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July 20, 2009

Administrator Lisa Jackson
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 1101A
U.S. Environmental Protection Agency
Washington, DC 20460

Subject: Comments on Growth Energy's E15 Petition
Docket EPA-HQ-OAR-2009-0211

Dear Administrator Jackson:

NPRA, the National Petrochemical and Refiners Association, is pleased to provide comments on Growth Energy's E15 petition to increase the allowable ethanol content of gasoline to 15 percent. NPRA's members comprise more than 450 companies, including virtually all U.S. refiners and petrochemical manufacturers. Our members supply consumers with a wide variety of products and services that are used daily in homes and businesses. These products include gasoline, diesel fuel, home heating oil, jet fuel, asphalt products, and the chemicals that serve as "building blocks" in making plastics, clothing, medicine and computers.

NPRA urges EPA to reject the petition for the following reasons: (1) the science on the impact of mid-level ethanol blends on consumer safety, engine performance, and potential environmental harm has not been completed and likely will not be completed for at least two years; (2) the information submitted by Growth Energy in support of its petition is a woefully inadequate foundation upon which to base such an important change in the nation's supply of gasoline; (3) the potential approval of Growth Energy's petition is not an effective short- or medium-term solution to avoiding the "blendwall" problem caused by the increasing conventional biofuels volumes mandated under the Energy Independence and Security Act of 2007 and thus EPA should not rush such an important decision until a scientifically-based rationale can be reached regarding consumer safety, engine reliability, and environmental concerns of mid-level ethanol blends use in all gasoline-powered motor vehicles and engines in use in the United States; and (4) this seemingly modest petition will, if granted, have wide-ranging implications on other



federal and state fuels programs and will require a series of complex and lengthy rulemakings to harmonize these programs with the introduction of mid-level ethanol blends.

In addition, NPRA also opposes the grant of a “partial waiver” to permit the use of mid-level ethanol blends in some gasoline-powered engines for the following reasons: (1) it would cause significant disruption in the nation’s wholesale and retail gasoline distribution infrastructure, widespread consumer confusion and potential misfueling, and potential liability for engine and fuel manufacturers for any damage caused to gasoline-powered engines not compatible with mid-level ethanol blends; and (2) EPA does not have the statutory authority under Section 211(f) of the Clean Air Act to grant a partial waiver.

NPRA supports the prudent development and use of biofuels, including ethanol, to diversify our nation’s transportation and nonroad fuels portfolio. However, before the use of mid-level ethanol blends is permitted, EPA has an affirmative obligation to find, based on comprehensive and unbiased test data, that these blends are safe for consumers, do not harm gasoline-powered engines, and do not lead to increases in emissions from these engines that will harm the environment. The data submitted by Growth Energy in its petition does not come close to meeting these admittedly and necessarily high standards, and thus the petition must be rejected.

Additional discussion of these issues is available in the attachment.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Drevna", is written over a light gray rectangular background.

Charles T. Drevna
President

Attachment

cc: Gina McCarthy
Margo Oge
Jim Caldwell
Docket EPA-HQ-OAR-2009-0211

**COMMENTS OF THE
NATIONAL PETROCHEMICAL & REFINERS ASSOCIATION
ON THE PETITION FOR A WAIVER
TO APPROVE MID-LEVEL ETHANOL BLENDS
(74 Fed. Reg. 18,228; April 21, 2009)**

I. EXECUTIVE SUMMARY

NPRA respectfully submits the following comments in response to the Environmental Protection Agency's ("EPA") "Notice of Receipt of a Clean Air Act Waiver Application to Increase the Allowable Ethanol Content of Gasoline to 15 Percent and Request for Comments" ("Notice") (74 Fed. Reg. 18,228 (April 21, 2009)). In summary, NPRA urges EPA to reject the petition filed by Growth Energy for the following reasons: (1) the science on the impact of mid-level ethanol blends on consumer safety, engine performance, and potential environmental harm has not been completed and likely will not be completed for at least two years; (2) the information submitted by Growth Energy in support of its petition is a woefully inadequate foundation upon which to base such an important change in the nation's supply of gasoline; (3) the potential approval of Growth Energy's petition is not an effective short- or medium-term solution to avoiding the "blendwall" problem caused by the increasing conventional biofuels volumes mandated under the Energy Independence and Security Act of 2007 (EISA, Public Law 110-140) and thus EPA should not rush such an important decision until a scientifically-based rationale can be reached regarding consumer safety, engine reliability and environmental concerns of mid-level ethanol blends use in all gasoline-powered motor vehicles and engines in use in the United States; and (4) this seemingly modest petition will, if granted, have wide-ranging implications on other federal and state fuels programs and will require a series of complex and lengthy rulemakings to harmonize these programs with the introduction of mid-level ethanol blends.

In addition, NPRA also opposes the grant of a "partial waiver" to permit the use of mid-level ethanol blends in some gasoline-powered engines for the following reasons: (1) it would cause significant disruption in the nation's wholesale and retail gasoline distribution infrastructure, widespread consumer confusion and potential misfueling, and potential liability for engine and fuel

manufacturers for any damage caused to gasoline-powered engines not compatible with mid-level ethanol blends; and, (2) EPA does not have the statutory authority under Section 211(f) of the Clean Air Act to grant a partial waiver.

II. INTRODUCTION

On March 6, 2009, Growth Energy LLC announced that it, joined by some ethanol manufacturers and other trade associations, submitted a petition to EPA pursuant to Clean Air Act Section 211(f)(4) for approval of E15. EPA published a Notice requesting comments on the petition on April 21, 2009. EPA should deny this petition. An unbiased assessment of the potential impacts on consumer safety, engine performance, and potential environmental harm of the use of ethanol blends higher than 10 percent ethanol (“mid-level ethanol blends”) on conventional gasoline-powered engines has not been completed and likely will not be for at least two years. It would be premature for the Agency to grant such a waiver and would directly contradict congressional intent as evidenced by the 2007 amendments to Clean Air Act section 211(f)(4) by section 251 of EISA.

Ethanol should not be blended into gasoline at levels higher than 10 percent for use in non-flexible fuel motor vehicles and nonroad gasoline-powered engines until comprehensive and independent testing shows that mid-level ethanol blends are safe for consumers and do not harm the environment or public health. NPRA’s position on the Growth Energy petition should not be characterized as “anti-ethanol.” NPRA supports the prudent development and use of biofuels, including ethanol, to diversify our nation’s transportation and nonroad fuels portfolio. However, before the use of mid-level ethanol blends is permitted, EPA has an affirmative obligation to find, based on comprehensive and unbiased test data, that these blends are safe for consumers, do not harm gasoline-powered engines, and do not lead to increases in emissions from these engines that will harm the environment. The data submitted by Growth Energy in its petition does not come close to meeting these admittedly and necessarily high standards and thus the petition must be rejected.

NPRA is not alone in our concern that science be placed above politics with respect to mid-level ethanol blends. Attached to these comments is a recent letter to senior officials in the Obama Administration signed by more than fifty national, state and local business, environmental, public health and agricultural associations and companies that echoes the same sentiment: Comprehensive and independent testing of mid-level ethanol blends must be completed before these fuels are allowed into commerce.

Currently, the maximum level of ethanol that may be blended into gasoline for use in conventional gasoline-powered engines is 10 percent by volume (referred to as “E10”). Some, like Growth Energy, advocate “breaching the blendwall” – as the E10 cap is characterized – before comprehensive testing is complete so that additional volumes of ethanol can be blended into gasoline. NPRA urges EPA to adhere to President Obama’s words when he stated that science, not politics, would guide his Administration’s approach to the difficult public policy issues we face today. To quote from President Obama’s March 9, 2009 Memorandum on “Scientific Integrity”:

Science and the scientific process must inform and guide decisions of my Administration on a wide range of issues, including improvement of public health, protection of the environment, increased efficiency in the use of energy and other resources, mitigation of the threat of climate change, and protection of national security.

III. THE NEED FOR COMPREHENSIVE RESEARCH ON MID-LEVEL ETHANOL BLENDS AND CONVENTIONAL GASOLINE-POWERED ENGINES

There has been no comprehensive research conducted on the potential safety, public health, engine operation, or increased emission impacts from the use of mid-level ethanol blends in conventional gasoline-powered engines. The data that does exist can be summarized as follows:

- Past durability studies from earlier this decade indicate that mid-level ethanol blends result in increased emissions from, and emissions control device failures in, motor vehicle engines over their useful life and result in safety degradation and performance deficiencies with other gasoline-powered engines;
- More recent data developed and promoted by the ethanol industry on very small numbers of vehicles fueled with mid-level blends for short periods of time. The development of this data was not conducted under established federal test procedures and it has not been peer-reviewed; and
- Screening, or preliminary tests conducted by DOE and the Coordinated Research Council (“CRC”)¹ that indicate that emissions of some pollutants increase when conventional vehicles use mid-level ethanol blends. Notably, 44% of the vehicles tested by DOE are vulnerable to catalyst deterioration during their useful life (marine engines have not been tested at all by any federal agency, although some private studies reveal significant problems).

Independent observers have concluded that a great deal of additional testing must be completed before the use of mid-level ethanol blends is authorized by EPA. And many research

¹ CRC is a non-profit organization that directs research on the interaction between automotive/other mobility equipment and petroleum products. The Sustaining Members of CRC are the American Petroleum Institute, the Society of Automotive Engineers and a group of automobile manufacturers (Chrysler, Ford, General Motors, Honda, Mitsubishi, Nissan, Toyota, and Volkswagen). See www.crcao.com

projects on mid-level ethanol blends have been identified that would fill critical gaps in knowledge, especially regarding the durability of vehicles and their emission control systems. The attached chart provides an overview of the needed vehicle studies, some of which are completed and some of which still require funding, with associated timelines. The research program would provide basic but comprehensive testing on such issues as durability (catalysts, evaporative systems, and fuel systems), tailpipe emissions, driveability, materials compatibility, and on-board diagnostics. We anticipate they can be completed in about two more years, assuming they are all fully funded and move forward on a reasonable schedule.

DOE has recently outlined future work related to vehicle testing:²

- “Complete Full Useful Life Vehicle Durability Study (V4) on 48 vehicles by September 2010
- Complete Phase 3 of Vehicles emissions study (V2) with EPA (January 2010)
- Complete high-temperature, high-altitude driveability study by September 2009 (V5)
- Complete 16 Vehicle evaporative emissions study (V3) by March 2010
- Complete vehicle materials studies with CRC (V6) January 2010
- Continue to work with UL, EPA, CRC and other industry stakeholders to execute test programs underway and define additional studies”

Obviously, substantial research is underway and all results will not be available in time for a decision in early December 2009 by EPA on the merits of Growth Energy’s petition.

Separate and apart from past and ongoing vehicle testing, there has been virtually no testing on mid-level ethanol blends on nonroad gasoline engines. We are deeply concerned with the potential impacts on these engines, which consist of: (1) higher exhaust gas temperatures and attendant operational and safety risks; (2) possible irreversible damage to engines; (3) loss of durability; (4) materials compatibility; (5) emissions increases; (6) damages to manufacturers’ reputations; and (7) warranty validity. Further, nonroad engines generally utilize open loop air-fuel control systems which cannot compensate for changes in the oxygen content caused by mid-level ethanol blends. Additional research is necessary on a variety of engines³ and applications with

² “Mid-Level Ethanol Blends Test Program; DOE [Energy Efficiency and Renewable Energy], NREL, and ORNL Team, Biomass Program Infrastructure Peer Review,” March 19, 2009, p. 48.

³ 2-stroke, 2-stroke with catalyst, stratified scavenging, compression wave injection, 2-stroke/4-stroke hybrid, 4-stroke, and 4-stroke stratified with catalyst.

different load cycles and cooling designs and operation speeds⁴ (including durability testing) and this has not yet begun.

Marine engines face many unique challenges, and none of which have been addressed yet in any research programs on mid-level ethanol blends. It has been alleged that ethanol may degrade fiberglass and aluminum fuel tank material with resulting leaks and build-up of resin on valves, rods and stems, and can clog fuel systems. An ethanol blend may experience phase separation when the fuel is stored for a long period in a container that can contact the atmosphere (such as portable marine fueling containers often used in outboard engine applications). Phase separation attracts water, which can damage engines and cause metallic fuel tanks to leak. Marine engine manufacturers are concerned about increases in engine temperatures causing increased NOx emissions and stress on other components such as valves, head gaskets and head bolts, increased permeation and diurnal emissions, vapor lock, as well as a broad range of performance and durability issues.

Therefore, the science on the impact of mid-level ethanol blends on consumer safety, engine performance, and potential environmental harm has not been completed and likely will not be for at least two years. Hence, EPA should not approve the petition currently under consideration.

IV. THE SHORTCOMINGS IN GROWTH ENERGY'S PETITION

A. The studies cited by Growth Energy's petition are insufficient.

In support of its petition seeking EPA approval of a mid-level ethanol blend, Growth Energy cites several studies indicating that mid-level ethanol blends may be compatible with some conventional gasoline-powered vehicle engines. However, an unbiased review of these studies reveals that at best they underscore the need for additional comprehensive testing and at worst they actually contain conclusions that violate the laws of physics. Conclusively, however, they do not come close to forming the scientific foundation upon which EPA can make an affirmation decision with respect to the petition.

The conclusions from Growth Energy's analysis of seven studies are described below. Growth Energy consistently spins each report to its advantage and ignores results that do not support approval of its E15 petition. Not surprisingly, Growth Energy is being very selective and is not

⁴ Professional backpack blowers, homeowner handheld blowers, professional chainsaw (heavy use), armer chainsaw (moderate use), homeowner chainsaw (light use), professional trimmer/brush cutter, farmer trimmer/brush cutter, homeowner trimmer, professional hedge trimmer, and consumer hedge trimmer.

characterizing these studies objectively. For each of the studies cited by Growth Energy, NPRA below provides a much more objective read of the value of each study's data.

1. "DOE Study"

The first study selected by Growth Energy is *Effects of Intermediate Ethanol Blends on Legacy Vehicles and Small Non-Road Engines, Report 1*, prepared by Oak Ridge National Laboratory for the U.S. Department of Energy (October 2008) ("DOE Study"). Growth Energy asserts that this "peer-reviewed report studied the effects of E-15 and E-20 on motor vehicles and small non-road engines and concluded that when E-15 and E-20 were compared to traditional gasoline, there were no significant changes in vehicle tailpipe emissions, vehicle driveability, or small non-road engine emissions as ethanol content increased."⁵ The nonroad engine community has several concerns. DOE is not satisfied and is sponsoring further research. Furthermore, EPA is sponsoring further research.

Nonroad engines comprise over some 900 engine "families" currently regulated and certified for emissions by EPA. Of these 900 engine families, the Department of Energy ("DOE") tested 28 pieces of equipment to determine how mid-level ethanol blends may impact these engines. The Outdoor Power Equipment Institute ("OPEI"), the trade association of the manufacturers of much of this equipment, concluded that the technical data from this study reveals most of these engines experienced performance irregularities, operational issues, damage and/or failure during testing using mid-level ethanol blended fuel.

One finding of the DOE tests on nonroad engines is of extreme concern to OPEI -- safety hazards dramatically increased due to unintentional clutch engagement caused by high idle speeds. This means that blades engage in the idle position. The risks to a chainsaw user in this example are profound and unacceptable. Chainsaws are used by nearly every fire house, utility crew and emergency weather crew as well as commercial foresters and consumers. Their reliability and safe performance are critical to their users. Another example of genuine concern is the possible failure of emergency generators in a crisis. Again, their reliability and safe performance is critical to users. The potential use of mid-level ethanol fuels is a highly complex issue as related to outdoor power equipment and its users and it cannot be rushed by efforts that overlook the impacts on consumer safety and their economic interests.

⁵ Growth Energy, "Application for a Waiver Pursuant to Section 211(f)(4) of the Clean Air Act for E15," March 6, 2009, p. 12.

The DOE Study includes Chapter 4, Next Steps. DOE outlines further work on emissions testing with 30 fuels, evaporative emissions, catalyst durability, driveability, compatibility, and specialty engines. Clearly, EPA needs this research to be completed before approving any mid-level ethanol blend petition.

NPRA strongly disagrees with Growth Energy's assertion that "for the purposes of this waiver request, the DOE Study provides sufficient data to establish, for vehicle exhaust emissions, that E-15 does not cause or contribute to a failure of any emission control device or system to meet its certified emissions standards."⁶ This is refuted by DOE's continuing work.

Wendy Clark, NREL researcher and one of the DOE Study authors, was quoted by *The New York Times* in an article dated May 8, 2009: "Ms. Clark said the study was preliminary and should be followed up with comprehensive research on emissions and durability. 'The sample size is way too small,' she said."⁷ Therefore, even a DOE Study author thinks that this was just a scoping study.

In an EPA "note" dated November 13, 2008, Constance Hart provided an update on ethanol related light duty vehicle testing funded by the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007.⁸ For light duty gas exhaust fuels, the fuel matrix was revised to add more E20 fuels and reduce the amount of E15 fuels. Phase 1 is complete and the data is under review by EPA. What are these Phase 1 results? The Phases 1-3 testing is expected to be completed in March 2010. Unfortunately, this is not in time for EPA's decision on the E15 petition. This ongoing EPA test program is another reason to deny the petition.

In an EPA memo dated February 22, 2008, Craig Harvey estimates a large increase in hose permeation emissions (grams per square meter per day) for non-handheld equipment between E10 and E20.⁹ This EPA conclusion is counter to Growth Energy's assertion that emissions from E15 are comparable to those from traditional gasoline for small nonroad engines.

2. "ACE Study"

The second study is *Optimal Ethanol Blend-Level Investigation, Final Report*, prepared by Energy and Environmental Research Center and Minnesota Center for Automotive Research for

⁶ *Ibid.*, p. 17.

⁷ "Ethanol Industry's 15% Solution Raises Concerns,"

http://www.nytimes.com/2009/05/10/automobiles/10ETHANOL.html?_r=1&ref=politics

⁸ From Constance Hart (Assessment and Standards Division of EPA's Office of Transportation and Air Quality) to RFS2 Docket EPA-HQ-OAR-2005-0161, "EPA Act/EISA Test Program Update," EPA-HQ-OAR-2005-0161-0642, p. 1.

⁹ From Craig A. Harvey (Assessment and Standards Division of EPA's Office of Transportation and Air Quality) to Docket EPA-HQ-OAR-2004-0008, "Modeling of Ethanol Blends on Nonroad Fuel Hose and Tank Permeation – Updated," EPA-HQ-OAR-2005-0161-0409, pp. 5 and 6.

American Coalition for Ethanol (October 2007) (“ACE Study”). Growth Energy concluded that this “report studied the effects of ethanol blends ranging from E-10 to E-85 on motor vehicles and found that exhaust emissions levels for all vehicles at all levels of ethanol blend were within the applicable Clean Air Act standards.”¹⁰ The value of this report in support of Growth Energy’s petition is compromised by the fuel economy claims and the failure of the FFV to meet the NMOG emissions standard.

“While only three non-flex-fuel vehicles were tested in this study, there is a strong indication that non-flex-fuel vehicles operated on optimal ethanol blend levels, which are higher than the standard E10 blend, can obtain better fuel mileage than on gasoline” (ACE Study, p. iv). This is an amazing statement and calls into question the entire study. If this is true, then it can be replicated by others and it has not been.

For example, this result is refuted by DOE. “All 13 vehicles exhibited a loss in fuel economy commensurate with the energy density of the fuel. With E20, the average reduction in fuel economy (i.e., the reduction in miles per gallon) was 7.7 percent compared to E0 (finished gasoline without any ethanol). Limited evaluations of fuel with as much as 30% ethanol were conducted, and the reduction in miles per gallon continued as a linear trend with increasing ethanol content” (DOE Study, p. xvii).

In addition, the MCAR Study concluded “that volumetric fuel economy decreased when using E30” (MCAR Study, p. 1). This is clearly contrary to the report’s claim of “better fuel economy than on gasoline.”

The ACE Study included three non-FFVs and one FFV. “The flex-fuel Chevrolet Impala exceeded the NMOG standard for the FTP-75 on E20 and Tier 2 gasoline” (ACE Study, p. iv). This FFV had only 7,000 miles on its odometer. This failure was not expected because you might assume that E20 could be used in a FFV. This failure is acknowledged by Growth Energy, but it is buried in footnote 43.¹¹ This failure is an important consideration in EPA’s review of this study.

3. “Minnesota Compatibility/Driveability Study”

Third, Growth Energy discusses *The Feasibility of 20 Percent Ethanol Blends by Volume as a Motor Fuel*, Executive Summary, Results of Materials Compatibility and Driveability Testing, prepared by the State of Minnesota and the Renewable Fuels Association (RFA) (March 2008)

¹⁰ *Op. cit.*, Growth Energy, p. 12.

¹¹ *Op. cit.*, Growth Energy, p. 18.

(“Minnesota Compatibility/Driveability Study: Executive Summary”). This summarizes five reports.

- a. *The Effects of E20 on Metals Used in Automotive Fuel System Components* (“Metals Study”) Growth Energy states that this “study compared the effects of E-0, E-10 and E-20 on nineteen metals and found that the metals tested were compatible with all three fuels.”
- b. *The Effects of E20 on Elastomers Used in Automotive Fuel System Components* (“Elastomers Study”) Growth Energy believes that this “study compared the effects of E-0, E-10 and E-20 on eight elastomers and found that E-20 caused no greater change in properties than E-0 or E-10.”
- c. *The Effects of E20 on Plastic Automotive System Components* (“Plastics Study”) Growth Energy concludes that this “study compared the effects of E-0, E-10 and E-20 on eight plastics and found that there was no significant difference in the properties of the samples exposed to E-20 and E-10.”
- d. *The Effects of E20 on Automotive Fuel Pumps and Sending Units* (“Fuel Pumps Study”) Growth Energy asserts that this “study compared the effects of E-0, E-10 and E-20 on the performance of twenty-four fuel pumps and nine sending units and found that E-20 has similar effect as E-10 and E-0 on fuel pumps and sending units.”
- e. *Demonstration and Driveability Project to Determine the Feasibility of Using E20 as a Motor Fuel* (“Driveability Study”) Growth Energy claims that this “study tested forty pairs of vehicles on E-0 and E-20 and found no driveability or operational issues with either fuel.”¹²

The Metals Study concluded that 18 of 19 metals tested were found to be compatible (Metals Study, p. 8). One metal, Zamak 5, exhibited pitting, the formation of loose corrosion by-products and excessive mass loss when exposed to E20. E10 and E20 were tested, but not E15.

Bob Beneditti, National Fire Protection Association, expressed concerns about E15 compatibility with polymeric and elastomeric components of the fuel delivery and transfer system and its possible corrosion of the fuel storage system at a workshop hosted by the American Petroleum Institute on April 8, 2009.¹³

¹² *Op. cit.*, Growth Energy, p. 13.

¹³ EPA’s Office of Transportation and Air Quality was represented at this workshop by Jeff Herzog and Joe Sopata.

4. “CRC Permeation Study”

The fourth study is *Fuel Permeation from Automotive Systems: E-0, E-6, E-10, E-20 and E-85*, prepared by the Coordinating Research Council, Inc. (CRC Report No. E-65-3) (December 2006) (“CRC Permeation Study”). Growth Energy concludes that this “study evaluated effects of E-0, E-6, E-20 and E-85 on the evaporative emissions rates from permeation in five newer California vehicles and found that there was no statistically significant increase in diurnal permeation rates between E-6 and E-20.”¹⁴ However, Growth Energy did not acknowledge that varying the ethanol content was significant for the steady-state data.

“The presence or absence of ethanol was statistically significant ($p \leq 0.05$) for all three independent variables [1) test timing; 2) fuel aromatics level; and 3) fuel ethanol content]. Both $\ln(\text{diurnal})$ ¹⁵ and steady-state emissions increased when ethanol was present, while Specific Reactivity decreased. Varying the ethanol content was significant for the steady-state data (emissions increased as ethanol content increased), but was not significant ($p \geq 0.44$) for the $\ln(\text{diurnal})$ and reactivity data” (CRC Permeation Study, p. 48). Therefore, Growth Energy selected the conclusion that was not statistically significant, $\ln(\text{diurnal})$ and reactivity data, and ignored the finding that was statistically significant (steady-state data). This is yet another example of Growth Energy’s self-serving selectivity.

5. “RIT Study”

The fifth study relied on by Growth Energy is *Report to the US Senate on E-20 Ethanol Research*, prepared by the Rochester Institute of Technology (October 2008) (“RIT Study”). Growth Energy asserts that this “study evaluated effects of E-20 on ten legacy vehicles; initial results after 75,000 collective miles driven found no fuel-related failures or significant vehicle problems and documented reductions in regulated tailpipe emissions when using E-20 compared to E-0.”¹⁶ There must be some further concerns because RIT is conducting follow-up research this year.

The RIT Study found that five of the ten vehicles had increases in NO_x emissions with two of the five having NO_x emissions increases over 25 percent (RIT Study, p. 3). Although the NO_x emissions from all ten vehicles were below EPA standards, this is still significant.

In addition, “the evaluation plan is to retest emissions starting March 2009 on E20 to determine if any degradation has occurred, and then reconvert all 10 vehicles to gasoline. This will

¹⁴ *Op. cit.*, Growth Energy, p. 12.

¹⁵ Natural log transformation

¹⁶ *Op. cit.*, Growth Energy, p. 12.

provide additional emissions data and reveal any effects of changing fuels” (RIT Study, p. 3). The results from this follow-up analysis will provide more information.

“Vehicle performance will be quantified at the next set of emissions testing in March 2009. Horsepower and torque will be measured on each vehicle running E20 and gasoline to determine if there is a performance issue. Additional engine management parameters such as long-term trim will be collected to determine if the vehicle has enough range to compensate for the ethanol within the fuel” (RIT Study, p. 5). This follow-up is another clear indicator that this study is preliminary and incomplete.

“Long-term durability issues are still under study. We anticipate providing further research results by the end of 2009” (RIT Study, p. 6). Therefore, the results from this additional research will not be available in time for EPA’s decision on the E15 waiver petition.

Growth Energy’s summary of the RIT Study fails to mention a NOx emissions increase over 25 percent for two vehicles and the RIT’s plans for follow-up tests in 2009.¹⁷ This omission is serious. NPRA is confident that this will be noticed during the Agency’s review of the RIT Study.

6. “MCAR Study”

Use of Mid-Range Ethanol/Gasoline Blends in Unmodified Passenger Cars and Light Duty Trucks, prepared by Minnesota Center for Automotive Research (July 1999) (“MCAR Study”) is the sixth study. Growth Energy’s spin is that this “one-year study evaluated the effects of E-10 and E-30 in fifteen older vehicles in ‘real world’ driving conditions; found no effect on driveability or component compatibility from either fuel and found that regulated exhaust emissions from both fuels were well below federal standards.”¹⁸ This “conclusion” is misleading because there were emissions impacts.

Growth Energy did not mention any emissions increases. “No apparent trend in vehicle emissions was identified. Some emissions increased while others decreased. Almost all emissions were below federal standards” (MCAR Study, p. 8). “Almost” is not the same as Growth Energy’s assertion “that regulated exhaust emissions from both fuels were well below federal standards.” Growth Energy’s spin mistakenly leads one to think that every vehicle was below federal standards.

7. “Stockholm Study”

Blending of Ethanol in Gasoline for Spark Ignition Engines: Problem Inventory and Evaporative Measurements, prepared by Stockholm University et. al. (2004-05) (“Stockholm

¹⁷ *Op. cit.*, Growth Energy, p. 21.

¹⁸ *Op. cit.*, Growth Energy, p. 12.

Study”) is the seventh study relied on in this petition. Growth Energy states that this “study tested and compared evaporative emissions from E-0, E-5, E-10, and E-15 and found lower total hydrocarbon emissions and lower evaporative emissions from E-15 than from E-10 and E-5).”¹⁹ However, EPA should examine this report carefully.

Growth Energy cites the charts in Appendix 2 of the Stockholm Study.²⁰ However, these charts in Appendix 2 of the Stockholm Study are unreadable in black and white. Growth Energy’s conclusions may be accurate, but they can’t be verified. Still most noteworthy, these emission test results are for ‘diurnal’ emissions from a gasoline storage container with a hole and not from any vehicle fuel system. There is no evidence provided to suggest that these results of this test procedure are representative or a predictor of changes in vehicle diurnal evaporative emissions tests. Even so, the results show that adding E15 to the 63 kpa basefuel (which is similar to the RVP of Certification fuel) increases the diurnal emissions by about 26% which would make it difficult for any model vehicle to meet the evaporative emissions standard in the certification procedure. Also, there is no attempt in this evaporative emissions study to measure the evaporative emissions of a vehicle following a ‘hot soak’ cycle which is part of the vehicle certification procedure.

Section 7.1 of this report also raises concerns for the much higher deterioration rates for NOx emissions for a five vehicle study conducted in Australia. The NOx data in Table 7.1 show that the rate of increase of NOx emissions over 80,000 km (50,000 miles) for the vehicles operated on the E20 fuels is more than five times greater than that for the vehicles operated on the basefuel with no ethanol and that the NOx emissions for the E20 fuel increased by 190% over this 50,000 mile operation. Assuming this high deterioration factor is representative, it is doubtful that any vehicle model would still be able to meet the NOx emission standard over the useful life of the vehicle as required by law.

In addition, EPA should examine Appendix 1 of the Stockholm Study. Comparing test results for E15 versus E10 in Canada, it shows significant CO and HC emissions increases for the Silverado in Tables A1 and A2, and a significant NOx emissions increase for the Honda Insight in Table A3.

8. “Orbital Study”

Growth Energy has ignored a key study. Orbital Engine Company submitted a report dated November 2002 to Environment Australia, *A Literature Review Based Assessment on the Impacts of*

¹⁹ *Op. cit.*, Growth Energy, p. 12.

²⁰ *Op. cit.*, Growth Energy, p. 25.

a 20% Ethanol Gasoline Fuel Blend on the Australian Vehicle Fleet (“Orbital Study”). “Tailpipe NOx emissions increased by approximately 30% with a 20% ethanol blend compared with no increase for a 10% blend” (Orbital Study, p. 4). This report was not cited by Growth Energy and this finding should concern EPA.

B. Growth Energy’s application fails to meet EPA’s requirements for approving a CAA section 211(f) waiver.

Except for the 1978 Gasohol fuel waiver, the Agency guidelines for CAA section 211(f) fuel waivers for oxygenated fuels require that all fuels introduced into commerce must meet the volatility requirements of ASTM standard D 4814 for gasoline such as expressed in the Agency’s interpretation ruling for the fuel to be “substantially similar” to the certification gasoline used in 1975 or subsequent model year certification. In addition to meeting RVP specifications, the Agency’s interpretative ruling essentially requires that the waived fuel must also meet other gasoline volatility specifications for maintaining fuel operating and emission performance in vehicles, such as the meeting the 50% distillation minimum temperature and the minimum temperature for ‘vapor/liquid’ ratios equal to 20. The waiver application by Growth Energy appears to be silent on this ASTM requirement, and suggests that the E20 fuel emission performance might not be any worse than the commercial E10 fuel blends that are currently allowed under the Gasohol fuel waiver. However, to the best of our knowledge, it has never been demonstrated that E10 fuels currently introduced to commerce blended under the Gasohol waiver will perform substantially similar to any fuel or fuel additive utilized in the certification of vehicles, or 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 to which it has been certified pursuant to sections 206 and 213(a) of the Clean Air Act.

Essentially, per the Agency’s guidelines, the Administrator may only grant a waiver for a prohibited fuel or fuel additive if the applicant can demonstrate that the new fuel or fuel additive will not cause or contribute to engines, vehicles or equipment failing to meet their emissions standards over their useful life. Based on this criteria, making a comparison to emissions from Gasohol blends does not meet the Agency’s own criteria since Gasohol-waived fuel blends have not been demonstrated to meet these substantially similar requirements.

V. **GRANTING GROWTH ENERGY'S E15 PETITION IS NOT AN EFFECTIVE SHORT- OR MID-TERM SOLUTION TO AVOIDING THE "BLENDWALL."**

The current EPA limit for blends of ethanol with gasoline for use in conventional gasoline engines is E10. Blends in excess of E10 (such as E85) are classified by EPA as alternative fuels, not gasoline, and may only be used in alternative fuel vehicles, such as those with flexible fuel designs. Thus, under the Clean Air Act and EPA "sub sim" regulations, it is unlawful for mid-level ethanol blends, such as E12, E13, E15 or E20 to be sold in the United States for use in conventional (non-FFV) motor vehicles or non-road engines.

Ethanol is currently blended into about 75 percent of all of gasoline sold in the U.S., generally at a blend of 10 volume percent (although some gallons do contain ethanol blends of 5.7 or 7.7 volume percent due to blending, tax, or environmental restrictions in some areas of the country). The volumes of conventional and cellulosic biofuels mandated in EISA are so large that even blending all gasoline with 10 volume percent ethanol will be an insufficient compliance strategy. Absent a full E15 or E20 waiver when sufficient testing and analysis are completed, the use of E85 may have to be substantially expanded.

However, EPA should not rush approval of E15 in order to postpone the blendwall. The Agency should make a scientifically sound decision based on an analysis of the safety of mid-level ethanol blends for use in all gasoline-powered motor vehicles and engines in the United States. Safety is paramount.

Implementation of E15 could not be done without other rulemakings to modify Federal and State gasoline regulations. For example, changes in ASTM quality specifications would also be necessary prior to implementation. These required regulatory and specification modifications would take several years to complete, thus E15 would not be allowed in the short-term until the required changes were in place.

Growth Energy estimates that the annual ethanol market is 20.4 billion gallons if an E-15 blend is used in **all** U.S. gasoline.²¹ This is an increase over ethanol use in 2008 (9.6 billion gallons). However, Growth Energy's estimate of 20.4 billion gallons is an overstatement because it assumes that E-15 can be used in all RFG, older vehicles, boats and small engines.

The discussion below explains why other rulemakings would be necessary and why 20.4 billion gallons is an overstatement.

²¹ Growth Energy, Economic Impacts of Increasing the Ethanol Blend Limit, March 4, 2009, page 2.

Even if mid-level ethanol blends are approved by EPA, mid-level ethanol cannot be used in federal RFG or CaRFG3 without further rulemakings. Therefore, about one-third of U.S. gasoline would not be permitted initially to use mid-level ethanol blends. First, the complex model used for federal RFG VOC, NO_x and toxics compliance has limits at 40 CFR 80.45(f)(1)(i). The acceptable range for oxygen is 0.0 – 4.0 weight percent. The complex model is not used now (since 2007) for RFG NO_x compliance because of the Tier 2 sulfur standards (except for certain small refiners). The complex model will not be used for RFG toxics compliance beginning in 2011 because of the MSAT2 standard (except for small refiners who are exempt until 2015). EPA would have to conduct a rulemaking to revise the complex model to accommodate mid-level ethanol blends for the federal RFG VOC standard. Second, current EPA RFG product transfer document regulations in 40 CFR Part 80 do not recognize or allow mid-level ethanol blends.

Likewise, the complex model is not now used for conventional gasoline anti-dumping NO_x compliance and will not be used beginning in 2011 for conventional gasoline anti-dumping toxics compliance (except for certain small refiners). Until 2011, the complex model used for federal conventional gasoline toxics anti-dumping compliance has limits at 40 CFR 80.45(f)(1)(ii). The acceptable range for oxygen is 0.0 – 4.0 weight percent. There is not yet a retail gasoline sampling and testing program in conventional gasoline areas so that refiners can claim oxygen dilution on conventional gasoline batch reports, but negotiations are underway. EPA could conduct a rulemaking to revise the complex model to accommodate mid-level ethanol blends for conventional gasoline anti-dumping toxics compliance before 2011, but this is unlikely. Therefore, the use of E15 in conventional gasoline in 2010 would create problems for anti-dumping toxics compliance.

CARB completed CaRFG3 rule revisions in June 2007 and they will be effective beginning December 31, 2009. These amendments do not require more ethanol (currently most gasoline in California contains 5.7 vol% ethanol), but the amendments update the Predictive Model and mitigate permeation emissions from the addition of ethanol up to 10 vol%. CARB would need to conduct another rulemaking to amend the Predictive Model for mid-level ethanol blends.

It has been suggested that the Agency may be considering a partial waiver that would permit only newer vehicles – perhaps Tier 2 vehicles – to fuel with a mid-level ethanol blend. If EPA is considering only Tier 2 vehicles, then this partial waiver for E15 would be restricted to a small fraction of the current gasoline vehicle fleet.

The potential increase in ethanol consumption from a partial E15 waiver would be very small because, as explained above, E15 cannot be used in RFG, older vehicles, any boats and any small engines. The following discussion explains why this potential is small.

The fact that E15 cannot be immediately used in RFG (as explained above) removes one-third of U.S. gasoline.

E15 cannot be used in nonvehicular engines in this partial waiver scenario. Gasoline use in non-passenger cars and non-LDTs removes 11%.²²

About 60% of the new passenger cars and LDTs for MYs 2003-2007 were EPA Tier 2 control technologies because of the phase-in of the NOx emissions standards. This is significant because many newer vehicles during MY 2003-2007 were not designed to comply with all of the Tier 2 emissions standards. About 20% of the gasoline fleet are MY 2003-2007 vehicles. All new vehicles since MY 2007 are Tier 2 vehicles.

Therefore, 89% of gasoline is used in vehicles (versus small engines) x 66% of gasoline use in conventional gasoline (to remove the RFG volumes) x [[60% of the MY 2003-2007 cars are Tier 2 vehicles x 20% of the fleet are MY 2003-2007 vehicles] + [12% of the feet are full Tier 2 MY 2008-2010 vehicles]]. Or $[0.89 * 0.66 * [(0.6 * 0.2) + 0.12]] = 0.14$ These calculations show that only 14% of current gasoline use would qualify for a partial waiver.

$0.14 * 135 \text{ billion gallons gasoline in 2008} = 18.9 \text{ billion gallons of E15.}$

Five percent²³ of 18.9 billion gallons = 1 billion gallons.

Therefore, a limited E15 waiver could increase the annual market for ethanol by as little as one billion gallons. Even if you assume rulemakings to allow E15 in RFG, a limited E15 waiver could increase the annual market for ethanol by an additional 0.5 billion gallons. This would have a small effect on the timing of the blendwall problem with RFS2 mandates of 12.95 billion gallons in 2010, 13.95 billion gallons in 2011, and 15.2 billion gallons in 2012 (most of which will be ethanol). Given the time required to complete the necessary rulemaking and specification changes required to implement E15 in the marketplace, a partial waiver would not be effective in extending the blendwall.

²² This estimate of 11% includes recreational boats, aircraft, construction/mining equipment, agricultural equipment, motorcycles, snowmobiles, logging equipment, and lawn and garden equipment.

²³ Because E15 adds 5 vol% ethanol to E10.

VI. IMPLICATIONS FOR FEDERAL AND STATE FUEL PROGRAMS

This petition, if granted, would have wide-ranging implications on other federal and state fuels programs and, as mentioned above, would require a series of complex and lengthy rulemakings to harmonize these programs with the introduction of mid-level ethanol blends. From a practical perspective, any waiver to allow the use of mid-level ethanol blends will have significantly diminished effect until such regulatory changes are made. Hence, once sufficient testing is complete, if EPA decides to grant a full waiver to allow the use of mid-level ethanol blends, it must undertake a series of regulatory changes on a priority basis.

A. Federal Complex Model

The complex model used for federal RFG VOC, NO_x and toxics compliance has limits for specific parameters at 40 CFR 80.45(f)(1)(i). The acceptable range for oxygen is 0.0 – 4.0 weight percent. The complex model is not used now (since 2007) for RFG NO_x compliance because of the federal Tier 2 gasoline sulfur standards (except for certain small refiners). The complex model will not be used for RFG toxics compliance beginning in 2011 because of the MSAT2 standard (except for small refiners who are exempt until 2015). If EPA approved a mid-level ethanol waiver petition for applicability to federal RFG, then the Agency would have to conduct a rulemaking to revise the complex model to accommodate mid-level ethanol blends for the federal RFG VOC standard. This is an additional reason for the Agency to deny the mid-level ethanol blend waiver petition because there is inadequate data to revise the complex model for federal RFG.

Likewise, the complex model is not now used for conventional gasoline anti-dumping NO_x compliance and will not be used beginning in 2011 for conventional gasoline anti-dumping toxics compliance (except for certain small refiners). Until 2011, the complex model used for federal conventional gasoline toxics anti-dumping compliance has limits for specific parameters at 40 CFR 80.45(f)(1)(ii). The acceptable range for oxygen is 0.0 – 4.0 weight percent. If EPA granted the mid-level ethanol blend waiver petition for applicability to conventional gasoline before January 1, 2011, then the Agency would have to conduct a rulemaking to revise the complex model to accommodate mid-level ethanol blends for the federal anti-dumping toxics standard. This is yet another reason for the Agency to deny the mid-level ethanol blend waiver petition because there is inadequate data to revise the complex model for the federal anti-dumping toxics standard.

B. California Predictive Model

CARB has recently revised its CaRFG3 regulations to accommodate E10. These regulations do not include any flexibility for mid-level ethanol blends and would need to be revised if California decided to include mid-level ethanol blends for CaRFG3.

C. RFG PTD

EPA has extensive RBOB product transfer document (PTD) regulations in 40 CFR Part 80 and they do not recognize mid-level ethanol blends. If the Agency decided to approve the mid-level ethanol blend waiver petition for applicability to federal RFG, these RBOB PTD regulations would need to be revised.

D. One Psi RVP Waiver

CAA Section 211(h)(4) is applicable to conventional gasoline: “For fuel blends containing gasoline and 10 percent denatured anhydrous ethanol, the Reid vapor pressure limitation under this subsection shall be one pound per square inch (psi) greater than the applicable Reid vapor pressure limitations established under paragraph (1) [phase II RVP]; ...”

How would this apply to conventional gasoline/mid-level ethanol blends, such as E15? On the one hand, E15 contains 15 vol% ethanol, not 10 vol%. On the other hand, E15 contains 10 vol% plus some more. In this situation, Congressional intent is important. Congress clearly did not intend that this RVP waiver could be applicable to any other product than E10. Otherwise, this legislative provision would have been written differently.

EPA’s interpretation of this provision could have a significant impact on the ability of the petroleum industry to supply such mid-level ethanol blends. The implications of the unavailability of this one psi RVP waiver for E15 are that refiners will have to produce a lower RVP blendstock and that ethanol could not be splash-blended at 15 vol% with E0 in the summer.

E. State E10 Mandates

There are a few states with year-round E10 mandates, including Hawaii, Minnesota, Missouri, and Oregon; these E10 mandates often include exceptions for boats, off-road vehicles, motorcycles, aircraft, snowmobiles, small engines, or if the price of ethanol is higher than the price of unblended gasoline. In addition, there are a few states with E10 mandates and effective dates in the future, including Florida, Louisiana, Montana, Pennsylvania and Washington. How would these state regulations be affected by EPA’s approval of mid-level ethanol blends?

F. ASTM and State Gasoline Quality Specifications

There are a number of states, via regulatory language, that require gasoline-ethanol blends to meet ASTM D 4814 specifications. Recently, ASTM has adopted new volatility specifications applicable to gasoline-ethanol blends with maximum ethanol concentrations of 10 volume percent. ASTM would need to develop and adopt new specifications to account for higher ethanol volumes in the final gasoline blend. Without this modification, E15 could not be distributed in states requiring blends to meet the ASTM specification.

VII. CONCERNS ABOUT A PARTIAL OR CONDITIONAL WAIVER

The Agency is considering bifurcating the gasoline market by approving mid-level ethanol blends for use in some subset of the current or future gasoline-powered engine inventory.²⁴ In addition, EPA made this option clear in a written statement dated April 1, 2009 (p. 6) for the Subcommittee on Clean Air and Nuclear Safety of the Senate Environment and Public Works Committee:

A key issue is whether a waiver should be granted in whole or in a conditional or partial manner, such that the use of up to E15 would be restricted to a subset of gasoline vehicles or engines covered by the waiver provision, while other vehicles or engines would continue using fuels with blends no greater than E10. If a conditional waiver were granted, it may necessitate changes in the fueling infrastructure to accommodate different blend levels. New pump labeling requirements or other measures may be needed to ensure consumers use the appropriate fuel for their vehicles and equipment.

NPRA vigorously opposes a partial or conditional waiver to permit mid-level ethanol blends to be introduced into commerce. Our opposition is based on multiple factors, both practical and legal: (1) the very real likelihood of misfueling in a balkanized gasoline distribution system; (2) the strain that such a division would place on an already strained wholesale and retail gasoline delivery infrastructure; (3) there is virtually no retail infrastructure (dispensers, underground storage tanks and piping) currently in place that is certified to handle mid-level ethanol blends; and (4) EPA lacks the statutory authority under the Clean Air Act to grant such a partial or conditional waiver.

²⁴ “One potential outcome at the end of our process, after reviewing the entire body of scientific and technical information available to us, may be an indication that a fuel up to E15 could meet the criteria for a waiver for some vehicles and engines but not for others. Some vehicles and engines may be more susceptible to emission increases or durability problems that cause or contribute to these vehicles or engines failing to meet their emissions standards.” 74 Fed. Reg. 18,229 (April 21, 2009). Also see 74 Fed. Reg. 25,016 (May 26, 2009).

A. Misfueling

Depending on the results of testing, misfueling may be a significant problem. Mid-level ethanol blends could find their way into older vehicles, small engines and boats with potential consequences for personal safety, irreversible damage, emissions increases, mass consumer confusion, operational problems, a loss of the manufacturer's reputation, and warranty arguments. This would be likely if the portable gasoline container was not marked or labeled.

During the transition from leaded to unleaded gasoline, a physical barrier – the incompatibility of a large diameter leaded gasoline pump nozzle and a new car's small diameter filler neck – was necessary to prevent (or minimize) misfueling so that leaded gasoline did not cause a failure for the new vehicle's catalyst. Depending on the severity of adverse impacts determined by the testing of the legacy fleet with E15, a similar physical barrier may be necessary to reduce the possibility of using E15 in an older vehicle. The lack of such a physical barrier today could be a significant impediment if one is needed. EPA would need to resolve the dilemma with strong preventive measures or drop its consideration of a partial or conditional waiver to approve E15 for only vehicles built in the last few years.

There was no need for such a physical barrier when RFG was introduced because it had no effect on the pollution control equipment efficiency or performance of legacy vehicles.

The Agency may be considering the use of an electronic card to activate an E15 retail pump in order to address consumer misfueling. This electronic card would be mailed by the government to owners of qualifying newer vehicles. An E15 retail pump could not be activated without the insertion of this electronic card. This "George Orwellian" idea would not be an effective program to eliminate consumer misfueling for many reasons.

A consumer who owns a newer vehicle could use this card to activate an E15 retail pump for filling a portable container or an older vehicle. These cards would be stolen, sold on the internet, or loaned to friends to purchase E15 when it is cheaper than E10.

Other electronic devices could be considered but would need to be affixed permanently to the eligible vehicle. Such a solution could work for new vehicles perhaps, but retrofitting legacy vehicles would be problematic.

B. Distribution

If the Agency approves E15 for vehicles built in the last several years, but not for older vehicles, small engines or boats, then the petroleum industry would be expected to provide E15 for these newer vehicles and E0-E10 for other gasoline engines. This would present distribution

problems in terms of terminal storage capacity and retail station distribution by pump. Many terminals will not have enough excess tankage to support both products. In addition, retail stations with only two underground storage tanks would have a quandary as to what products to supply at specific octane ratings.

Underwriters Laboratories (UL) issued a statement on its view of ethanol blends and UL listed fuel dispensing devices.²⁵

The press release details UL's support of AHJs who decide to permit fuel dispensing devices, Listed to UL 87 (Power-Operated Dispensing Devices for Petroleum Products) and currently installed in the market, to be used with fuel blends containing a maximum ethanol content of 15 percent. UL stresses that fuel dispensing devices pumping this higher percentage of ethanol should be subject to regular inspection and preventative maintenance as specified by the dispenser manufacturer for the blend of fuel being dispensed ***because the potential for degradation of metals and materials used in a dispensing system increases as the percentage of ethanol increases.*** (emphasis added)

In its press release dated February 19, 2009:

UL stresses that existing fuel dispensers certified under UL 87 were for intended use with ethanol blends up to E10, which is the current legal limit for non-flex fuel vehicles in the United States under the federal Clean Air Act. However, data the company has gathered as part of the organization's ongoing research to investigate the impact of using higher ethanol blends in fuel dispensing systems supports that existing dispensers can be used with ethanol blends up to 15 percent. AHJs [Authorities Having Jurisdiction] are advised to consult with the dispenser manufacturer to confirm that the dispenser is compatible with the fuel to be dispensed. UL researchers found that using equipment certified to UL 87 to dispense ethanol blends with a maximum ethanol content of 15 percent should not result in critical safety concerns. However, the company stressed that dispensers pumping this higher percentage of ethanol should be subject to regular inspection and preventative maintenance as specified by the dispenser manufacturer for the blend of fuel being dispensed ***because the potential for degradation of the metals and materials (e.g., plastics, elastomers and composites) used in a dispensing system increases as the percentage of ethanol increases.*** UL determined that there is no significant incremental risk of damage between E10 and fuels with a maximum of 15 percent ethanol. This conclusion was reached after careful examination of the effects of varying levels of ethanol on components, said John Drengenberg, Consumer Affairs Manager for UL. We will continue to evaluate test and field findings, as well as the scientific literature, as it becomes available and make this

²⁵ "UL's support of AHJ's approving fuel dispensing equipment pumping fuels with a maximum of 15% Ethanol,"

<http://www.ul.com/global/eng/pages/offerings/perspectives/regulator/e85info/ahjupdate/>

information available to AHJs. AHJs are the local regulatory and approval entities that make the final determination of the acceptance of fuel dispensing devices. UL makes its research findings available to the AHJs for their consideration. Standard UL 87 is used by UL research and testing staff members to evaluate fuel dispenser systems and their component parts for use with motor fuels with ethanol blends up to E10. (emphasis added)

UL has many reservations. The lack of an unqualified UL endorsement is a clear sign that the Agency should not approve the application to permit E15 as gasoline at this time.

Even if UL does certify a complete E15 system in the future, this would not apply to the vast majority of retail equipment currently in place. Fire codes and insurance regulations will not permit the sale of mid-level ethanol blends in existing equipment.

C. EPA Lacks the Authority Under CAA Section 211(f)(4) to Issue a “Partial Waiver.”

EPA raises in the Waiver Notice the possibility of conditionally approving the use of E15 or lesser mid-level blends only for a limited subset of vehicles. 74 Fed. Reg. 18,230. If EPA were to develop such a “bifurcated fuels” program pursuant to a partial E15 waiver, the Agency would be at risk for a CAA section 307 judicial challenge alleging that the Agency’s interpretation of section 211(f)(4) is unreasonable and exceeds the Agency’s authority.

Whether EPA may grant a partial waiver under CAA section 211(f)(4) depends entirely upon the authority granted by that provision. The scope of EPA’s authority is determined using the familiar two-part test set forth in *Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984). *Chevron* Step One asks whether the statutory language is clear. If it is, then that is the end of the matter and EPA has no discretion to pursue a contrary agency interpretation. If, however, the language is ambiguous, *Chevron* Step Two requires a court to accept any “reasonable agency interpretation” of the ambiguous statute. *Chevron*, 467 U.S. at 842-43.

Applying this test, we believe that CAA section 211(f)(4) is clear on its face and provides EPA only with the authority to grant full waivers. Section 211(f)(4) authorizes EPA to grant a waiver if:

the applicant has established that such fuel or fuel additive or a specified concentration thereof, and the emission products of such fuel or 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

CAA § 211(f)(4) (emphasis added).

A plain reading of this provision prohibits the Agency from issuing partial waivers. To be eligible for a waiver, an applicant must show that the fuel or additive will not affect “any” emission control device found in the national fleet, not just a subset of controls found in certain vehicles or engines. Congress’s use of the word “any” with respect to “emission control device” suggests that the language is clear and not ambiguous. Indeed, the courts on many occasions have found the use of the word “any” in statutory language to indicate clear legislative intent. The Supreme Court has drawn upon the word “any” to give the word it modifies an “expansive meaning” when there is “no reason to contravene the clause’s obvious meaning.” *Norfolk S. Rwy. Co. v. Kirby*, 543 U.S. 14, 31-32 (2004). The Court also has read the word “any” to signal expansive reach when construing the Clean Air Act. In *Harrison v. PPG Industries, Inc.*, 446 U.S. 578 (1980), the Court interpreted the phrase “any other final Action” to have “no uncertainty.” 446 U.S. at 588. “[I]n the absence of legislative history to the contrary,” the Court held that the statutory phrase “must be construed to mean exactly what it says, namely, *any other* final action.” *Id.*

In addition, the term “emission control device or system” which follows “any” in section 211(f)(4) cannot be interpreted to mean “some but not all devices or systems,” because in doing so the use of “any” loses all meaning and violates principles of statutory construction. *See New York v. EPA*, 443 F.3d 880, 887 (D.C. Cir. 2006) (“EPA’s position is that the word ‘any’ does not affect the expansiveness of the phrase ‘physical change’; it only means that, once the agency defines ‘change’ as broadly or as narrowly as it deems appropriate, everything in the agency-defined category is subject to NSR. [But reading] the definition in this way makes the definition function as if the word ‘any’ had been excised from section 111(a)(4); there is virtually no role for ‘any’ to play.”). Based on this case law, EPA cannot pick and choose which emission control devices will operate using E15, but rather must grant a waiver only if all devices will not be impacted by the fuel.²⁶

Therefore, were EPA to proceed with a partial E15 waiver, there would be a viable challenge pursuant to CAA section 307 that EPA exceeded its statutory authority and hence that the decision was invalid. This is because EPA would have wrongly interpreted an otherwise clear statutory provision, in violation of *Chevron* Step One. Since the statutory language is clear, there is no need to consider whether the interpretation is reasonable under *Chevron* Step Two.

²⁶ It is notable that such devices now explicitly include both on-road and nonroad vehicles and engines pursuant to amendments to section 211(f)(4) enacted by the Energy Independence and Security Act of 2007 (Pub. L. 110-140). In amending section 211(f)(4), Congress expanded the types of devices for which an applicant must establish that a fuel or fuel additive will not cause or contribute to a failure while retaining the prohibition of causing or contributing to the failure of “any” device.

VIII. EPA SHOULD NOT ISSUE A REVISED INTERPRETATION OF “SUBSTANTIALLY SIMILAR.”

The Agency has announced an interpretation of gasoline characteristics that is “substantially similar” to gasoline used in 1975 or subsequent model year certification. EPA has revised its interpretive rule, such as in 1991 to grant a request to increase the allowable oxygen content for “substantially similar” unleaded gasoline from 2.0 to 2.7 wt% for blends of aliphatic alcohols and/or ethers.²⁷

In its cover letter dated March 6, 2009, Growth Energy acknowledged “the efforts underway between EPA and USDA to provide short-term relief through a substantially similar waiver for E12 or E13. The EPA is free to utilize the data contained herein to support an immediate increase to E12 or E13 while studying the merits and data relevant to the 211(f)(4) waiver up to E15 within the 270 day timeframe.”

There is insufficient data for the Agency to revise its “substantially similar” definition to include mid-level ethanol blends (even those close to and slightly higher than E10, such as E12) because the Agency cannot conclude, until the ongoing research is completed, that emissions properties will be substantially similar to unleaded gasoline in vehicle certification fuel.

Allowing up to 4.5 wt% oxygen would accommodate 12 vol% ethanol (74 Fed. Reg. 25,019; May 26, 2009). This would be a substantial change in the interpretation of sub sim (maximum 2.7 wt% oxygen content for aliphatic alcohols) and, therefore, EPA could not immediately revise sub sim to include E12 or E13. The Agency could only amend the current sub sim interpretative rule with a substantial change through notice and comment.

IX. CONCLUSION

For the reasons stated above, NPRA urges EPA to reject the petition filed by Growth Energy to approve E15 as gasoline.

²⁷ <http://www.epa.gov/otaq/regs/fuels/additive/jan91.pdf> 56 Fed. Reg. 5,352 (February 11, 1991) For more information on “substantially similar.”
<http://www.epa.gov/otaq/additive.htm>

March 26, 2009

The Honorable Steven Chu
Secretary of Energy
U.S. Department of Energy
Washington, D.C. 20585-1000

The Honorable Lisa Jackson
Administrator
U.S. Environmental Protection Agency
Washington, D.C. 20460

The Honorable Tom Vilsack
Secretary of Agriculture
U.S. Department of Agriculture
Washington, D.C. 20250

The Honorable Carol Browner
Asst. to the President for Energy & Climate Change
The White House
Washington, D.C. 20500

Dear Secretaries Chu and Vilsack, Administrator Jackson and Mrs. Browner:

The undersigned diverse group of business, environmental, taxpayer, free-market and public health groups opposes any administrative or legislative efforts to increase the current cap on the amount of ethanol permitted to be blended into gasoline until independent and comprehensive testing has been completed that indicates that such mid-level ethanol blends (whether E12, E15 or E20) will not pose a risk to all gasoline-powered engines, to public health, to the environment and to consumers.

To quote from President Obama's March 9, 2009 Memorandum on "Scientific Integrity":

"Science and the scientific process must inform and guide decisions of my Administration on a wide range of issues, including improvement of public health, protection of the environment, increased efficiency in the use of energy and other resources, mitigation of the threat of climate change, and protection of national security."

Some have advocated that Congress or the Environmental Protection Agency ignore President Obama's Memorandum, avoid the safeguards built into Section 211(f) of the Clean Air Act (safeguards that were just strengthened by Congress in 2007), and approve mid-level ethanol blends before comprehensive testing programs on these blends have been completed by qualified and independent stakeholders, such as the Department of Energy and the Coordinating Research Council. We collectively, and strongly, oppose such an ill-considered approach as contrary to scientific integrity and potentially harmful to our environment, public health and consumers.

Sincerely,

Alliance for Worker Freedom
American Bakers Association
American Beverage Association
American Conservative Union
American Lung Association
American Meat Institute
American Sportfishing Association

Americans for Tax Reform
Americans for the Preservation of Liberty
Association of International Automobile Manufacturers
Association of Marina Industries
Boat Owners Association of the United States
Center for Auto Safety
Clean Air Task Force
Competitive Enterprise Institute
Council for Citizens Against Government Waste
Earthjustice
Engine Manufacturers Association
Environmental Working Group
Friends of the Earth
Grocery Manufacturers Association
Hispanic Alliance for Prosperity Institute
The Hispanic Institute
International Dairy Foods Association
International Snowmobile Manufacturers Association
National Center for Public Policy Research
National Chicken Council
National Council of Chain Restaurants
National Marine Manufacturers Association
National Petrochemical and Refiners Association
National Restaurant Association
National Taxpayers Union
National Turkey Federation
Natural Resources Defense Council
Outdoor Power Equipment Institute
Personal Watercraft Industry Association
Public Citizen
Sierra Club
Small Business & Entrepreneurship Council

Snack Food Association

Taxpayers for Common Sense

Alabama Poultry and Egg Association

California Poultry Federation

Georgia Poultry Federation

Indiana Poultry Federation

Iowa Turkey Federation

Minnesota Turkey Growers Association

Mississippi Poultry Association

North Carolina Poultry Federation

Poultry Federation of Arkansas, Oklahoma and Missouri

Virginia Poultry Association

Butterball, LLC

FarmEcon LLC.

Gold'n Plump Poultry

Pilgrim's Pride

Program Summary

Topics of Interest	7	8	9	10
Durability				
Durability Testing (DT)				
Catalyst Durability Aging				
Evap Emissions Systems				
Base Engine				
Fuel system, Damper, Lvl sen, Mat'l Compat.				
Catalyst Durability Aging				
Powertrain Systems Cold Operation (MSAT NMHC & SULEV)				
Vehicle Emissions, Late Models				
Vehicle Emissions, Older Models				
Emissions - DOE will monitor				
Veh Perf & Emissions - DOT sponsored				
Evap Emissions, Permeation and Durability				
Evap Emissions (EV)				
Driveability (DR)				
Powertrain Systems Cold Operation (MSAT NMHC & SULEV)				
Vehicle Emissions, Late Models				
Driveability of 20 FFVs & non-FFVs				
Driveability of 80 vehicles - DOE will monitor				
Veh Perf & Emissions - DOT sponsored				
Base Engine				
Permeation of Fuel System				
Fuel system, Damper, Lvl sen, Mat'l Compat.				
Elastomer, Plastic & Metals - DOE will monitor				
Emissions/Air Quality Monitoring				
On-Board Diagnostics				
Key:				
Comprehensive				
Comprehensive in development				
Preliminary, partial or screening				
Gap				
Note: 2003 Australian Orbital Study includes preliminary data for catalyst durability, emissions tests & materials compatibility.				
★ Cited by Growth Energy Petition, notation added by Auto Alliance				

★ Cited by Growth Energy Petition, notation added by Auto Alliance