/) (last accessed January 2, 2014).

(AFDC),<sup>18</sup> for example, describes itself as “a comprehensive clearinghouse of information related to advanced transportation technologies” and states that it “offers transportation decision makers a collection of unbiased alternative fuel information, publications, data, and tools.” NHTSA believes this could be a useful source for information to describe a vehicle’s capability to operate on alternative fuels and the benefits of using alternative fuels, including their renewable nature and environmental benefits, given that agency’s expertise in these issues.

Until April 2013, the FTC required vehicle manufacturers to affix a label to new alternative fuel vehicles offered to consumers for sale or lease. This label contained a series of key points to inform consumers about alternative fuels either prior to or at the point of vehicle purchase or lease. Vehicle dealers were required to keep the label on the vehicle until it was either sold or leased.

Some vehicle manufacturers provide training information to dealer sales personnel regarding alternative fuels. For example, Chrysler produces information intended as an aid in answering questions consumers may have regarding alternative fuel vehicles, in order to ease pre-purchase concerns or correct possible misinformation.

### C. Fuel Compartment Label for Alternative Fuel Vehicles

The agency gathered and identified many examples of fuel compartment labeling including labels for ethanol, hydrogen, compressed natural gas and electricity. The labeling ranged from an adhesive label with text, an adhesive label containing text and a graphic symbol, to a fuel tank “cap” which is labeled with text indicating the appropriate fuel type, and sometimes combinations of those elements. (See Figures II.C–1 through II.C–2 in “Examples of Existing Fuel Compartment Labels,” in Docket NHTSA–2010–0134).

In addition to the adhesive label examples and text on the fuel cap, the agency found that in some cases, if a vehicle is alternative fuel capable, a specific, colored fuel tank cap is used. For the most part, these caps were colored yellow to indicate ethanol capability.<sup>19</sup> (See Figures II.C–3 through

II.C–4 in “Examples of Existing Fuel Compartment Labels,” in Docket NHTSA–2010–0134).

In discussions with manufacturers,<sup>20</sup> the agency learned that, at the time this proposal was developed, some do not provide any labeling information at the fuel compartment filler (i.e., charge port) for electric vehicles. One manufacturer of electric vehicles indicated that, while not currently present, labeling at the charge port may be necessary to assist consumer understanding of connection type and ratings.

Fuel compartment labels for compressed natural gas and hydrogen vehicles in production today, or planned for near-term introduction, were similar in nature to the NFPA-recommended labels found on the exterior of the vehicles that were described in Section II.A. Manufacturers using labels for these gaseous fuels derived the labels from standards to promote safety in fuel handling for owners and, potentially, emergency responders.

For more traditional liquid fuel types like gasoline and diesel, manufacturers provided labels and colored fuel caps, with the intention to reduce the likelihood of a vehicle being fueled with an incorrect or incompatible fuel type, which could lead to possible severe damage to a fuel or exhaust system, or engine.

## III. What is the Agency proposing?

### A. Who would be affected by this Proposal?

This proposal would affect companies that manufacture in the U.S. market automobiles rated at not more than 8,500 pounds gross vehicle weight<sup>21</sup> which are capable of operating on the following alternative fuels:<sup>22</sup>

- Methanol<sup>23</sup>
- Denatured ethanol<sup>23</sup>
- Other alcohols<sup>23</sup>
- Natural gas
- Liquefied petroleum gas
- Hydrogen
- Coal-derived liquid fuels
- Fuels (except alcohol) derived from biological materials
- Electricity (including electricity from solar energy)

cap was colored green, but in most cases the cap color was black.

<sup>20</sup> NHTSA’s records of these meetings are available in the docket for this rulemaking.

<sup>21</sup> 49 U.S.C. 32908 (a)(1).

<sup>22</sup> As defined by 49 U.S.C. 32901 (a)(1).

<sup>23</sup> Note: To be considered an alternative fuel, alcohol derived fuels need to be blended at levels of at least 85 percent of the total mixture when blended with gasoline or other fuels.

This proposal would apply to manufacturers of new vehicles (passenger cars, low speed vehicles, and light-duty trucks). As the purpose of these provisions arguably is to provide information on all alternative fuel capable vehicles on the road, regardless of their origin, NHTSA believes that it may also be appropriate to apply these requirements to vehicle alterers.<sup>24</sup> However, the agency has limited information on the universe of alterers that could be subject to this rule, including how the inclusion of alterers might affect the cost-benefit and small business impact analyses. The agency therefore seeks comment on the all aspects of the appropriateness, potential benefits, and practicability of extending these requirements to alterers.

### B. Alternative Fuel “Permanent and Prominent Display”

EISA states that the Department of Transportation (by delegation, NHTSA) shall develop requirements for vehicle manufacturers to label vehicles with a “permanent and prominent display that an automobile is capable of operating on an alternative fuel.” To meet this statutory requirement, NHTSA considered how manufacturers will meet the requirement that the display be “permanent and prominent,” and also the content of the display. According to Merriam-Webster Online dictionary,<sup>25</sup> “permanent” means “continuing or enduring without fundamental or marked change,” while “prominent” means “standing out or projecting beyond a surface or line,” and “display” means “to put or spread before the view” or “to make evident.” For purposes of this proposal, the agency is interpreting “permanent and prominent display” as a display that is intended to be affixed to a vehicle for the vehicle’s entire useful life while providing clear, visible information that the vehicle is capable of operating on an alternative fuel.

NHTSA seeks comment on the assumptions, reasoning, and conclusions described in this section as underlying this proposal.

In terms of “permanence,” manufacturers currently develop badges for vehicle model names, manufacturer brand logos and other vehicle information to specifications intended to allow the badge to remain attached to the vehicle over its useful life. NHTSA would expect that any badges developed

<sup>24</sup> An alterer in this context would be someone that converts for sale or re-sale a conventional-fueled vehicle to one capable of operating on an alternative fuel.

<sup>25</sup> <http://www.merriam-webster.com/> (last accessed January 27, 2014).

<sup>18</sup> <http://www.afdc.energy.gov/afdc/about.html> (last accessed: January 2, 2014).

<sup>19</sup> While not an alternative fuel, the agency also received examples showing the color green used to indicate a vehicle operates on diesel fuel. Fieldwork performed by the agency confirmed inconsistent use of color for fuel filler caps for diesel fuel across various vehicle manufacturers. In some cases, the

for this proposal, or that already meet this proposal, would be of similar specifications and able to last for the vehicle's useful life without specifying actual test procedures to measure this requirement.

In terms of "prominence," NHTSA is proposing to require the alternative fuel badge to be on the vehicle exterior, at the rear of the vehicle and in proximity to the vehicle model name or model designation. In terms of proximity, NHTSA proposes the badge be positioned either directly below or to the right of the vehicle model name or model designation found on the rear of the vehicle. In the case where no model name or designation is intended for the rear of the vehicle, NHTSA proposes the badge be placed at the lower right corner of the vertical trunk lid, closeout panel, rear hatch or rear fender,<sup>26</sup> depending on the vehicle type and configuration. NHTSA does not intend to require that the proposed badges take visual or physical precedence over existing vehicle manufacturer brand logos, model names, or designations. Vehicle manufacturers have demonstrated expertise in the design of badges and the placement of badges such that they provide clear and visible identification of the company logo. NHTSA considered whether to propose less obtrusive displays, such as clear-background adhesive window labels, but has tentatively concluded that such displays would be insufficiently "prominent" to fulfill EISA's intent. If commenters suggest that an approach other than exterior vehicle badging should be used, NHTSA requests that they provide specific detail on what their preferred approach would entail and why exterior vehicle badging would be less permanent than the commenter's preferred approach, less informative for consumers than the commenter's preferred approach, or more burdensome for manufacturers than the commenter's preferred approach.

The next question that NHTSA considered was the content of the display—whether NHTSA should require vehicles to be labeled generally as simply "alternative fuel" or "alternative fuel capable," whether vehicle labels should reference the specific alternative fuel, and whether the display should consist of a symbol (or symbols) or in the form of natural language.<sup>27</sup> These are not questions answered directly by Congress in EISA.

<sup>26</sup> Specifically in the case of LSVs where there may be no trunk, closeout panel or rear hatch as part of the vehicle design.

<sup>27</sup> Webster's Third New International Dictionary: Natural language: A language that is the native speech of a people.

NHTSA does not believe that Congress intended for vehicles to be labeled generally as "alternative fuel" or "alternative fuel capable." 49 U.S.C. 32901(a)(1) has long enumerated specific alternative fuels, which were already defined when Congress created the "permanent and prominent display" requirement. Thus, NHTSA believes that, rather than repeating the existing enumerated list of alternative fuels in 32908(g), Congress intended for that list to be referenced by 32908(g). Additionally, if the purpose of EISA is to promote energy conservation and the use of non-petroleum fuels, NHTSA does not believe that a generic alternative fuel vehicle label would promote the same level of consumer understanding about the variety of alternative fuel options available to consumers. NHTSA believes that more specific labels would clearly differentiate among technologies and specifically identify advanced technologies, such as BEVs, PHEVs, and FCVs, for which manufacturers generally have made significant investments in research development, capital equipment and facilities. While some manufacturers do currently incorporate similar label elements in a variety of alternative fuel or advanced technology vehicles, they also typically include distinctive elements for each technology to identify and promote those technologies. Because of these considerations, NHTSA tentatively concludes that vehicle labels should specify which alternative fuel a vehicle is capable of, rather than simply identifying it as "alternative fuel."

The agency has developed a lead proposal and one alternative proposal that use natural language. The agency considered an alternative that used symbols, but is not proposing that option. The agency assessed the natural language approach and approaches using symbols and recognizes there are advantages to both approaches.

Existing symbols, for the most part and regardless of source, having already endured development and approval processes, are generally accepted in certain contexts to represent alternative fuels. They are relatively design-neutral, which should help them to harmonize better with manufacturer-developed designs that manufacturers may wish to continue applying. They also may help consumers' recognition of alternative fuel symbols insofar as they may already be used at fueling stations, in roadside signage, and at other locations on an alternative fuel capable vehicle.

Based on the finding that there is not a single source for widely-recognized alternative fuel symbols for vehicles,

NHTSA considered whether to try to develop a set of symbols for badging purposes. If the agency attempted to specify a set of symbols for the variety of alternative fuels, we believe that it would need to be accompanied either by evidence that the symbols were intuitively comprehended by most people, or by a significant education effort to inform consumers of their meaning. The variety of fuels covered by the term "alternative fuel" imposes educational challenges, and the agency believes that the fact that Congress mandated educational efforts in EISA regarding the use and benefits of alternative fuels points to a general lack of public knowledge about alternative fuels.

Even if the symbols were developed and consumer research indicated there was general comprehension of the symbols, the agency is concerned that there is a risk that a significant number of consumers will not interpret the symbols consistently if they were eventually implemented. At this time, the agency believes a considerable amount of research would be required to develop symbols representing alternative fuels that are easily comprehended by most people. The agency believes that even if considerable research was conducted to develop the symbols, consumers still would not interpret them consistently, and therefore the agency does not believe that symbols for alternative fuel vehicle badging are the best solution for meeting the EISA requirement. Additionally, as discussed above, many manufacturers have already invested considerable resources in developing their own symbols, and the agency does not wish to impact that investment unnecessarily by requiring manufacturers to replace their symbols with standardized ones if the agency is not confident that consumers will be able to determine what standardized symbols mean.

Natural language, on the other hand, should be more readily understandable for consumers (even if some of the alternative fuels remain somewhat limited in vehicle use and not commonly seen on the roads), and less subject to inaccurate interpretation. Manufacturers already employ natural language in many cases to identify vehicle model names, vehicle manufacturer names, and unique vehicle model designations. In addition, because natural language is straightforward, research would not be required. Natural language would meet EISA statutory requirements. However, the agency seeks comment on this

assessment and the proposal to require natural language descriptions.

With these tentative conclusions in mind, NHTSA's proposal for a "permanent and prominent display" is as follows:

1. "Permanent and Prominent Display" Content Proposal

Based on the available badging and consumer information reviewed by the agency, there appear to be virtually no standardized practices associated with displaying a vehicle's alternative fuel capability. Some vehicle manufacturers have developed unique badges, and in some cases consumer campaigns, to promote alternative fuel capability for their specific, advanced technologies that decrease petroleum consumption. Through this proposal NHTSA remains committed to promoting manufacturer investment in alternative fuel vehicles and to avoid the redundancy of both manufacturers and NHTSA investing time and effort in developing alternative fuel-specific symbols for each vehicle. Based on the agency findings, all fuel types may not be represented in a

symbolic form and, over time, new alternative fuel types may be introduced to the market. Adding new fuel types may involve revisiting and republishing standards, a time consuming process. In addition, the symbols identified while researching this proposal were fundamentally developed for use on controls, the vehicle instrument cluster, and road signs, versus the vehicle exterior. The agency believes the symbols may have taken a different form if designed from the outset as an exterior badge, where aesthetics and complementing an overall theme may take a higher priority than they would for controls, warning lamps or road signs. Overall, this proposal is intended to provide a degree of standardization across the industry without encroaching on manufacturer investment, creativity and resources utilization in promoting alternative fuels.

In order to accomplish these goals, NHTSA is proposing as follows: The agency has tentatively concluded that the regulation should specify that manufacturers must provide a "permanent and prominent display," as

discussed above, which includes in some form the alternative fuel type in natural language. The required natural language terms for alternative fuels are defined in the following table. NHTSA believes that this requirement to standardize terminology for alternative fuel vehicles (and to label all alternative fuel vehicles) could be easily implemented by manufacturers, and would foster consumer recognition of alternative fuel vehicles on the roads without encroaching on existing programs that promote vehicles capable of operating on alternative fuels or established brand equity, since manufacturers will still be able to incorporate the natural language into their own preferred designs/branding. This approach is also consistent with the agency's interpretation of EISA that, at minimum, the type(s) of alternative fuel on which a vehicle is capable of operating should be identified. Table III-1 provides detail of the proposed natural language text associated with the alternative fuels covered by this proposal.

TABLE III-1—PROPOSED "PERMANENT AND PROMINENT DISPLAY" LANGUAGE

Alternative fuel <sup>28</sup>	Proposed badge natural language minimum description
Methanol <sup>29</sup>	Methanol.
Denatured Ethanol <sup>29</sup>	Ethanol.
Other Alcohols <sup>29</sup>	Name of other alcohol derived fuel.
Natural Gas	Natural Gas.
Liquefied Petroleum Gas	Propane.
Coal Derived Liquid Fuels	Coal to Liquid.
Hydrogen	Hydrogen.
Fuels (except alcohol) derived from biological materials	Biodiesel <sup>30</sup> or name of other fuel derived from biological materials.
Electricity (Battery Electric Vehicle)	Electric.
Electricity (Plug-In Hybrid Electric Vehicle)	Plug-In Hybrid Electric.

As identified, the proposed badge natural language description is the minimum language to be included and does not preclude the inclusion of other information related to the alternative fuel capable vehicle such as dual-fuel capability or acceptable blend level such as E85, if applicable.

In surveying current production vehicle badge designs, the agency does see the need to propose a minimum letter height measurement and to have the alternative fuel name presented in a manner providing clear contrast between the letters and their

background color in order to ensure readability.

Based on the survey of current production vehicle model and technology badges, the agency proposes a minimum for the defined "natural language minimum description" be no less than 15 millimeters. This fundamentally aligns with the minimum average text size found on technology related badges currently in production and is intended as a minimum size when the "natural language minimum description" is presented as a standalone badge containing no other text. In cases where the "natural language minimum description" is accompanied by other language, as one badge, the agency proposes a minimum text size of 5 millimeters for the "natural language minimum description" and the accompanying text with an overall minimum badge height of 15 millimeters. The agency proposes

these minimum sizes to help ensure readability, based on the precedents set by the survey of current production vehicle badges (which are assumed, for the most part, to include readability from a reasonable distance as design criteria), while still providing ample latitude in the overall badge design.

In addition, the agency proposes the defined "natural language minimum description" is presented with a clear difference, or the use of differences, between the lightest and the darkest parts of the fuel name. While conducting research for this proposal, the agency observed that current production vehicle model names and manufacturer brand logos are predominantly finished in chrome or, in some cases, shades of silver; a trend that applies historically as well. The agency presumes these finishes and colors provide maximum flexibility for application to the wide array of vehicle

<sup>28</sup> As defined by 49 U.S.C. 32901(a)(1).

<sup>29</sup> Note: To be considered an alternative fuel, alcohol derived fuels need to be blended at levels of at least 85 percent of the total mixture when blended with gasoline or other fuels.

<sup>30</sup> The agency notes that it recognizes only 'neat' biodiesel (B100) as an alternative fuel. 63 FR 15322 (Mar. 31, 1998).

colors available to consumers without hindering readability or attractiveness. With this in mind and to align with vehicle badging trends, the agency proposes the letters of the alternative fuel name to be finished in chrome or a silver color. If the alternative fuel name in the badge contains a background color independent of the vehicle color, the agency proposes this background color should provide clear contrast to the alternative fuel name.

As proposed, the minimum size and letter finish are applicable to only the alternative fuel badge "natural language minimum description" and not applicable to any other text that may be included on the badge.

As an example of what this might look like, during research for this proposal, the agency identified a current production flex-fuel badge at a retailer location where, along with the prominent "flex-fuel" designation, the badge included the word "ethanol" in the overall badge design. The agency would consider that badge to meet the minimum requirements of the proposed regulation. (See Figure III.B-1 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

The agency believes that this approach would both permit and promote manufacturer investment in their own badging and brand equity for alternative fuel vehicles, and would not interfere with broader manufacturer campaigns to promote both alternative fuel vehicles and vehicle petroleum consumption-reducing technologies. Any activity, whether required by the government or undertaken voluntarily by the industry, which promotes the benefits and availability of these vehicles, could help to drive sales and reduce the overall consumption of petroleum-based fuels.

However, there is still some risk that despite standardization of the natural language designation for the alternative fuel type, other inconsistencies across manufacturers' representations could slow consumer understanding about different alternative fuel vehicles. In addition, NHTSA has evaluated all the existing or planned vehicle manufacturer badges and is aware that some of these badges may still require some re-tooling to incorporate the specific fuel type in natural language. Despite these issues, the agency has tentatively decided that this approach is preferable to a more prescriptive approach, some of which are discussed below as regulatory alternatives.

## 2. Alternative Display Content Considered by the Agency

NHTSA also considered whether to specify a standardized word or symbol design for each type of alternative fuel and require that the applicable design be used on all alternative fuel capable vehicles sold in the United States, supplanting any existing manufacturer-applied badging for alternative fuel capability. NHTSA considered three different ways to develop the standard design for each alternative fuel, as discussed below.

For the first alternative, NHTSA considered using and/or adapting the FHWA or SAE/ISO symbols discussed above in a way that could make them more applicable for automobile badging. These symbols, having already been through development and approval processes, are generally accepted in certain contexts to represent alternative fuels. They have the benefit of being relatively design-neutral, which could help them harmonize better with manufacturer-developed designs, and they could also help consumers' recognition of alternative fuel symbols, insofar as they may already be used at fueling stations, in roadside signage, and at other locations on an alternative fuel capable vehicle (See Figures II.A-9 & 10 in "Examples of Existing Alternative Fuel Badges and Symbols," in Docket NHTSA-2010-0134).

However, because symbols do not exist for some of the fuel types in either the FHWA or the SAE/ISO set of symbols, the agency would still need to develop symbols for those other fuel types, similar to the other alternatives discussed below. In addition, because the symbols were developed for use on controls, the vehicle instrument cluster and road signs, rather than for use as a vehicle badge, the agency remains concerned that the symbols may have taken a different form if designed from the outset as an exterior badge, where aesthetics and complementing an overall vehicle theme may take a higher priority, and specified guidelines for application to controls, warning lamps and road signs are not applicable.

For the second alternative, NHTSA considered developing new symbol designs to represent each of the alternative fuel vehicle types covered by this proposal. This approach could be used to fill in the gaps in the approach above, or to start from scratch developing designs specific to this application. However, NHTSA is concerned that significant new research would be necessary for such an approach, which could lead to additional delay in the development of

this regulation. In addition, the approach would need to be coupled with a customer education program in order for it to be effective, creating further delay, and without the guarantee that the symbols developed would ever be immediately recognizable by consumers.

For the third alternative, NHTSA considered soliciting proposed designs for each alternative type from interested parties, and choosing one of those particular designs as the standard design for each type of alternative fuel vehicle. This approach could significantly benefit a manufacturer whose existing design was chosen, as they would have already invested in tooling and would have significant lead time and cost advantage over other manufacturers. This approach would also eliminate the effort, and associated cost, for any other manufacturers who do not currently have such a program, as they would not have to invest in development of their own design. However, NHTSA is concerned that a design-mandated approach may not be compatible with future ideas that manufacturers may develop regarding exterior design and may limit creativity in their advertising approaches for alternative designs.

All of these alternatives could potentially create burden for manufacturers who have made efforts to develop brand equity for their own alternative fuel strategies including the use of symbols to provide a representative meaning or to represent something abstract through their vehicle badges. In addition, some manufacturers have even obtained trademark rights to these symbols and names, so selecting a single manufacturer design as the standard could introduce the need for potential trademark and copyright arrangements among manufacturers, which could be exceedingly burdensome for other manufacturers whose design was not chosen. It may be inappropriate for NHTSA to give manufacturers the advantage of being "ahead" of other manufacturers if their symbol is the one chosen. NHTSA does not wish to discourage vehicle manufacturers from investing in promoting alternative fuel vehicle technologies and other petroleum-fuel consumption reduction technologies; doing so would not be consistent with the agency's and EISA's goals.

The agency seeks comment generally on this aspect of the proposal and these alternatives, and specifically on the following questions:

- Do commenters believe that the proposed natural language descriptions for the alternative fuels covered by this

proposal are appropriate and recognizable? If not, what do commenters suggest, and why?

- Do commenters believe the agency should conduct research regarding the potential advantages of using symbols instead of natural language (after finalization of natural language badging in the current rulemaking) to develop a new series of symbols for alternative fuel vehicles, that might be included in a later rulemaking? If so, why? What research should the agency undertake? How far in the future should the agency be aiming to develop and promulgate such a series of symbols for this requirement, if the agency chose to pursue this path?

- Do commenters believe the agency should require additional labels/badges and/or other locations to enhance the information being presented for the use and safety of first responders. In particular, to address potential badge illegibility in the event of rear impact crash.

### C. "Owner's Manual Information" on Alternative Fuel Capability and Benefits

EISA requires DOT (by delegation, NHTSA) to develop regulations to require vehicle manufacturers producing vehicles capable of operating on alternative fuels to include text in the vehicle owner's manual information describing the capability and benefits of using alternative fuels, such as their renewable nature and environmental benefits. According to Merriam-Webster Online dictionary,<sup>31</sup> "capability" means "the facility or potential for an indicated use or deployment," "benefits" means "something that promotes well-being" and "renewable nature" suggests "capable of being replaced by natural ecological cycles or sound management practices." In the context of owner's manual information regarding alternative fuel vehicles and alternative fuels generally, manufacturers currently appear to locate most of the information that they provide in the owner's manual in text format, but the information provided on alternative fuels generally does not address the topics enumerated by EISA. For purposes of this proposal, the agency is interpreting "owner's manual . . . information that describes [the] capability and the benefits of using alternative fuels, including the renewable nature and environmental benefits of using alternative fuels," as requiring more owner's manual text than what is currently provided by the

majority of manufacturers who produce alternative fuel vehicles.

As for the "permanent and prominent display" of alternative fuel capability, NHTSA considered whether it should simply create general guidelines for these topics and allow manufacturers to develop their own text, or whether the agency should specify the text that manufacturers would be required to use. NHTSA has tentatively concluded that specifying required text rather than simply providing guidelines for manufacturers to develop their own text would be the best approach. Manufacturers would be required to include the NHTSA-specified text with the owner's manual information of every alternative fuel vehicle that they produce for sale in the United States, but would also be permitted to develop additional text to describe their own vehicles if they choose. NHTSA believes that this approach will help to ensure that the owner's manual information for all alternative fuel vehicles covers the required topics as thoroughly and accurately as NHTSA believes is necessary to implement EISA's intent, and will also avoid the potential for gaps in information that might occur if the agency simply prescribed guidelines. NHTSA recognizes that this approach may reduce some amount of flexibility for manufacturers, but we believe that the benefits of standardization, in this case, likely outweigh the drawbacks.

Thus, assuming that NHTSA will specify required owner's manual text, the second question that NHTSA considered was whether the required text should be general enough to cover all alternative fuel vehicles, or whether it should be specific to each individual type of alternative fuel vehicle. NHTSA has tentatively concluded that requiring generic text to cover all alternative fuel vehicles rather than specifying individualized text for each type of alternative fuel vehicle would be the best approach. Again, manufacturers would be permitted to develop additional text to describe their own vehicles if they choose.

NHTSA believes that this approach should benefit both consumers and vehicle manufacturers by maintaining consistent owner's manual information across all alternative fuel types in print form and reducing complexities associated with specific text for an individual fuel type, while still allowing alternative fuel information to evolve as new fuels become more prominent in the marketplace, production processes change or alternative fuel generation methods transform technologically and/or regionally. Using standardized,

somewhat generic text with references to additional, more dynamic sources like internet Web pages avoids published information becoming obsolete and less useful to consumers. And again, we anticipate that standardized generic text describing the benefits of alternative fuels will reduce the burden on manufacturers, who would not be required to develop, or seek approval for, their own alternative fuel owner's manual information.

Additionally, in order to benefit from the expertise of other federal agencies active in alternative fuel vehicle issues, NHTSA consulted with the FTC to discuss potential alignment of content for proposed owner's manual information with the (until-recently) required<sup>32</sup> FTC-alternative fuel label found on all new alternative fuel vehicles sold in the U.S. The agency believes it may be helpful to consumers to provide information that is consistent with the FTC label which was in the marketplace between 1995<sup>33</sup> and April 2013.

The agency recognizes that there are many details and unique characteristics associated with each of the alternative fuels covered by this proposal, and that some consumers may prefer additional information specific to their type of alternative fuel vehicle. However, we believe that requiring all of that information to be provided in the owner's manual may not be necessary, as the extent and depth of this information for each of these fuels is vast, and can change over time. Therefore, the agency believes that giving a foundation of more generic alternative fuel vehicle information to consumers, while providing a reference to government-funded and supported sources of additional information, is a better approach to implementing this statutory obligation.

Therefore, the agency is proposing to require the following standardized text, largely derived from the FTC developed alternative fuel label,<sup>34</sup> to be included in the owner's manual information of all vehicles which are capable of operating

<sup>31</sup> <http://www.merriam-webster.com/> (last accessed January 2, 2014).

<sup>32</sup> In April of 2013, the Federal Trade Commission issued final amendments to the Alternative Fuels Rule, consolidating the point of sale labels required on alternative fuel vehicles (AFVs) with those required by the U.S. Environmental Protection Agency (EPA), eliminating the need for two different labels and reducing the burden of complying with the Rule. ("FTC Amends Alternative Fuels Rule to Make Compliance Easier" last accessed: January 2, 2014).

<sup>33</sup> <http://www.ftc.gov/news-events/press-releases/1995/05/alternative-fuels-final-rule-issued> (last accessed: January 2, 2014).

<sup>34</sup> 16 CFR 309.20.

on any of the alternative fuels covered by this proposal:

“{Section Heading:} Capabilities and Benefits of Using Alternative Fuels

This vehicle is recognized by the U.S. Department of Transportation as an alternative fuel vehicle, because it is capable of operating on a biofuel, electricity, hydrogen, natural gas, propane or other fuel that is not derived primarily from petroleum. Alternative fuel vehicles may provide benefits both to their users and to the nation as a whole over their useful lifetime by operating on non-petroleum-based alternative fuels. Some of the benefits of alternative fuel usage in this vehicle may include:

**Energy and National Security:** Driving this vehicle on alternative fuels may help to reduce our country's dependence on foreign oil. The United States imports a substantial amount of its petroleum, the majority of which is used to fuel vehicles in the form of gasoline and diesel. Petroleum imports can be vulnerable to supply disruptions and price shocks depending on conditions in the countries that supply us with oil. By using alternative fuels, you may be helping the country be less vulnerable to the supply disruptions and price variability associated with imported oil, and supporting U.S. alternative fuel producers.

**Environmental Benefits—Renewability and Emissions:** Many alternative fuels are renewable, which means that their sources can be replenished—like plant-based ethanol, or solar-powered electricity. Renewable fuels may have less environmental impact than conventional fuels. Additionally, compared with vehicles fueled by conventional, petroleum-derived diesel and gasoline, many alternative fuel vehicles are estimated to reduce the life cycle greenhouse gas emissions of carbon dioxide.

**Fuel Type and Availability:** Alternative fuels are increasing in availability. To learn more about the availability of alternative fuel that can power this vehicle, please visit the Department of Energy's Alternative Fueling Station Locator at <http://www.afdc.energy.gov/afdc/locator/stations/> to determine the location of refueling and/or recharging facilities that meet your driving needs.

**Additional Information Resources**

For more information about alternative fuels and alternative fuel vehicles, please visit the Department of Energy's Alternative Fuels & Advanced Vehicles Data Center at <http://www.afdc.energy.gov>.

For information about vehicle safety, please visit [www.safercar.gov](http://www.safercar.gov).

The agency proposes that this text follow the same font and type size specification as other standard “body” text found throughout the owner's manual. In addition, the agency proposes that the text be located inside a text box, bordered with a 1-pt. solid black line, with no other text in box. We believe that this will help the text stand out to consumers and encourage them to review it.

The agency seeks comment on this proposed text with regard to whether it meets the EISA statutory requirements, whether the depth of the information is sufficient, whether the fuel type should be specified, and whether the references to other government Web sites for the most up-to-date information regarding alternative fuels are helpful. Should the agency require the inclusion of more or less information on alternative fuel capability and benefits in the standardized text? Are there additional benefits that should be added directly in the text? Should the text vary (in part or in its entirety) depending on the type of alternative fuel? If so, how should the text vary? Should the agency include different or additional references to Web sites or link technology such as the QR™ code found on the recently revised fuel economy label? If so, what type of technology and to what Web sites? Commenters should include specific suggested changes (and their reasons for the suggested changes) for the agency's consideration.

*D. Fuel Compartment Alternative Fuel Identification*

EISA requires DOT (by delegation, NHTSA) to develop regulations to require a label to be attached to the fuel compartment of vehicles capable of operating on alternative fuels, with the form of alternative fuel stated on the label. EISA adds that a label attached in compliance with the requirements of 49 U.S.C. 32905(h) would be deemed to meet the requirements. According to Merriam-Webster Online dictionary,<sup>35</sup> “attached” means “permanently fixed,” while “compartment” suggests “a separate division or section.” In the context of this requirement, most manufacturers offering alternative fuel vehicles either already have or intend to have, in the near future, some form of labeling plan in place for the fuel compartment of those vehicles. These labeling plans may be driven by one or multiple reasons. In some cases, vehicle manufacturers are labeling the fuel filler

compartment in order to obtain dual-fuel vehicle credits under 49 U.S.C. 32905(h).<sup>36</sup> In other cases, the labeling may be to provide key safety information to consumers or first responders. And in yet other cases, fuel cap coloring may be employed to indicate the vehicle's fuel-type compatibility to avoid miss-fueling. However, not all alternative fuel vehicles currently have such labeling, and not all manufacturers have plans to add such labeling. Of the manufacturers who do provide labels, the labeling is not consistent in either content or location. For purposes of this proposal, the agency is interpreting “a label . . . attached to the fuel compartment of vehicles capable of operating on alternative fuels, with the form of alternative fuel stated on the label,” as requiring greater consistency than what the majority of manufacturers are currently providing for their alternative fuel vehicles.

The agency considered whether it should develop specific labels for manufacturers to employ, or simply provide general guidelines like those of 32905(h) and 32908(g)(3) that direct manufacturers to attach labels indicating which alternative fuel a vehicle can operate on, but do not otherwise specify the content or form of the label. NHTSA has tentatively concluded that the label can take the form of an adhesive-type label or language “screen-printed” directly on the exterior of the fuel cap or the fuel compartment access door, in a similar style to those found in production today to meet the 32905(h) requirement, that is specified and designed to remain affixed to the inside of the fuel compartment access door or fuel cap over the entire useful life of the vehicle. NHTSA believes this will best fulfill EISA's intent to provide consumers with clear, consistent and useful information. The labeling should clearly state the specific alternative fuel type(s) and, for gaseous or electrically fueled vehicles, the proper/safe capacities for replenishing the fuel supply.

If a manufacturer is already applying labeling pursuant to 32905(h), NHTSA would not require an additional separate label for compliance, but existing labels may require modification to comply with the proposed label content.

The agency is proposing a list of content requirements for the label. Table

<sup>36</sup> We note that because the 32905(h) requirement does not apply to dedicated alternative fuel vehicles (such as, e.g., pure NGVs or BEVs), manufacturers have no specific incentive to ensure fuel compartment labeling for these vehicles under the current requirements.

<sup>35</sup> <http://www.merriam-webster.com/> (last accessed January 2, 2014).

III-2 represents the proposed label content requirements that must be included for each alternative fuel type:

TABLE III-2—PROPOSED FUEL FILLER COMPARTMENT ALTERNATIVE FUEL LABELING CONTENT

Defined alternative fuel <sup>37</sup>	Alternative fuel name for use in labeling	Maximum blend level (liquid)	Charging voltage level(s)
Methanol <sup>38</sup> .....	Methanol .....	X	.....
Denatured Ethanol <sup>38</sup> .....	Ethanol .....	X	.....
Other Alcohols <sup>38</sup> .....	[Name of Alcohol Derived Fuel] .....	X	.....
Natural Gas .....	CNG .....	.....	.....
Liquefied Petroleum Gas .....	LPG .....	.....	.....
Coal Derived Liquid Fuels .....	Coal Derived Liquid Fuels .....	X	.....
Hydrogen .....	Hydrogen .....	.....	.....
Fuels (except alcohol) derived from biological materials.	Biodiesel or [Name of other Biologically derived fuel]	X	.....
Electricity (Battery Electric Vehicle) .....	Electricity .....	.....	X
Electricity (Plug-In Hybrid Electric Vehicle) .....	Electricity/[Other Fuel Type(s)] .....	X*	X

\* For dual fuel capable non-electric power source.

The agency is providing the following discussion points regarding Table III D-1 in an effort to provide clarity of the proposed label content.

The "Alternative Fuel Name for Use in Labeling" is the text that must appear in the labeling.

The "Maximum Blend Level (Liquid)" is intended to identify the appropriate maximum acceptable mixture levels of liquid fuels that may contain a blend of fuel types such as ethanol or biodiesel.

The "Charging Voltage Level(s)" is intended to indicate both the recommended charging voltage and additional voltage levels that can be used for recharging an electric vehicle: battery only or plug-in hybrid.

The agency developed this table of proposed label content based on alternative fuel labeling currently being applied pursuant to 32905(h) and existing requirements for gaseous fuel vehicles. NHTSA believes that this meets the statutory intent of EISA.

Like the alternative fuel permanent and prominent display, in order to ensure readability, the agency is proposing a minimum letter height measurement and to have the alternative fuel name along with any supporting information presented in a manner that provides clear contrast between the letters and their background color.

Based on the survey of current production fuel filler compartment adhesive labels and information found on fuel caps, the agency proposes a minimum for the text height of 5 millimeters and "bold face" when applying language to an adhesive label or a fuel filler cap.

In addition, the agency proposes that the fuel filler compartment information is presented with a clear difference between the lightest and the darkest parts of information. Ideally, this would be black text on a white background, white text on a black background or a combination of colors very similar in contrast.

The agency is not currently proposing, but does seek comment on, whether we should also, or alternatively, require vehicle manufacturers to color-code the fuel cap (or charging port, or other equivalent) for a specific alternative fuel type. If commenters believe that such an additional or alternative requirement would be beneficial, we ask that they provide specific rationale for the benefits of adding this requirement, and quantify the benefits to the extent feasible; we also ask that commenters provide specific recommendations as to what color coding for each fuel they believe would be helpful and why.

We also seek comment on the above proposal for fuel compartment alternative fuel identification, and whether commenters believe that there may be more effective or helpful ways to implement this requirement while still meeting the language and intent of EISA.

*E. When does NHTSA propose that the new requirements would be implemented?*

NHTSA proposes that all components of this NPRM would apply to vehicles manufactured on or after the first September 1 that is at least six months after the publication date of a final rule implementing this proposal. This proposed timing is intended to allow a minimum of six months lead time for implementation. The agency anticipates

finalizing this proposal in the first quarter of 2015. Therefore, we expect that the effective date of this proposed rule would be September 1, 2016, which would provide manufacturers additional lead time. The agency believes the lead time proposed may be necessary; however the agency intends to allow optional early compliance if a manufacturer wishes all vehicles from an affected model year (MY) to be badged and/or labeled the same because we understand that manufacturers may produce MY 2017 vehicles as early as January 1, 2016. This proposed timing would allow for these vehicles to be introduced to the market with the proposed badges in place.

With regard to badging, the agency learned from one badging supplier that the lead time associated with the tooling and production of an externally applied badge is approximately 16 to 18 weeks from design to vehicle production application.<sup>39</sup> In addition, the agency believes that the flexible nature of the proposal for a permanent and prominent display for alternative fuel capability would require little design effort even among vehicle manufacturers that do not currently badge their vehicles. Moreover, since the agency is aware that all vehicle manufacturers currently have business relationships with badge suppliers to produce "permanent and prominent displays" of manufacturer names, model lines and other unique model designations, some of which are related to alternative fuel capabilities, as part of their regular production and marketing strategies, the agency does not anticipate that manufacturers will need to develop or seek out new

<sup>39</sup> Based on discussion with Douglas Corporation, January 22, 2010. A record of this discussion is available in the docket for this rulemaking.

<sup>37</sup> 32901(a)(1).

<sup>38</sup> Note: To be considered an alternative fuel, alcohol derived fuels need to be blended at levels of at least 85 percent of the total mixture when blended with gasoline or other fuels.

relationships, which might otherwise create a need for additional lead time.

With regard to owner's manual information, the Alliance of Automobile Manufacturers suggested that a two full model year lead time could be necessary for incorporation of this information.<sup>40</sup> The agency believes this amount of lead time is more than should be necessary in this situation. First, the agency is proposing standardized language that all vehicle manufacturers producing vehicles capable of operating on the alternative fuels covered by this proposal will be required to include. Standardized language should alleviate the lead time that might be required for "clean sheet" development by each manufacturer of owner's manual information language if the agency provided only guidelines for what the language should contain rather than specifying it directly.

Additionally, the agency believes that a somewhat shorter time frame for incorporation than that suggested by the Alliance can be achieved. Today, in most cases, owner's manual information is developed, reviewed and approved in an entirely digital environment, which significantly reduces lead time. Moreover, the agency is aware that some manufacturers have moved, or are in the process of moving, to completely digital delivery of owner's manual information, where owner's manual information is delivered via a digital video disc (DVD) or some other digital format.<sup>41</sup> In some of these cases, official vehicle manufacturer owner's manual information is available via the internet.<sup>42</sup>

For fuel compartment labeling, the agency believes the proposed time frame to be reasonable for two reasons. First, as discussed above, in developing this proposal the agency discovered that many manufacturers producing alternative fuel vehicles already label their fuel compartments in order to obtain dual-fuel vehicle credits, pursuant to the requirements in 49 U.S.C. 32905(h). In this NPRM, the agency is simply proposing to require manufacturers to do what many manufacturers are already doing—thus, for the manufacturers already labeling their vehicles, no lead time should

theoretically be required. For the manufacturers not currently labeling their alternative fuel vehicles, a supply base for meeting the requirements of 49 U.S.C. 32905(h) is already established, so those manufacturers should be able to leverage this existing supply base and thus mitigate lead time needs.

Further, manufacturers not already in compliance with this component of this proposal are, for the most part, not producing alternative fuel capable vehicles at the present time. The agency recognizes, however, that some vehicle manufacturers will begin production of alternative fueled vehicles during the proposed optional and required compliance time frame.

The agency seeks comment on whether the proposed lead time for each of the requirements is reasonable. If a commenter wishes the agency to provide additional lead time, the agency requests that the commenter provide specific explanations for which elements and why more lead time might be needed. For example, if a commenter sought more lead time for the owner's manual requirements, the agency would be seeking details of the owner's manual publication process and associated timing, along with current and future media that will be used for the owner's manual information.

#### IV. What are the estimated costs and benefits of the proposal?

In determining estimated industry costs associated with this proposal, the agency first set out to determine a projected MY 2017 volume for vehicles capable of operating on the alternative fuels covered by this proposal. Next, the agency investigated potential "ball-park" piece cost and labor cost for labels and exterior vehicle badges. And finally, the agency looked at labor rates for personnel that may be involved with the development of owner's manual information.

To develop a projected alternative fuel vehicle volume for the U.S. market, we used specific data from NHTSA's Corporate Average Fuel Economy (CAFE) program database, current and historical industry volumes from Wards Auto (online), sales outlooks from Pike Research for low speed vehicles (LSVs) and the Energy Information Administration's 2012 Annual Energy Outlook for light duty vehicles. Finally, the agency considered public announcements from manufacturers regarding anticipated future volumes of alternative fuel vehicles such as FFVs, PHEVs, BEVs and FCVs.

For label and badge piece cost and labor costs, the agency spoke with suppliers of both badges and labels

currently used in vehicle production. These suppliers have continued and wide-ranging label and badge supply experience inside and outside the automotive industry. In some cases, the suppliers currently produce either badges or labels for multiple vehicle manufacturers.

The agency seeks comment on all cost estimates developed for this proposal; specifically, the estimated piece costs for alternative fuel badges and labels, the estimated costs associated with producing pages of owner's manual information, and any additional costs which may not be included in these estimates. Specific citations to sources for comments on cost estimates would be most helpful to NHTSA.

#### A. How did NHTSA project alternative fuel vehicle volumes?

As part of the research conducted for development of this proposal, the agency attempted to determine a projected volume of MY 2017 alternative fuel vehicles that could be affected by this proposal. The agency utilized the overall industry sales projections of light duty cars and trucks developed by the Energy Information Agency (EIA) for its 2012 Annual Energy Outlook (AEO) Early Release reference case.<sup>43</sup> When needed, the agency evaluated and applied manufacturer or specific vehicle model market share to further refine MY 2017 projections for specific alternative fuels; an example being E85 capable or "flex-fuel" vehicles. A summary of the volume projections by alternative fuel type can be found in Table IV-1.

Using the CAFE program database, the agency learned that the vast majority of FFVs are produced by General Motors, Ford and Chrysler with very few other manufacturers producing FFVs. The agency used this finding to develop an estimated volume for MY 2017 ethanol capable flex-fuel vehicles and based the estimate primarily on announced volume projections from Ford, General Motors and Chrysler where these manufacturers indicated 50 percent of their fleet will have E85 flex-fuel capability by 2012.<sup>44</sup>

To develop projected volume for these manufacturers, the agency applied market share values of 18 percent for General Motors, 15.5 percent for Ford and 11 percent for Chrysler, taken from

<sup>40</sup> Alliance letter to NHTSA RE: NHTSA Consumer Information Rulemaking, June 25, 2010. Available at Docket No. NHTSA-2010-0134.

<sup>41</sup> "Chrysler Phases Out Paper Owner's Manual" <http://wheels.blogs.nytimes.com/2009/09/23/chrysler-does-away-with-paper-owners-manual/> (last accessed January 2, 2014).

<sup>42</sup> "Owners Manuals for Ford Vehicles," <https://owner.ford.com/servlet/ContentServer?pagename=Owner/Page/OwnerGuidePageVehicleLookup&BackToLogin=Owner/Page/OwnerGuidePage&ord=14632762> (last accessed December 9, 2013).

<sup>43</sup> AEO2012 Early Release Overview—<http://www.eia.gov/forecasts/aeo12/ar/> (last accessed: January 2, 2014).

<sup>44</sup> "Detroit Three's Flex-Fuel Builds Increasing" Wards Auto, October 27, 2011 <http://wardsauto.com/news-amp-analysis/detroit-three-s-flex-fuel-builds-increasing> (last accessed: January 2, 2014).

Wards Auto for MY 2011–13, to the total MY 2016–17 industry sales projected by the 2012 Annual Energy Outlook (AEO) Early Release reference case<sup>45</sup> yielding a projected MY 2017 market volume for these manufacturers. The agency then applied the 50 percent FFV fleet value to each manufacturer’s projected market-share based volume to determine a projected MY 2017 FFV volume. To prevent double-counting, the agency excluded the volume of other alternative fuel vehicles covered by this proposal and produced by these manufacturers.

The agency also included MY 2017 projections for several current vehicle models that are E85 capable, that are produced by other vehicle manufacturers, and that have production volumes greater than 2000 units. For the most part, these vehicles were large pickup truck and SUV FFV models from Nissan and Toyota. Recognizing that the MYs 2012–2025 Corporate Average Fuel Economy (CAFE) and Greenhouse Gas (GHG) Emission standards become progressively more stringent each model year and that both programs provide incentives for FFVs, it is probable that manufacturers will increase the number of FFV vehicles that they produce in MY 2017 compared to MY 2012. To avoid underestimating cost in this proposal, the agency increased the projected number of vehicles that might be affected by the proposed rule by the equivalent of 50% of the projected MY 2017 production volume of Toyota and Nissan large pickups and SUVs. To estimate the projected MY 2017 production volume of Toyota and Nissan large pickups and SUVs, the

agency applied the MY 2013 market share of these vehicles to the projected MY 2017 total industry volume projections.<sup>46</sup> The agency notes that it is not aware of any announcement by either of those companies to produce this quantity of FFVs. Nevertheless, the agency believes that adding the equivalent of 50 percent of Toyota’s and Nissan’s volume is a reasonable approach for estimating the additional number of vehicles that might be affected by this proposal, because other manufacturers may choose to produce FFVs.

Overall, using the market share based methodology brings simplicity and allows any industry-wide volume increase or decrease to be easily reflected. Using this projection methodology, the agency predicts almost 98 percent of the overall projected MY 2017 alternative fuel vehicle fleet will be E85 capable with an estimated 3,818,555 vehicles produced that year.

In addition to ethanol capable vehicles, cost estimates for this proposal also need to account for the number of vehicles capable of operating on other alternative fuels covered by this proposal. For the U.S. market, this primarily includes compressed natural gas, liquefied petroleum gas, hydrogen and electricity fueled vehicles. Through its research, the agency is not aware of any manufacturers planning to produce a significant number of vehicles capable of operating on alternative fuels such as methanol, coal-derived liquid fuels or fuels (except alcohol) derived from biological materials.<sup>47</sup>

The agency did employ a different methodology for developing volume projections of alternative fuel vehicles covered by this proposal that use fuels other than ethanol. The agency utilized published sales data for battery electric vehicles (BEV) and plug-in electric vehicles (PHEV), as these vehicles have entered commerce and accumulated at least one year of sales data.<sup>48</sup> In addition, the agency incorporated the sales volume of electric low speed vehicles (LSVs) into the volume projections for BEV as these are covered by this proposed rule.<sup>49</sup>

The agency also evaluated and utilized manufacturers’ revised or publicly announced projected vehicle volumes for alternative fuel vehicles powered by electricity, compressed natural gas, liquefied petroleum gas and hydrogen. As a result, the agency utilized a “projected volume” approach instead of the market share approach that is used for ethanol vehicle volumes. This projected volume approach is believed to be more practicable as the market share of current models are likely to change as other competitive models enter the market, and because future models currently have no market share. However the agency did project slight increases for vehicles already entered into commerce, such as BEVs and PHEVs, based on expanding regional availability in the United States and increased production volumes.

Therefore, the cost estimates in this proposal are based on the alternative fuel vehicle volumes represented by fuel type in the following table.

TABLE IV–1—MY 2017 ALTERNATIVE FUEL VEHICLE VOLUME PROJECTION

Fuel type	Volume	Percent alt fuel volume	Percent industry volume
Ethanol .....	3,818,555	97.77	22.428
Natural Gas .....	4,300	0.11	0.025
Electric (BEV)* .....	32,209	0.82	0.189
Electric (PHEV/EREV) .....	47,639	1.22	0.280
Hydrogen .....	274	0.01	0.002
LPG .....	2,750	0.07	0.016
Biodiesel** .....	.....	0.00	0.000
<b>Total .....</b>	<b>3,905,727</b>	<b>100.00</b>	<b>22.940</b>

\* Includes LSVs.

\*\* DOT only considers B100 to be an Alternative fuel.

<sup>45</sup> DOE Annual Energy Outlook Early 2012 Release—<http://www.eia.gov/oiarf/aef/tablebrowser/#release=EARLY2012&subject=15-EARLY2012&table=48-EARLY2012&region=1-0&cases=early2012-d121011b> (last accessed: January 2, 2014).

<sup>46</sup> Ibid.

<sup>47</sup> The agency notes that it recognizes only ‘neat’ biodiesel (B100) as an alternative fuel. 63 FR 15322 (Mar. 31, 1998).

<sup>48</sup> For reference, the agency used sales information from Wards Auto for these vehicle types.

<sup>49</sup> For LSVs, the agency utilized sales and project data available from a report developed by Pike Research titled, “Neighborhood Electric Vehicles: Low-Speed Electric Vehicle for Consumers and Fleet Markets: Demand Drivers and Barriers, Technology, Key Industry Players and Market Forecasts,” Published 2Q 2011.

As discussed, these volumes are estimates based on varied sources of information; some historical and some forward-looking. The agency acknowledges that actual production volumes in the future are likely to be different than the projections developed for this proposal, however, the agency believes the projections have been developed using the best available information at the time of development of this proposal; for example AEO vehicles sales projections and Wards Auto data. The agency notes that the forecast information is from the same sources that have been used in other

agency rulemakings and the sources are recognized and used by industry in developing future projections.

The agency also recognizes the many factors that will affect these volume projections some of which include prices of petroleum and non-petroleum derived fuels, infrastructure for alternative fueling accessibility, overall consumer acceptance of alternative fuel vehicle characteristics and finally, the need for vehicle manufacturers to meet more stringent CAFE and greenhouse gas emissions standards.

In light of these many significant variables, the agency seeks comment on

these volume projections, including alternative fuel type applications, for MY 2017 and any subsequent model years to gain potentially better information to the overall costs and production-intent alternative fuel type applicability associated with this proposal.

*B. What total costs does NHTSA estimate for the proposal?*

The agency has estimated the total costs of the proposal in Table IV–2 and Table IV–3 below.

**TABLE IV–2—ESTIMATED INDUSTRY COSTS FOR PROPOSAL IN FIRST MODEL YEAR (2012\$)**

	Low	High
Permanent and Prominent Display Badge .....	\$6,713,112	\$13,292,937
Tooling (all fuel types) .....	41,064	284,287
Fuel Compartment Label .....		827,436
Owner's Information .....		348,352
<b>Total .....</b>	<b>7,929,963</b>	<b>14,753,011</b>

\* Values derived from Projected MY2017 Industry Volume of Alternative Fuel Vehicles (Including LSVs).

**TABLE IV–3—ESTIMATED ANNUAL INDUSTRY COSTS FOR PROPOSAL AFTER THE FIRST MODEL YEAR (2012\$)**

	Low	High
Permanent and Prominent Display Badge .....	\$6,713,112	\$13,292,937
Fuel Compartment Label .....		827,436
Owner's Information .....		328,081
<b>Total .....</b>	<b>7,868,629</b>	<b>14,448,453</b>

\* Values derived from Projected MY2017 Industry Volume of Alternative Fuel Vehicles (Including LSVs).

The estimated costs per requirement are described in detail in the following discussion.

**1. What costs does NHTSA estimate for the proposal for “Permanent and Prominent Display” of Alternative-Fuel capability?**

The agency spoke with a supplier of badges to the automotive industry to gain a better understanding of badge development and implementation options, along with potential piece costs for those options.<sup>50</sup> During the discussion, the supplier suggested multiple options that could align with the lead and alternative proposals for meeting the statutory obligations of a “permanent and prominent display” of a vehicle’s capability to operate on an alternative fuel.

The first consisted of plastic molded into a specified design. This molded part would be chrome plated and finished with additional decorative or colored aspects per the specified design. Some key aspects of this design are its durability and commonality with model or brand badges found on vehicles in production today. A key consideration for this badge technology is the need to ensure that the rear surface of the badge, the surface that would adhere to a vehicle via an adhesive, has a contour that would be adaptable to most any vehicle due to the rigidity of the plastic molded part.

Another badge technology option is a foil-type material containing the natural language or design, which is covered in a protective urethane coating. The urethane coating provides thickness to the badge and could provide some limited contouring on the surface to add emphasis to components of the design or language contained on the urethane

encased foil. The urethane-coated design does provide some cost and tooling advantages over the chrome-plated, ABS plastic molded part, albeit at the possible expense of attractiveness or readability as a badge employing these materials typically results in the text being “protected” by a relatively thick layer of material. In either of the two material approaches, the badge is intended to remain affixed and readable over the useful life of the vehicle.

Consistent with the proposal for application of a badge containing natural language, the agency has developed estimated costs associated with the projected alternative fuel vehicle volume for MY 2017 as the basis for annual costs. These costs are considered annual costs with the potential to increase linearly with an increase of alternative fuel vehicles in the marketplace.

<sup>50</sup> NHTSA’s records of these meetings are available in the docket for this rulemaking.

The following table contains estimated aggregated labor cost for affixing badges to vehicles in a production environment. The labor value was estimated at \$0.35 per badge based on a labor rate of approximately \$21 per hour<sup>51</sup> and allowing for one minute of time to apply the badge to the vehicle in the production environment, parameters which the agency considered reasonable for the labor involved.

TABLE IV-4—POTENTIAL BADGE LABOR COST MY2017 (2012\$)

Fuel type	Labor cost	Labor hours
Ethanol .....	\$1,336,494	63,642.58
Natural Gas .....	1,505	71.67
Electric (BEV) ...	11,273	536.81
Electric (PHEV/ EREV) .....	16,674	793.98
Hydrogen .....	96	4.57
LPG .....	963	45.83
<b>Total .....</b>	<b>1,367,004</b>	<b>65,095.44</b>

The following table shows estimated tooling costs for badges based on information provided by an automotive

industry badge supplier.<sup>52</sup> The costs are shown as low and high range values for each badge material type (urethane and ABS plastic/chrome). The estimated tooling costs are expected to be a one-time cost for developing the tooling required to produce either badge type versus a continuous year-over-year aggregated piece cost because, once developed, the designs are not intended to change over time.<sup>53</sup> In addition, these tooling costs would also apply to any future alternative fuel badges that would enter the U.S. market as tooling development is required for each badge design.

TABLE IV-5—MY 2017 ESTIMATED BADGE TOOLING COST (2012\$)

	Foil/urethane		ABS plastic/chrome	
	Low	High	Low	High
Per Fuel Type .....	\$6,844	\$8,950	\$31,587	\$47,381

The following table shows estimated annual aggregate industry material cost for manufacturing badges in a production environment (without labor cost). The ranges of costs were developed based on information

provided by an automotive industry badge supplier.<sup>54</sup> The low and high cost range values for manufacturing the two types of badge materials (foil/urethane and ABS plastic/chrome) are multiplied by the estimated alternative fuel vehicle

volumes to arrive at an annual aggregate “permanent and prominent display” cost. The potential estimated labor values discussed in Table IV-4 would need to be combined with these values to arrive at total estimated annual cost.

TABLE IV-6—MY 2017 ESTIMATED “PERMANENT AND PROMINENT DISPLAY” AGGREGATED INDUSTRY MATERIAL COSTS (2012\$)

	Foil/urethane		ABS plastic/chrome	
	Low	High	Low	High
Ethanol .....	\$5,226,788	\$9,247,395	\$7,639,152	\$11,659,758
Natural Gas .....	5,886	10,413	8,602	13,130
Electric (BEV) .....	44,087	77,999	64,434	98,347
Electric (PHEV/EREV) .....	65,208	115,367	95,303	145,463
Hydrogen .....	375	664	548	837
LPG .....	3,764	6,660	5,501	8,397
Biodiesel .....	.....	.....	.....	.....
<b>Totals .....</b>	<b>5,346,108</b>	<b>9,458,498</b>	<b>7,813,542</b>	<b>11,925,932</b>

2. What costs does NHTSA estimate for the “Owner’s Manual Information” on alternative fuel capability and benefits?

The agency generated the following cost estimates for the development and

implementation of the owner’s manual information describing the capabilities and benefits of alternative fuel usage.

<sup>51</sup> United States Bureau of Labor Statistics, May 2012, Production Occupations, 51-2099 Assemblers and Fabricators, All Other, hourly mean wage: \$21.14 per hour. <http://www.bls.gov/oas/current/oas512099.htm> (last accessed January 27, 2014).

<sup>52</sup> Conversation between NHTSA staff and a representative of the Douglas Corporation,

December 22, 2010. A record of this meeting is available in the docket for this rulemaking.

<sup>53</sup> However, the agency acknowledges production tooling does have a limited useful life and can require maintenance during this useful life. For purposes of this proposal, the agency is recognizing the initial cost to develop tooling to produce badge designs. Any subsequent costs are dependent on

factors involving production techniques, machine tool maintenance and other variables across, potentially, multiple suppliers that the agency is not able to estimate for this proposal.

<sup>54</sup> Conversation between NHTSA staff and a representative of the Douglas Corporation, December 22, 2010. A record of this meeting is available in the docket for this rulemaking.

TABLE IV-7—ESTIMATED ALTERNATIVE FUEL OWNER'S MANUAL INFORMATION ANNUAL PRINTING COST (2012\$)

Startup Costs	Rate	Hours	Cost
Entry Level Technical Writer .....	\$22.60	16.00	\$362
Supervisory Technical Writer .....	33.59	8.00	269
Associate General Counsel .....	99.17	5.00	496
Labor Cost .....			1,126
Number of Manufacturers (est. 18) .....			20,271
Annual Costs	Rate	Pages	Cost
Printing—per page .....	\$0.042	2.00	\$0.084
Printing per pagex vehicle volume Table IV-1 .....			328,081
<b>Total Cost .....</b>			<b>348,352</b>

3. What costs does NHTSA estimate for fuel compartment alternative fuel identification?

The agency is proposing the application of an adhesive label to the inside of the fuel compartment door or "screen-printing" language to the fuel filler cap for vehicles capable of operating on an alternative fuel. The fundamentals of this proposal are consistent with labeling currently in production from some manufacturers producing alternative fuel capable vehicles.

To develop cost estimates for this proposal, the agency spoke to suppliers of the fuel compartment alternative fuel

labels currently in production to learn more about lead time and piece cost pricing.<sup>55</sup> Using the estimated MY 2017 alternative fuel vehicle volume discussed above as a basis, the agency developed the following industry annual cost estimate including and excluding labor.

For purposes of this cost estimate, the agency estimated the cost associated with producing a separate, adhesive-type label. The agency believes this provides an upper bound estimate as an alternative to implement a "screen-printed" label on the fuel filler cap which could potentially be implemented at no piece cost increase because printing information on the fuel

tank cap is nearly standard industry practice. In addition, there would be no additional assembly labor cost for attaching the fuel filler cap.

For estimates involving an adhesive label, the agency assumed a per-label cost of \$0.037 and used the labor value of \$0.175 per label. The labor value is one-half the labor value used for the cost estimate for a "permanent and prominent display." The agency views the fuel tank compartment label application as a less precise labor operation, yielding a reduced estimated labor cost. Based on discussion with industry, NHTSA believes that this is an appropriate value for application of the label as proposed.<sup>56</sup>

TABLE IV-8—MY 2017 FUEL COMPARTMENT ADHESIVE LABEL AGGREGATED INCREMENTAL ANNUAL COST (2012\$)

Fuel type	Vehicles	\$ w/o labor	\$ w/labor
Ethanol .....	3,818,555	\$140,721	\$808,968
Natural Gas .....	4,300	158	911
Electric (BEV) .....	32,209	1,187	6,823
Electric (PHEV/EREV) .....	47,639	1,756	10,092
Hydrogen .....	274	10	58
LPG .....	2,750	101	583
<b>Totals .....</b>	<b>3,905,727</b>	<b>143,934</b>	<b>827,436</b>

The agency notes these estimates are based on a piece cost for a label production run of approximately 25,000 labels that include setup and the batch printing run. As defined by the estimated MY 2017 alternative fuel vehicle production volume estimates developed for this proposal, some alternative fuel types will not achieve this volume for the single 2013 model year. The agency acknowledges that this condition may exist for some time regarding specific fuel types, which could require a smaller batch-run of

labels that increases piece cost. However, the agency does not foresee these smaller batch runs having a significant effect on the overall cost estimates associated with the proposed label. Conversely, in some cases, a single production run of 25,000 labels would enable a sufficient supply to cover four or five model years without the need for additional sourcing.

C. What benefits does NHTSA estimate for this proposed rule?

As information on the effects of these badges on consumer purchases is not available, a quantitative assessment of the effects of the impacts of badges would be highly speculative. Therefore, NHTSA was not able to quantitatively assess the benefits of this rule. NHTSA notes that the statutory mandate of EISA does not require NHTSA to justify the benefits of the rule as outweighing its costs. However, the agency believes that it is important to recognize the

<sup>55</sup> Conversation with Whitlam Label Company, Inc., November 11, 2010. A record of this meeting is available in the docket for this rulemaking.

<sup>56</sup> These cost estimates do not exclude the volume of vehicles with voluntary labeling at the fuel filler

compartment that identifies the alternative fuel type, as an unknown percentage of that voluntary compliance may be due to the labeling requirement of 32905(f) to receive credits under 32906(a). As those credits decrease after 2017 and expire after

2019, current estimates of voluntary compliance may be misleading beyond the first years of this program.

anticipated qualitative benefits of this action.

The primary benefits associated with this proposed rule come from any improvements in consumer decision-making that stems from helping consumers identify which vehicles run on alternative fuels.

The current widespread presence of badges on vehicles, such as make, model and dealership information, supports that external badges influence consumers. The proposed external badges identifying vehicles that are capable of operating on an alternative fuel will heighten awareness of alternative fuel vehicles, thereby making potential consumers more aware of the diverse vehicle choices available on the market. NHTSA believes that this rule will help alternative fuel vehicle deployment by identifying early adopters of these technologies. New technologies, regardless of their relative benefits to previous technologies, are likely to face a slow diffusion process.<sup>57</sup> As part of the "diffusion of innovations"<sup>58</sup> process, the dissemination of information on early adopters of a particular innovation is a key component of that innovation's market success.<sup>59</sup>

Vehicles currently in production with alternative fuel capabilities may not be readily distinguishable from their conventional fuel counterparts absent an identifying badge. Greater exposure to the available vehicle choices before making purchasing decisions will complement enhanced consumer information on energy costs and savings on the dealer lot (such as information provided through the recently adopted fuel economy labels).<sup>60</sup> NHTSA also believes that informed choice, while not quantifiable, is an end in itself.

Another anticipated benefit is a decrease in fueling mistakes that could occur with an increased volume and diversity of alternative fueled vehicles on the road along with a potential expansion of fueling options at conventional fueling stations. The agency is not aware of a quantification of safety or economic costs associated with these mistakes, and seeks comment on this issue.

The agency believes that the benefits of this proposal will be higher than the costs. NHTSA requests comment on the benefits described here, and on any

additional benefits and/or ways to quantify benefits.

#### V. Enforcement and Compliance

In adding the 32908(g) requirements, which apply to automobiles, Congress did not amend the existing compliance and civil penalty provisions for automobiles in 49 U.S.C. Chapter 329; therefore, NHTSA tentatively concludes that those provisions apply for regulations promulgated under 32908(g).

##### A. What compliance provisions govern regulations promulgated under 32908(g)?

49 U.S.C. 32911(a) states, in relevant part, that a person commits a violation of Chapter 329 if the person fails to comply with regulations and standards prescribed under Chapter 329, except sections 32902 (fuel economy standards), 32903 (fuel economy credits), 32908(b) (EPA's fuel economy labeling requirements), 32917(b) (fleet-average fuel economy standards for executive agency automobiles), and 32918 (retrofit devices) and regulations and standards prescribed under those sections. 32908(g) does not fall within those exceptions. Therefore, a violation of 32908(g) is a violation of Chapter 329, thereby subjecting the person to penalties under 32912 as discussed below. A failure to comply with the proposed regulations might include, but would not be limited to, failing to affix a required badge or label, failing to include required text in an owner's manual or including incorrect text, or affixing a badge that does not meet the useful life requirements specified by the agency.

We note that 32911(a) also states that the Secretary of Transportation (by delegation, the Administrator of NHTSA) shall conduct a proceeding, with an opportunity for a hearing on the record, to decide whether a person has committed a violation, and that any interested person may participate in that proceeding. NHTSA has established rules of practice and procedures for adjudicative proceedings conducted pursuant to the Motor Vehicle Information and Cost Savings Act (now codified in relevant part at 49 U.S.C. Chapter 329) which require a proceeding on the record after opportunity for a public hearing. These rules of adjudicative procedure are set forth at 49 CFR Part 511. These procedures would apply to proceedings conducted to determine violations of the regulations proposed today.

##### B. What is the penalty for non-compliance with regulations promulgated under 32908(g)?

49 U.S.C. 32912(a) states that a person who violates 32911(a) is liable to the United States Government for a civil penalty of not more than \$10,000 (now \$16,000 as adjusted for inflation)<sup>61</sup> for each violation, and that a separate violation occurs for each day the violation continues. Thus, if, following the procedures laid out in 49 CFR Part 511, NHTSA finds that a person has committed a violation of any of the regulations proposed today, that person would be subject to civil penalties under 32912(a). 32912(d) states further that penalties shall be imposed under this section by written notice. 49 U.S.C. 32913 (compromising and remitting civil penalties), 32914 (collecting civil penalties), and 32915 (appealing civil penalties) would also apply to civil penalty actions for violations of the regulations proposed today.

NHTSA seeks comment on whether the agency should consider any additional information with respect to enforcement and compliance.

#### VI. Public Participation

NHTSA requests comment on all aspects of this proposed rule. This section describes how you can participate in this process.

##### A. How do I prepare and submit comments?

##### 1. Further Instructions for Submitting Comments to the NHTSA Docket Are Described Below

Your comments must be written and in English. To ensure that your comments are correctly filed in the docket, please include the Docket Number NHTSA-2010-0134 in your comments. Your comments must not be more than 15 pages long.<sup>62</sup> NHTSA established this limit to encourage you to write your primary comments in a concise fashion. However, you may attach necessary additional documents, which are not subject to the page limit, to your comments.

If you are submitting comments electronically as a PDF (Adobe) file, we ask that the documents submitted be scanned using the Optical Character Recognition (OCR) process, thus allowing the agency to search and copy

<sup>57</sup> See Timothy F. Malloy and Peter Sinsheimer, *Innovation, Regulation, and the Selection Environment*, 57 *Rutgers L. Rev.* 183, 189 (2004).

<sup>58</sup> See Everett M. Rogers, *Diffusion of Innovations* (5th ed. 2003).

<sup>59</sup> See Malloy & Sinsheimer, *supra*, at 188.

<sup>60</sup> 76 FR 39478.

<sup>61</sup> We note that the amount of \$10,000 prescribed by 32912(a) has been updated by regulation for inflation. Per 49 CFR 578.6(h)(1), a person that violates 32911(a) is liable to the United States Government for a civil penalty of not more than \$16,000 for each violation, and a separate violation occurs for each day the violation continues.

<sup>62</sup> 49 CFR 553.21.

certain portions of your submissions.<sup>63</sup> Please note that pursuant to the Data Quality Act, in order for the substantive data to be relied upon and used by the agencies, it must meet the information quality standards set forth in the OMB and DOT Data Quality Act guidelines.

Accordingly, we encourage you to consult the guidelines in preparing your comments. OMB's guidelines may be accessed at [http://www.whitehouse.gov/omb/fedreg\\_reproducible](http://www.whitehouse.gov/omb/fedreg_reproducible) (last accessed January 2, 2014), and DOT's guidelines may be accessed at <http://regs.dot.gov> (last accessed January 2, 2014).

## 2. Tips for Preparing Your Comments

When submitting comments, please remember to:

- Identify the rulemaking by docket numbers and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—the agencies may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

Make sure to submit your comments by the comment period deadline identified in the **DATES** section above.

### *B. How do I submit confidential business information?*

Following are specific instructions for submitting confidential business information (CBI) to the agency.

If you wish to submit any information under a claim of confidentiality, you should submit three copies of your complete submission, including the information you claim to be confidential business information, to the Chief Counsel, NHTSA, at the address given above under **FOR FURTHER INFORMATION CONTACT**. When you send a comment containing CBI, you should include a cover letter setting forth the information

specified in our CBI regulation.<sup>64</sup> In addition, you should submit a copy from which you have deleted the claimed CBI to the Docket by one of the methods set forth above.

### *C. Will the Agency consider late comments?*

NHTSA will consider all comments received before the close of business on the comment closing date indicated above under **DATES**. To the extent practicable, we will also consider comments received after that date. If interested persons believe that any new information the agency places in the docket affects their comments, they may submit comments after the closing date concerning how the agency should consider that information for the final rule.

However, the agency's ability to consider any such late comments in this rulemaking will be limited due to the time frame for issuing a final rule. If a comment is received too late for us to practicably consider it in developing a final rule, we will consider that comment as an informal suggestion for future rulemaking action.

### *D. How can I read the comments submitted by other people?*

You may read the materials placed in the docket for this document (e.g., the comments submitted in response to this document by other interested persons) at any time by going to <http://www.regulations.gov>. Follow the online instructions for accessing the dockets. You may also read the materials at the NHTSA Docket Management Facility by going to the street address given above under **ADDRESSES**.

## **VII. Regulatory Notices and Analyses**

### *A. Executive Orders 12866 and 13563 and DOT Regulatory Policies and Procedures*

NHTSA has considered the impact of this rulemaking action under Executive Orders 12866 and 13563 and the Department of Transportation's regulatory policies and procedures. This action is not significant and therefore was not subject to review by OMB under Executive Order 12866. The benefits and costs of this proposal are described above in Section IV. Because the proposed rule would, if adopted, not be economically significant, the agency has not prepared a Preliminary Regulatory Evaluation.

### *B. Regulatory Flexibility Act*

Pursuant to the Regulatory Flexibility Act (5 U.S.C. 601 et seq., as amended by

the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). The Small Business Administration's regulations at 13 CFR part 121 define a small business, in part, as a business entity "which operates primarily within the United States."<sup>65</sup> No regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. It is hereby certified that this proposed rule would not have a significant economic impact on a substantial number of small entities. The following is NHTSA's statement providing the factual basis for the certification (5 U.S.C. 605(b)).

If adopted, the proposal would directly affect motor vehicle manufacturers and final-stage manufacturers that manufacture or are planning to manufacture alternative fuel vehicles. There are an estimated nine large single stage motor vehicle manufacturers and about three small U.S. manufacturers of light plug-in hybrid and electric vehicles that would be subject to the requirements of this proposal.<sup>66</sup> Similarly, there are at least six manufacturers of low-speed vehicles that are small businesses.<sup>67</sup>

A single stage automobile or light truck manufacturer (NAICS code 336111, Automobile Manufacturing; 336112, Light Truck and Utility Vehicle manufacturing) must have 1,000 or fewer employees to qualify as a small business.<sup>68</sup> We believe that all of the U.S. small vehicle manufacturers have fewer than 1,000 employees. We estimate these proposed requirements would cost each small vehicle manufacturer approximately \$1.89 to \$3.49 per vehicle, or far less than 1% of the cost of one of these vehicles, and would therefore not appear to constitute a significant economic impact. NHTSA seeks comment on this proposed certification.

<sup>65</sup> 13 CFR 121.105(a).

<sup>66</sup> Phoenix, Tesla, and Via Electric Vehicles.

<sup>67</sup> Club Car LLC, Columbia ParCar Corporation, Cruise Car Inc., STAR Electric Car Sales, Tomberlin, and Wheego Electric Car, Inc.

<sup>68</sup> 237 According to the Small Business Administration's small business size standards (*see* 13 CFR 121.201).

<sup>63</sup> Optical character recognition (OCR) is the process of converting an image of text, such as a scanned paper document or electronic fax file, into computer-editable text.

<sup>64</sup> 49 CFR Part 512.

### C. Executive Order 13132 (Federalism)

Executive Order 13132 requires NHTSA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” Under Executive Order 13132, the agency may not issue a regulation with federalism implications, that imposes substantial direct costs, and that is not required by statute, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by state and local governments, or the agency consults with state and local officials early in the process of developing the proposed regulation, provides a federalism summary impact statement to the Office of Management and Budget (OMB) in the preamble, and makes any written communications to the agency from state and local officials available to the director of OMB. NHTSA also may not issue a regulation with federalism implications and that preempts state law unless the agency consults with state and local officials early in the process of developing the proposed regulation, provides a federalism summary impact statement to OMB in the preamble, and makes any written communications to the agency from state and local officials available to the director of OMB.

NHTSA has identified several states<sup>69</sup> that promote the use of alternative fuel vehicles. Some have implemented programs, such as California’s Clean Air Vehicle program, that provide High Occupancy Vehicle (HOV) lane access incentives for labeled or specially plated alternative fuel vehicles. These programs often require the owner to apply a badge, sticker, or special license plate that identifies the vehicle as an alternative fuel, low emission, or “clean-” Vehicle. This rule is not intended to preempt or in any way affect such programs, as the state programs do not regulate the manufacturers of alternative fuel vehicles or provide consumer information on specific types and benefits of alternative fuel vehicles.

<sup>69</sup> The states include Arizona, California, Colorado, Florida, Georgia, Hawaii, Maryland, New Jersey, New York, North Carolina, Tennessee, Utah and Virginia.

NHTSA does not believe that this proposed rule would have “substantial direct effects on the States, the relationship between the national government and the States or on the distribution of power and responsibilities among the various levels of government” as described in Executive Order 13132.

EISA does not expressly preempt state laws regarding consumer information or education on alternative fuel vehicles. Under Executive Order 13132, where a federal statute does not expressly preempt state law and there is no clear evidence that Congress intended for preemption to exist, the agency may find that its regulations preempt state law “only when the exercise of State authority directly conflicts with the exercise of Federal authority under the Federal statute.” When an agency foresees the possibility of a conflict between state law and federally protected interests, the agency shall attempt to avoid such a conflict through consultation with the appropriate state and local officials. NHTSA is unaware of any state laws regarding consumer information or education on alternative fuel vehicles that would directly conflict with the exercise of Federal authority in this proposed regulation.

NHTSA tentatively concludes that this proposed action would not likely have federalism implications. However, we are aware that some states may have an interest in this proposal, and we welcome information that may help the agency more fully understand how our efforts may coordinate or conflict with state programs and policies. We therefore solicit comment on this proposal from state and local officials and other interested persons.

### D. National Environmental Policy Act (NEPA)

For the purposes of the National Environmental Policy Act, NHTSA has determined that implementation of this rulemaking action would not have any significant impact on the quality of the human environment.

### E. Executive Order 12988 (Civil Justice Reform)

Pursuant to Executive Order 12988, “Civil Justice Reform,”<sup>70</sup> NHTSA has considered whether this rulemaking would have any retroactive effect. This proposed rule does not have any retroactive effect.

### F. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires

<sup>70</sup> 61 FR 4729 (Feb. 7, 1996).

agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditures by States, local or tribal governments, in the aggregate, or by the private sector, of more than \$100 million annually (adjusted annually for inflation with base year of 1995).

Adjusting this amount by the implicit gross domestic product price deflator for 2012 results in \$136 million (115.381/81.606 = 1.41). The assessment may be included in conjunction with other assessments, as it is here. This proposal will not result in consumer costs of more than \$141 million.

### G. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) requires NHTSA to evaluate and use existing voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law (e.g., the statutory provisions regarding NHTSA’s vehicle safety authority) or otherwise impractical.

Voluntary consensus standards are technical standards developed or adopted by voluntary consensus standards bodies. Technical standards are defined by the NTTAA as “performance-based or design-specific technical specification and related management systems practices.” They pertain to “products and processes, such as size, strength, or technical performance of a product, process or material.”

Examples of organizations generally regarded as voluntary consensus standards bodies include the American Society for Testing and Materials (ASTM), the Society of Automotive Engineers (SAE), and the American National Standards Institute (ANSI). If NHTSA does not use available and potentially applicable voluntary consensus standards, we are required by the Act to provide Congress, through OMB, an explanation of the reasons for not using such standards.

For this proposal, the only applicable voluntary consensus standards that NHTSA discovered are the joint SAE/ISO standards mentioned above in the context of research and as a potential alternative proposal. Following the path of using these standards in the context of this proposal poses challenges. The agency believes all fuel types may not be appropriately represented by these symbols and currently some symbols do not exist for specific fuel types. Adding new fuel types may involve revisiting and republishing standards; a time

consuming process. In addition, the symbols were fundamentally developed for use on controls, the vehicle instrument cluster and road signs versus the application as an exterior badge. The agency believes the symbols, possibly, would have taken a different form if designed from the outset as an exterior badge, where aesthetics and complementing an overall theme may take a higher priority, versus being developed to specified guidelines for application to controls, warning lamps and road signs. Finally, as discussed elsewhere in this proposal, NHTSA remains concerned that following this approach would discourage manufacturer investment in promoting alternative fuel vehicles, and that the redundancy issue (of both manufacturers and NHTSA investing time and effort in developing alternative fuel-specific symbols for each vehicle) make it not the best option.

#### *H. Executive Order 13211 (Actions That Significantly Affect Energy Supply, Distribution or Use)*

Executive Order 13211<sup>71</sup> applies to any rule that: (1) Is determined to be economically significant as defined under E.O. 12866, and is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action. If the regulatory action meets either criterion, we must evaluate the adverse energy effects of the proposed rule and explain why the proposed regulation is preferable to other potentially effective and reasonably feasible alternatives considered by us.

The proposed rule seeks to establish alternative fuel vehicle labeling and information requirements that aim to promote the use of alternative fuels and reduce consumption of petroleum. We have tentatively concluded that this proposed rule will not have any adverse energy effects but will instead have positive effects. Accordingly, this proposed rule is not designated as a significant energy action.

#### *I. Regulatory Identifier Number*

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. You may use the RIN contained in the heading at the beginning of this

document to find this action in the Unified Agenda.

#### *J. Department of Energy and Environmental Protection Agency Review*

In accordance with 49 U.S.C. 32908(g)(1), we submitted this proposed rule to the DOE and the EPA for consultation and review.

#### *K. Plain Language*

Executive Orders 12866 and 13563 require each agency to write all rules in plain language. Application of the principles of plain language includes consideration of the following questions:

- Have we organized the material to suit the public's needs?
- Are the requirements in the rule clearly stated?
- Does the rule contain technical language or jargon that is not clear?
- Would a different format (grouping and order of sections, use of headings, paragraphing) make the rule easier to understand?
- Would more (but shorter) sections be better?
- Could we improve clarity by adding tables, lists, or diagrams?
- What else could we do to make the rule easier to understand?

If you have any responses to these questions, please include them in your comments on this proposal.

#### *L. Privacy Act*

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an organization, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78) or you may visit <http://www.dot.gov/privacy.html> (last visited January 10, 2011).

#### *M. Paperwork Reduction Act*

Under the procedures established by the Paperwork Reduction Act of 1995 (PRA), a person is not required to respond to a collection of information by a federal agency unless the collection displays a valid OMB control number.

As described throughout this notice, NHTSA is proposing to require badges, labels and owner's manual information for new passenger cars and light trucks weighing less than 8,500 pounds in order to increase consumer awareness regarding the benefits and use of alternative fuels. In general, the

proposed rule would require manufacturers to disclose information supplied by NHTSA to consumers, and these requirements would not be considered a "collection of information" under the Paperwork Reduction Act.<sup>72</sup> However, for certain types of alternative fuel vehicles, manufacturers would be required to affix a badge to the vehicle, but NHTSA has not supplied the exact language to be used on the badge. These include vehicles operating on alcohol other than ethanol or methanol and vehicles operating on fuel derived from biological materials other than biodiesel. Additionally, for certain types of alternative fuel vehicles, manufacturers would be required to disclose additional information on the proposed fuel filler compartment label to assist consumers. For vehicles using liquid fuels, manufacturers would be required to include the appropriate maximum acceptable mixture levels of fuels that may contain a blend of fuel types, such as ethanol or biodiesel. For battery-only electric vehicles and plug-in hybrids, manufacturers would be required to include the recommended charging voltage and additional voltage levels that can be used for recharging the vehicles. NHTSA will seek approval of any information collection requirements proposed in this NPRM from OMB.

#### **List of Subjects in 49 CFR Part 575**

Consumer protection, Motor vehicle safety, Reporting and recordkeeping requirements, and tires.

For the reasons set forth in the preamble, NHTSA proposed to amend 49 CFR part 575 as follows:

- 1. Revise the authority citation to read as follows:

**Authority:** 49 U.S.C. 32302, 32304(A), 30111, 30115, 30117, 30123, 30166, 30168, and 32908, Pub. L. 104–414, 114 Stat. 1800, Pub. L. 109–59, 119 Stat. 1144, Pub. L. 110–140, 121 Stat. 1492, 15 U.S.C. 1232(g); delegation of authority at 49 CFR 1.95.

- 2. Add § 575.402 to read as follows:

#### **§ 575.402 Alternative Fuel Vehicle Identification and Owner's Manual Information.**

(a) *Purpose and scope.* The purpose of this section is to inform consumers which vehicles are capable of operating on alternative fuels and the benefits of using alternative fuels, including their renewable nature and environmental benefits, by conveyance through a permanent and prominent display, a label attached to the fuel tank filler compartment, and standardized owner's manual information.

<sup>71</sup> 66 FR 28355 (May 18, 2001).

<sup>72</sup> 5 CFR 1320.3(c)(2)

(b) *Application.* This section applies to automobiles rated at not more than 8,500 pounds gross vehicle weight with the capability to operate on the alternative fuels as defined by 49 U.S.C. 32901(a)(1).

(c) *Definitions.* (1) *Alternative fuel* has the same meaning as defined in 49 U.S.C. 32901(a)(1).

(2) *Permanent and prominent display* means a badge affixed to the exterior of an automobile, designed for and applied with the ability to remain readable, and attached to the automobile throughout its entire useful life. The badge should be covered by the automobile manufacturer warranty during the automobile's warranted period.

(3) *Fuel compartment label* means text printed on the exterior of the fuel filler cap or an adhesive label affixed to the inside of an automobile refueling compartment, electrical charge port or connection point access door.

(d) *Requirements.* (1) *Required permanent and prominent display.* Prior to being offered for first retail sale, each manufacturer shall affix or cause to be affixed, and each dealer shall maintain or cause to be maintained, an exterior badge on each applicable automobile capable of operation on alternative fuel.

(i) *Location.* The exterior badge shall be located and readily visible at the rear of the vehicle within close proximity to the vehicle model name, model

designation and/or additional environmental/advanced technology badging, if applicable. If a vehicle is not equipped with a model name, model designation and/or additional environmental/advanced technology badging, the exterior badge shall be placed in the lower right corner of the vehicle's rear trunk-lid, closeout panel, rear hatch or rear fender depending on vehicle type body configuration.

(ii) *Content.* The badge shall reflect, at the minimum, in natural language the type of alternative fuel the vehicle is capable of operating on in accordance with the following table:

Alternative fuel *	Proposed badge natural language minimum description
Methanol**	Methanol.
Denatured Ethanol**	Ethanol.
Other Alcohols**	Name of other alcohol derived fuel.
Natural Gas	Natural Gas.
Liquefied Petroleum Gas	Propane.
Coal Derived Liquid Fuels	Coal to Liquid.
Hydrogen	Hydrogen.
Fuels (except alcohol) derived from biological materials	Biodiesel*** or name of other fuel derived from biological materials.
Electricity (Battery Electric Vehicle)	Electric.
Electricity (Plug-In Hybrid Electric Vehicle)	Plug-In Hybrid Electric.

\* As defined by 49 U.S.C. 32901(a)(1).

\*\* Note: To be considered an alternative fuel, alcohol derived fuels need to be blended at levels of at least 85 percent of the total mixture when blended with gasoline or other fuels.

\*\*\* The agency notes that it recognizes only 'neat' biodiesel (B100) as an alternative fuel. 63 FR 15322 (Mar. 31, 1998).

(iii) *Minimum letter height.* The defined natural language minimum description letter size shall be no smaller than 15 millimeters in height when the "natural language minimum description" is presented as a standalone badge containing no other text and no smaller than 5 millimeters when the "natural language minimum description" is accompanied by other text.

(iv) *Letter finish.* The defined natural language minimum description shall be finished in chrome or silver. If the alternative fuel name in the badge contains a background color independent of the vehicle color, this background color shall provide clear contrast to the alternative fuel name.

(v) *Minimum badge height.* The badge used for "permanent and prominent" display shall be no less than 15 millimeters in height.

(2) *Required owner's manual information.* The owner's manual of each vehicle capable of operating on alternative fuels shall contain the following text in the same font and type size specification as other standard text found throughout the owner's manual. In addition, the text shall be located within a box, bordered with a 1-pt. solid

black line, with no other text inside the box.

{Section Heading:} Capabilities and Benefits of Using Alternative Fuels

This vehicle is recognized by the U.S. Department of Transportation as an alternative fuel vehicle, because it is capable of operating on a biofuel, electricity, hydrogen, natural gas, propane or other fuel that is not derived primarily from petroleum. Alternative fuel vehicles may provide benefits both to their users and to the nation as a whole over their useful lifetime by operating on non-petroleum-based alternative fuels. Some of the benefits of alternative fuel usage in this vehicle may include:

- *Energy and National Security:* Driving this vehicle on alternative fuels may help to reduce our country's dependence on foreign oil. The United States imports a substantial amount of its petroleum, the majority of which is used to fuel vehicles in the form of gasoline and diesel. Petroleum imports can be vulnerable to supply disruptions and price shocks depending on conditions in the countries that supply us with oil. By using alternative fuels, you may be helping the country be less vulnerable to the supply disruptions

and price variability associated with imported oil, and supporting U.S. alternative fuel producers.

- *Environmental Benefits—Renewability and Emissions:* Many alternative fuels are renewable, which means that their sources can be replenished—like plant-based ethanol, or solar-powered electricity. Renewable fuels may have less environmental impact than conventional fuels. Additionally, compared with vehicles fueled by conventional, petroleum-derived diesel and gasoline, many alternative fuel vehicles are estimated to reduce the life cycle greenhouse gas emissions of carbon dioxide.

- *Fuel Type and Availability:* Alternative fuels are increasingly in availability. To learn more about the availability of alternative fuel that can power this vehicle, please visit the Department of Energy's Alternative Fueling Station Locator at <http://www.afdc.energy.gov/afdc/locator/stations/> to determine the location of refueling and/or recharging facilities that meet your driving needs.

Additional Information Resources

- For more information about alternative fuels and alternative fuel

vehicles, please visit the Department of Energy's Alternative Fuels & Advanced Vehicles Data Center at <http://www.afdc.energy.gov>.

• For more information about vehicle safety, please visit [www.safercar.gov](http://www.safercar.gov).

(3) *Required fuel filler compartment label.* Prior to being offered for first retail sale, each manufacturer shall affix,

or cause to be affixed, and each dealer shall maintain, or cause to be maintained, a label that complies with the requirements of 49 U.S.C. 32905(g)(3) on each applicable automobile capable of operation on an alternative fuel, as defined under 49 U.S.C. 32901(a)(1).

(i) *Location.* The label shall be located within the fuel filler compartment in the form of an adhesive label or as text on the exterior of the fuel filler cap.

(ii) *Content.* For each type of alternative fuel, the label shall include the content indicated in the following table:

Defined alternative fuel*	Alternative fuel name for use in labeling	Maximum blend level (liquid)	Charging voltage level(s)
Methanol**	Methanol	X	
Denatured Ethanol**	Ethanol	X	
Other Alcohols**	[Name of Alcohol Derived Fuel]	X	
Natural Gas	CNG		
Liquefied Petroleum Gas	LPG		
Coal Derived Liquid Fuels	Coal Derived Liquid Fuels	X	
Hydrogen	Hydrogen		
Fuels (except alcohol) derived from biological materials	Biodiesel or [Name of other Biologically derived fuel]	X	
Electricity (Battery Electric Vehicle)	Electricity		X
Electricity (Plug-In Hybrid Electric Vehicle)	Electricity/[Other Fuel Type(s)]	X***	X

\*49 U.S.C. 32901(a)(1).

\*\* Note: To be considered an alternative fuel, alcohol derived fuels need to be blended at levels of at least 85 percent of the total mixture when blended with gasoline or other fuels.

\*\*\* For dual fuel capable non-electric power source.

(iii) *Minimum letter height and style.* The defined minimum letter size shall be no smaller than 5 millimeters in height and in "bold-face" type.

(iv) *Letter contrast.* The fuel compartment labeled text shall be presented in high contrast to the background color of the material the text is printed on.

Issued in Washington, DC, under authority delegated in 49 CFR part 1.95.

**Christopher J. Bonanti,**  
Associate Administrator for Rulemaking.  
[FR Doc. 2014-02957 Filed 2-19-14; 8:45 am]  
BILLING CODE 4910-59-P

**Alliance of Automobile Manufacturers**  
**Comments to the NHTSA NPRM for Part 575**  
**Alternative Fuel Vehicle Badging, Fuel Compartment Labels and Consumer**  
**Information on Alternative Fuel Usage**  
**Docket No. NHTSA-2010-0134 79 Fed Reg 9792**  
**April 21, 2014**

The Alliance of Automobile Manufacturers (Alliance) is a trade association of twelve car and light truck manufacturers comprised of BMW Group, Chrysler Group LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars, Toyota, Volkswagen Group and Volvo Cars. Together, Alliance members account for roughly three out of every four new vehicles sold in the U.S. each year. Auto manufacturing is a cornerstone of the U.S. economy, supporting eight million private-sector jobs, \$500 billion in annual compensation, and \$70 billion in personal income-tax revenues.

The Alliance appreciates the opportunity to offer comments on the National Highway Traffic Safety Administration's (NHTSA's) notice of proposed rulemaking (NPRM) for Part 575 Alternative Fuel Vehicle Badging, Fuel Compartment Labels and Consumer Information on Alternative Fuel Usage (79 Fed Reg 9792). Alliance members remain interested in working with NHTSA to help in developing the rulemaking to implement the consumer information requirements of Section 105(g) of the Energy Independence and Security Act of 2007 (EISA; also referred to as Ten-in-Ten Fuel Economy Act). The Alliance worked closely with NHTSA and EPA and ARB over the past four years to implement EISA's enhancements to the fuel economy label to help consumers compare vehicles, including alternative fueled vehicles, at the point of purchase and to reduce confusion for consumers. In addition, the Alliance worked closely with the FTC (Federal Trade Commission) to harmonize its requirements for an alternative fueled vehicles information label into the EPA/NHTSA Fuel Economy and Environment Label, thereby simplifying and making more understandable the information being presented to consumers.

The Alliance agrees with NHTSA that the overarching goal of EISA is to move the United States toward greater energy independence and security and strongly supports the concept that helping the public to better understand the benefits of these alternative fuels and to better recognize the vehicles that use them should increase the use of alternative fuels. The Alliance therefore makes the following recommendations with regard to the proposed rule:

- Exterior Badging: NHTSA should permit additional flexibility for vehicle badging by allowing optional compliance through the already existing recommended practice SAE J2990, or through corporate-wide (or vehicle specific) badging intended to promote awareness of alternative fuels or alternative fueled vehicles, and allow manufacturers to use a display at the fuel compartment to satisfy both the exterior badging and fuel compartment requirements;

- **Fuel Compartment Labels:** NHTSA should permit additional flexibility for fuel compartment labeling by allowing optional compliance through the already existing recommended practice SAE J2785, which allows for the use of commonly understood “E85” instead of “ethanol,” and by allowing flexibility in text height and location of text. In addition, NHTSA should not require labeling for electric vehicle charge ports as the port already itself provides cogent identification.
- **Owner’s manual information:** NHTSA should permit additional flexibility for owner’s manual information by allowing the proposed owner’s manual text to be presented in a format other than within a box, bordered with a 1-pt solid black line.
- **Effective date:** NHTSA should not require changes to vehicle badging or fuel compartment labeling before the start of Model Year 2018 (MY18) and should institute any changes on a model year basis to reduce confusion for consumers. Otherwise, it is plausible that two consumers who purchased the same model year vehicle will be badged and/or labeled differently simply due to different production dates. A model year implementation basis promotes greater consistency for both consumers and manufacturers. A calendar date implementation can have two different model year vehicles associated with it. For example, an implementation date of September 1, 2016 can include both 2016 and 2017 model year vehicles. More importantly, vehicles produced before September 1, 2016 would not be required to meet the requirements but vehicles produced on or after September 1, 2016 would be required to meet the requirements. Accordingly, the same model year vehicle may or may not have an alternative fuel label depending on when it was produced. This could cause confusion for customers who are considering the purchase of an alternative fuel vehicle who see the same model year vehicle available at a dealership with and without an alternative fuel label. Similar confusion could occur with neighbors who have the same model year vehicle where one has an alternative fuel label and another one doesn’t. Implementation on a model year basis, avoids this confusion and provides a manageable solution for manufacturers.

Additionally, the Alliance supports the comments submitted by the Society of Automotive Engineers (SAE) on this proposal regarding the use of SAE J2990 for compliance with the final rule.

### **Discussion**

In the intervening time period since the enactment of EISA, the expiration of its requirement for promulgation of a final rule, and the publication of this NPRM, the number of alternative fuel vehicles being offered for sale has increased from 50 models in 2007 to 175 models in 2013 (see information from Department of Energy (DOE) <http://www.afdc.energy.gov/data/#10303>). In that interim time period, automakers went ahead and implemented communications and messaging to consumers about the benefits of alternative fuel vehicles. In order to educate consumers and encourage their purchase of alternative fueled vehicles, manufacturers have been providing information to consumers through a multitude of means, such as printed and website materials and advertising, as well as the three methods that are directly addressed by the NPRM (alternative fuel vehicle badging; fuel compartment labels; owner’s manual information). As NHTSA recognizes in the NPRM, automakers have made significant

investments in order to communicate appropriate messages to consumers about alternative fuel vehicles. These messages are specific to each automaker, brand, and model, and are communicated through "Road and Leaf" badges, "Flex Fuel", yellow themed badges and fuel caps to indicated Flexible Fuel Vehicle (FFV/E85) capability; and blue themed badges; among other examples. In many cases, the badges represent more than just a vehicle specific symbol to indicate alternative fuel usage and are an intrinsic part of that automaker's marketing theme to holistically promote its sale of alternative fueled vehicles. Not only have automakers made significant investments to communicate these messages in a coordinated and coherent manner, but consumers have responded and the number of alternatively fueled vehicles introduced into the marketplace has increased substantially (see information from the DOE: <http://www.afdc.energy.gov/data/#10303> ). These steadily increasing sales support a view that the current automaker communications, badging and labeling are being understood by consumers and that they have responded that they are aware of these messages by increasing the purchase of alternative fueled vehicles.

On September 5, 2010, the Alliance submitted to NHTSA initial comments, and recommended several principles for NHTSA to follow as it developed its proposal, which, for ease of reference, we repeat below:

1. NHTSA's focus should be on identifying and addressing significant gaps in consumer information, rather than attempting a wholesale replacement of programs and tools that are currently in place or requiring additional activities that may prove duplicative or inconsistent. Our common goals should include looking for opportunities to streamline current processes where practical, and interpreting new requirements such that they can be incorporated into current processes to the fullest extent.
2. NHTSA should work with state and other federal agencies to provide consumers with a single location, such as [www.fueleconomy.gov](http://www.fueleconomy.gov), for on-line information on alternative fuel vehicles. The Alliance will be happy to collaborate in this effort.
3. Badging is not just about vehicle technology types; it is an integral part of each company's marketing strategy and brand identity. We believe that the EISA "permanent and prominent display" requirement pertains to fueling compartment labels, since the fueling compartment is where a customer is most likely to look for such information. The upcoming rule should not preclude manufacturers from continuing the badging practices currently in place.
4. With more than eight million alternative fuel vehicles on U.S. roads today, automakers have already designed and implemented fueling compartment labels and owner's manual language that are designed to meet the statutory requirements. Because there is no single "correct" way to convey information to consumers, a variety of approaches have been taken. So long as the information consumers need is reaching them and is clearly understood, it should be deemed acceptable under NHTSA's upcoming rulemaking, and OEMs should not be required to undergo additional pre-approval processes.
5. To the extent that any new owner's manual language or other consumer communications related to alternative fuels are deemed necessary and appropriate, we suggest that the regulation provide manufacturers at least two full model years of lead time to make any

significant changes. This lead time is needed to be able to implement the new requirements cost effectively and with minimal errors.

Now that NHTSA has published its NPRM, the Alliance recommends the following specific changes to it. While these recommendations are consistent with the five principles above, they acknowledge the significant investments automakers have already made in advance of the rule to develop a consistent branding for their alternative fueled vehicles. Manufacturers who have developed messaging themes should not now be made to abandon or dilute those efforts, but should instead be allowed the flexibility to continue to employ them. Similarly, manufacturers should be allowed the flexibility to utilize previously developed badging and fuel compartment labeling developed by the SAE, as an alternative to the NHTSA proposed badging and fuel compartment labeling. Further, NHTSA should not require changes to vehicle badging or fuel compartment labeling before the start of Model Year 2018 (MY18) on a model year basis.

**NHTSA Should Exercise Its Discretion To Provide Manufacturers With More Flexibility In Fulfilling EISA's Requirements**

The Alliance agrees with NHTSA that the overarching goal of EISA is to move the United States toward greater energy independence and security and that helping the public to better understand the benefits of these alternative fuels and to better recognize the vehicles that use them should increase the use of alternative fuels. EISA required that a final rule be promulgated to establish regulations for a permanent and prominent display that an automobile is capable of operating on an alternative fuel. The Alliance interprets the statutory language as also permitting the "permanent and prominent display" to be fulfilled solely by fuel compartment labels, since, in addition to being a permanent and prominent location, they are the most direct location to influence and communicate to the individual refueling the vehicle that the vehicle is capable of operating on an alternative fuel. Coupled with the Agency's consumer education efforts, a label located proximate to the refueling activity would be much more likely to increase refueling use of alternative fuels. In support of this interpretation we refer NHTSA to EISA's legislative history and to Executive Orders 12866 and 13563. The "permanent and prominent display" requirement codified in Section 32908(g) began as Section 112 of S. 357 introduced by Senator Feinstein. Section 112 would have required the Secretary of Transportation to promulgate a regulation that required new vehicles:

(A) to prominently display a permanent badge or emblem on the quarter panel or tailgate of each such automobile that indicates such vehicle is capable of operating on alternative fuel; and

...

(C) to contain a fuel tank cap that is clearly labeled to inform consumers that the automobile is capable of operating on alternative fuel.

The final bill retained these general concepts, but dropped the language requiring that the display be located on the quarter panel or tailgate, as well as the requirement of a fuel cap label. Together this shows that Congress intended to provide the Secretary with the discretion to determine the appropriate location of these displays on the vehicle. It is fully consistent with the final law for the Secretary to

determine by rule that placement of the “permanent and prominent display” at the fuel compartment satisfies the statutory intent, and also to determine that a manufacturer may utilize a single label to satisfy both the “permanent and prominent display” and fuel compartment label requirements. By providing this flexibility in the rule, NHTSA would be ensuring that the rule is less burdensome and encourages innovation. In this way the rulemaking would be in accord with Executive Order 12866 and 13563 which require agencies in rulemaking to impose the least burden possible, to encourage innovation and to specify performance objectives rather than prescribe methods of compliance.

In the event that NHTSA declines to adopt the least burdensome interpretation, at a minimum NHTSA should exercise its clear discretion to allow for more flexibility in the badging of alternative fuel vehicles. Allowing manufacturers to continue use of their existing alternative fuel vehicle badges and themes or allowing them to use the SAE Recommended Practice J2990 symbols for badging would not conflict with EISA’s goal of increased alternative fuel usage or the statutory requirements for a “permanent and prominent display.” Therefore, the use of existing alternative fuel vehicle badges and themes or the use of SAE J2990 for badges should be allowed as an additional compliance method in the final rule. Similarly, the use of SAE Recommended Practice J2785 for fuel compartment labels should be allowed as an additional compliance path in the final rule.

Exterior Badging for *Electrified* Alternative-Fuel Vehicles

NHTSA should allow the use of existing electrified alternative fuel vehicle badges or the use of badges meeting SAE J2990. SAE has developed a recommended practice “Hybrid and EV First and Second Responder Recommended Practice” J2990 which provides extensive guidance on badging electrified alternative fuel vehicles. This practice was developed by consensus through the SAE committee process and it incorporates input from many stakeholders, including NHTSA and automakers. SAE J2990 addresses identification of electrified vehicles (xEVs) from the perspective of first- and second-responders. The language, phrases and symbols allowed by SAE J2990 were developed within internationally recognized consensus based processes in order to fulfill the requirement that they be reasonably understood by both consumers and first-responders. The badging allowed under SAE J2990 was developed utilizing SAE Standard J2830 or ISO 9186-1:2007 to assure comprehension by the public.

SAE J2990 allows for the use of so-called “natural language”; however, abbreviations like “EV” and “HEV,” as well as ISO symbols are also allowed for identifying vehicles. SAE J2990 also permits the use of a name, word, symbol, some combination of these that uniquely identifies an xEV, such as the currently utilized “Volt” name with its lightning bolt symbol and “Energi.” SAE J2990 requires in such instances that the name be validated with the first responder community for comprehension. The SAE recommended practice provides flexibility in badging a vehicle in order to both assist in recognition and preserve design freedom and brand identity.

Further, allowing the use of symbols in place of language, either manufacturer developed symbols or SAE J2990 symbols, would eliminate conflict with existing Canadian requirements for language labels to be in both English and French. If symbols were not permitted for compliance,

separate labels would be required for US vehicles and for vehicles destined for Canada, creating an unnecessary hardship on manufacturers without any commensurate consumer benefit.

If NHTSA were to 1) disallow the optional use of SAE J2990; 2) disallow the use of manufacturer environmental badging, and 3) require the use of so-called “natural language” badging, it is clear that this rule would upend the current practices of virtually every AFV manufacturer by adding burdensome new design requirements and increasing manufacturing complexity. In many cases, the required language would need to be incorporated into a single label/badge with the vehicle name plate. This would increase the size of the label/badge, thereby running afoul of manufacturer design guidelines and practices with respect to vehicle badging, as well as limiting the locations suitable for affixing such a badge. Depending on available mounting surfaces for a given vehicle, in some cases there could even be challenges in achieving the adhesion necessary to make such a badge permanent. Requirements of this nature can conflict with other design-related goals and priorities, forcing manufacturers to design the vehicle around a mandated badge rather than designing the vehicle for optimal functionality and customer appeal. We encourage NHTSA to refrain from imposing one-size-fits-all design constraints on automobile manufacturers, particularly since there is no compelling reason to do so.

For these reasons, the Alliance sees J2990 as an effective pathway for satisfying the intention of EISA, as it differentiates the alternative-fuel EV powertrain and is both “permanent and prominent.”

#### Exterior Badging for *Liquid/Gaseous* Alternative Fuel Vehicles

NHTSA should allow the use of existing manufacturer developed liquid fuel/gaseous alternative fuel vehicle badges. OEMs have created individual branding for displaying alternative-fuel badges which are incorporated into company specific marketing and educational materials. NHTSA should allow flexibility for including existing corporate logos and images for alternative-fuel vehicles, instead of mandating unnecessary “natural language” requirements. In addition to labeling xEVs, many OEMs have invested substantial resources to create individual branding for other alternative fuel badges. Many of these badges include terminology that has been employed for years and is well understood by consumers (e.g. “Flex Fuel”, “E85”, and “CNG”). As a point of reference, the Federal Trade Commission recently published a proposal for amendments to its Fuel Rating Rule (16 CFR Part 306) with the goal of helping purchasers identify their correct fuel for their vehicles. The proposal calls for disclosures on ethanol blender pumps to state “use in flex-fuel vehicles”, which they believe “provides a simple, unambiguous direction to consumers that they can use ethanol blends in their flex-fuel vehicles (79 Fed Reg 18858; [http://www.ftc.gov/system/files/documents/federal\\_register\\_notices/2014/04/140404octanepostingfrn.pdf](http://www.ftc.gov/system/files/documents/federal_register_notices/2014/04/140404octanepostingfrn.pdf)). Manufacturers that were proactive in developing badging strategies to promote alternative fuels should not now be forced to redesign those badges, in addition to associated marketing and educational materials, when they already fulfill the intent of the EISA requirements as well as the statute’s requirements for permanent and prominent.

Exterior Badging for *Hydrogen Fueled* Fuel Cell Electric Vehicles

Qualitative research has been conducted with fuel cell vehicle drivers to better understand the overall driving experience with fuel cell vehicles. Publicly registered (consumer) drivers of hydrogen fuel cell vehicles were recruited for focus group studies, and it was determined that the term "hydrogen" was not identified positively in support of communicating the benefits of fuel cell vehicle technology to everyday consumers. The study feedback concluded that owners opposed using "hydrogen" to describe their vehicles and those owners felt it put them on the defensive when speaking to others about their vehicles. The overall conclusion from the study was that the term invoked unnecessarily negative associations to people lacking full information on fuel cell vehicles. The owner preference is to label the vehicle as a Fuel Cell Electric Vehicle. Accordingly, the Alliance requests that NHTSA allow hydrogen fuel cell vehicles to be simply badged as "Fuel Cell" or "FC" or appropriate manufacturer designated symbol since this would be in accordance with EISA's goal of increased alternative fuel usage and meet the statutory requirements for a "permanent and prominent display." The Alliance requests NHTSA to incorporate by reference published future updates to the SAE J2990 recommended practice, as well as SAE J2990-1 for hydrogen fuel cell vehicles.

Additionally, fuel cell electric vehicles may use fuel other than hydrogen in the future. These fuels could include diesel fuel, methanol fuel, ethanol based fuel, or other not yet identified fuels that can be transformed to onboard hydrogen via a fuel-to-hydrogen reformer. The Alliance recommends that all fuel cell electric vehicles, regardless of their initial fuel, be allowed to be labeled as "Fuel Cell Electric Vehicle" or "FCEV" or according to SAE J2990, given the insight regarding owner views noted above and given the potential for confusion regarding the promotion of fuel cell vehicles. This approach would fulfill the EISA's badging requirement intent and the statute's requirements for a permanent and prominent display that an automobile is capable of operating on an alternative fuel.

Fuel Compartment Labeling for *Electrified* Alt Fuel Vehicles

For electric vehicles and plug-in hybrids, the Alliance believes that the electric charge port socket itself is an appropriate indicator that the vehicle runs on electricity. Therefore, the Alliance does not believe a separate label with the fuel name and charging voltage level should be required. The actual electric charge port socket should be acceptable as an appropriate indicator that BEVs and PHEVs run on electricity, in lieu of a separate label. Charge cords and/or on-vehicle chargers are built to adjust automatically for and/or provide the appropriate voltage level. The current charge port (SAE J1772 or CHAdeMO) can accept AC (alternating current) Level 1 or AC Level 2 charging. SAE J1772 combo and CHAdeMO connectors can accept DC (direct current) Level 2 charging. The general public likely will be confused by a label that uses "natural language" to refer to Level 1 or to Level 2, AC or DC, and simultaneously refers to 120 volts or 240 volts (or higher) for charging levels as NHTSA proposed. As electric vehicles evolve, there may be more options for charging, which would further complicate the label input and be onerous for manufacturers to fit on the label. Further, from a safety perspective, the Alliance

does not agree with including a label that designates any fuel other than electricity in the charge port area, as the proposal for PHEV labeling calls for (“Electricity/[Other Fuel Type(s)]”).

In addition, existing space and door designs, and future doorless designs, will limit the ability to label these compartments in some instances.

#### Fuel Compartment Labeling for *Liquid/Gaseous* Alternative Fuel Vehicles

Generally automakers are already providing information within fueling compartments for liquid fuels, including use of SAE recommended practice J2785 “Standardization of Color and Verbiage for Fuel Inlet Closures.” The Alliance requests that NHTSA allow expanded flexibility for companies to use existing labeling techniques and wording, including compliance with SAE J2785, as an option for compliance with the proposal’s requirement to use “natural language.” Specifically, the Alliance requests the following flexibility be incorporated in the final rule:

- Allow as an option the use of “E85” as allowed under SAE J2785 in place of the proposal’s required language “ethanol.” Allowing the use of “E85” more directly aligns with current universally adopted labeling of “E85” on filling station fuel dispensers and property signage.<sup>1</sup> Further, the Alliance believes use of the word “Ethanol” for labeling may be confusing to consumers. Almost all regular gasoline fuel in the field today is now blended to contain 10% ethanol and therefore it may be more likely that E10 regular gasoline would be filled into a port labeled “ethanol” instead of a port labeled “E85.” It would be clearer to the consumer if the required labels indicated the percentage of ethanol or commonly used description of “E85”, instead of the more general and less informative “ethanol” description.
- With regards to hydrogen labeling, the Alliance proposes to add H2 or H2 Gas instead of the word hydrogen because these designations have already been introduced into the market as an alternative to the word hydrogen.
- Allow greater flexibility for the minimum height of text. Existing labeling strategies and fuel compartment layouts may preclude the ability to label with characters that are at least 5 mm in height. The Alliance recommends that NHTSA allow additional flexibility in the size of the label text. For example, some existing fuel inlet closure labels use text that is 3 mm in height. Where legibility requirements apply, there is precedent in existing Federal Motor Vehicle Safety Standards (see, for example, FMVSS 108/110/120) for allowing 3 mm character height; some allow smaller (FMVSS208). The Alliance believes 3 mm character height is still acceptable to ensure readability.
- Allow greater flexibility for labeling capless fuel filler ports. This would better accommodate capless fuel filler ports on vehicles, which depending on design, may be constrained in the locations available for labeling. Some manufacturers already employ capless fuel systems and would face an undue burden to redesign their existing capless labeling systems. In addition, future designs may be doorless and NHTSA should incorporate flexibility to

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<sup>1</sup> Currently, the Federal Trade Commission (FTC) is proposing changes to the labeling on retail pump dispensers of ethanol containing gasoline (79 Fed Reg 18850).

accommodate such designs. The Alliance recommends that NHTSA provide an option for labeling capless/doorless fuel systems, by amending the proposed definition of *fuel compartment label* as shown:

*Fuel compartment label* means text printed on the exterior of the fuel filler cap, fuel filler inlet, or an adhesive label affixed to the inside of an automobile refueling compartment.... [inserted language in underline text]

#### Owner's Manual Information

The Alliance supports the proposal for generic owner's manual text describing the benefits of alternative fuels, however recommends additional flexibility for how the proposed owner's manual information is to be presented. Because of the length of the proposed text, and depending on each OEM's owner's manual format, the text could reach 2-3 pages in length, making it impracticable to fit "within a box, bordered with a 1-pt solid black line." Even if permitted to be presented in multiple boxes on multiple pages, the Alliance believes this would degrade consumer readability and be unsupportive of NHTSA's initiative to encourage them to review the information. Further, each manufacturer uses different methods to call attention to certain information in their owner's manuals and the Alliance recommends that NHTSA allow each manufacturer to choose how they present the information, provided it is done so in a manner where the text will "stand out to consumers and encourage them to review it."

#### Implementation Timing

If the rule is published in the first quarter of 2015, the Alliance recommends an implementation date no earlier than the 2018 MY. Implementing changes at the model year breakpoint is the most manageable solution for manufacturers. Although the supply base for badges and labels already exists, two years lead time is necessary to accommodate manufacturers' full design and testing processes, in addition to the tooling and production time of the supplier. If changes are required without adequate lead time, manufacturer product planning, design and testing processes will be significantly disrupted and costs will increase. If the final rule is implemented for 2018 MY vehicles, changes could be seen as early as January 2, 2017, just four months later than the NHTSA proposal.

In addition, a 2018 MY implementation would be beneficial since it would provide NHTSA with more time to coordinate the consumer education requirements of EISA with the implementation of on-vehicle labeling, in order to avoid creating a disconnect for consumers. As NHTSA noted in the NPRM, in the subsequent third phase of implementing the 32908(g) requirements, NHTSA will develop a consumer information campaign to improve understanding of automobile performance in terms of fuel economy, GHG and other pollutant emissions, as well as to inform consumers of the benefits of using alternative fuels and where fueling stations are located. By implementing appropriate and effective consumer messaging in conjunction

with the on-vehicle labeling, NHTSA simultaneously would enhance the effectiveness and consumer awareness of both the education and the labeling activities.

A calendar date implementation can have two different model year vehicles associated with it. For example, an implementation date of September 1, 2016 can include both 2016 and 2017 model year vehicles. More importantly, vehicles produced before September 1, 2016 would not be required to meet the requirements but vehicles produced on or after September 1, 2016 would be required to meet the requirements. Accordingly, the same model year vehicle may or may not have an alternative fuel label depending on when it was produced. This could cause confusion for customers who are considering the purchase of an alternative fuel vehicle who see the same model year vehicle available at a dealership with and without an alternative fuel label. Similar confusion could occur with neighbors who have the same model year vehicle where one has an alternative fuel label and another one doesn't. Implementation on a model year basis, avoids this confusion and provides a manageable solution for manufacturers.

In conclusion, the Alliance recommends the following:

- **Exterior Badging:** NHTSA should permit additional flexibility for vehicle badging by allowing optional compliance through the already existing recommended practice SAE J2990, or through corporate-wide (or vehicle specific) badging intended to promote awareness of alternative fuels or alternative fueled vehicles, and allow manufacturers to use a display at the fuel compartment to satisfy both the exterior badging and fuel compartment requirements. The Alliance supports the comments of SAE on this issue.
- **Fuel Compartment Labels:** NHTSA should permit additional flexibility for fuel compartment labeling by allowing optional compliance through the already existing recommended practice SAE J2785, which allows for the use of commonly understood "E85" instead of "ethanol," and by allowing flexibility in text height and location of text. In addition, NHTSA should not require labeling for electric vehicle charge ports as the port already itself provides cogent identification.
- **Owner's manual information:** NHTSA should permit additional flexibility for owner's manual information by allowing the proposed owner's manual text be presented in a format other than within a box, bordered with a 1-pt solid black line.
- NHTSA should not require changes to vehicle badging or fuel compartment labeling before the start of Model Year 2018 (MY18) and should institute any changes on a model year basis to reduce confusion for consumers.

April 21, 2014

Docket Management Facility (M-30)  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
West Building, Ground Floor, Room W12-140  
Washington, DC 20590-0001

**Re: Docket NHTSA-2010-0134  
Alternative Fuel Vehicle Badging, Fuel Compartment Labels, and  
Consumer Information on Alternative Fuel Usage**

Enclosed are the comments of the Technical Affairs Committee of the Association of Global Automakers, Inc.<sup>1</sup> (“Global Automakers”) regarding NHTSA’s February 20, 2014, notice of proposed rulemaking on mandating the installation of alternative fuel vehicle labels and the inclusion of information on alternative fuel benefits in vehicle owner’s manuals. If you have any questions on this matter, please contact me at (202) 650-5559 or [jrege@globalautomakers.org](mailto:jrege@globalautomakers.org).

Sincerely,

Julia M. Rege  
Senior Manager

Enclosure

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<sup>1</sup> The Association of Global Automakers represents international motor vehicle manufacturers, original equipment suppliers, and other automotive-related trade associations. Our Technical Affairs Committee members include: American Honda Motor Co., Aston Martin Lagonda of North America, Inc., Ferrari North America, Inc., Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Inc., Maserati North America, Inc., McLaren Automotive Ltd., Nissan North America, Inc., Subaru of America, Inc., Suzuki Motor of America, Inc., ADVICS North America, Inc., Delphi Corporation, Denso International America, Inc., and Robert Bosch Corporation. We work with industry leaders, legislators, and regulators in the United States to create public policies that improve motor vehicle safety, encourage technological innovation, and protect our planet. Our goal is to foster an open and competitive automotive marketplace that encourages investment, job growth, and development of vehicles that can enhance Americans’ quality of life. For more information, visit [www.globalautomakers.org](http://www.globalautomakers.org).

**COMMENTS OF THE TECHNICAL AFFAIRS COMMITTEE  
OF THE ASSOCIATION OF GLOBAL AUTOMAKERS, INC.  
IN RESPONSE TO NHTSA'S FEBRUARY 20, 2014, NOTICE OF  
PROPOSED RULEMAKING ON ALTERNATIVE FUEL VEHICLE  
BADGING, FUEL COMPARTMENT LABELS, AND CONSUMER  
INFORMATION ON ALTERNATIVE FUEL USAGE**

**April 21, 2014**

The Technical Affairs Committee of the Association of Global Automakers, Inc. (“Global Automakers”) appreciates the opportunity to provide its comments on the National Highway Traffic Safety Administration’s (NHTSA) notice of proposed rulemaking on alternative fuel vehicle (AFV) labels and owner’s manual information. Our members are engaged in developing a diverse range of advanced technology vehicles including natural gas, hydrogen fuel cells, clean diesel, electric, hybrid gasoline-electric, and sustainable biofuels.

In describing the purpose of the proposed rule, NHTSA states as follows:

Unlike the fuel economy labeling requirements, the requirements being proposed in this rulemaking are not intended to facilitate direct consumer comparison of multiple vehicles or pieces of vehicle equipment; instead, they are simply intended to inform consumers about the alternative fuel capabilities of the vehicles already in front of them.<sup>1</sup>

In describing the potential benefits of the proposed rule, the agency states that it believes that the rule “will help alternative fuel vehicle deployment by identifying early adopters of these technologies.”<sup>2</sup>

The guiding statute for this regulation is the Energy Independence and Security Act (EISA) of 2007,<sup>3</sup> which was enacted approximately seven years ago. At that time, there may have been some benefit for prescriptive uniform badging and fuel filler compartment labels. Since then, however, the number of AFV offerings has significantly increased: 26 models of battery electric and plug-in hybrid electric vehicles expected on the road by the end of this year; three fuel cell vehicles are expected in 2015; and numerous hybrid and flexible fuel vehicles have been in the market for years. Each vehicle manufacturer has done its own marketing research and made significant investments of resources to determine how the best way to reach its targeted consumers and ensure they know which models are AFVs. Manufacturers are already using badges, unique model identifiers, and fuel filler compartment labeling to identify these vehicles for the consumer. We believe current manufacturers’ badging and labels are already meeting the intent of the EISA statute—to educate and inform consumers. Promulgating regulations that standardize these requirements may impose substantial costs without providing significant benefits to the public.

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<sup>1</sup> See 34 Fed. Reg. 9794 (February 20, 2014).

<sup>2</sup> *Id.*, at 9810.

<sup>3</sup> Public Law 110–140—December 19, 2007.

The agency cites a reduction in misfueling of vehicles as another potential benefit. The agency concludes that it cannot quantify the benefits of the proposal, but it believes that the benefits exceed the costs of compliance. We agree that exterior badging of AFVs may increase consumer awareness of and interest in such vehicles. We strongly agree that misfueling of vehicles is a serious concern, as we have argued with regard to EPA's decision to grant a waiver for ethanol blends up to E15. We also note that, for certain AFVs, misfueling is very unlikely due to unique design features, such as special plugs for charging electric vehicles. Thus, for many AFVs, it is doubtful that the agency's proposal would provide significant added benefits.

With regard to the proposed owner's manual language on the societal value of alternative fuel use, the agency does not directly address how this language would provide benefits. The owner's manual is presumably accessed by individuals who already own or have access to the AFV, so it is not clear that such individuals need to be further convinced as to the benefits of alternative fuels.

We understand that the agency's proposal responds to a statutory mandate and did not originate as an agency concept. Nevertheless, given the questionable benefits of the proposed requirements, at least as they relate to specific AFVs, we do not believe there is a need to adopt requirements for badging and labeling. However, if NHTSA finds it is necessary to proceed with this rulemaking, then we urge the agency to adopt requirements that meet the statutory mandate while minimizing cost and burdens and maximizing compliance flexibility for manufacturers.

Our comments on specific aspects of the proposal are set forth below regarding the "permanent and prominent display," fuel filler compartment label, owner's manual language and lead-time.

### **I. "Permanent and prominent display"**

The requirement for a "permanent and prominent display" was mandated under EISA in 2007 (approximately seven years ago), at which time there may have been some benefit of such uniform badging. Since then, the number of AFV offerings has significantly increased, as noted above, and vehicle manufacturers have voluntarily labeled their vehicles in manners that the manufacturers have deemed appropriate to promote consumer awareness of and market these vehicles. Standardizing the already implemented actions will impose costs but will not clearly provide benefits.

We urge the agency to "grandfather" existing badges that meet minimum criteria.<sup>4</sup> We believe that existing badging that meets the minimum criteria of "permanent and

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<sup>4</sup> Global Automakers supports permitting existing badges to be "grandfathered" into the program. In the event that NHTSA adopts additional criteria for badging that would necessitate a change to existing badges, the "grandfathered" badges should be provided sufficient lead-time before changes are required. Ideally, existing badges should be updated in conjunction with the next full model change for the vehicle (up to seven model years), which would be the most efficient and cost effective time to change badging. At

prominent” should be deemed in compliance with the requirements and that NHTSA should exercise flexibility regarding design, language and location of the badging; we provide additional comments regarding design, language and location of the badging in the comments that follow.

Given the questionable marginal benefits of the rear exterior label (compared to currently used badges), we urge the agency to provide additional flexibility to manufacturers in meeting the “permanent and prominent display” requirement. Our recommendations for badging criteria are as follows:

**Location** – Manufacturers should be permitted to affix the display as window stickers and/or decals on the vehicle body, provided such stickers are durable. We believe that any location on the vehicle (front, side, or rear) for stickers and decals would be suitable to meet the requirements for “prominent” display. Stickers and decals will also meet the “permanent” requirements. For instance, a sticker similar to those used for state inspection type sticker is durable and non-obstructive and is permanent unless someone intentionally tries to peel it off, which should meet the definition of “permanent.” As another example, the double-face adhesion force for the double-side tape used to affix a badge is 50N/25mm, while a sticker’s force is 25N/25mm, based on 3M specifications<sup>5</sup>. While a sticker’s adhesion force is lower than that for a badge, the latter is required to hold badges that are much heavier than stickers. As a result, we believe that the durability and permanence of a sticker or decal will also be as appropriate to meet the rule’s requirement for badging.

**Content** – Global Automakers strongly requests that the agency provide additional flexibility regarding the identification of the type of alternative fuel that propels AFVs. We request that the agency allow greater harmonization with badging criteria of the National Fire Protection Association (NFPA) and with SAE International (SAE) J2990 (and pending J2990/1) standard. Requiring different badging criteria could lead to the installation of multiple or very large badges, which could be perceived negatively by consumers, potentially harming demand for AFVs. Moreover, NHTSA states that it did not conduct original research on consumer messaging in support of this rule.<sup>6</sup>

It is not obvious that the “natural language” fuel descriptions that were proposed by NHTSA are necessarily clearer or informative to consumers than the NFPA or J2990 descriptions, and in some cases, NHTSA’s proposed language may be too long to fit on a vehicle. NFPA and SAE J2990 allow common terminology for hybrids, battery electric and plug-in hybrid electric vehicles to be used as descriptors for AFVs and also allow unique model names, such as Nissan LEAF, Chevy Volt and Ford Energi, to meet the minimum requirements for technology badging. Global Automakers agrees with the terms allowed under these standards and recommends that NHTSA harmonize its minimum descriptors with those of NFPA and SAE J2990.

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a minimum, changes to badging could occur during the mid-cycle facelift of a model, which occurs approximately once every three years leading up to the full model change.

<sup>5</sup> See <http://www.3m.com/>.

<sup>6</sup> See 79 Fed. Reg. 9794.

SAE J2990 does not, however, currently address fuel cell vehicles, but we understand that SAE is developing a J2990/1 standard that will address badging for fuel cell vehicles. We recommend that NHTSA allow similar flexibility to use common terms, such as FCV, fuel cell, H2 EV and hydrogen EV, for fuel cell vehicles in addition to or in place of hydrogen in this regulation and that NHTSA consider adopting the J2990/1 terms when that standard is adopted.

In addition, NHTSA proposes to use the descriptor “ethanol” for vehicles that can be fueled with ethanol blends up to 85% in gasoline. We are concerned that “ethanol” is not descriptive enough on its own. Almost all gasoline-fueled vehicles on the road today utilize some minimum blend of ethanol, generally E10. Thus, badging that reads “ethanol” may be misleading and does not provide adequate information to the consumer. Commonly used terms to describe vehicles that can operate on high gasoline-ethanol blends up to 85% ethanol include E85, flexible fueled vehicle, flex fuel, FFV, and E85 FFV. We believe that all of these variations of the term provide the same benefit, i.e. increased awareness to consumers, and that no single term is better than the other. Therefore, they should all be acceptable terms for vehicle badging, labels, stickers, decals, etc. for the purposes of this rulemaking. Similar flexibility to use commonly used terms and/or abbreviations for the other alternative fuel descriptors should be allowed as well.

**Permanence** – The agency should make clear in the final rule that the badge’s “permanence” will be assessed under normal use conditions. Vehicle manufacturers should not be responsible for such events as tampering with labels or collision damage that result in removal of the display or impaired prominence of lettering. We recommend the following changes in red, underlined text to the proposed regulatory text found at §575.402(b)(2):

(2) Permanent and prominent display means a badge affixed to the exterior of an automobile, designed for and applied with the ability to remain readable, and attached to the automobile throughout its entire useful life under normal use conditions. The badge...

Proposed section 575.402(c)(2), which would require manufacturers to warrant the display for the automobile’s warranted period, should not be interpreted to require the warranty to apply to body panels to which the display is affixed. Also, the reference to “warranted period” is not clear, since different warranty periods generally apply to various vehicle components.

**Letter finish** – The proposed requirement for the use of chrome or silver finish for the display is unduly prescriptive. The agency cites examples of vehicles that currently use chrome or silver badges, but it did not identify a specific need for regulating the badge color. So long as the lettering is clearly readable, we see no need to add an additional requirement for specific colors, which could be incompatible with a manufacturer’s vehicle design and marketing plan for the vehicle. We recommend deleting §575.402(d)(1)(iv) and renumbering the remaining subsections accordingly.

**Minimum letter height** - NHTSA proposes that the defined natural language minimum description letter size shall be no smaller than 15 millimeters (mm) in height, stating that “this [15 mm height] fundamentally aligns with the minimum average text size found on technology related badges currently in production” and that “minimum sizes...help ensure readability...([badges] which are assumed for the most part, to include readability from a reasonable distance as design criteria)”.<sup>7</sup> The assumption that badge and text size include “readability from a reasonable distance” is appropriate, since there is little to no benefit that adding a badge that cannot be read from a reasonable distance. As a result, it may not be necessary for NHTSA to require a prescriptive height for the text (and badge) size, since existing badges demonstrate readability. In the event that NHTSA believes it is necessary to require a size, then the proposed 15 mm minimum is acceptable and provides the flexibility to make text larger if desired.

**Optional additional badging** - NHTSA’s proposed badge specifications should be considered to be minimum requirements and should be interpreted to allow additional badges, labels or other identification of the vehicle. Provision for additional badging appears to be made in proposed section 575.402(d)(1), which mentions “additional environmental/advanced technology badging.” This approach is consistent with the agency’s allowance of additional text on the required badge.<sup>8</sup>

**Prominent design features** – Certain obvious unique design features should be deemed to meet the “permanent and prominent display” requirement under 49 U.S.C. 32908(g)(1)(A)(iii). An example of such a feature is a charger plug located on the vehicle exterior. A charger plug of this type is by its nature “permanent” and its exterior location will typically be considered to be “prominent.” A feature of this sort clearly labels the vehicle as an “electric vehicle.”

## II. Fuel filler compartment label

As with the exterior badge, we request that NHTSA grandfather existing fuel compartment labels, in order to avoid unnecessary compliance costs.

We request the following additional changes regarding the fuel filler compartment label.

**Minimum letter height and style** – Under the proposed requirements for the minimum letter height and style, the lettering on the fuel filler compartment would be required to be in “bold-face” type. It is not clear to us why “bold face” type print is required. The most important feature of the fuel filler compartment labels will be legibility, and the examples provided in NHTSA’s supporting documentation, *U.S. DOT/NHTSA - Examples of Existing Fuel Compartment Labels*,<sup>9</sup> do not appear to be in

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<sup>7</sup> *Id.*, at 9800.

<sup>8</sup> See, e.g., the agency’s designation in proposed section 575.402(d)(ii) that the required badge language is a “minimum description.”

<sup>9</sup> U.S. DOT/NHTSA - Examples of Existing Fuel Compartment Labels, Docket ID: NHTSA-2010-0134-0003, [www.regulations.gov](http://www.regulations.gov).

“bold face” type. Therefore, we recommend that NHTSA delete the requirement for “bold face” type as shown in the following red, strikeout for §575.402(d)(3)(iii):

(iii) *Minimum letter height and style.* The defined minimum letter size shall be no smaller than 5 millimeters in height ~~and in “bold face” type.~~

In addition, we recommend that NHTSA adopt requirements that will allow existing fuel filler compartment label designs to be in compliance with these label requirements.

**Dual fueled (flexible fuel) vehicles** - Dual fueled vehicles are currently subject to fuel compartment label requirements under 49 U.S.C. 32905(f), in order to be eligible for CAFE credits. These labels must state that “the vehicle can be operated on an alternative fuel and on gasoline or diesel, with the form of alternative fuel” also being provided. Labels attached to dual fueled vehicles in compliance with this requirement are deemed to meet the EISA label requirement that is the subject of this rulemaking.<sup>10</sup> We are unaware of any regulations issued by NHTSA to provide further specificity regarding the dual fueled vehicle label requirement. We request that NHTSA confirm that the fuel compartment labels installed for CAFE credit purposes on dual fueled vehicles are acceptable under the new EISA label rule.

**Prominent design features** - In the case of electric vehicles, it is not clear what benefit would be achieved by adding labeling to the charging inlet. The charging inlet provides a clear indication that the vehicle is electrically powered, and the unique design of the charger plug is a functional surrogate for specifying the voltage level. For electric vehicles, the inlet should be considered to be the “label” identifying the “form of alternative fuel,” for purposes of the fuel tank requirements of section 32908(g)(3).

**Authority for fuel filler compartment label requirement** - The reference in proposed section 575.402(d)(3) to “49 U.S.C. 32905(g)(3)” should be revised to read “49 U.S.C. 32908(g)(3).” This appears to be a typographical error.

### III. Owner’s manual language

As noted above, we see little value in the requirement for owner’s manual language regarding the vehicle’s capability of operating on alternative fuels and the benefits of using such fuels. Owner’s manuals have become relatively large documents, with part of the growth in size of those documents being due to language that is mandated in the regulations of various agencies. There is a risk that the sheer size of the documents is intimidating to some drivers and may discourage them from reading the manuals. Additionally, consumers typically do not access the owner’s manual until after purchasing a vehicle, when the decision to purchase an AFV would already have been made. Just as importantly, the “social value” of AFVs can be uncertain and may change over time. It is therefore inappropriate to provide an owner with outdated information

<sup>10</sup> The EISA label requirement in 49 U.S.C. 32908(g)(3) references section 32905(h) regarding the acceptability of fuel compartment labels that are installed for CAFE credit purposes. The former section 32905(h) became the current section 32905(f), due to subsequent amendment. See Amendments note at end of section 32905 and References in Text note at end of section 32908.

about the social benefits associated with that vehicle's technology in static language in the owner's manual.

Given the questionable benefits of the owner's manual language that is mandated in the proposed rule, we request that the agency minimize that language mandate. We request that the agency give vehicle manufacturers the option of either including the proposed language in the owner's manual or including only the initial portion of that language, with a reference to additional information that may be accessed online. More specifically, our proposed optional owner's manual language is as follows:

#### Capabilities and Benefits of Using Alternative Fuels

This vehicle is recognized by the U.S. Department of Transportation as an alternative fuel vehicle, because it is capable of operating on a biofuel, electricity, hydrogen, natural gas, propane or other fuel that is not derived primarily from petroleum. Alternative fuel vehicles may provide benefits, including energy and national security and environmental benefits, both to their users and to the nation as a whole over their useful lifetime by operating on non-petroleum-based alternative fuels. For additional information on the benefits of using alternative fuels, please refer to <http://www.afdc.energy.gov> and <http://www.fueleconomy.gov>.

To learn more about the availability of alternative fuel that can power this vehicle and locations for refueling or recharging your vehicle, please visit the Department of Energy's Alternative Fueling Station Locator at <http://www.afdc.energy.gov/afdc/locator/stations/>

Finally, the owner's manual language could encourage owners of dual fueled vehicles (i.e. a flexible fuel vehicle that can use conventional gasoline and/or gasoline blended with up to 85% ethanol or plug-in hybrid electric vehicle that can use electricity and/or gasoline) to use the alternative fuel, rather than conventional gasoline, in their vehicles. We recommend that the Agency consider an additional sentence for the owner's manual for dual fueled vehicles, only, that recognizes the owner has a choice in fuel and may want to consider using the alternative fuel to achieve the potential benefits mentioned above.

#### **IV. Lead-time**

We request that NHTSA provide at least two years lead-time for compliance with the AFV label rule and apply the requirements as a model year requirement rather than a compliance date. If the final rule is issued in March of 2015, this timing would correspond with the sale of MY2016 vehicles, and therefore compliance would be required two model years later starting with MY 2018 vehicles.

This lead-time is necessary to not only prepare new badges and labels that meet the regulatory criteria of this rule, but to design something that is also consistent with automakers' internal vehicle design criteria for each model (visual appearance,

marketing messaging for the vehicle, etc.). Automakers make substantial investments in the names associated with their products (e.g. LEAF, Volt, Prius, etc.) and the accompanying badging, and there is an important and intimate association of a vehicle's branding in the mind of consumers. Changing the imagery associated with this branding takes time and should be done mindfully; changes to branding would ideally be handled at a model's normal full life-cycle change to ensure consistency with branding and vehicle design.

For the owner's manual, the design and template of the manual is set in advance of the model year, and mid-year changes to the owner's manual design would be unnecessarily costly and resource intensive with minimal benefit to the consumer.

Providing additional lead-time would also potentially enable manufacturers to make separate NHTSA-related labeling and owner's manual changes at one time. The agency's most recent Regulatory Agenda lists a planned rulemaking to require vehicle manufacturers to implement labels and owner's manual language regarding the filing of motor vehicle defect complaints.<sup>11</sup> Enabling manufacturers to combine these activities as part of a single administrative process would enhance efficiency and save costs for manufacturers.

## **Conclusion**

Global Automakers supports that current manufacturers' badging and labels are already meeting the intent of the EISA statute—to educate and inform consumers. We have offered our comments in recognition that the agency's proposal is in response to a statutory mandate. If these regulations are promulgated, then this rulemaking should provide additional flexibility to reduce implementation costs and burdens, while also providing the intended benefit of creating customer awareness at the same time.

In summary, Global Automakers is requesting that NHTSA:

- Provide additional flexibility for the “permanence and prominent display” requirements by grandfathering existing badges including unique model names, allowing for consistency with NFPA and SAE badging, expanding the minimum descriptors for “natural language” terminology, and minimizing the prescriptiveness of the badges.
- Allow/clarify that existing fuel filler compartment labels comply with the fuel filler compartment label requirements.
- Recognize that electric vehicles' charging inlets already meet the prominence provisions and labeling requirements for the fuel filler compartment labels.
- Streamline the proposed owner's manual language.
- Provide at least two years of lead-time based on model year; compliance would begin with model year 2018 if the rule is released early in the 2015 calendar year.

Thank you for your consideration of our comments.

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<sup>11</sup> See <http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201310&RIN=2127-AL33>.