April 7, 2013

VIA ELECTRONIC FILING
EPA Docket Center, EPA West Building (Air Docket)
Attention: Docket ID No. EPA-HQ-OAR-2012-0546
U.S. Environmental Protection Agency
Mail Code: 2822T
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Washington, DC 20460

VIA EMAIL
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Dear Ms. MacAllister:

The Renewable Fuels Association (“RFA”) is pleased to submit the following comments in response to the U.S. Environmental Protection Agency’s (“EPA”) notice of proposed rulemaking regarding 2013 Renewable Fuel Standard (“RFS”) required volumes. 78 Fed. Reg. 9282 (February 7, 2013).

RFA is the leading trade association for America’s ethanol industry. Its mission is to advance the development, production, and use of ethanol fuel by strengthening America’s ethanol industry and raising awareness about the benefits of renewable fuels. Founded in 1981, RFA serves as the premier meeting ground for industry leaders and supporters. RFA’s 300-plus members are working to help America become cleaner, safer, energy secure, and economically vibrant.

We offer the following specific comments in response to EPA’s proposal for 2013 RFS standards:

1. **EPA should revise its proposed 2013 cellulosic biofuel standard to better correspond with current expectations of actual 2013 cellulosic biofuel production volumes.**

RFA agrees with EPA that the cellulosic biofuel industry “...continues to make significant advances in its progress towards large scale commercial production.” Despite this progress, production capacity remains well below the levels originally envisioned by the statute. EPA originally proposed to waive the 2013 standard by 98.6% from its statutory level of 1 billion ethanol-equivalent gallons (eeg) to
14 million eeg based on the expectation that two facilities—KiOR and INEOS Bio—would produce this amount of cellulosic biofuel in 2013. The 14 million eeg figure is predicated in part on the assumption that cellulosic biofuel volumes would be available from these two facilities in the first quarter of 2013. However, because EPA Moderated Transaction System (EMTS) data show that no cellulosic biofuel volumes or RINs were generated in January and February 2013\(^1\), we encourage EPA to consider reducing the 14 million eeg proposed standard to better coincide with the latest projections of actual production for the KiOR and INEOS Bio facilities.

Some representatives from the oil and gas industry continue to suggest that EPA should consider basing annual cellulosic biofuel standards on backward-looking actual demonstrated production volumes. RFA strongly urges EPA to reject this concept. Basing annual cellulosic biofuel requirements on past production levels would entirely ignore volumes of cellulosic biofuel production scheduled to come online during the year. Such an approach would discourage project developers from expeditiously completing construction and commissioning of new cellulosic biofuel facilities.

2. **EPA should partially reduce the 2013 advanced biofuel standard, as sugarcane ethanol imports are unlikely to be available in sufficient volumes to meet the requirement.**

EPA is proposing to set the 2013 advanced biofuel standard at 2.75 billion eeg (the applicable volume specified in the statute). EPA estimates that biomass-based diesel will contribute 1.92 billion eeg (1.28 billion gallons) toward meeting the requirement, while other domestic advanced biofuels will add another 150 million eeg. We agree that biomass-based diesel can likely account for 1.92 million eeg, but we believe EPA’s estimate of the contribution from other domestic advanced biofuels may be overly aggressive.

EMTS data show that domestic advanced biofuels (other than biomass-based diesel) accounted for 56.1 million D5 Renewable Identification Numbers (RINs) in 2011 and 51.2 million D5 RINs in 2012.\(^2\) Further, just 5.96 million D5 RINs were generated by domestic advanced biofuel producers in January and February 2013. While we agree that 2013 domestic advanced biofuel production is likely to grow beyond 2012 levels, we believe EPA’s estimate of 150 million eeg is too aggressive. Based on a review of domestic facilities (other than biodiesel facilities) currently registered to generate D5 RINs, we believe 100 million eeg is a more appropriate estimate of likely domestic production in 2013. We believe this is a safer projection, but it still assumes considerable growth in the domestic advanced biofuel market. Indeed, 100 million eeg would be roughly twice the amount domestic advanced biofuel production realized in each of the past two years.

After accounting for expected production of biomass-based diesel, other domestic advanced biofuel, and cellulosic biofuel, EPA estimates 666 million gallons of imported sugarcane ethanol will be needed to meet the 2013 advanced biofuel standard. If EPA has overstated the contribution of

\(^1\) EPA. “RFS2 EMTS Information Data.” [http://www.epa.gov/otaq/fuels/rfsdata/index.htm](http://www.epa.gov/otaq/fuels/rfsdata/index.htm)

\(^2\) EPA. “RFS2 EMTS Information Data.” [http://www.epa.gov/otaq/fuels/rfsdata/index.htm](http://www.epa.gov/otaq/fuels/rfsdata/index.htm)
non-biodiesel domestic advanced biofuel production, as we suggest above, then the need for sugarcane ethanol imports would be closer to 716 million gallons. It should be noted that 666-716 million gallons would far surpass the amount of ethanol Brazil has exported to the U.S. in any single year in the past. Further, Brazil has not been a reliable supplier of ethanol to the U.S. in the past, as imports have been highly variable from year to year (this fact is underscored by Figure III.B.2-2 in EPA’s proposal).

For the specific reasons described below, RFA does not believe 666-716 million gallons of sugarcane ethanol imports will be reasonably available in 2013.

- Increase in Brazil’s mandatory blend rate from 20% to 25%: On Jan. 30, 2013, Brazil’s Minister for Mines and Energy confirmed that the country’s mandatory ethanol blend rate would increase from 20% to 25%, effective May 1, 2013. This policy change is expected to increase Brazil’s domestic demand for ethanol by 800 million to 1 billion gallons annually—an amount considerably larger than the volume of U.S. ethanol imports needed to meet the advanced biofuel standard (Figure 1). The increased blend rate is widely expected to dramatically reduce Brazil’s exportable surplus. For example, in its March 2013 “Biofuels Baseline,” the Food and Agricultural Policy Institute (FAPRI) projects U.S. ethanol imports in the 2013/14 marketing year will total just 353 million gallons.³

![FIGURE 1. BRAZIL DOMESTIC ETHANOL CONSUMPTION, 2009-2012](http://www.fapri.missouri.edu/outreach/publications/2013/FAPRI_MU_Report_02_13.pdf)

- **Slow pace of U.S. sugarcane ethanol imports year-to-date**: Ethanol import data released weekly by the Energy Information Administration (EIA) show that imports in the first quarter of 2013 are far behind the pace that would be necessary to meet an annualized need of 666-716 million gallons (Figure 1). EIA data show that U.S. ethanol imports through March have totaled just 88 million gallons, or 6.8 million gallons per week.\(^4\) This equates to 352 million gallons on an annualized basis. To reach 666 million gallons for the year, weekly imports for all of 2013 need to average 12.8 million gallons—nearly twice the weekly average so far this year. Further, it is not clear from the weekly ethanol import data whether all of the imports to date are comprised of sugarcane ethanol produced in Brazil by facilities registered under the RFS program for D5 RIN generation. EMTS data shows a total of 78.8 million D5 RINs were generated on imported biofuels in January and February 2013, implying an annual total of 472.8 million gallons of imported advanced biofuels.

![FIGURE 2. 2013 WEEKLY U.S. ETHANOL IMPORTS & AVERAGE NEEDED TO ACHIEVE 666 MILLION GALS.](chart.png)

**Source**: EIA, 2013

- **Sugarcane ethanol import economics**: Sugarcane ethanol imports remain economically uncompetitive with U.S. corn-based ethanol. For the past three and a half years, U.S. corn ethanol has typically traded at a sizeable price discount to imported sugarcane ethanol.

Indeed, U.S.-produced ethanol has been the lowest-cost fuel source in the world in recent years. According to data from the U.S. Department of Agriculture and Brazil’s Center for Advanced Studies in Applied Economics (CEPEA), corn ethanol (FOB Iowa) has been $0.43/gallon cheaper than sugarcane ethanol (FOB Sao Paulo), on average, since July 2009. In recent years, advanced biofuel RIN values have often “bridged the gap” between sugarcane ethanol and corn ethanol prices to enhance the competitiveness of sugarcane ethanol and encourage imports sufficient to meet RFS requirements. However, given current prices, there is presently no economic incentive for U.S. refiners and gasoline blenders to import sugarcane ethanol even when D5 RIN values are considered. In other words, there is strong economic incentive for refiners and blenders to maximize their use of U.S. corn ethanol and limit their use of imported sugarcane ethanol.

**Increased demand for imported sugarcane ethanol in the European Union:** In February 2013, the European Union (EU) imposed a five-year tariff of $83.20 per metric ton on ethanol imported from the U.S. The tariff is expected to make U.S. ethanol substantially less cost competitive with EU imports from other origins, and already U.S. exports to the EU have collapsed. The U.S. exported 296 million gallons of ethanol to the EU-27 in 2011 and 161 million gallons in 2012. Given that U.S. ethanol is now effectively blocked from the EU market, it is expected that EU imports of sugarcane ethanol from Brazil will need to increase to meet demand previously satisfied by U.S. ethanol. Accordingly, this is likely to reduce the amount of Brazilian sugarcane ethanol that might otherwise be available to the U.S. market.

**Lack of U.S. ethanol exportable surplus to support circular trade with Brazil:** EPA suggests the U.S. can enable increased imports of sugarcane ethanol by ramping up exports of corn ethanol to Brazil. In concept, Brazil can export sugarcane ethanol to the U.S. to meet the advanced biofuel standard, and replace the lost volume with imported corn ethanol from the U.S. This “ethanol shuffle” is not only economically absurd, but as EPA acknowledges, it also “...engenders additional transport related emissions.” In any case, due to increasing domestic demand for U.S. corn ethanol and relatively tight feedstock supplies through the 2012/13 corn marketing year, it seems highly unlikely that the U.S. will be in a position to “swap” large volumes of ethanol with Brazil in 2013. Certainly, the volume of two-way trade that occurred with Brazil in 2011 and early 2012 does not seem possible in 2013 due to domestic market conditions in both countries.

For these reasons, RFA agrees with EPA that “[t]here may be enough uncertainty to warrant a cautious approach to advanced biofuel and total renewable fuel in 2013...” We believe EPA should reduce the advanced biofuel standard to “approximate the uncertainty” associated with the highly variable availability of Brazilian sugarcane ethanol imports. In determining the appropriate reduction in the advanced biofuel standard, EPA should carefully weigh the factors discussed above and any others that may affect import volumes.
Additionally, we continue to believe EPA should revisit its lifecycle greenhouse gas (GHG) analysis and threshold determination for sugarcane ethanol imports. The very latest peer-reviewed and published lifecycle analysis by Argonne National Laboratory found GHG emissions reductions of 40-62%, with an average of 51% for sugarcane ethanol.\(^5\) Thus, there is no guarantee that all imported sugarcane ethanol truly meets the 50% GHG reduction threshold to qualify as advanced biofuel.

Recent studies have improved the understanding of the GHG impacts of sugarcane ethanol produced in Brazil, where sugarcane area (harvested) has increased 55% since 2006. Analyses by Seabra et al.\(^6\) and Macedo et al.\(^7\) examine fossil energy use and GHG emissions related to sugarcane ethanol production. Based on these studies and others, the Department of Energy's GREET model was updated to include N2O emissions from filtercake and vinasse, as well as supplemental fertilizer inputs due to increased sugarcane collection. Additionally, a December 2011 study by Tsao et al. found that existing estimates of sugarcane ethanol lifecycle GHG emissions tend to underestimate emissions from sugarcane field burning.\(^8\) The authors found, “...even in regions where pre-harvest field burning has been eliminated on half the croplands, regional emissions of air pollutants continue to increase owing to the expansion of sugar-cane growing areas, and burning continues to be the dominant life-cycle stage for emissions.” Further, they concluded, “Accounting for this effect leads to revised regional estimates of burned area that are four times greater than some previous estimates.”

On the subject of land use emissions, Lapola et al. found sugarcane ethanol expansion to be a chief contributor of potential LUC emissions in Brazil.\(^9\) The results of the Lapola et al. paper stand in stark contrast to EPA’s analysis, which attributed only 4.8 g/MJ of LUC emissions to sugarcane ethanol. Further, Adami et al. found 70% of the land directly converted to sugarcane production in Brazil from 2005 to 2010 was previously in pasture; this is contrary to EPA’s modeling results that assume cane expansion would be largely offset by reduced corn acres in Brazil.\(^10\)

\(^5\)http://iopscience.iop.org/1748-9326/7/4/045905
While EPA’s assertion that it must reduce the total RFS if it reduces the advanced biofuel standard is contrary to previous statements and interpretations by the Agency, RFA agrees that a reduction of the 2013 advanced biofuel standard should be accompanied by an equivalent reduction in the overall RFS.

3. Because there are legal and economical options available for surmounting the “blend wall,” the E10 saturation point should not be a factor in EPA’s decision-making process on 2013 RVO levels.

EPA requests comment on “...whether the blendwall presents any difficulty in terms of compliance with the RFS volume requirements in 2013.” We do not believe EPA should, or has the statutory authority to, propose or make adjustments to the 2013 renewable volume obligation (RVO) levels based solely on the notion that the blend wall may present difficulties in blending physical volumes of fuel to comply with the RFS.

CAA 211(o)(7) clearly limits EPA’s waiver authority to cases where the Administrator finds that 1) implementation of the RFS would “…severely harm the economy or environment of a State, a region, or the United States...”; or that 2) “…there is an inadequate domestic supply.” Quite obviously, neither of those conditions are related to the blend wall situation in 2013. Therefore, EPA should reject comments suggesting the blend wall is, in itself, a reason for adjusting the 2013 RFS requirements.

Congress enacted the RFS2 in 2007 with the express purpose of transforming and diversifying the U.S. fuels market. Congress, EPA, and the regulated community knew that the RFS2 would eventually require ethanol to be blended with gasoline at levels greater than 10%. As early as May 2009, it was clear that obligated parties would be confronted by the so-called blend wall in 2013. Indeed, the analysis that accompanied EPA’s proposed rule for the RFS2 stated “…under the proposed RFS2 program, we are projected to hit the E10 ‘blend wall’ of about 14-15 billion gallons

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11 In the final rule setting 2011 RFS requirements, EPA references “…our authority to lower the advanced biofuel and/or total renewable fuel applicable volumes...(emphasis added)” and characterizes such authority as “discretionary.” In responding to stakeholder comments that called for reducing the advanced biofuel standard but maintaining the total RFS applicable volume, EPA acknowledges that it may indeed reduce the advanced biofuel standard without also reducing the total RFS by the same amount: “If we were reducing the applicable volume of advanced biofuel for 2011, it would follow that there could be a shortfall of RINs capable of satisfying the general renewable fuel volume requirements.” (75 Fed. Reg. 76,799)

In the 2010 final rule for the RFS2, EPA similarly indicates that it has the authority to adjust the advanced biofuel standard without a commensurate adjustment to the total RFS (75 Fed. Reg. 14,726): “The outlook reports from all renewable fuel producers will assist EPA in determining what the cellulosic biofuel standard should be and if the total renewable fuel and/or advanced biofuel standards should be adjusted (emphasis added)...”; “In determining whether the advanced biofuel and/or total renewable fuel volume requirements should also be adjusted downward in the event that projected volumes of cellulosic biofuel fall short of the statutorily required volumes, we believe it may be appropriate to allow excess advanced biofuels to make up some or all of the shortfall in cellulosic biofuel (emphasis added).”
by 2013.” However, oil refiners and their downstream partners have refused for more than five years to make meaningful investments in infrastructure that would allow the sale of E85 or other blends above E10. Adjusting the RVO requirements to account for the blend wall would be the equivalent of rewarding obligated parties for their failure to adequately prepare and plan for what all regulated parties knew was an inevitable event.

Viable options exist for breaking through the E10 blend wall and meeting RFS requirements with physical volumes. E15 and E85 blends are legally approved and offer a workable pathway for meeting increased RFS volumetric requirements. The current U.S. light duty automotive fleet unquestionably has the capacity to consume the modestly higher volumes of ethanol above the blend wall that would be required for RFS compliance. Approximately 15 million flex-fuel vehicles are on U.S. roadways today, and 30-35% of model year (MY) 2013 light duty vehicles include explicit coverage of blends up to E15 in their warranty statements and owners’ manuals. By the end of 2013, there will be more than 20 million vehicles on the road that are unequivocally approved by the auto manufacturers themselves for E15 or E85 use—this represents almost 10% of total registered light duty vehicles. Further, EPA’s E15 waiver approval applied to MY2001 and newer vehicles. MY2001 and newer vehicles represent approximately 75% of the U.S. light duty automotive fleet and 85% of vehicle miles traveled. Less than half of these vehicles are still covered by a vehicle warranty in any case.

Moreover, only extremely modest investments would be needed to modernize fuel distribution infrastructure to accommodate higher-level ethanol blends under the RFS. The Regulatory Impact Analysis (RIA) that accompanied the RFS2 final rule includes a detailed assessment of the costs to modernize fuel distribution infrastructure to accommodate higher-level ethanol blends under the RFS. Notably, the RIA infrastructure analysis is based on input from petroleum terminal operators, the rail industry, the marine transport sector, the trucking industry, retail gas station owners, manufacturers of fuel storage and dispensing equipment, and other industry sources.

One scenario in the RIA examined the cost of upgrading the fuel distribution system from handling a baseline of 13.2 billion gallons of ethanol annually to accommodating 33.2 billion gallons of ethanol—a 20-billion-gallon increase. The results of this scenario indicated a total capital investment of $9.9 billion would be necessary to modernize the terminal, fuel transportation and retail infrastructure. According to the analysis, that works out to just 6 cents of capital investment per gallon of additional ethanol use over the baseline. When amortized over total gasoline sales, the infrastructure costs would be fractions of a cent per gallon. These costs include construction of new rail cars, new tank barges, new tank trucks, new and retrofitted storage tanks and blending equipment at petroleum terminals, unit train receiving infrastructure, manifest rail receipt facilities, and marine terminal infrastructure. Additionally, the estimate includes the costs to outfit retail stations for higher-level blends, including installation of new dispensers, hanging hardware,


refueling island hardware, automatic tank gauging equipment, canopy installation, underground storage tanks, and other retail infrastructure.

These estimates mean the cost to install the higher-ethanol blend infrastructure necessary to bridge the gap between the E10 blend wall (approximately 13.3 billion gallons) and the 2013 RFS requirement of 13.8 billion gallons would be about $30 million—or $0.00023 per gallon of expected 2013 gasoline sales.

For these reasons, the so-called E10 blend wall should not be a factor in EPA’s decision process for determining whether to make adjustments to the 2013 RVOs.

4. **EPA should propose 2014 RFS standards as expeditiously as possible and ensure the 2014 RVOs are established no later than Nov. 30, 2013.**

As EPA recognizes in the proposal, 2014 may present some unique challenges and considerations with regard to RFS implementation. Accordingly, the proposed rule for 2014 RFS standards should be published as soon as possible so that stakeholders can constructively engage with EPA regarding RFS implementation in 2014. In the past, EPA has published proposed RVOs for the upcoming compliance year in June or July (e.g., the proposed rule for 2012 RFS standards was made available to the public in June 2011). Doing so allowed EPA ample opportunity to interact with stakeholders, and gave the public sufficient time to provide comment. Moreover, we encourage the Agency to ensure the final rule for 2014 RVOs is published by the statutory deadline of Nov. 30, 2013.

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Thank you again for the opportunity to comment. If you have any questions regarding our comments, please contact Geoff Cooper at gcooper@ethanolrfa.org or 636.594.2284. We look forward to working with EPA to ensure the continued success of the RFS2 program.

Sincerely,

Bob Dinneen
President & CEO