April 22, 2013

Air and Radiation Docket
Docket ID No. EPA-HQ-OAR-2013- 0120
U.S. Environmental Protection Agency
Mailcode: 6102T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
RE: Comments to "Draft Guidance for Industry and Staff: E85 Flexible Fuel Vehicle Weighting Factor for Model Years 2016-2019 Vehicles under Light-duty Greenhouse Gas Emissions Program"

Dear Sir or Madam:

On behalf of the more than 38,000 members of the National Corn Growers Association, we appreciate the opportunity to comment on the draft Guidance letter. In addition to our state member organizations, these comments are a reflection of discussions with representatives from other agricultural organizations including seed and technology companies and equipment manufacturers. We are staunch advocates of the Renewable Fuel Standard and believe Flexible Fuel Vehicles are vitally important to achieving the goals set out in this statute. In short, we believe the Agency's proposal does not adequately incentivize the automobile manufacturers to continue building FFVs after the 2016 model year.

The RFS is a Success

Since its implementation in 2005 and subsequent revision in 2007, the Renewable Fuel Standard has been a success. The RFS has increased national energy security by creating a market for *renewable* fuel as a substitute for non-renewable petroleum-based fuel, thereby accelerating the nation's progress toward a low greenhouse gas (GHG) emissions economy. In addition, the RFS has contributed to the reduction of petroleum imports. These are major goals of both the Energy Independence and Security Act and the 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards (2017 GHG/CAFE Standards). This program has and will continue to have an overall positive impact on the US economy, our national security and the nation's health. US Agriculture and the ethanol industry are committed to the goals of the Energy Independence and Security Act and meeting the RFS2 GHG emission reductions by producing 36 billion gallons of *renewable* biofuels by 2022.

Since Congress passed the RFS2 in 2007, biofuel production has more than doubled. The overwhelming majority of this biofuel has come from corn starch ethanol. In response to the

demand, US farmers increased the planted acreage of corn. Despite the record-setting drought of 2012, corn starch ethanol production is still on track to produce the RFS2 projected volume of 13.8 billion gallons of conventional biofuel for 2013

The RFS2 made the assumption that by 2022, corn ethanol, as compared to gasoline, would reduce GHG emissions by at least 20%. However, this is true today. Improvements in agriculture and ethanol production practices since 2007 have decreased GHG emissions from corn and ethanol production leading to practices with significantly greater reductions compared to petroleum. A study from Yale University's Journal of Industrial Ecology indicates that ethanol currently reduces GHGs by 48% to 59% as compared to gasoline, making it one of the most cost-effective methods for reducing GHGs in transportation fuel.[1] Multiple other sources have documented improvements made in agriculture and corn ethanol production practices.[2,3]

Misalignment Between 2017 GHG/CAFE Standards and RFS

EPA expected that increased levels of ethanol, as a result of the RFS2, would be consumed as E85 (fuel blended with up to 85% ethanol) for flex-fuel vehicles (FFVs). Automobile manufacturers were encouraged to build these vehicles through incentives, as outlined in the Energy Policy and Conservation Act. In its 2010 planning, the EPA calculated that one in four retail fuel stations (reasonable access) would be recommended to provide the E85 to FFVs.[4] Additionally, the EPA outlined in its Regulatory Impact Analysis for the Renewable Fuel Standard, a sustained FFV annual production volume level of 50% would be required from American automobile manufacturers through 2022 to consume the mandated ethanol. Today, there are approximately 14 million FFVs on the road and approximately 3,000 of the 165,000 retail fuel stations offer E85.

In 2012, the 2017 GHG/CAFE Standards effectively eliminated CO_2 reduction incentives for FFVs beginning in 2016. Instead, these standards emphasize GHG reduction through the use of non-liquid fuel sources, specifically, electricity or natural gas. These fuels have limited infrastructure in place and the required infrastructure is significantly more expensive than E85. The anticipated additional cost for these automobiles is tens or even a hundred times higher than FFVs. The credits to build these were based on the claim that they would produce lower GHG

[1] Liska, A. J., et al., Improvements in Life Cycle Energy Efficiency and Greenhouse Gas Emissions of Corn Ethanol, J. of Industrial Ecology, volume 13 (1), January 21, 2009. http://onlinelibrary.wiley.com/doi/10.1111/j.1530-9290.2008.00105.x/pdf.

[2] Wang., M. Q., et al., (2011) Energy and Greenhouse Gas Emission Effects of Corn and Cellulosic Ethanol with Technology Improvements and Land Use Changes, Biomass and Bioenergy 35 (5): 1885-1896.

[3] Mueller, S., et al., (2013) 2012 Corn Ethanol: Emerging Plant Energy and Environmental Technologies. http://www.erc.uic.edu/staff/smueller.htm.

[4] Federal Register Part II, 40 CFR Part 80. Regulation of Fuels and Fuel Additives: Changes to RFS Program; Final Rule.

emissions. This is misleading. In the accounting for the GHG emissions, EPA only considers emissions from the tailpipe. Electric cars are powered by electricity and 42% of the nation's electricity is generated by coal, a major contributor to the nation's GHG emissions and thus this should be included in the calculation as well. Cars that run on natural gas provide a number of challenges not the least of which are extremely limited existing fueling infrastructure, very high cost of additional infrastructure, and the use of natural gas (methane) that is not renewable (extracted from the Earth along with petroleum). Thus, in 2012, a complete switch in the focus of automobiles and infrastructure occurred from a system designed to decrease GHG emissions using a *renewable* feedstock to one that increases GHG emissions using non-renewable feedstock.[5]

On March 15, 2013, EPA released a draft Guidance letter that outlined the proposed fuel vehicle weighting factor; what automobile manufacturers use to determine incentives for FFV production. In numerous preliminary discussions, the Agency indicated that attractive incentives would be provided for the automobile manufacturers to continue building FFVs. However, this was not the case. Instead, the new system with the proposed weighting (F) factor constitutes an approximate 97% reduction in benefit for building an FFV relative to the EPCA calculation, based on EPA's example in the draft. Increasing the use of E85 and the availability of FFVs should be concurrent goals as both are integral to the implementation of the Renewable Fuel Standard, but the proposed weighting factor sets them at odds with each other. This is disappointing and surprising given that one system (RFS2) was put into place in 2007 and then five years later a complete change in focus was mandated through the 2017 GHG/CAFE Standards. Setting too low an F factor will most likely result in a dramatic reduction or possible elimination of FFV production. The weighting factor should be set high enough to incentivize continued production of flex fuel capable vehicles by automobile manufacturers. These incentives should also be high enough to interest automobile manufacturers that currently produce few FFVs to begin production at high rates. Further, these incentives should be made certain by EPA fixing the 2017-2019 values in its final Guidance.

We previously expressed our concerns to EPA about the inconsistency between the Renewable Fuel Standard (RFS) and the 2017 GHG/CAFE Standards[6] citing: 1) No mention in the Standards of the role of *renewable* fuels in achieving the required GHG reductions; 2) Credits and incentives arbitrarily favor electric and natural gas vehicles; FFV production is discouraged since the maximum CAFE credit is reduced from 1.2 mpg in 2014 to zero after 2019. Many credits are

[5] GREET 2012 revision 2.

[6] Comments of the National Corn Growers Association, the Illinois Corn Growers Association and the Minnesota Corn Growers Association on "2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards," Proposed Joint Rule, published at vol. 76, pg. 74,854 (December 1, 2011), dated February 10, 2012.

provided in the rule that can be applied by vehicle manufacturers toward achieving the fuel economy and GHG emission requirements. Nearly all of these credits either directly or indirectly provide incentives for the production of electric vehicles including hybrid electric (HEV), plug-in hybrid electric (PHEV), fuel cell electric (FCEV), battery electric (BEV) or natural gas vehicles. While these credits advance laudable goals, our President's 'all of the above' energy policy requires that favorites not be picked. Leaving out credits for a liquid fuel system using ethanol in cost-effective vehicles does not make economic and environmental sense for today and the near term for the nation.

Guidance Calculations

The following outlines our evaluation and recommendation for alternative calculations in the final Guidance. Under section 4.1 in the Guidance letter, analytical methods to determine the F factor for MY2016 vehicles were presented. Four items were evaluated including:

1. Total motor gasoline demand
2. Total volume of ethanol
3. The form of ethanol-gasoline blend distributed to the consumer
4. The number of vehicles which consume E85

Volumes of Ethanol

We do not agree with several of the assumptions made for the F factor calculations, specifically with respect to items 2-4 listed above. In the draft Guidance letter, EPA used two forecasts for the total volume of ethanol usage in the US. One of these forecasts was based on a mid-level control case and projects ethanol volumes very short of the mandated 36 billion gallons of biofuel in the RFS2. The mid-level control case also assumes most of the advanced biofuel will be biodiesel and renewable diesel, rather than ethanol. The second case is lower than the first with estimated ethanol levels at 16.4 billion gallons by 2022, significantly less than the RFS2 mandate.

Two ethanol usage projections were neglected in the analysis. The first is that used by the Alliance of Auto Manufacturers in their comments on the 2017 GHG/CAFE Standards. The method used by the Auto Alliance projected that the RFS2 mandate would be fulfilled and used EIA to predict the proportions of ethanol, biodiesel and "other biomass derived liquids." Using the method outlined in the Auto Alliance comments and the same Table 11 referenced by EPA in its Guidance, the prediction for 2022 was **31.3 billion gallons of ethanol**, along with 2.4 billion gallon of biodiesel and 1.1 billion gallons of other biomass derived liquids. The second neglected forecast is from EPA's own published analysis (Cook et al., 2011, *Atmospheric Environment*, 45: 7714-7724), which predicts **34 billion gallons of ethanol** in 2022. In this study, EPA also predicts that 20 billion of the 34 billion gallons would be used as E85. We object

to the assumptions utilized in the two cases EPA chose for the total volume of ethanol. We believe that any assumption other than that outlined in the RFS2, namely 36 billion gallons of biofuel by 2022, is incorrect and further believe that most of the biofuel used to meet the RFS2 will be ethanol as predicted by both EPA and EIA.

Additionally, a recent study by the World Agricultural and Economic Environmental Services (WAEES), using their global agricultural and biofuels partial equilibrium modeling system, analyzed several scenarios for possible futures of the RFS2.[7] These scenarios looked at a variety of options around the mandates required by the RFS2, including relaxing the cellulosic and/or advanced mandates while maintaining the overall goal of 36 billion gallons of biofuel by 2022. The results of the scenarios indicate that the agricultural sector is capable of producing 36 billion gallons of biofuel by 2022 without significant increases in commodity prices. The feed stocks supporting ethanol's portion of this production (estimated to be 85-88% of the 36 billion gallons per year) are likely to be focused on corn, sugarcane, sorghum with smaller amounts of cellulosic ethanol from corn stover, corn kernel fiber, switchgrass, and miscanthus. The analysis indicated that biodiesel production will also expand by capturing feed stocks from corn oil extracted from distillers grains, used vegetable oils, animal fats and, to a lesser extent, soybean oil and rapeseed oil. Clearly, there is no reason to assume that anything less than the 36 billion gallons of biofuel will be available by 2022 and that this fuel will be predominantly ethanol.

Ethanol Blend Amounts

The distribution of fuel between E10, E15 and E85 was modeled by EPA. One approach assumes that only E10 and E85 will be used to distribute ethanol while the other uses E10, E15, and E85; EPA chose to use both, giving each equal weight. Due to the fact that E15 does not receive a summertime waiver in conventional gasoline much of the E15 sold in summer months will likely be for FFV vehicles only. Retailers would change their warning labels between summer and winter seasons because of the waiver and lack or expense of blend stock. We believe that since the integration of E15 into the market is still under establishment, all ethanol beyond what is used in E10 should be considered as used in E85 (flex fuel).

Size of FFV Fleet

In the analysis for the amount of fuel consumed by the E85 capable vehicle population, EPA initially discusses a projection for FFV production contained in the AEO 2013ER Table 57 that forecasts fairly high FFV production rates. Although EPA uses AEO 2013ER ethanol production forecasts, the Agency chose not to use the analogous FFV production forecasts in their own FFV production models. Instead, EPA develops new three scenarios for future FFV production. Of these three, EPA explains the upper scenario of production which predicts FFV production

[7] Summary of comments from Dr. John Kruse, Principal and Director of Quantitative Analysis, WAEES regarding RFS2 scenario analysis (2012) prepared for Monsanto.

reaching 50% in 2020 and then holds steady. The origins of the middle 38% and lower 25% FFV production models are not explained in the draft Guidance letter. We propose that Table 57 from the AEO 2013ER is a better lower forecast than the unsupported 25% forecast actually used. AEO 2013ER forecast of FFV sales better reflects "…the phasing out of CAFE credits for their sale and limited demand from consumers that reduce their market penetration."[8] Even if EPA were to set the F factor at 1.0, this would still be a greater than 90% reduction in the benefit for building FFVs, so a level that better reflects the build rates of the mid-2000's is appropriate for a lower bound of FFV production. The middle production level would more appropriately be the average of EPA upper and the AEO lower scenarios.

Regarding the development of EPA's upper FFV production scenario, EPA supports their high volume forecast by predicting that foreign manufacturers will produce FFVs at a 40% rate, in part due to the value of the CO_2 reduction that would result from using the 0.2 F factor. However, EPA's own data (Table 1 of the Guidance letter) shows that major foreign manufacturers such as Mazda, Nissan, Toyota and VW are not maximizing the EPA and NHTSA credits long available under the much more generous current model which uses the 0.15 petroleum displacement factor. EPA points to the increasing stringency of the 2017 GHG/CAFE Standards as an incentive to build, yet as *Automotive News* recently published (April 8, 2013), many manufacturers have accumulated fuel economy credits that will reduce the incentive to obtain the compliance benefit. Thus, we view EPA's position that a 97% reduction in the benefit for building FFVs will result in a ten-fold increase in FFV sales by foreign manufacturers as unlikely. It may be better to characterize this high FFV production scenario as one that represents the effects of widespread demand for FFVs at vehicle dealerships.

Development of the F factor

EPA developed 12 alternative forecasts for the F factor, averaged them, and then rounded down to the nearest tenth of a percent. The 12 scenarios used two ethanol production curves, two levels of ethanol in gasoline and three prospective FFV fleets. A better approach would be to use all four of the ethanol forecasts cited above, i.e., adding the model that the Auto Alliance proposed and the ethanol volumes used in Cooke et al.[9] The AEO 2013ER Table 57 should be the lower forecast for the FFV fleet and the middle forecast should be an average of this model and the upper forecast that was developed by EPA. This would give 24 different models, and their average would be a more robust forecast. A final step to improve the analysis would be to eliminate the scenarios using E15 as a pathway to distribute ethanol, leaving 12 models to evaluate.

[8] AEO 2013ER p. 3

[9] Cook, R., et al., (2011), Air Quality Impacts of Increasing Use of Ethanol Under the US Energy Independence and Security Act, vol. 45 (40): 7714-7724.

We respectfully request that EPA rerun its analysis using four ethanol production forecasts rather than two. In addition, the models for the number of vehicles that consume E85 should be changed to include the AEO forecast as the lower model and the middle model should be an average of the EPA upper and the AEO lower scenarios. Finally, the models should include only E10 and E85 as ways to distribute ethanol. These changes will provide a more robust and accurate analysis and should be the basis for EPA's average F factor to be placed into the final Guidance.

Summary

It is counter to the intent of the Energy Independence and Security Act (EISA) of 2007 to diminish the supply of FFVs by providing insufficient incentives, phasing out FFV credits and shifting all credits and incentives to electric vehicles and natural gas technologies.[10] We have an historic opportunity to reduce GHG emissions and petroleum consumption and cannot miss it due to a shortage of end-use equipment which could easily be avoided through maintaining a consistent and commonsense energy policy. Until customer demand for FFVs materializes, it is imperative that EPA ensure the continued production of FFVs by American automobile manufacturers and effectively encourage foreign automobile manufacturers to commence volume production.

We have outlined several concerns with the proposed Guidance which we believe could best be addressed through a face-to-face meeting prior to finalizing the rule. We further believe that modifications in these areas would be more cost-effective and more consistent with EISA in addressing GHG emissions, *renewable* fuel use and energy security. We believe sufficient incentives should be restored through the entire term of the RFS2 and 2017 GHG/CAFE Standards to insure at least 50% production of FFVs from all automobile manufacturers.

Sincerely,

National Corn Growers Association
Alabama Soybean and Corn Association
Illinois Corn Growers Association
Indiana Corn Growers Association
Kansas Corn Growers Association
Michigan Corn Growers Association

[10] "Congress expressed concern at a hearing in May 2011 that EPA chose to effectively eliminate FFV incentives after 2015 in the Supplemental Notice of Intent for the 2017 to 2025 GHG/CAFE standards." Taken from Comments of the National Corn Growers Association, et al. on "2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards", February 10, 2012.

Missouri Corn Growers Association
Nebraska Corn Growers Association
New York Corn and Soybean Growers Association
Ohio Corn and Wheat Growers Association
Maryland Grain Producers Association