

July 11, 2016

Attention: Docket ID No. EPA-HQ-OAR-2016-0004

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

VIA EMAIL
a-and-r-docket@epa.gov

Re: Comments on *Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018*; Proposed Rule (81 Fed. Reg. 34,778; May 31, 2016).

Dear Administrator McCarthy,

The Renewable Fuels Association (RFA) is pleased to submit the attached comments in response to the U.S. Environmental Protection Agency's (EPA) proposed rule regarding the 2017 Renewable Volume Obligations (RVO) for the Renewable Fuel Standard (RFS) Program (81 Fed. Reg. 34,778; May 31, 2016).

RFA is the leading trade association for America's ethanol industry. Its mission is to advance the development, production, and use of fuel ethanol 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, more energy secure, and economically vibrant.

Given the unmitigated success of the RFS program and today's marketplace reality, EPA's proposal to reduce the 2017 required volume of undifferentiated (i.e., "conventional") renewable fuel from statutory levels is as unnecessary as it is imprudent. By adopting the oil industry's narrative regarding how much ethanol can be blended into gasoline, EPA has incomprehensibly and illegally curtailed the continued evolution of the transportation fuels market that is delivering technology innovation, carbon reduction and consumer savings.

EPA seems to be burdened by a fundamental misunderstanding of the intent of the RFS. The Agency continues to justify reducing required volumes of conventional renewable fuel by suggesting that certain "marketplace realities" preclude refiners from meeting the higher statutory volumes. This narrative hinges upon a belief that refiners and gasoline marketers simply cannot distribute higher volumes of ethanol to consumers because of a lack of

infrastructure, consumer demand, and vehicles that can safely utilize fuels containing more than 10% ethanol. This is a false premise, and it turns the RFS from a technology- and market-driving program into a stagnant, backward-facing policy that sacrifices environmental and economic benefits by allowing the oil industry to determine how much biofuel our nation uses. But the RFS was designed to force change upon a broken marketplace. It was intended to compel the incumbent industry to open new markets for renewable fuels, make investments in infrastructure to accommodate higher ethanol blends, and encourage the commercialization of new technologies that promise even greater environmental benefit. With this proposal, the EPA is rewarding an oil industry intent upon stifling competition and keeping its monopoly over the consumer's gas tank.

Moreover, with this proposal EPA seems to be completely ignoring today's true marketplace realities. Nearly 85% of the vehicle fleet is legally approved to consume blends containing more than 10% ethanol. Meanwhile, U.S. Department of Agriculture and industry-led programs are dramatically expanding the infrastructure for higher level ethanol blends. And consumers across the country are demanding higher octane, lower-carbon fuels at a reduced cost.

EPA also appears to be greatly overstating the volumes of Brazilian ethanol imports that are possible in 2017, assuming that 200 million gallons (mg) of imports will enter as advanced biofuel and displace U.S.-produced conventional ethanol. But the marketplace realities are that Brazilian ethanol imports through the first half of this year are less than 10 mg, and 2017 imports are likely to fall further as Brazilian mills prioritize sugar production over ethanol production.

Finally, EPA inexplicably continues to ignore approximately 2 billion surplus RINs that provide substantial compliance flexibility for obligated parties—even those who prevent their downstream partners and franchisees from offering blends containing more than 10% ethanol.

For these reasons, and for those set forth more fully in the attached comments, RFA is strongly opposed to the proposal to reduce the 2017 RVO for undifferentiated renewable fuel from the levels specified by the statute. We encourage EPA to finalize a rule that demonstrates fidelity to the statute and *truly* reflects today's marketplace realities: ethanol is providing the consumer savings, carbon reductions, and energy security benefits envisioned by Congress.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Dinneen", with a long, sweeping horizontal line extending to the right.

Bob Dinneen
President & CEO

**Comments of the
Renewable Fuels Association (RFA) on the
Proposed Rule for 2017 Standards under the
Renewable Fuel Standard Program**

Docket ID No. EPA-HQ-OAR-2016-0004

81 Fed. Reg. 34,778 (May 31, 2016)
Submitted July 11, 2016

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Attachment A: “Revisiting EPA’s Analysis of RIN ‘Pass Through’ Behavior and Retail E85 Prices.” Renewable Fuels Association. July 7, 2016.

I. Executive Summary

The Renewable Fuels Association (RFA) submits these comments on EPA's proposed rule for 2017 renewable volume obligations (RVOs) under the Clean Air Act's (CAA) Renewable Fuel Standard (RFS). EPA, *Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018*; Proposed Rule (81 Fed. Reg. 34,778; May 31, 2016).

As with the 2014-2016 RVOs, EPA proposes to significantly reduce the volume of total renewable fuel under the 2017 RVOs from the statutory levels established by Congress in the 2007 Energy Independence and Security Act (EISA). The proposed reductions include cuts to the statutory requirements for cellulosic biofuel and advanced biofuel, as well as a decrease to the requirement for undifferentiated, or "conventional", renewable fuel (i.e., the portion of the RVO for which corn starch ethanol may qualify). While EPA's use of its "cellulosic waiver" authority to reduce the volumes is clearly appropriate and justified, the proposed use of a "general waiver" to reduce the total applicable renewable fuel volumes is both unlawful and unnecessary. It is this misapplication of the general waiver that results in the conventional renewable fuel RVO being lowered from the statutory level of 15 billion gallons (bg) to 14.8 bg.

In attempting to justify its misuse of a general waiver, EPA cites "[p]ractical and legal constraints on the ability of the market to supply [i.e., distribute] renewable fuels to the vehicles and engines that can use [i.e., consume] them."¹ The Agency refers to these "constraints" as "important realities."² But, even assuming that *distribution and consumption* are relevant standards for granting a waiver (they are not), EPA's "important realities" are pure fantasy. EPA's proposal itself demonstrates that the 15 bg statutory RVO for conventional renewable fuel can be readily achieved in 2017, showing that 14.4 bg of ethanol and 600 million gallons (mg) of conventional biodiesel and renewable diesel are likely to be consumed.³ However, EPA's unrealistic assumption that imported sugarcane ethanol (an advanced biofuel) will account for 200 mg of the 14.4 bg of ethanol consumption leads the Agency to suggest that a general waiver is necessary to reduce the conventional renewable fuel RVO.

We show in these comments that sugarcane ethanol imports are more likely to total just 15-20 mg in 2017, but that total ethanol consumption is likely to top 14.6 bg. Further, we show conventional biodiesel and renewable diesel will add another 660 mg of conventional renewable fuel to the available supply, meaning the net total supply of D6 RINs available to meet the 2017 RVO will be well in excess of 15 billion.

But even in a scenario where consumption of conventional ethanol, biodiesel, and renewable diesel falls short of the statutory 15 bg RVO level, the availability of billions of carryover RINs will ensure the combined supply of RINs and physical gallons are sufficient to meet the statutory requirement. Astonishingly, EPA's proposal entirely omits the availability of carryover RINs in determining the "supply available" meet 2017 RVOs.

¹ 81 Fed. Reg. 34,781

² *Id.*

³ Figures are shown in ethanol-equivalent gallons.

In any case, discussions of “reasonably achievable” renewable fuel *consumption* as a factor in determining proper RVO levels are inappropriate. Although EPA has the authority to use a general waiver to reduce the statutory renewable fuel volumes under certain narrow conditions specified in the statute, the Agency’s interpretation of “inadequate domestic supply”—reading conceptions of “consumption” and “distribution” into that phrase—is contrary to the text, purpose, structure and history of the RFS program. In attempting to justify its proposed use of the statute’s general waiver authority to reduce renewable fuel volumes, EPA suggests the phrase “inadequate domestic supply” can be read to include “factors affecting the ability to distribute, blend, dispense, and consume...renewable fuels in vehicles.” But, EPA’s interpretation bends the meaning of “supply” well past its breaking point.

We show that the cellulosic waiver provision alone can enable implementation of the 2017 RVOs in a way that is consistent with statutory authorities, Congressional intent and “important realities” in the marketplace. Fully carrying EPA’s proposed cellulosic waiver through to both the advanced and total renewable fuel standards for 2017 would result in the RVOs shown in Table 1 below, which are the levels we are recommending EPA finalize for 2017. The only differences between our recommended standards and EPA’s proposal are: 1) a slight reduction in the advanced biofuel standard (to account for the imminent shortage of sugarcane ethanol imports), and 2) a negligible increase (0.06%) in the total renewable fuel standard.

Table 1. Recommended Final Standards for 2017 RFS (Figures in Billions)

	Physical Gallons	Ethanol-equivalent Gallons (RINs)
Cellulosic biofuel	0.312	0.312
Biomass-based diesel	2.000	3.000
Advanced biofuel	3.812	3.812
Renewable fuel	18.812	18.812

For these reasons, and for those set forth more fully below, RFA is opposed to the proposal to reduce the 2017 RVOs for conventional renewable fuel from the statutory level. *We encourage EPA to reconsider its proposal and finalize 2017 requirements for conventional renewable fuel at the level set by Congress.*

II. When Used Appropriately, the Cellulosic Waiver Provision Alone Can Enable Implementation of the 2017 RVOs in a Way that is Consistent with Statutory Authorities, Congressional Intent and “Important Realities” in the Marketplace

EPA proposes to reduce the statutorily required volumes of both advanced biofuel and total renewable fuel for 2017 using a combination of the “cellulosic waiver” provision and the “general waiver” provision.⁴ While EPA’s proposed use of the cellulosic waiver provision is justified and consistent with statutory authorities, the proposed application of a general waiver is both irreconcilable with the statutory text (as discussed in Section V of these comments) and unnecessary to facilitate compliance (as described in Section IV of these comments). Appropriate use of the cellulosic waiver provision *alone* would result in RVOs that are

⁴ Throughout these comments, we refer to the waiver authority granted in CAA §211(o)(7)(D)(i) as the “cellulosic waiver.” We refer to the waiver authority granted in CAA §211(o)(7)(A) as the “general waiver.”

“reasonably achievable,” obviating any need to use a general waiver to further reduce volume requirements.

a. EPA has the authority to reduce required cellulosic biofuel volumes if projected supplies of cellulosic biofuels are inadequate to meet statutory levels

Clean Air Act §211(o)(7)(D)(i) provides that if EPA determines the available volume of cellulosic biofuel will fall short of statutorily specified volumes, then “...the Administrator shall reduce the applicable volume of cellulosic biofuel required under [the statute] to the projected volume available during that calendar year.” Based on its assessment that the projected volume of cellulosic biofuels available in 2017 will be less than the volumes specified in the statute, EPA is correctly proposing to invoke its authority to reduce the cellulosic biofuel volume requirements. On the subject of whether the specific levels of EPA’s proposed cellulosic RVOs are appropriate, we defer to the comments submitted by DuPont, Quad County Corn Processors, the Advanced Biofuels Business Council, and other leaders in the cellulosic biofuel space. Specifically on the subject of EPA’s management of the cellulosic biofuel waiver credit program, we support the comments submitted by the Advanced Biofuels Business Council.

b. EPA has the authority to waive the advanced biofuel standard and total renewable fuel standard by the “same or a lesser” volume as the cellulosic biofuel waiver

The waiver authority granted to the Administrator in CAA §211(o)(7)(D)(i) also allows EPA to reduce statutorily specified volumes of advanced biofuel and total renewable if the cellulosic biofuel volume has been reduced. Importantly, any reductions of the advanced biofuel and total renewable fuel volumes must be of an amount that is the same as, or lesser than, the amount of the cellulosic volume reduction. As shown in Table 2 below, EPA is proposing to reduce the 2017 advanced biofuel standard by an amount that is “lesser” than the proposed cellulosic biofuel volume reduction, which clearly comports with the cellulosic waiver authority granted to the Agency. However, EPA is simultaneously proposing to reduce the total renewable fuel volumes for 2017 by amounts that are *greater* than the proposed reductions in required cellulosic biofuel volumes. On its own, a proposal to waive total renewable fuel volumes by amounts larger than the proposed reduction in cellulosic biofuel volumes would be an obvious breach of EPA’s statutory waiver authority. Recognizing this, EPA has proposed to also apply a general waiver in combination with the cellulosic waiver; but, as discussed elsewhere in these comments, the Agency’s proposed use of the general waiver is impermissible and contrary to the statute.

Table 2. EPA Proposed Volumes for Advanced and Total Renewable Fuels in Relation to Proposed Cellulosic Biofuel Volume Reductions (billion ethanol-equivalent gallons)

2017 Statutory Cellulosic Biofuel Volume Requirement	5.500
EPA Proposed 2017 Cellulosic Biofuel Volume Requirement	0.312
Amount of Proposed Cellulosic Biofuel Waiver	5.188
2017 Statutory Advanced Biofuel Volume Requirement	9.000
EPA Proposed 2017 Advanced Biofuel Volume Requirement	4.000
Amount of Proposed Advanced Biofuel Waiver	5.000
Amount that Proposed Advanced Biofuel Waiver Exceeds (+) or Recedes (-) Proposed Cellulosic Waiver	-0.188
2017 Statutory Total Renewable Fuel Volume Requirement	24.000
EPA Proposed 2017 Total Renewable Fuel Volume Requirement	18.800
Amount of Proposed Total Renewable Fuel Waiver	5.200
Amount that Proposed Total Renewable Fuel Waiver Exceeds (+) or Recedes (-) Proposed Cellulosic Waiver	+0.012

c. Appropriate use of the cellulosic biofuel waiver alone would result in RVO volumes that “can reasonably be achieved” and are consistent with statutory authorities

As described above, EPA has proposed advanced biofuel volume reductions that are *less* than the proposed cellulosic biofuel volume reductions, but total renewable fuel volume reductions that are *greater* than the proposed cellulosic reduction. EPA’s imbalanced application of the cellulosic biofuel reductions to the advanced and total renewable fuel categories has led the Agency to believe it must also use a general waiver to arrive at the “maximum volumes that can reasonably be achieved, taking into account both the constraints on supply...and our judgement regarding the ability of the standards we set to result in marketplace changes.”⁵

To the contrary, applying nothing more and nothing less than the full amount of the cellulosic biofuel waiver to both the advanced biofuel standard and the total renewable fuel standard would result in 2017 RVOs that are “reasonably achievable” and consistent with statutory waiver authorities. Using only a cellulosic biofuel waiver—and fully carrying that waiver through both the advanced biofuel standard and the total renewable fuel standard—would obviate any need for invoking a general waiver and ensure EPA’s implementation of the RFS remains faithful to the statutory text and Congressional intent of the program. Table 3 below shows how the cellulosic waiver can be fully carried through the advanced and total renewable fuel categories of the RFS.

The only differences between the approach recommended in Table 3 and the approach taken by EPA in Table 1 are a 188 mg reduction (4.7%) to the advanced biofuel standard and a 12 mg increase (0.06%) in the total renewable fuel standard. As discussed in these comments, the

⁵ 81 Fed. Reg. 34,796

reduction in the advanced biofuel standard that we are recommending is justified by the fact that imported sugarcane ethanol volumes are unlikely to achieve the levels projected by EPA.

Table 3. Advanced and Total Renewable Fuels Standards with Full Carry-through of Cellulosic Waiver (billion ethanol-equivalent gallons)

Statutory Cellulosic Biofuel Volume Requirement	5.500
EPA Proposed Cellulosic Biofuel Volume Requirement	0.312
Amount of Proposed Cellulosic Biofuel Waiver	5.188
Statutory Advanced Biofuel Volume Requirement	9.000
Advanced Biofuel Volume Requirement with Full Cellulosic Waiver	3.812
Amount of Proposed Advanced Biofuel Waiver	5.188
Amount that Proposed Advanced Biofuel Waiver Exceeds (+) or Recedes (-) Proposed Cellulosic Waiver	0.000
Statutory Total Renewable Fuel Volume Requirement	24.000
EPA Proposed Total Renewable Fuel Volume Requirement	18.812
Amount of Proposed Total Renewable Fuel Waiver	5.188
Amount that Proposed Total Renewable Fuel Waiver Exceeds (+) or Recedes (-) Proposed Cellulosic Waiver	0.000

It should be noted that fully carrying through the cellulosic waiver to both the advanced biofuel standard and total renewable fuel volume *does not* prohibit or discourage growth in the production and use of advanced biofuels beyond required levels. Any advanced biofuel production in excess of the finalized advanced biofuel standards would generate surplus RINs or be available to meet requirements for undifferentiated renewable fuel. That is, the undifferentiated renewable fuel category of the RFS is not in any way “reserved” for corn starch ethanol, and is in fact open to any qualifying renewable fuels. Indeed, rather than discouraging development in advanced and cellulosic biofuels, implementing the RFS in this manner would demonstrate to potential advanced biofuel developers, lenders and investors that EPA is managing the program in a way that grows the marketplace for all biofuels, is faithful to statutory waiver authorities, and is consistent with Congressional intent.

d. The imminent shortage of sugarcane ethanol imports justifies a slight downward revision to the proposed 2017 advanced biofuel standard

EPA states in the proposal that, “For the purposes of deriving the proposed advanced biofuel volume requirements for 2017...we have assumed that imports of sugarcane ethanol will be 200 million gallons.”⁶ The Agency explains that 200 mg is “approximately equal to the average annual import volume between 2010 and 2015” and is the same estimate it used for the 2016 RVO determination.⁷

⁶ 81 Fed. Reg. 34,797

⁷ *Id.*

However, the best available evidence suggests EPA's estimate of 200 mg of sugarcane ethanol imports is overly optimistic and not consistent with marketplace realities. EIA monthly data show zero imports of fuel ethanol from Brazil through the first four months of 2016 and only trace amounts of conventional ethanol imports from Canada.⁸ If EIA weekly data are used, just 10 mg of fuel ethanol imports are shown through the week ending July 1, 2016, and the country of origin (and feedstock type) for these imports is not yet known.⁹ Meanwhile, EPA's EMTS data show imports accounted for just 1.87 million advanced biofuel RINs through May 2016.¹⁰ All of these data underscore the improbability of 2016 sugarcane ethanol imports coming anywhere near the 200 mg estimated by EPA. The year-to-date data indicate an annual total of just 15-20 mg of sugarcane ethanol is likely in 2016.

With world sugar deficits growing and sugar prices at a three-year high, analysts expect Brazilian ethanol production to decline in the coming years as sugar mills significantly divert sugar away from ethanol.¹¹ The U.S. Department of Agriculture (USDA) reports that the Brazilian sugar industry is likely to produce just enough ethanol to satisfy domestic demand. USDA says the industry will de-emphasize ethanol exports in 2017 and "...will prioritize the production of anhydrous ethanol to comply with the ethanol mandate set by the Brazilian government."¹² Thus, 2017 sugarcane ethanol imports are likely to be similar to, or less than, 2016 volumes.

In any case, EPA has a history of significantly overestimating the availability of sugarcane ethanol imports and would be well served by taking a more cautious approach to these estimates. In the final rule for 2013 RVOs, for example, EPA stated that, "Brazilian ethanol exports to the U.S. are on a trajectory that would readily enable Brazil to supply 580 million gallons to the U.S. in 2013."¹³ However, EIA data show actual sugarcane ethanol imports from Brazil that year totaled just 322 mg. In fact, EPA has overestimated the availability of Brazilian sugarcane ethanol imports every year since 2011. Figure 1 below compares EPA projections of sugarcane ethanol imports with actual sugarcane ethanol imports.

⁸ EIA, *U.S. Imports by Country of Origin: Fuel Ethanol*, https://www.eia.gov/dnav/pet/pet_move_impqus_a2_nus_epooxe_im0_mbbld_m.htm

⁹ EIA, *Weekly U.S. Imports of Fuel Ethanol*, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPOOXE_IM0_NUS-Z00_MBBLD&f=W

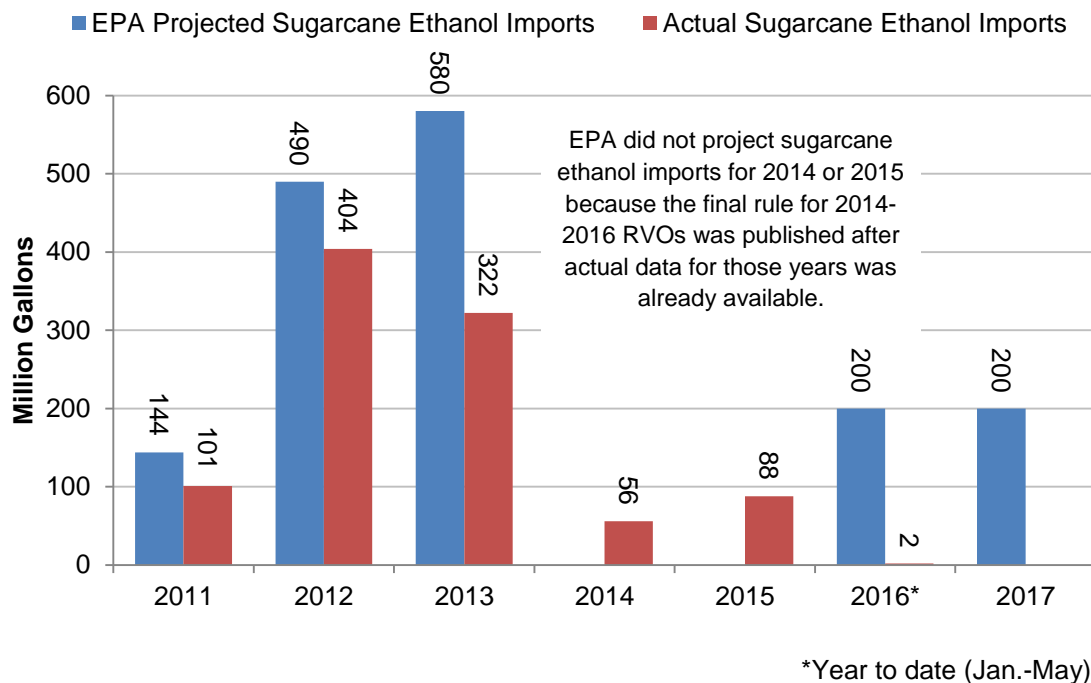
¹⁰ EPA, *2016 Renewable Fuel Standard data*, <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/2016-renewable-fuel-standard-data>

¹¹ Teixeira, Marcelo. "Global sugar deficit to squeeze Brazilian ethanol output." June 28, 2016. *Reuters*. <http://www.reuters.com/article/us-brazil-ethanol-idUSKCN0ZE29I>

¹² USDA GAIN Report BR 16003. "Brazil Sugar Annual Report." April 15, 2016. http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Sugar%20Annual_Sao%20Paulo%20ATO_Brazil_4-15-2016.pdf

¹³ 78 Fed. Reg. 49,818

Figure 1. EPA Projections of Brazil Sugarcane Ethanol Imports vs. Actual



Sources:

Projected: EPA final rules for 2011, 2012, 2013, 2014-2016 RVOs

Actual: EIA for 2011-2015; EPA EMTS for 2016 YTD

Given the available evidence, EPA's projection of 200 mg of sugarcane ethanol imports being available for compliance with the 2017 advanced biofuel RVO is wildly optimistic. Based on the current rate of imports and analyst expectations about 2017 market conditions, we recommend that EPA revise this estimate down from 200 mg to approximately 15-20 mg for 2017. This would be consistent with our recommendation to lower the 2017 advanced biofuel standard by 188 mg from the proposed level, which also would allow the full amount of the cellulosic waiver to be applied to the advanced biofuel standard.

As demonstrated above, appropriate application of the cellulosic waiver alone can facilitate compliance with the RFS in a way that is consistent with statutory waiver authorities. Therefore, EPA should exercise only its cellulosic waiver authority in finalizing the 2017 RVOs. EPA's proposed use of the general waiver is not only unnecessary to enable compliance, but it also runs afoul of the statutory waiver authorities granted by Congress.

III. The Proposed Rule's Methodology for Establishing RVOs Inappropriately Ignores the Availability of Carryover RINs and Other Provisions Designed to Provide Compliance Flexibility for Obligated Parties

In its proposed rule for 2014-2016 RVOs, EPA took an unprecedented position on the role of carryover RINs in facilitating compliance, stating that it had "...decided that the availability of

carryover RINs should not preclude reducing the applicable volumes...”¹⁴ Now, EPA is again proposing to ignore the availability of carryover RIN credits as it determines the “available supply” of renewable fuels to meet 2017 RFS requirements. The Agency states, “...consistent with the approach we took in the 2014–2016 final rule, we believe that the collective bank of carryover RINs that we anticipate will be available in 2017 *should be retained*...to provide an important and necessary *programmatic buffer* that will both facilitate individual compliance and provide for smooth overall functioning of the program.”¹⁵

EPA’s proposed exclusion of carryover RINs from determinations of available supply contradicts the Congressional intent behind the credit trading system, departs from the Agency’s previous treatment of carryover RINs, and conflicts with past Court decisions supporting EPA’s previous handling of carryover RINs. Because RINs represent physical gallons of renewable fuel that are, or were, part of the fuel supply, EPA’s proposal to ignore carryover RINs essentially treats some gallons of previously produced renewable fuel as if they don’t count as part of the supply, clearly undermining the intent of a program that was expressly designed to create a lasting growth market for renewable fuels.

a. The RIN credit program was designed to promote flexibility in complying with statutory RFS blending requirements

In establishing the RFS, Congress recognized the need to build flexibility into the program that would minimize the economic impacts of variations and anomalies in the marketplace, while still allowing obligated parties to comply with the program’s annual requirements. Specifically, Congress created a credit trading system in CAA §211(o)(5) intended to add fungibility to the RFS program and allow compliance flexibility for obligated parties. Importantly, the program established by Congress allows trading, borrowing, and banking of the credits.

EPA was mindful of Congress’ intended flexibility as it designed what would become the RFS program’s RIN credit system: “One of our guiding principles in designing the RFS program was to *preserve the market mechanisms* that keep renewable fuel costs to a minimum.”¹⁶ In finalizing the original RFS regulations, EPA established that RIN credits would have a two-year lifespan and that a portion of an obligated party’s current-year RVO could be satisfied with RIN credits generated in the previous compliance year.¹⁷ Therefore, if renewable fuel production (and thus the availability of RINs) is reduced in a given compliance year because of an anomaly in the marketplace, obligated parties are still able to meet their obligations by turning in excess RINs generated in the previous compliance year. EPA established a 20-percent cap on the amount of the current-year RVO that can be satisfied with RINs generated in the previous compliance year.

¹⁴ 80 Fed. Reg. 33,111

¹⁵ 81 Fed. Reg. 34,789 (emphasis added)

¹⁶ EPA, *Regulation of Fuels and Fuel Additives: Renewable Fuel Standard Program – Summary and Analysis of Comments*, at 5-24 (Apr. 2007) EPA420-R-07-006 available at <http://www.epa.gov/otaq/renewablefuels/420r07006.pdf> (emphasis added).

Since the beginning of the RFS program, obligated parties have typically blended more ethanol than was annually required by the RFS due to ethanol's favorable blending economics. The single exception to this occurred in 2013, as the worst drought in 50 years reduced the 2012/13 corn supply and ethanol production fell below RFS requirements for renewable fuel. Still, between 2006 and 2012, ethanol production exceeded the RFS requirements for renewable fuel by a cumulative total of approximately 6.1 bg. Accordingly, a large rolling "bank" of excess RIN credits was accumulated. Because RINs have a two-year life, obligated parties generally retire their oldest RINs first when reconciling their RVOs at the end of a compliance year.

The number of excess RIN credits currently available to obligated parties for compliance is estimated at between 1.72 and 2.10 billion.¹⁸ Further, some recent estimates conclude that RIN stocks actually *grew* in 2015, which is not taken into account by EPA for its most recent estimate.¹⁹ Thus, if obligated parties find it difficult to comply with the 2017 statutory requirements for renewable fuel via blending physical gallons of ethanol and conventional biodiesel, they have the ability to retire some carryover RINs in lieu of blending.

Importantly, if obligated parties begin to draw on RIN stocks to assist in compliance with RVOs, RIN prices will respond, creating an economic incentive for biofuel producers, obligated parties, downstream marketers and blenders, and ultimately consumers to increase the production and consumption of renewable fuels. That is the purpose of the RFS program and its RIN mechanism. But now EPA proposes to circumvent the very "market mechanism" it proclaimed should be "preserved" in previous rulemakings.

b. EPA's proposal to ignore carryover RINs in setting 2017 RVOs contradicts the Agency's treatment of carryover RINs in previous rulemaking and administrative actions

EPA's exclusion of carryover RINs is even more confounding given the Agency's treatment of surplus RINs in previous rulemakings and administrative actions. In the past, EPA has consistently accounted for the flexibility provided by carryover RINs when proposing annual RVO requirements and deciding waiver requests. Indeed, the 2010 final rule implementing the expanded RFS program concluded that "...it is ultimately the availability of qualifying fuel, as determined in part by *the number of RINs in the marketplace*, that will determine the extent to which EPA should issue a waiver of RFS requirements on the basis of inadequate domestic supply."²⁰ Here, EPA clearly equates "the number of RINs in the marketplace" to "qualifying fuel," implying that both are part of the fuel "supply."

Moreover, in denying requests to waive the RFS in 2012, the Agency relied on an economic model that "...utilizes EPA estimates regarding excess, or 'rollover' RINs, that *will be available*

¹⁸ Low estimate from 81 Fed. Reg. 34,789. High estimate from Paulson, N. "[2015 Year End RIN Update](#)," *farmdoc daily* (6):42, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 3, 2016.

¹⁹ See Paulson, N. "[2015 Year End RIN Update](#)," *farmdoc daily* (6):42, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 3, 2016, showing that 261 million RINs (all D codes) were added to stocks at the end of 2015.

²⁰ EPA, *Regulation of Fuels and Fuel Additives: Changes to the Renewable Fuel Standard Program*. 75 Fed. Reg. 14,698 (emphasis added).

for use for compliance purposes in the 2012/2013 corn marketing year time period.”²¹ The Notice further recognized that:

[t]he *availability of rollover RINs*, the beneficial economics of producing ethanol gasoline blends, the generally low level of flexibility of refiners to shift from ethanol over a one year period, and the low price currently in the market for renewable fuel RINs all support the conclusion that waiving the RFS program would not be expected to have any effect on the production of ethanol.²²

More recently, the final rule establishing 2013 RVOs explicitly included carryover RINs in its assessment of the obligated industry’s ability to comply with statutory requirements. EPA stated that “...a significant number of carryover RINs available from 2012...can be used in lieu of actual volume in 2013...”²³ The Agency further clarified that:

...the combination of available volumes of advanced and non-advanced biofuel from both domestic and foreign sources, the ability of the transportation sector to consume some quantity of ethanol in blend levels higher than E10, *and carryover Renewable Identification numbers (RINs) from 2012* has led us to conclude that the statutory volumes for both advanced biofuel and total renewable fuel can be met in 2013. As a result, we are not reducing the national applicable volumes in the statute for either advanced biofuel or total renewable fuel volume...²⁴

Carryover RINs were a particularly important consideration for the 2013 RVO because the worst drought in 50 years diminished the size of the 2012 corn crop, constricting the availability of feedstock for renewable fuel production in late 2012 and most of 2013. Thus, while ethanol production fell somewhat short of the statutory RVO for 2013, carryover RINs readily bridged the gap between actual renewable fuel blending and the RVO. In hindsight, EPA’s decision in this case to include carryover RINs in the determination of available supply was both prudent and effective. The enforcement of the statutory RVO in 2013 (and the use of some carryover RINs to facilitate compliance) did not negatively impact obligated parties, renewable fuel producers, agricultural producers, or other economic actors in any meaningful way.

Further, in referencing *Monroe v. EPA* (D.C. Cir. 2014), EPA’s proposed rule for 2014-2016 acknowledged that the “...availability of carryover RINs is a relevant consideration in determining the extent to which a waiver is justified...”²⁵ Indeed, the Court determined that EPA had reasonably declined to use the cellulosic waiver authority to reduce the 2013 advanced and total renewable fuel statutory volumes by examining “...the availability of renewable fuels that

²¹ EPA, *Notice of Decision Regarding Requests for a Waiver of the Renewable Fuel Standard*, 77 Fed. Reg. 70,752, 70,757 (Nov. 27, 2012) (emphasis added).

²² 77 Fed. Reg. 70,775 (emphasis added).

²³ 78 Fed. Reg. 49,797

²⁴ 78 Fed. Reg. 49,794 (emphasis added).

²⁵ 80 Fed. Reg. 33,110 citing *Monroe v. EPA*, 750 F.3d 909, 915 (D.C. Cir. 2014)

would qualify as advanced biofuel and renewable fuel, the ability of those fuels to be consumed, and carryover RINs from 2012.”²⁶

c. Obligated parties may carry a RIN deficit for one year at a time, providing additional flexibility in complying with statutory RFS requirements

Congress added even more compliance flexibility to the RFS program by including a provision to CAA §211(o)(5) allowing obligated parties to carry forward a renewable fuel deficit for one year. There is no limitation on the size of the deficit that may be carried forward; Congress required only that the deficit carried forward from the previous year must be completely offset in the current compliance year. Given the substantial amount of excess RIN credits available on the market today and the technical and economic feasibility of expanding ethanol consumption beyond the so-called “blend wall,” it is highly unlikely that obligated parties would need to carry a deficit forward. Still, this provision creates an additional level of flexibility for some obligated parties in the event compliance with the 2017 standards becomes more challenging.

Given Congress’s intent to provide compliance flexibility through the RFS credit trading system, and in light of both EPA’s previous handling of carryover RINs and the Court’s affirmation of EPA’s previous treatment of carryover RINs, we believe the Agency *must* consider the impact of available RIN stocks when considering the final rule for 2017 RVOs.

d. An error in the final 2015 RVO results in the underestimation of the number of carryover RINs “available for compliance,” further justifying an increase to the proposed 2017 RVO for conventional renewable fuel

Because 2015 was essentially over by the time EPA published the final rule for 2014-2016 RVOs, EPA intended to finalize standards for 2015 that mirrored actual renewable fuel consumption and neither added to nor subtracted from RIN stocks. EPA states that “...the final volume requirements for 2015 for advanced biofuel and total renewable fuel effectively represent what the market actually achieved (for months for which data are available) and a projection of supply based on historical information for the remaining months where data were not yet available.”²⁷

EPA further explains that RIN generation data was available only through September 2015 and export data was available only through August 2015, meaning “...it was necessary to estimate supply for the remaining months of the year using the data on actual supply that is available for 2015 and supply trends from 2013 and 2014. These supply trends were used to identify seasonal variations in supply that allowed us to project supply in those months in 2015 for which actual supply data are not available.”²⁸

A memorandum to the docket from EPA staff provides further detail on the methodology used to estimate the 2015 available supply of RINs, upon which the final RVOs are based.²⁹ Our review

²⁶ *Monroe v. EPA*, 750 F.3d 916, 915 (D.C. Cir. 2014) (emphasis added)

²⁷ 80 Fed. Reg. 77,447

²⁸ 80 Fed. Reg. 77,448

²⁹ “Projection of annual renewable fuel supply in 2015,” memorandum from David Korotney to docket EPA-HQ-OAR-2015-0111

of this docket memo identified a calculation error that results in the 2015 RVO for renewable fuel being too low. Specifically, EPA's projection of D6 RIN generation for October-December 2015 does not follow the projection protocol established by EPA itself in the docket memo.

To estimate the actual RIN supply for the full calendar year of 2015, EPA first looked at average monthly RIN generation rates for January through September 2015. EPA then examined 2013 and 2014 monthly data to determine whether any seasonal trends existed that might lead RIN generation in October-December 2015 to deviate from the January-September 2015 average. EPA's analysis shows that average monthly D6 RIN generation for October-December indeed outpaced monthly average RIN generation for January-September in both 2013 and 2014. The ratio of average RIN generation in January-September to average RIN generation in October-December was 1.101 in 2013 and 1.023 in 2014, according to EPA's analysis.

To account for seasonality in projecting RIN generation for the purposes of setting the 2015 RVO, EPA established a protocol that states "If 2013 and 2014 values [i.e., ratios of average October-December RIN generation to average January-September RIN generation] are both above 1.0, use 2014 value [to project October-December RIN generation for 2015]."³⁰ Thus, according to its own protocol, EPA should have assumed RIN generation in October-December 2015 would average 1.023 times the average from January-September 2015.³¹ Instead, however, EPA used a ratio of 1.000 to project RIN generation for October-December 2015.³²

EPA's mistaken use of the 1.000 ratio assumes that October-December 2015 RIN generation would be equivalent to the January-September 2015 average. This leads EPA to estimate total D6 RIN generation for the full calendar year 2015 at 14,693,654,667. After accounting for projected RIN adjustments and retirements for exports, EPA estimates the 2015 "net supply" of D6 RINs at 14,047,156,135—this is the basis for the final RVO of 14.05 bg for undifferentiated renewable fuel.

If EPA had followed its own protocol and used a ratio of 1.023 for projecting October-December RIN generation, the full year estimate of 2015 D6 RIN generation would have been 14,781,696,107 and the final estimate of "net supply" would have been 14,135,197,575, some 88 million RINs higher than EPA's estimate.³³ This would have led to a final RVO of 14.14 bg of undifferentiated (conventional) renewable fuel.³⁴

Due to this error, EPA's final 2015 RVO for conventional renewable fuel does not reflect the Agency's intent of neither adding to nor subtracting from RIN stocks. Rather, this mistake led to

³⁰ *Id.*, Table 5.

³¹ The actual ratio for 2015 based on verified RIN generation data for October-December 2015 (which wasn't available to EPA at the time of the final rule publication) was 1.036.

³² Table 5 of the memo to docket "Projection of annual renewable fuel supply in 2015" shows "chosen value" for domestic + import D6 RIN generation of 1.000. That EPA used three significant digits to the right of the decimal for both the "chosen value" and the ratios suggests that protocol was meant to be based on a threshold of 1.000, not 1.0.

³³ At 14.830 billion, actual D6 RIN generation for 2015 was even higher than the 14.781 billion suggested by correcting EPA's calculation error. While it would be impossible for EPA to perfectly predict actual 2015 RIN generation before the year is over, EPA should at least follow its own stated protocol for projecting RIN generation in the last three months of the year.

³⁴ EPA rounds up to the nearest ten million in setting the RVO.

the addition of RINs to 2015 ending stocks.³⁵ EPA could compensate for this error by ensuring the extra 88 million RINs that should have been part of the 2015 conventional renewable fuel RVO are included as part of the “supply available” to meet 2017 RVOs. As stated in the previous section, we believe all carryover RINs should be considered as part of the supply of renewable fuel available to meet 2017 standards. However, to the extent EPA continues to ignore carryover RIN stocks, the Agency should, at the very least, include these extra 88 million D6 RINs in determinations of available supply since EPA clearly meant for the 2015 RVO to mirror the actual net supply of newly generated RINs available for compliance.

IV. EPA Has Failed to Justify the Need to Exercise Its General Waiver Authority for the 2017 RVO. Consumption of 15 Billion Gallons of Conventional Renewable Fuel is “Reasonably Achievable” in 2017

EPA is proposing to reduce the applicable volumes of total renewable fuel in 2017 using a combination of a cellulosic waiver and a general waiver. The Agency suggests the use of a general waiver is necessary to address “[p]ractical and legal constraints on the ability of the market to supply renewable fuels to the vehicles and engines that can use them.”³⁶ As addressed elsewhere in these comments, EPA’s proposed use of a general waiver to address perceived constraints on ethanol *consumption* clearly oversteps the bounds of the Agency’s statutory authority and undermines Congressional intent. But beyond these legal maladies, the use of a general waiver to reduce the 2017 RVOs for renewable fuel is completely unnecessary. That is, even if distribution capacity was a factor EPA could consider in determining whether to use a general waiver, a thorough analysis demonstrates that the marketplace has the ability to readily consume the statutory volume of 15 bg of conventional renewable fuel in 2017.

a. The supply of renewable fuels and carryover RINs is more than adequate to meet the statutory RVO for conventional renewable fuel in 2017

EPA may only use its general waiver authority to reduce statutory renewable fuel volumes in cases where the Administrator determines there is an “inadequate domestic supply” of renewable fuel to meet the statutory requirements. As discussed in Section V of these comments, Congress intended that the term “supply” refer to the physical *quantity* of renewable fuel and RIN credits produced and available to obligated parties—and nothing more.

The U.S. ethanol industry has the “nameplate” capacity to produce 15.61 bg annually and the industry’s maximum production capacity is somewhat higher.³⁷ In 2015, ethanol producers manufactured 14.81 bg of fuel ethanol.³⁸ Further, ethanol stocks at the end of 2015 were 900.4

³⁵ Based on actual RIN generation data that became available after the final 2014-2016 RVO rule was published, analysis by the University of Illinois found that 225 million D6 RINs were added to stocks at the end of 2015. See Paulson, N. “[2015 Year End RIN Update](#),” *farmdoc daily* (6):42, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 3, 2016.

³⁶ 81 Fed. Reg. 34,781

³⁷ <http://www.ethanolrfa.org/resources/biorefinery-locations/> It is not common for ethanol plants to produce at a rate that is 5-10% over nameplate capacity if warranted by market conditions. Thus, the ethanol industry likely has the technical capacity to produce 16.5 bg or more annually.

³⁸ EIA. *U.S. Renewable Fuels Plant and Oxygenate Plant Net Production of Fuel Ethanol*. http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pets&m_epooxe_ynp_nus_mbbbl&f=a

mg, meaning the total domestic supply of conventional ethanol was 15.71 bg in 2015.³⁹ This supply was available to obligated parties to meet the 2015 statutory renewable fuel volume requirement of 15.0 bg. But because EPA did not finalize a 2015 RVO until the year was essentially over, obligated parties did not purchase all of the available ethanol, leaving ethanol producers with no choice but to export some of the renewable fuel they produced. While the export market provided a crucial outlet for ethanol not purchased by parties obligated under the RFS in 2015, exporting renewable fuels is somewhat contrary to the intent of a program designed to bolster domestic energy security.

EPA's EMTS data show that 14.83 billion D6 RINs were generated in 2015, meaning RIN generation was very near the statutory level of 15 bg even though EPA did not finalize a 2015 RVO until the year was essentially over.⁴⁰ Had EPA finalized the 2015 RVO at the level envisioned by Congress before the deadline of Nov. 30, 2014, it is highly likely that 2015 D6 RIN generation would have surpassed 15 billion.

The U.S. ethanol industry is on pace to produce 15 bg or more in 2016. Through July 1, 2016, U.S. ethanol output had averaged 973,000 barrels per day, which equates to 14.96 bg annualized.⁴¹ However, ethanol production follows seasonal trends and output rates are generally always higher in the second half of the year, meaning total production for 2016 is likely to be well over 15 bg. In its June Short-term Energy Outlook (STEO), EIA forecasted ethanol production of 15.1 bg for both 2016 and 2017.⁴² Further, weekly ethanol output rates topped 1 million barrels per day (15.37 bg annualized) four times in the first half of 2016, including an all-time record of 1.013 million barrels per day (15.57 bg annualized) in the week ending June 10, 2016.⁴³ These figures clearly demonstrate that the ethanol industry is producing a supply of renewable fuel that is more than adequate to meet the statutory RVO volume for 2017.

In addition, 400 mg of conventional (i.e., non-advanced) biodiesel and renewable diesel are expected to be consumed in the U.S. in 2017, according to EPA.⁴⁴ Because these fuels generate 1.5-1.7 RINs per gallon, they can potentially contribute at least 600 million D6 RINs toward compliance with the 15 billion gallon RVO. Thus, when 400 mg of conventional biodiesel and renewable diesel are added to approximately 15 bg of conventional ethanol production, total D6 RIN generation in 2017 is likely to be in the range of 15.6-15.7 billion.

Again, obligated parties may also turn in carryover RINs to comply with RVOs. Accordingly, RIN stocks must also be considered when determining whether the supply of renewable fuel is

³⁹ EIA, *U.S. Ending Stocks of Fuel Ethanol*.

<http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pets&mfestus1&f=a>

⁴⁰ EPA, RFS2 EMTS Informational Data. <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/2015-renewable-fuel-standard-data>, viewed 7/7/2016.

⁴¹ EIA, *Weekly U.S. Oxygenate Plant Production of Fuel Ethanol*, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPOOXE_YOP_NUS_MBBLD&f=W (note that 2016 has 366 days)

⁴² EIA, *Short-term Energy Outlook*, <http://www.eia.gov/forecasts/steo/>

⁴³ EIA, *Weekly U.S. Oxygenate Plant Production of Fuel Ethanol*, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPOOXE_YOP_NUS_MBBLD&f=W (note that 2016 has 366 days)

⁴⁴ 81 Fed. Reg. 34,798 (Table II.D-1)

adequate to meet statutory requirements. The University of Illinois estimates that 1.54 billion D6 RINs were carried out of the 2015 compliance year and available for compliance with 2016 standards.⁴⁵ Therefore, when new D6 RINs generated in 2016 are combined with carryover RINs, the total supply of D6 RINs available for compliance with the 2016 RVO is expected to be near 17 billion. This amount far exceeds the final 2016 conventional renewable fuel RVO of 14.5 bg, meaning ample RIN stocks will be carried in to 2017.

In summary, based on the best available evidence and data, the supply of renewable fuel and carryover RINs will be adequate to meet the 2017 statutory renewable fuel volume requirement of 15 bg. As such, EPA should restore to the 2017 RVO to its statutory level.

b. Consumption of the statutorily prescribed volume of 15 billion gallons of conventional renewable fuel is readily achievable in 2017

As detailed in later sections of these comments, Congress clearly did not intend for EPA to consider perceived constraints on renewable fuel “consumption” or “distribution” as a determinants in setting annual RVOs. However, to the extent that EPA’s proposal relies on such unlawful factors, it underestimates the amount of conventional renewable fuel consumption that is “reasonably achievable” in 2017. We therefore offer the following remarks aimed at improving EPA’s understanding of the marketplace’s current and near-term capabilities for distributing and consuming at least 15 bg of conventional renewable fuels.

i. EPA should revise its estimate of the amount of ethanol that can be consumed in E10 blends upward based on more recent EIA projections of 2017 gasoline demand

EPA’s proposed rule suggests that the maximum volume of ethanol that can be consumed in E10 blends in 2017 is 14.18 bg.⁴⁶ This estimate is based on 2017 projected gasoline energy demand in EIA’s April STEO and includes an assumption that 200 mg of gasoline (E0) will not be blended with ethanol. EIA has revised its 2017 gasoline demand forecasts higher in subsequent STEO reports. The June EIA STEO indicates that the maximum amount of ethanol that can be consumed in E10 blends in 2017 is 14.288 bg. If we adopt EPA’s assumption that demand for E0 will be 200 mg, then maximum ethanol consumption in E10 blends in 2017 falls slightly to 14.266 bg, or 86 mg higher than EPA’s estimate in the proposed rule. While this is the theoretical maximum amount of ethanol that can be consumed in E10 blends in 2017, we assume actual ethanol consumption in E10 will be somewhat less because as ethanol consumption in E15 and E85 blends increases, ethanol consumption in E10 blends decreases. This issue is discussed in later sections.

As EIA continues to revise its gasoline consumption forecasts upward, we believe the estimated amount of ethanol that can be consumed in E10 blends will continue to grow. We are pleased that EPA “intend[s]...in the final rule to use updated EIA projections of gasoline and diesel fuel

⁴⁵ Paulson, N. "[2015 Year End RIN Update](#)," *farmdoc daily* (6):42, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 3, 2016.

⁴⁶ 81 Fed. Reg. 34,791

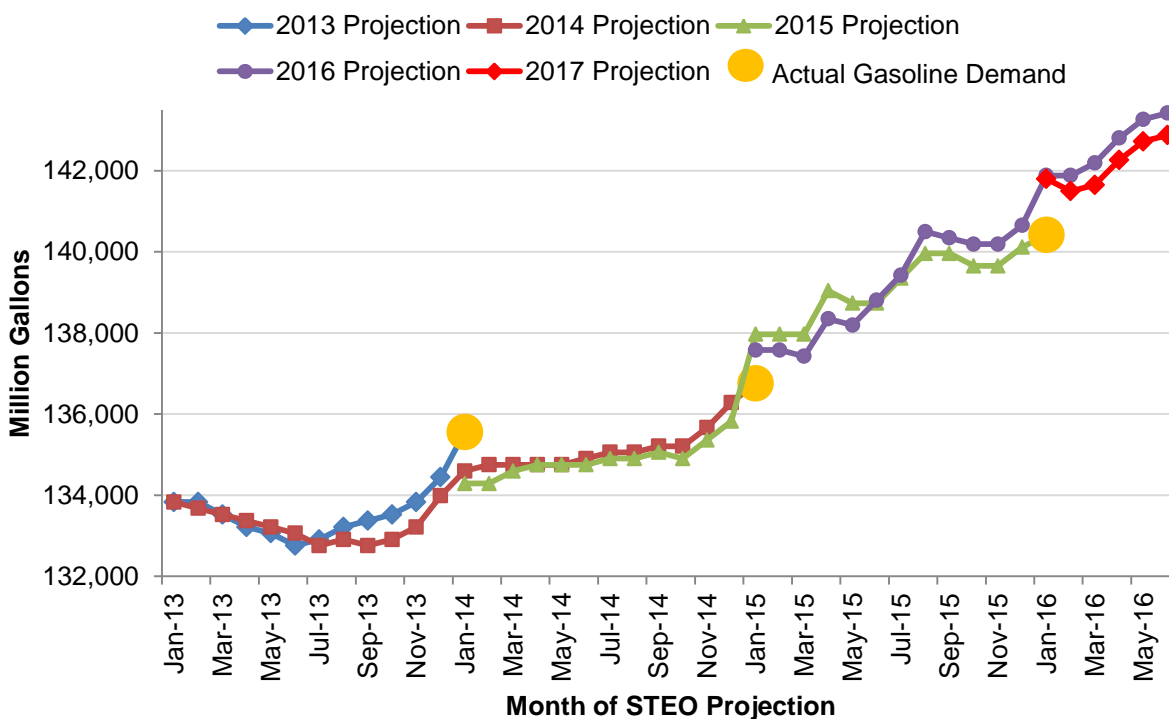
consumption....⁴⁷ At the same time, however, we caution that EIA has repeatedly under-projected gasoline consumption in recent years. Based on EIA's recent track record, it is likely that even the most current EIA projections available to EPA at the time the final rule is prepared will under-estimate actual 2017 gasoline consumption, thus providing EPA an overly conservative view of the amount of ethanol that can be consumed in E10 blends. This issue is more thoroughly explored in the following section.

ii. Recent EIA gasoline demand projections have repeatedly underestimated actual consumption

EPA should take into account the fact that recent EIA gasoline demand projections have exhibited a strong and consistent downward bias when later compared to *actual* demand data. For example, actual 2015 gasoline consumption totaled 140.4 bg, more than 6 bg above EIA's first projection of 2015 gasoline demand (134.3 bg) in the January 2014 STEO. Similarly, EIA's current 2016 gasoline consumption estimate of 143.4 bg is nearly 6 bg higher than the first 2016 projection of 137.5 bg made in the January 2015 STEO.

In fact, every single EIA STEO monthly projection of gasoline consumption in 2013, 2014, and 2015 turned out to be lower than actual consumption in each of those years. Figure 2 shows each monthly projection for 2013, 2014, 2015, 2016, and 2017 gasoline consumption along with actual gasoline consumption (yellow dots) for 2013, 2014, and 2015.

Figure 2. Monthly EIA STEO Gasoline Demand Projections vs. Actual Demand



⁴⁷ 81 Fed. Reg. 34,780 (footnote 5)

EIA has continued to regularly revise gasoline demand projections higher in recent STEOs, and we believe EPA's final 2017 RVO calculations should account for the consistent downward bias of EIA's gasoline projections over the past four years.

iii. EPA incorrectly suggests that the value of RIN credits is not being transmitted to retail E85 pricing in a manner sufficient to stimulate increased consumption

EPA states in the proposal that "...the failure of RIN prices to be fully passed through to retail fuel prices..." is a constraint that prevents distribution of the conventional renewable fuel volume specified in the statute.⁴⁸ Further, EPA suggests that "...the propensity for retail station owners and wholesalers to retain a substantial portion of the RIN value substantially reduces the effectiveness of this aspect of the RIN mechanism."⁴⁹ These views contributed to EPA's decision to propose a conventional renewable fuel requirement that is below the statutory level.

EPA's understanding of RIN pass-through behavior appears to be informed primarily by a staff analysis conducted in November 2015 in support of the Agency's final rule for 2014-2016 renewable volume obligations.⁵⁰ A detailed report by RFA critiquing the EPA staff memo and providing additional analysis on RIN pass-through is found at Attachment A. The RFA report provides evidence that a substantial portion of the RIN value is indeed being passed through to retail in order to lower E85 prices relative to E10 prices, particularly during periods when wholesale ethanol prices are priced near parity or above wholesale gasoline prices. Based on wholesale price data from the Omaha terminal rack, the RFA report finds that approximately 86-90% of the RIN value was passed through to Nebraska E85 retail prices between January 2014 and May 2016. This stands in stark contrast to EPA's suggestion that "only 44% of the RIN value is passed on from wholesale to the customer..."⁵¹

A second EPA staff memo examines the responsiveness of E85 consumption to changes in E85 retail prices relative to E10 prices.⁵² Based on the questionable analysis and sparse data found in this memo, EPA concluded that "...greater E85 price discounts relative to gasoline have not been associated with the substantial increases in E85 sales volumes that some stakeholders believe have occurred, or could occur in the near future."⁵³ Not only does this conclusion defy basic economic principles, but it also is contrary to the findings of much more detailed research.

A recent study published by economists at Iowa State University empirically confirms that flex fuel vehicle (FFV) drivers increasingly choose E85 as the fuel's discount to E10 widens.⁵⁴ The

⁴⁸ 81 Fed. Reg. 34,787

⁴⁹ 81 Fed. Reg. 34,790

⁵⁰ "An Assessment of the Impact of RIN Prices on the Retail Price of E85," Dallas Burkholder, Office of Transportation and Air Quality, US EPA. November 2015. EPA Air Docket EPA-HQ-OAR-2015-0111.

⁵¹ *Id.*

⁵² "Correlating E85 consumption volumes with E85 price," David Korotney, Office of Transportation and Air Quality, US EPA, November 2015. EPA Air Docket EPA-HQ-OAR-2015-0111.

⁵³ 81 Fed. Reg. 34,790

⁵⁴ K. Liao and S. Pouliot. "Willingness to Pay for Ethanol in Motor Fuel: Evidence from Revealed and Stated Preference for E85." Center for Agricultural and Rural Development, Iowa State University. Working Paper 16-WP 562. March 2016. Available at: www.card.iastate.edu/publications/dbs/pdf/files/16w562.pdf

researchers partnered with retail stations in Colorado Springs, Des Moines, Little Rock, Tulsa, Sacramento, and Los Angeles to observe consumer purchasing behaviors and to survey FFV drivers about their attitudes toward E85. The study found that about 10% of FFV drivers in the cities outside of California choose E85 when it is priced the same as E10; 16% choose E85 when priced at 10% below the price of E10; 24% choose E85 when priced 20% below E10; and about 38% choose E85 when priced at 30% below the E10 price. At the Sacramento and Los Angeles stations, about 74% of FFV motorists choose E85 when priced the same as E10; 82% choose E85 when the price is 10% below the E10 price; 89% choose E85 when it is 20% cheaper than E10; and 94% choose E85 when the price is 30% lower than E10.

These results support the argument that E85 consumption *does* in fact increase in an accelerated, non-linear fashion as the retail discount to E10 widens. We strongly encourage EPA to re-consider its conclusion that E85 usage does not respond to retail price changes.

iv. The proposed rule understates the volume of E85 that is likely to be consumed in 2017 and disregards EIA's E85 projections, leading EPA to underestimate total 2017 ethanol consumption

EPA's proposal estimates that 14.18 bg of ethanol can be consumed in E10 blends in 2017. In addition, EPA estimates 200-400 mg of E85 consumption and 600-800 mg of E15 consumption will occur in 2017. Accordingly, 148-296 mg of ethanol would be consumed in E85 blends, while another 90-120 mg of ethanol would be consumed in E15 blends.⁵⁵ Thus, total 2017 ethanol consumption based on EPA's assumptions would be in the range of 14.418 to 14.596 bg. However, for the purposes of determining the RVO levels, EPA adopts a conservative estimate of 14.40 bg, implying that only 220 mg of ethanol will be consumed in E85 and E15.

Available data show that ethanol consumption in E85 blends has already surpassed the 220-million-gallon level assumed by EPA for 2017 E85 and E15 ethanol volumes combined. EIA data indicate that E85 consumption was 326 mg in 2014 and 508 mg in 2015.⁵⁶ This means 241 mg and 376 mg of ethanol were consumed in 2014 and 2015, respectively. EIA projects E85 consumption of 699 mg in 2016, equating to 517 mg of ethanol consumption. EPA relies on EIA data and projections for total gasoline and diesel energy consumption, biofuel imports and exports, and many other important factors. Thus, it is unclear why EPA disregards EIA historical data and projections on E85 consumption. In any case, it would be conservative and safe to assume that 2017 ethanol consumption in E85 blends will be at least the same as it was in 2015, the last full year for which EIA data exists (508 mg of E85 containing 376 mg of ethanol). Meanwhile, EPA's estimate of 90-120 mg of ethanol consumption in E15 blends is reasonable.

Obviously, as ethanol consumption in E15 and E85 blends increases, ethanol consumption in E10 blends decreases concomitantly, and this factor must be taken into account when estimating total ethanol consumption. Table 4 below shows a conservative estimate of total ethanol consumption in 2017 using the same "gasoline energy" approach used by EPA in the

⁵⁵ We adopt EPA's assumption that E85 contains 74% ethanol on average.

⁵⁶ EIA, *Annual Energy Outlook 2016*. May 2016. Reference Case Table 11 ("Petroleum and Other Liquids Supply and Disposition") shows E85 consumption of 21,269 barrels per day in 2014 and 33,106 barrels per day in 2015. These volumes equate to 326 mg and 508 mg of E85 in 2014 and 2015, respectively.

2014-2016 final rule. EIA's June 2016 STEO projects total gasoline energy demand in 2017 will be 17.294 quadrillion BTU. As we have shown in previous sections, we believe this projection will be revised upward between now and issuance of the final rule; however, we presently use the June STEO figures for the purposes of conservatively approximating 2017 ethanol consumption.

TABLE 4. Projected 2017 Ethanol Consumption

	Fuel Volume (mil. gals.)	Ethanol Volume (mil. gals.)	Energy (Quad BTUs)
E0^a	200	-	0.025
E10^b	141,700	14,170	17.151
E15^c	600	90	0.071
E85 (74% ethanol)^d	507	375	0.048
TOTAL	143,007	14,635	17.295

- a. Based on EPA estimate
- b. E10 consumption is determined by subtracting total energy embedded in E0, E15, and E85 from total gasoline energy projection.
- c. Based on lower end of EPA estimate
- d. Assumes 2017 E85 consumption will be the same as 2015 E85 consumption, as estimated by EIA

v. EPA correctly recognizes that conventional (i.e., non-advanced) biodiesel and renewable diesel are likely to contribute the equivalent of more than 600 million gallons toward the conventional renewable fuel RVO in 2017

In the proposed rule, EPA “acknowledge[s] that imports of conventional (D6) biodiesel and renewable diesel have increased in recent years, and are likely to continue to contribute to the supply of renewable fuel in the United States in 2017.”⁵⁷ Table II.D-1 of the proposal shows that EPA used an estimated volume of 400 million “physical gallons” of conventional biodiesel and renewable diesel for determining the proposed RVOs. We agree with EPA’s estimated volumes and believe the Agency’s assessment is consistent with the market’s behavior in recent years. Table 5 below shows that 275 mg of conventional biodiesel and renewable diesel accounted for the generation of more than 450 million RINs in 2015, up from 205 mg and 337 million RINs in 2014. We agree with EPA that this volume will continue to grow in the future.

Table 5. 2014-2015 Conventional (D6) Biodiesel and Renewable Diesel Volumes and RIN Generation from EPA EMTS

	2014 Vol. (mil. gals.)	2014 D6 RINs (million)	2015 Vol. (mil. gals.)	2015 D6 RINs (million)
Conventional Biodiesel	53.2	79.8	74.5	111.7
Conventional Renewable Diesel	151.4	257.4	200.5	340.9
TOTAL	204.6	337.2	275.0	452.6

⁵⁷ 81 Fed. Reg. 34,798

The data also indicate that the average RIN equivalency value associated with these fuels was 1.65 RINs per gallon in both 2014 and 2015. Thus, to determine the 2017 D6 RIN generation potential associated with the projected 400 mg of conventional biodiesel and renewable diesel, it is appropriate to apply the same equivalency value. This suggests these fuels will likely contribute some 660 million D6 RINs in 2017.

vi. EPA's assumption that imported sugarcane ethanol will account for 200 mg of U.S. ethanol consumption in 2017 is unrealistic and ultimately leads to the unnecessary reduction of the conventional renewable fuel RVO from its statutory level of 15 billion gallons

EPA's proposal estimates that 14.4 bg of U.S. ethanol consumption is "reasonably achievable" in 2017. Combined with EPA's expectation that conventional biodiesel and renewable diesel will contribute some 600 million D6 RINs, it would appear on the surface that EPA itself is demonstrating that the statutory 15-billion-gallon RVO for conventional renewable fuel is readily achievable in 2017.

However, EPA is assuming that imported sugarcane ethanol will account for 200 million of the 14.4 bg of ethanol consumption. Because sugarcane ethanol qualifies as an advanced biofuel, EPA removes this volume from the amount of ethanol that it assumes will be blended for compliance with the conventional renewable fuel RVO. Thus, EPA assumes only 14.2 bg of conventional ethanol will be blended. When combined with roughly 600 million D6 RINs expected from the use of conventional biodiesel and renewable diesel, EPA's total assumed conventional renewable fuel use totals 14.8 bg (D6 RINs).

As demonstrated previously in these comments, it is highly improbable that sugarcane ethanol imports will come anywhere close to 200 mg in 2017. Accordingly, we recommended that EPA revise its expectation for sugarcane ethanol imports downward to approximately 15-20 mg.

Further, we showed previously in these comments that actual ethanol blending is likely to top 14.6 bg in 2017 when updated assumptions are used regarding E10 and E85 consumption. Thus, even if EPA were correct in assuming that 200 mg of imported sugarcane ethanol will be blended next year, blending of conventional ethanol would still be approximately 14.4 bg. When the 660 million D6 RINs from conventional and renewable diesel are added, it is inarguable that the 15 billion gallon statutory RVO for conventional renewable fuel is "reasonably achievable."

vii. The existing vehicle fleet is legally approved by EPA to consume roughly 34 billion gallons of ethanol—more than *twice* the amount of conventional renewable fuel required by the statute in 2017

Astonishingly, EPA cites the "number of vehicles that can both legally and practically consume E15 and/or E85" as a "constraint" on the amount of ethanol that can be distributed to consumers.⁵⁸ In reality, there are no such legal or practical constraints posed by the existing vehicle fleet.

⁵⁸ 81 Fed. Reg. 34,790

In fact, the existing fleet has the legal and technical capacity to consume approximately 34 bg of ethanol.⁵⁹ Approximately 9% of the U.S. light-duty vehicle fleet is comprised of FFVs, which alone have the legal and physical capability to consume some 15 bg of ethanol if they always refueled with E85. Further, 83% of vehicles (including FFVs) on the road today were manufactured in 2001 or later, and thus are legally approved to use E15. Considering only the non-FFVs built since 2001, these vehicles have the capacity to consume another 16.5 bg of ethanol. Finally, the remaining pre-2001 non-FFVs on the road today represent about 17% of the fleet and can legally consume roughly 2.4 bg of ethanol in E10 blends.

Even if we assume E15 is used only in vehicles for which the manufacturers have provided explicit approval of E15, the current fleet still has the capacity to consume nearly 29 bg of ethanol. As demonstrated in a December 2015 RFA analysis, an increasing number of manufacturers are explicitly approving the use of E15 in their new automobiles and more than 70% of new MY2016 vehicles sold are clearly approved for the use of E15.⁶⁰ Further, analysis by *Reuters* showed that approximately 20% of the vehicles on the road today are clearly approved and warranted by the manufacturer for the use of E15.⁶¹ If these vehicles always refueled with E15 and the remaining 80% of vehicles used only E10 (i.e., if no E85 was used at all), annual ethanol consumption would be near 16 bg.

Clearly, the compatibility of the existing vehicle fleet with E15 and E85 is not a limiting factor that would justify reducing the 2017 RVO for conventional renewable fuel to levels below the statutory volume.

viii. Existing E15 and E85 refueling infrastructure is sufficient to facilitate achievement of the statutory conventional renewable fuel volume of 15 billion gallons in 2017, and additional infrastructure is rapidly developing

E85 is sold today at more than 3,400 retail gasoline stations, while just over 300 retail stations are selling E15.⁶² If stations offering E85 sell it at only one pump, and if sales volumes from that pump are the same as E10 sales volumes from other refueling positions, then existing E85 stations are selling a total of approximately 550-600 mg of E85 annually (containing 407-444 mg of ethanol).⁶³ This is consistent with EIA's estimate of actual E85 usage in 2015 and projection for 2016. Meanwhile, if we assume 300 stations offering E15 today are selling the fuel from two-

⁵⁹ Assumes current fleet of 230 million vehicles, 9% of which are FFVs, 74% of which are MY2001 and newer non-FFVs approved by EPA to use E15, and 17% of which are MY2000 or older non-FFVs approved to use only E10. Based on actual EIA gasoline energy consumption for 2015, assumes average FFV consumes 875 gals. of E85 annually, average MY2001 and newer vehicle consumes 645 gals. of E15 annually, and average MY2000 and older vehicle consumes 615 gals. of E10 annually.

⁶⁰ RFA, "RFA Analysis Shows Uptick in Number of Automakers Who Have Approved E15 for Use in New Vehicles." December 21, 2015. <http://www.ethanolrfa.org/2015/12/rfa-analysis-shows-uptick-in-number-of-automakers-who-have-approved-e15-for-use-in-new-vehicles/>

⁶¹ Prentice, Chris. *Reuters*. "Big Corn finds unlikely allies in U.S. biofuel push: carmakers and drivers." March 23, 2016. <http://www.reuters.com/article/us-usa-biofuels-autos-idUSKCN0WP0C7>

⁶² www.E85prices.com shows 3,454 stations are currently selling E85. We conservatively assume each of these stations has only one E85 pump. RFA internally tracks the number of stations selling E15.

⁶³ Assumes average retail station sells 1 mg of gasoline per year (2015 gasoline consumption of 140.4 bg/140,000 retail gasoline stations). Assumes average retail station has six pumps (12 fueling positions).

thirds of their pumps, and E15 sales volumes per pump are equivalent with E10 sales, then these stations are selling roughly 200 mg of E15 annualized, containing 30 mg of ethanol.⁶⁴

These assumptions are likely conservative, as anecdotal information from E15 and E85 retailers suggests the per-pump sales volumes of these alternative fuels are generally larger than the per-pump sales volumes of E10. Further, most of the stations recently adopting E15 are high-volume stations that sell above-average volumes of fuel. In addition, sales of E15 and E85 will increase relative to same-station sales of E10 in cases where higher RIN prices enable greater discounting.

While the existing infrastructure is adequate to facilitate achievement of the 15 bg statutory RVO for conventional renewable fuel, additional pumps capable of dispensing both E15 and E85 are rapidly being installed at new retail sites nationwide. As a result of the U.S. Department of Agriculture's Biofuels Infrastructure Partnership (BIP) grant program, an additional 5,000 pumps are being installed at some 1,400 retail stations. Other industry programs are also facilitating rapid expansion of E15 and E85 infrastructure. Thus, the number of pumps dispensing E85 and E15 is expected to virtually double in the near term.

ix. EPA's rulemaking schedule for the 2017 RVO provides adequate lead time for the market to make necessary investments and preparations to meet the statutory volume of 15 billion gallons

EPA rightly recognized that the timing of the final 2014-2016 RVO rule was such that the final standards for 2014 and 2015 could not reasonably be expected to drive meaningful change in the marketplace. That is, 2014 was already over and only one month remained in 2015, meaning the standards could not realistically affect marketplace behavior for those years.

However, this was not the case with the 2016 RVO. Whereas the 2014 and 2015 RVOs simply reflected EPA's estimate of actual renewable fuel use, EPA surmised that the final 2016 RVO was issued early enough that it would "... push the fuels sector to produce and blend more renewable fuels in 2016."⁶⁵ Indeed, we have seen year-to-date ethanol production and blending achieve new record levels in 2016, partially in response to the final 2017 RVO.⁶⁶ We agree that market participants can and will respond to the signals sent by EPA's final RVOs every year, provided those rules are published with adequate lead time.

EPA has committed to meeting the statutory deadline of Nov. 30, 2016, for issuance of the final 2017 RVO. Meeting this deadline will indeed provide sufficient lead time for obligated parties and renewable fuel producers to plan accordingly to meet the standards. The lead time afforded by EPA returning the RVO rulemaking process to its statutory schedule is one more reason to increase the 2017 RVO for conventional renewable fuel to its statutory level of 15 bg.

⁶⁴ Assumes average retail station sells 1 mg of gasoline per year (2015 gasoline consumption of 140.4 bg/140,000 retail gasoline stations). Assumes average retail station has six pumps (12 fueling positions).

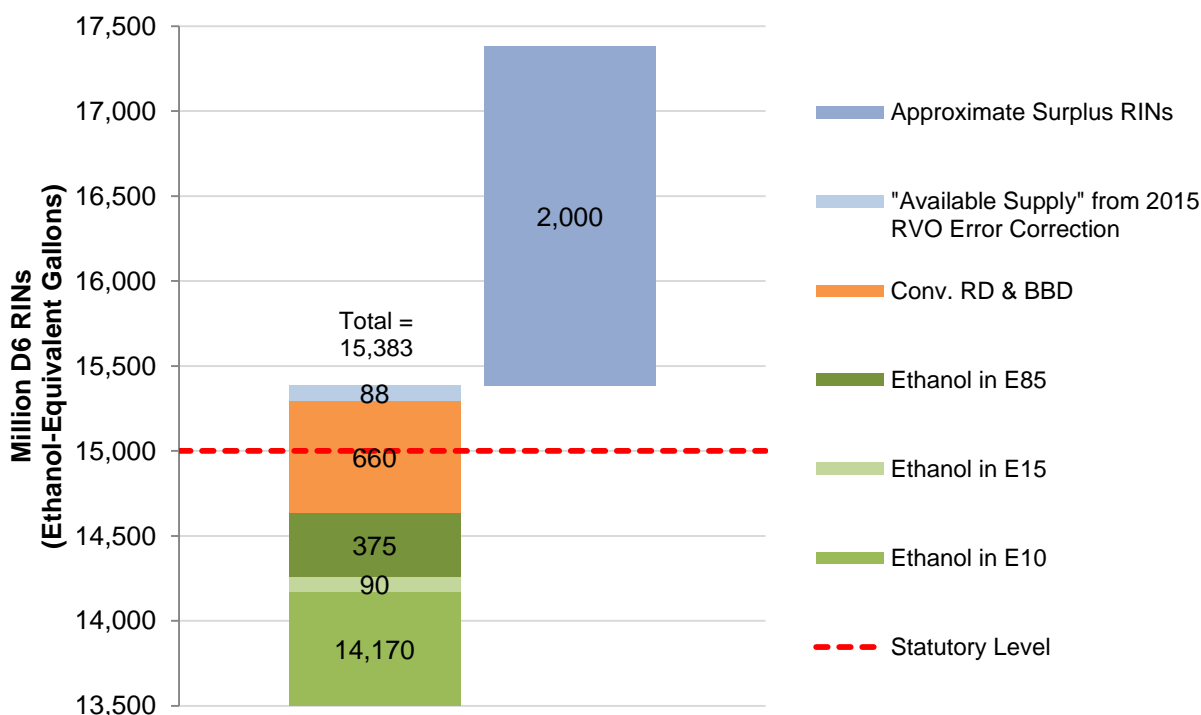
⁶⁵ 80 Fed. Reg. 77,423

⁶⁶ Ethanol blending hit a record annualized rate of 14.71 bg during the week ended July 1, 2016. EIA, *Weekly U.S. Refiner and Blender Net Input of Fuel Ethanol*, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPOOXE_YIR_NUS_MBLD&f=W

x. Taken together, these factors facilitate the consumption of at least 15 billion gallons of conventional renewable fuel in 2017

As stated elsewhere in these comments, EPA's view of the marketplace's ability to distribute or consume the statutory volumes of renewable fuel is *not* a relevant or allowable consideration in determining whether a general waiver should be exercised. However, to the extent that EPA continues to rely on this unlawful approach to determining appropriate RVO levels, we have clearly demonstrated in this section that the market can readily produce, distribute and consume the 15-billion-gallon statutory volume of conventional renewable fuel in 2017. Figure 3 below graphically portrays how each of the factors discussed in this section contribute to the achievement of the statutory RVO for conventional renewable fuels in 2017. Using EIA's estimate of historical (2015) E85 consumption, along with EPA's proposed rule projections for conventional biodiesel/renewable diesel consumption, E15 consumption, E10 consumption results in approximately 15.3 billion new D6 RINs being available for compliance with the 2017 RVO. In addition, correcting the 2015 RVO error, as discussed previously in these comments, results in the availability of another 88 million D6 RINs. These factors clearly demonstrate that the marketplace has the ability to readily achieve the statutory 2017 RVO.

Figure 3. Pathway to Achieving 15 Billion Gallons of Conventional Renewable Fuel in 2017



V. The Statutory Basis for Granting a General Waiver Based on “Inadequate Domestic Supply” of Renewable Fuels Does Not Allow the Agency to Take Into Account Perceived Constraints on Distribution Capacity and the Act of “Supplying to” Consumers

Because EPA relies on the same fundamentally flawed application of its general waiver authority that it used in setting the 2014-2016 RVOs, we incorporate by reference our comments, and all attachments, in response to EPA's 2014-2016 RVO proposal.⁶⁷ In addition, we provide the comments below pertaining to EPA's unlawful use of a general waiver to reduce 2017 RVOs below the statutory levels.

Even beyond the factual inaccuracies that plague EPA's 2017 RVO proposal, there is a fundamental legal infirmity as well: The Clean Air Act does not permit the Agency to take into account perceived constraints on "infrastructure"⁶⁸ or "constraints associated with supplying [i.e., distributing] renewable fuels to the vehicles and engines that can use them"⁶⁹ in determining whether to grant a general waiver based on an "inadequate domestic supply" of renewable fuel. Instead, EPA may grant a waiver based on "inadequate domestic supply" of "renewable fuel" only where it finds that the renewable fuel industry lacks the capability to produce the required volumes of renewable fuel, and where there are insufficient carryover RINs available for obligated parties to meet the statutory RVO. The Agency has not made that showing here.

The RFS program was created by the EPA Act and expanded by EISA. The purpose of this program is to gradually expand the availability and use of renewable fuels by "replac[ing] or reduc[ing] the quantity of fossil fuel present in transportation fuel."⁷⁰ The program achieves this purpose by requiring that domestic producers and distributors of transportation fuel make available steadily increasing volumes of renewable fuels each year, and by imposing penalties on obligated parties who fail to achieve these requirements through generating or purchasing credits, called RINs, based on the quantity of renewable fuel that is produced, blended, or imported.⁷¹

Consistent with Congress's overarching goal—to force the transportation-fuel industry to increasingly replace fossil fuel with renewable fuel—the RFS program authorizes EPA to grant a waiver from its requirements in two carefully and *narrowly defined* situations:

- if there is an "inadequate domestic supply" of renewable fuel, Clean Air Act § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)), or
- if the implementation of the requirement would "severely harm the economy or environment of a State, a region, or the United States," *id.* § 211(o)(7)(A)(i) (codified at 42 U.S.C. § 7545(o)(7)(A)(i)).

⁶⁷ RFA. Comments on Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017; Proposed Rule (80 Fed. Reg. 33,100). July 27, 2015. Submitted to docket EPA-HQ-OAR-2015-0111.

⁶⁸ 81 Fed. Reg. 34,785

⁶⁹ 81 Fed. Reg. 34,784

⁷⁰ Clean Air Act § 211(o)(1)(J) (defining renewable fuel to mean "fuel that is produced from renewable biomass and that is used to *replace or reduce* the quantity of fossil fuel present in transportation fuel" (emphasis added)) (codified at 42 U.S.C. § 7545(o)(1)(J)).

⁷¹ See Clean Air Act § 211(o)(2)(B)(i)(I) (increasing the statutorily mandated volumes each year) (codified at 42 U.S.C. § 7545(o)(2)(B)(i)(I)); *id.* § 211(o)(5) (establishing a credit program) (codified at 42 U.S.C. § 7545(o)(5)); *see also id.* § 211(d)(1), (2) (providing for the imposition of civil penalties and injunctive relief based on noncompliance with the requirements of the RFS program) (codified at 42 U.S.C. § 7545(d)(1), (2)).

In the proposed rule, EPA has not claimed that the 2017 RVO would “severely harm” the economy or environment of a State, region, or the United States—and for good reason. The Administrator could not credibly claim that implementation of the statutory RVOs would lead to such a severe harm to the economy or the environment.

Instead, EPA inexplicably suggests that the statutory term “inadequate domestic supply” somehow includes “factors affecting the ability to *distribute, blend, dispense, and consume* those renewable fuels in vehicles.”⁷² EPA also claims that it may “...consider supply in terms of distribution and use by the ultimate consumer...”⁷³ But the Agency is mistaken for two reasons. *First*, as explained above, EPA is factually incorrect. There are no barriers or “practical constraints” on consumption that could justify a waiver of the RVO for conventional renewable fuel in 2017, even if such barriers were an allowable waiver consideration. *Second*, and more fundamentally, the term “supply” in 211(o)(7)(A)(ii) is a noun referring to a physical quantity of renewable fuel and cannot be read as a verb (i.e., as in “supply to”) that implicitly includes considerations of distribution and consumption. Further, the phrase “renewable fuel” requires the Agency to take into account the availability of carryover RINs in meeting the RVO.

Taken together, this means that considerations of consumption and distribution are irrelevant. Instead, EPA’s sole focus should be on whether there is an insufficient quantity of renewable fuel available—based on the capacity to produce renewable fuel, projections of actual production, and carryover RINs—such that obligated parties could not satisfy the statutorily prescribed RVO.

a. The phrase “inadequate domestic supply” of “renewable fuel” is unambiguous, and requires the Agency to find both an inadequate capacity to produce renewable fuels, along with insufficient carryover RINs available to meet the RVO

As noted above, the Clean Air Act authorizes EPA to grant a general waiver to “reduc[e] the national *quantity of renewable fuel* required under [the RFS Program] . . . based on a determination . . . that there is an inadequate domestic *supply*.” Clean Air Act § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)) (emphasis added). There can be no doubt that the phrase “inadequate domestic supply” refers to the available quantity of renewable fuel based on production capacity and carryover RINs—and nothing more.

In interpreting the phrase at issue, EPA is required to follow the well-known, two-step framework established in *Chevron, U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984). First, the Agency must determine “whether Congress has directly spoken to the precise question at issue.” *Id.* at 842. “If the intent of Congress is clear, that is the end of the matter; for the court[s], as well as the agency, must give effect to the unambiguously express intent of Congress.” *Id.* at 842-43. If, however, the intent of Congress is not clear, only then may the Agency continue to *Chevron*’s second step. Under that second step, a court will defer to an agency’s interpretative choice if it “represents a reasonable accommodation of conflicting policies that were committed to the agency’s care by the statute.” *Id.* at 845.

⁷² 80 Fed. Reg. 33,111

⁷³ 80 Fed. Reg. 33,113

Before proceeding to *Chevron*'s second step, EPA must "employ[] traditional tools of statutory construction" to ascertain congressional intent. *Id.* at 843 n.9. This includes not only a searching inquiry of the statute's underlying text, but also an understanding of its overarching purpose and the legislative history of the phrase or provision at issue. Indeed, beginning with *Chevron* itself, the Supreme Court has considered a statute's "legislative history" among the "traditional tools of statutory construction" that must be considered at *Chevron*'s first step. *Id.* at 843 n.9, 851-60 (analyzing the "legislative history" of the Clean Air Act at *Chevron*'s first step); see also *Gen. Dynamics Land Sys. v. Cline*, 540 U.S. 581, 600 (2004) ("deference to [an agency's] statutory interpretation is called for only when the devices of judicial construction have been tried and found to yield no clear sense of congressional intent"); *id.* at 586-91 (using legislative history to determine congressional intent at *Chevron*'s first step); cf. *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., Inc.*, 545 U.S. 967, 989, 992 (2005) (concluding that the statute in question was ambiguous, "not only from the ordinary meaning" of the language, "but also from the *regulatory history* of the Communications Act," which effectively served as that statute's legislative history, because "Congress passed the definitions in the Communications Act against the background of this regulatory history" (emphasis added)).

Here, the text, purpose, and legislative history of the general waiver provisions, along with the structure of the Clean Air Act more generally, all lead to the same conclusion: the term "supply" refers to the available stock (or quantity) of renewable fuel based on production capacity and carryover RINs, and does not include concepts traditionally associated with "consumption" or the act of "supplying [a commodity] to" the end user. Here, EPA's interpretation of the general waiver provision unquestionably fails *Chevron*'s first step.

i. A plain reading of the phrase "supply" of "renewable fuel" means the physical quantity of renewable fuel and any available carryover RIN credits

The general waiver provision authorizes the Administrator to grant a waiver to "reduc[e] the national *quantity* of *renewable fuel* required under [the RFS program] . . . based on a determination . . . that there is an inadequate domestic *supply*." Clean Air Act § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)) (emphasis added). As explained below, the key statutory phrase—"inadequate domestic supply" of "renewable fuel"—refers to the availability of renewable fuel as a commodity based on projected production capacity and existing stocks of carryover RIN credits. It does not embrace concepts of "consumption."

Although the phrase "inadequate domestic supply" is not explicitly defined in the statute, the term "supply" has a settled meaning in everyday parlance. "Supply" is a noun meaning "the quantity or amount (as of a commodity) needed or available." NEW MERRIAM-WEBSTER DICTIONARY 721 (1989). In the 2014-2016 RVO proposal, EPA itself admitted that this is the "common understanding of this term..."⁷⁴ The term "supply" is therefore distinct from the concept of "consumption," which focuses instead on "the act of consuming or using up." NEW MERRIAM-WEBSTER DICTIONARY 172 (1989). EPA has further attempted to conflate "supply" with "distribution" or "consumption" by suggesting the term should be read as a verb (i.e., "to

⁷⁴ 80 Fed. Reg. 33,111

supply”), then arguing that there are “practical and legal constraints” that prevent adequate supplies of renewable fuel from being “supplied to” consumers. EPA’s tenuous attempt to redefine “supply” is an obvious affront to the plain statutory language established by Congress.

The waiver provision also speaks to a commodity, “renewable fuel.” It authorizes the Administrator to grant a waiver of the required “quantity” of “renewable fuel” only where there is an “inadequate domestic supply”—*i.e.*, an insufficient amount available—of that commodity to satisfy the RVO’s yearly requirements. Clean Air Act § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)).

The commodity itself, “renewable fuel,” is defined to mean two things. First, “renewable fuel” includes the physical gallons of “fuel that is produced from renewable biomass and that is used to replace or reduce the quantity of fossil fuel present in a transportation fuel.” *Id.* § 211(o)(1)(J) (codified at 42 U.S.C. § 7545(o)(1)(J)). Second, “renewable fuel” includes any carryover RINs, which are meant to represent “a quantity of renewable fuel that is greater than the quantity required” in a given year. *Id.* § 211(o)(5)(A)(i) (codified at 42 U.S.C. § 7545(o)(5)(A)(i)); see also 40 C.F.R. § 80.1401 (defining a RIN to mean “a unique number generated to represent a volume of renewable fuel”).⁷⁵

As a result, EPA must take into account both the physical gallons of renewable fuel that may be available in a given year, based on production capacity, along with any carryover RINs that are available to obligated parties to meet their obligations under the statutorily-prescribed RVO. In other words, even if the renewable fuel industry’s projected capacity falls short of the RVO for a given year (or if those projected totals somehow do not count towards the available “supply” of “renewable fuel”), the Agency would still be obligated to take into account the availability of carryover RINs. Those RINs represent a volume of renewable fuel that may be credited towards an obligated party’s obligation under the RVO for a given year. See Clean Air Act § 211(o)(5) (codified at 42 U.S.C. § 7545(o)(5)). Thus, carryover RINs form a component that must be included in determining whether there is an “inadequate domestic supply” of “renewable fuel” sufficient to grant a general waiver. Indeed, it would make no sense to interpret the RFS program to provide that a party may satisfy its obligation using carryover RINs, but then suggest that carryover RINs should not factor into whether it is appropriate to grant a waiver from those obligations.

Fundamentally, EPA may grant a waiver only where there is an “inadequate domestic supply” of the total “quantity” of “renewable fuel”—that is, the projected capacity of the renewable-fuel industry to produce physical gallons during the year in question *and* any carryover RINs that are available to obligated parties. Clean Air Act § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)); see also *id.* § 211(o)(5)(A)(i) (codified at 42 U.S.C. § 7545(o)(5)(A)(i)).

⁷⁵ EPA has itself adopted this interpretation of the commodity at issue. In interpreting the parallel waiver provision that governs cellulosic biofuel, EPA considered both the projected availability of physical gallons of advanced biofuel and the “significant number of carryover RINS available” to help meet that year’s RVO. EPA, *Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards*, 78 Fed. Reg. 49,794, 49,797 (Aug. 15, 2013).

ii. EPA's proposed interpretation of "Inadequate Domestic Supply" is not supported by Congressional intent of the RFS program

Even if the term "supply" could be said to embrace the much broader "factors affecting the ability to distribute, blend, dispense, and consume...renewable fuels in vehicles," such an interpretation is contrary to the purpose of the RFS program. The purpose behind the RFS program generally, and the waiver provision in particular, supports a commodity-driven definition of supply—one that accounts for only a shortage of renewable fuel, but does not take into account the infrastructure needed to distribute it to consumers. The very purpose of the RFS program was to "replace or reduce the quantity of fossil fuel present in a transportation fuel." Clean Air Act § 211(o)(1)(J) (codified at 42 U.S.C. § 7545(o)(1)(J)). The program achieves this purpose by requiring that the "transportation fuel sold or introduced into commerce in the United States . . . contains at least the applicable volume of renewable fuel" set out in the statutory RVO provision, Section 211(o)(2)(B). *Id.* § 211(o)(2)(A)(i) (codified at 42 U.S.C. § 7545(o)(2)(A)(i)).

Properly understood, the RFS program was designed to force the oil industry to change the status quo—not to perpetuate it. The only way that the oil industry can achieve the ever-increasing volume requirements is to invest in new infrastructure capable of distributing, blending, and dispensing renewable fuels. Congress, in its wisdom, did not dictate how the oil industry would achieve these goals; instead, it published the targets well in advance of implementation and provided penalties for noncompliance. See Clean Air Act § 211(o)(5) (establishing a credit program) (codified at 42 U.S.C. § 7545(o)(5)); see also *id.* § 211(d)(1), (2) (providing for the imposition of civil penalties and injunctive relief based on noncompliance with the requirements of the RFS program) (codified at 42 U.S.C. § 7545(d)(1), (2)). The threat of financial penalties would be an empty one if EPA could simply grant a waiver based on the oil industry's refusal to help put in place the infrastructure needed to distribute, blend, and dispense renewable fuels to consumers.

And yet, that is exactly what EPA has proposed here. The Agency claims that, because there is insufficient "infrastructure" in place to ensure the consumption of the required volumes of renewable fuels—infrastructure that, paradoxically, the oil industry was obligated to help create—the oil industry should receive a waiver of its obligations under the RFS program. That interpretation would do violence to the purpose of the RFS Program.

The entire purpose of this program would be subverted if the oil industry is awarded a waiver after it failed to take the steps necessary to ensure that it was capable of distributing, blending, and dispensing the supply of renewable fuel required under the statute. Indeed, it should come as no surprise that the oil industry has actively resisted providing the infrastructure necessary to meet the RFS program's mandate to "replace or reduce the quantity of fossil fuel present in a transportation fuel." Clean Air Act § 211(o)(1)(J) (codified at 42 U.S.C. § 7545(o)(1)(J)); see also H.R. Rep. No. 109-215, pt. 1, at 169 (2005) (stating that the RFS program "encourages the use of alternative transportation fuels"). Every gallon of renewable fuel that replaces a gallon of fossil fuel is a gallon less sold by the oil industry. Congress knew that the industry had no incentive to reduce America's dependence on fossil fuel on its own, so it provided a rigid program to force the industry to make renewable fuels available or pay statutory penalties.

Viewed in this light, it is apparent that Congress intended to allow EPA to grant a waiver only in two narrow situations—both where continued compliance with the statutory RVO would be beyond the oil industry’s control. First, it would be unfair to penalize the oil industry if there was an inadequate domestic supply of the renewable fuel and RIN credits available to meet the requirements of the RFS program. As a result, Congress authorized EPA to grant a waiver if the available supply of renewable fuel and credits was inadequate to meet the program’s requirements. *Id.* § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)). Second, Congress provided waiver authority where continued compliance with the RVO might cause economic or environmental harm. *Id.* § 211(o)(7)(A)(i) (codified at 42 U.S.C. § 7545(o)(7)(A)(i)). But to stave off perpetual claims by the oil industry—that implementing the RVO would, itself, amount to economic harm—Congress set an extremely high bar: the Administrator must find that continued compliance would cause “severe” economic or environmental harm to a State, region, or the United States. *Id.*

Beyond these narrow exceptions, Congress provided no avenue for the Administrator to waive the requirements of the RVO as it applies to the undifferentiated renewable fuel portion of the RFS. And here, the only obstacles to continued compliance are those that the oil industry has itself erected. For instance, the industry could have easily supported efforts to install blending infrastructure straight at the pump, which would facilitate the distribution of blends greater than E10. Indeed, virtually every fueling station in the country has storage tanks capable of holding the regular gasoline and renewable fuels needed to produce blends greater than E10 straight at the pump.⁷⁶ But allowing its franchisees to install these blending pumps would mean that the oil industry would sell less fossil fuel—the very purpose of the RVO, Clean Air Act § 211(o)(1)(J) (codified at 42 U.S.C. § 7545(o)(1)(J)) (providing that renewable fuel was meant to “replace or reduce the quantity of fossil fuel present in a transportation fuel”). Granting a waiver now would subvert the very purpose of the RFS program: change or face penalties.

It is apparent from these provisions that Congress authorized EPA to grant a waiver *only* to address circumstances that are beyond the oil industry’s capacity to control. EPA’s proposal, in contrast, would provide a waiver to the industry for circumstances that the industry was capable of preventing. Indeed, the oil industry has had numerous opportunities to help ensure the distribution, blending, and dispensing of renewable fuel. Thus, to the extent that the “blend wall” is a crisis at all, it was one that the oil industry has inflicted upon itself. This is not a basis for a waiver.

iii. EPA’s proposed use of its general waiver authority is not supported by the legislative history of the RFS program

The legislative history of the RFS program likewise makes plain that EPA cannot permissibly read the term “supply” to include factors of consumption or the act of “supplying *to*” consumers. Congress expressly rejected such an interpretation.

There were numerous proposals before Congress that would have authorized EPA to grant a waiver where “there is an *inadequate* domestic supply or *distribution capacity* to meet the

⁷⁶ See K. Moriarty & J. Yanowitz. May 2015. *E15 and Infrastructure*. Available at: <http://www.nrel.gov/docs/fy15osti/64156.pdf>

requirement.” S. Rep. No. 109-74, at 62 (2005) (emphasis added); see *also id.* at 8 (authorizing a waiver where “there is an inadequate domestic supply or distribution capacity to meet the renewable fuel requirement”). In fact, there were numerous proposals before Congress that would have allowed EPA to take into account “distribution capacity.”⁷⁷ Plainly, this language would have permitted EPA to take into account factors of consumption, along with circumstances that the oil industry was itself capable of rectifying on its own.

But Congress rejected these proposals. Instead, it limited EPA’s waiver authority to situations where *external factors* would make it difficult for the oil industry to meet its requirements under the Act—such as “severe” economic harm or an inadequate physical “supply” of renewable fuel necessary to meet the RFS program’s requirements. The failure of the oil industry to put in place the infrastructure necessary to sell this supply is plainly not a factor that Congress provided for authorizing a waiver.⁷⁸

iv. Other Clean Air Act waiver provisions demonstrate that Congress has clearly distinguished the concept of “supply” from concepts of “distribution”, “consumption”, and the act of “supplying to”

Beyond the legislative history of the RFS program’s general waiver provision, the structure of the Clean Air Act establishes that Congress did not intend for EPA to take into account “distribution capacity” or purported “constraints on supplying[ing] to consumers” when deciding whether to grant a waiver under the RFS program, because it only permitted EPA to take into account whether the physical “supply” of renewable fuel is adequate to meet the requirements. In contrast, when Congress has wished to provide EPA with the authority to take into account “distribution capacity” or “capacity to supply,” it has done so explicitly.

EPA tries to resuscitate its proposed interpretation of “supply” by looking to the structure of the Clean Air Act, but this again leads the Agency to a backwards conclusion. More specifically,

⁷⁷ See Energy Policy Act of 2005, H.R. 1640, 109th Cong. § 1501 (2005) (as introduced, but amended to strike “distribution capacity” before it was enacted into law); see *also* New Apollo Energy Act of 2005, H.R. 2828, 109th Cong. § 701 (2005) (proposing to allow EPA to take into account “distribution capacity”); Reliable Fuels Act, S. 606, 109th Cong. § 101 (2005) (same); Energy Policy Act of 2004, H.R. 4503, 108th Cong. § 1501 (2004) (same); Energy Policy Act of 2003, S. 2095, 108th Cong. § 1501 (2004) (same); Energy Independence Act of 2004, H.R. 4652, 108th Cong. § 101 (2004) (same); Fuels Security Act of 2003, H.R. 837, 108th Cong. § 101 (2003) (same); Fuels Security Act of 2003, S. 385, 108th Cong. § 101 (2003) (same); Energy Policy Act of 2003, H.R. 1644, 108th Cong. § 9101 (2003) (same); Energy Policy Act of 2003, H.R. 6, 108th Cong. § 820 (2003); H.R. 1020, 108th Cong. § 5 (2003) (same); Energy Policy Act of 2002, S. 1766, 107th Cong. § 818 (2001) (same); H.R. 3596, 107th Cong. § 5 (2001) (same); Clean and Renewable Fuels Act of 2001, S. 892, 107th Cong. § 10 (2001) (same); Renewable Fuels Act of 2001, S. 670, 107th Cong. § 6 (2001) (same); Renewable Fuels Act of 2000, S. 2503, 106th Cong. § 5 (2000) (same); Clean and Renewable Fuels Act of 2000, S. 2971, 106th Cong. § 10 (2000) (same); 151 Cong. Rec. H2192, H2286 (daily ed. Apr. 20, 2005) (similarly proposing that EPA be authorized to grant a waiver where “there is an inadequate domestic supply or distribution capacity to meet the requirement”).

⁷⁸ When then-Senator Obama introduced his version of renewable diesel legislation, he did *not* include a provision authorizing EPA to grant a waiver where there was an inadequate distribution capacity. Instead, his bill provided for a waiver identical to the one that governs the RFS program—where “there is an inadequate domestic supply of renewable fuel.” Renewable Diesel Standard Act of 2005, S. 1920, 109th Cong. § 3 (2005).

EPA concedes that the term “supply” is referenced in other sections of the Clean Air Act, and in each of those instances, Congress also used specific additional language allowing the Agency to take into account concepts associated with distribution capacity.

- Clean Air Act § 211(k)(6) provides EPA with the authority to defer certain reformulated gasoline (RFG) requirements if “there is insufficient domestic capacity to produce reformulated gasoline,” and *separately* grants EPA the authority to defer certain RFG requirements if the Agency finds there is “insufficient capacity to supply reformulated gasoline.” Clearly, Congress in this case distinguished between the market’s ability to produce a supply of RFG from the market’s ability to supply (i.e., distribute or deliver) RFG to consumers.
- Clean Air Act § 211(m)(3)(C)(i) allows EPA to defer certain oxygenated gasoline requirements if the Agency finds “an inadequate domestic supply of, or distribution capacity for, oxygenated gasoline...” This provision clearly demonstrates that Congress distinguished between an “inadequate domestic *supply*” and inadequate “distribution capacity” (or capacity “to supply”). EPA itself acknowledges this, stating that “Congress chose to expressly differentiate between ‘domestic supply’ and ‘distribution capacity,’ indicating that each of these elements was to be considered separately.”⁷⁹ The surrounding statutory text provides more support for this interpretation. 211(m)(3)(C)(iii) explicitly directs the Administrator to “consider distribution capacity *separately* from the adequacy of domestic supply.” Further, 211(m)(3)(C)(iii) specifies that “the term distribution capacity includes capacity for transportation, storage, and blending.” Together, these provisions make clear that the general construction of the Clean Air Act has unequivocally separated the concepts of “supply” and “distribution,” going so far as to specify what supply chain activities constitute the latter.
- Clean Air Act § 211(c)(4)(C)(ii) gives EPA the authority to waive certain fuel additive requirements if “extreme and unusual” circumstances “...prevent the *distribution* of an adequate supply of the fuel or fuel additive to consumers.” Again, the focus of this provision is on the market’s ability to *distribute* fuel or fuel additives, highlighting that when Congress intends to provide waiver authority based on distribution capacity, it knows how to do so. Also noteworthy is the fact that Congress specified that distribution *to consumers* is the relevant consideration for this waiver authority. That Congress does not specify “consumers” as the relevant affected party in the RFS general waiver provision undermines EPA’s contention that the term “supply” means “supply to consumers.” Indeed, even if the term “supply” of “renewable fuel” was intended to encompass the act of “supplying to,” any reasonable interpretation would find that the relevant entities to whom renewable fuels are being “supplied” are the parties obligated to demonstrate compliance with the RFS (i.e., oil companies), not consumers. Importantly, CAA §211(c)(4)(C)(ii)(II) provides that EPA may only utilize this waiver authority if the:

⁷⁹ 80 Fed. Reg. 33,112

...extreme and unusual fuel and fuel additive supply circumstances are the result of a natural disaster, an act of God, a pipeline or refinery equipment failure, or another event that *could not reasonably have been foreseen* or prevented and *not the lack of prudent planning* on the part of the suppliers of the fuel or fuel additive...

In other words, the fuel additive waiver cannot be effectuated by EPA if the cause of the fuel or fuel additive distribution disruption could have been reasonably foreseen. In the case of the RFS, it is inarguable that obligated parties have exhibited a “lack of prudent planning” and could have reasonably foreseen the need to distribute gasoline blends containing more than 10% ethanol in order to comply with the statutory requirements. EPA acknowledges as much, stating in the 2014-2016 RVO proposal that, “We agree that obligated parties have had years to plan for the E10 blendwall and that there clearly are steps that obligated parties could take to increase investments needed to increase renewable fuel use above current levels.”⁸⁰

Curiously, EPA suggests the structure of the Clean Air Act and the waiver provisions cited above lend support to its definition of “supply” in the proposed rule. However, EPA’s examination of these provisions should have led the Agency to the exact opposite conclusion. As explained above, Congress plainly knows how to provide EPA with the authority to grant a waiver when there is inadequate distribution capacity, but it did not provide that authority when it enacted the general-waiver provision for the RFS Program. Instead, it merely authorized the Agency to account for “supply,” not distribution capacity or “capacity to supply.” Just as importantly, the term “supply,” as it is used in the general-waiver provision, clearly speaks to the “quantity” of “renewable fuel,” not to distribution capacity. *Id.*

Moreover, Congress is presumed to give the same word the same meaning in various provisions of the same statute, *IBP, Inc. v. Alvarez*, 546 U.S. 21, 34 (2005), and the Supreme Court have cautioned against interpretations that would render words mere “surplusage,” *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001). A contrary proposal—reading the word “supply” to include concepts of “distribution capacity” or “supplying to the consumer”—would violate both canons. It would mean that, although “supply” by itself does not embrace “distribution capacity” in other provisions of the same section of the Clean Air Act, the term “supply” as used in the general-waiver provision was meant to do the work of more than one word. *But see* 80 Fed. Reg. at 33,111 (claiming that the other provisions of the Clean Air Act mentioned above highlight the “reasonableness of applying [the term ‘supply’] broadly to include adequacy of supply to the ultimate consumer of transportation fuel” based on an inadequate “distribution capacity”). And it would mean that Congress did not have to use words that speak to “distribution capacity” in the first place, because the term “supply” was capable of doing that work on its own.

EPA appears to fault a literal interpretation of the term “supply” because it would mean that, unlike the other waiver provisions recounted above, the general-waiver provision does not

⁸⁰ 80 Fed. Reg. 33,114

authorize EPA to consider “...the full range of constraints that could result in an inadequate supply of renewable fuel to the ultimate consumers, including fuel infrastructure and other constraints.” But that is the precise consequence of Congress’s choice of words. The Agency cannot supplant its own view of wise policy for that of Congress’s simply because it disagrees with the outcome. *E.g., Chevron*, 467 U.S. at 842-43.

Plainly, Congress knows how to provide EPA with the authority to grant a waiver when there is inadequate *distribution capacity*, but it did not provide that authority when it enacted the general waiver provision for the RFS program. Instead, it merely accounted for “supply” unmoored from concepts of distribution capacity. Clean Air Act § 211(o)(7)(A)(ii) (codified at 42 U.S.C. § 7545(o)(7)(A)(ii)). Just as importantly, these other provisions confirm what is already apparent from the text of the statute itself: The term “supply” has a meaning that is distinct from “distribution capacity” or the act of “supplying to”; otherwise it would have been unnecessary for Congress to distinguish between “supply” and “distribution capacity.”

In the final analysis, there is simply no way to read the term “supply,” as used in the general waiver provision, to embrace concepts associated with “distribution capacity” or the act of “supplying to” the consumer. If Congress had wanted to embrace those latter concepts, it knew how to do so.

VI. Conclusion

For all of the reasons set forth in these comments, EPA must reconsider its proposal. The Agency should apply only a cellulosic waiver to the 2017 statutory RVOs and carry the full amount of that waiver through to both the advanced and total renewable fuel standards. When expected volumes of renewable fuel production in 2017 are considered along with carryover RIN stocks and the likelihood of modest growth in E15 and E85 sales, the total renewable fuel volumes (after accounting for the cellulosic waiver) are undoubtedly “reasonably achievable” without the Agency needing to invoke its general waiver authority in a way that is clearly unlawful and contrary to Congressional intent with the RFS program.

Attachment A

**Revisiting EPA's Analysis of RIN "Pass Through" Behavior
and Retail E85 Prices**

Renewable Fuels Association

July 7, 2016

Revisiting EPA's Analysis of RIN "Pass Through" Behavior and Retail E85 Prices

I. Background

The Renewable Fuel Standard's (RFS) RIN market mechanism offers a powerful tool for rapidly expanding the consumption of high-level ethanol blends like E85. The value of RIN credits can reduce the price of E85 relative to gasoline (E10) by effectively lowering the blender's net cost of the ethanol component of the fuel. Blenders and retailers can "pass through" some or all of the E85 cost reduction to consumers in the form of lower E85 retail prices. In turn, lower retail prices for E85 relative to E10 spur increased consumption, which helps facilitate compliance with RFS blending requirements that cannot be satisfied by E10 blending alone.

However, in its proposed rule for 2017 RFS renewable volume obligations (RVOs), EPA suggests that the RIN market mechanism is not working effectively to reduce the retail price of E85 relative to E10.¹ In turn, the Agency argues, E85 consumption is not expanding rapidly enough to facilitate achievement of the statutory renewable fuel blending requirement of 15 billion gallons (bg) in 2017. Specifically, EPA states in the proposal that "...the failure of RIN prices to be fully passed through to retail fuel prices..." is a constraint that prevents distribution of the conventional renewable fuel volume specified in the statute.² Further, EPA suggests that "...the propensity for retail station owners and wholesalers to retain a substantial portion of the RIN value substantially reduces the effectiveness of this aspect of the RIN mechanism."³

These views led EPA to propose a conventional renewable fuel requirement of 14.8 bg. EPA's understanding of RIN pass-through behavior appears to be informed primarily by a staff analysis conducted in November 2015 in support of the Agency's final rule for 2014-2016 renewable volume obligations (we subsequently refer to this analysis as the "Burkholder memo").⁴ The purpose of this report is to critically examine the Burkholder memo and to provide additional data and analysis aimed at improving the understanding of RIN pass-through behavior.

II. A Simple Test Using Recent E85 and RIN Data Demonstrates that Most of the RIN Value is Being Passed Through to Retail

In examining the impact of RINs on retail E85 prices, it is particularly instructive to look at the E85 market's behavior in late 2015 and early 2016.⁵ During this period, the collapse in crude oil prices caused wholesale gasoline prices to drop dramatically. For several months during this

¹ 81 Fed. Reg. 34778

² 81 Fed. Reg. 34787

³ 81 Fed. Reg. 34790

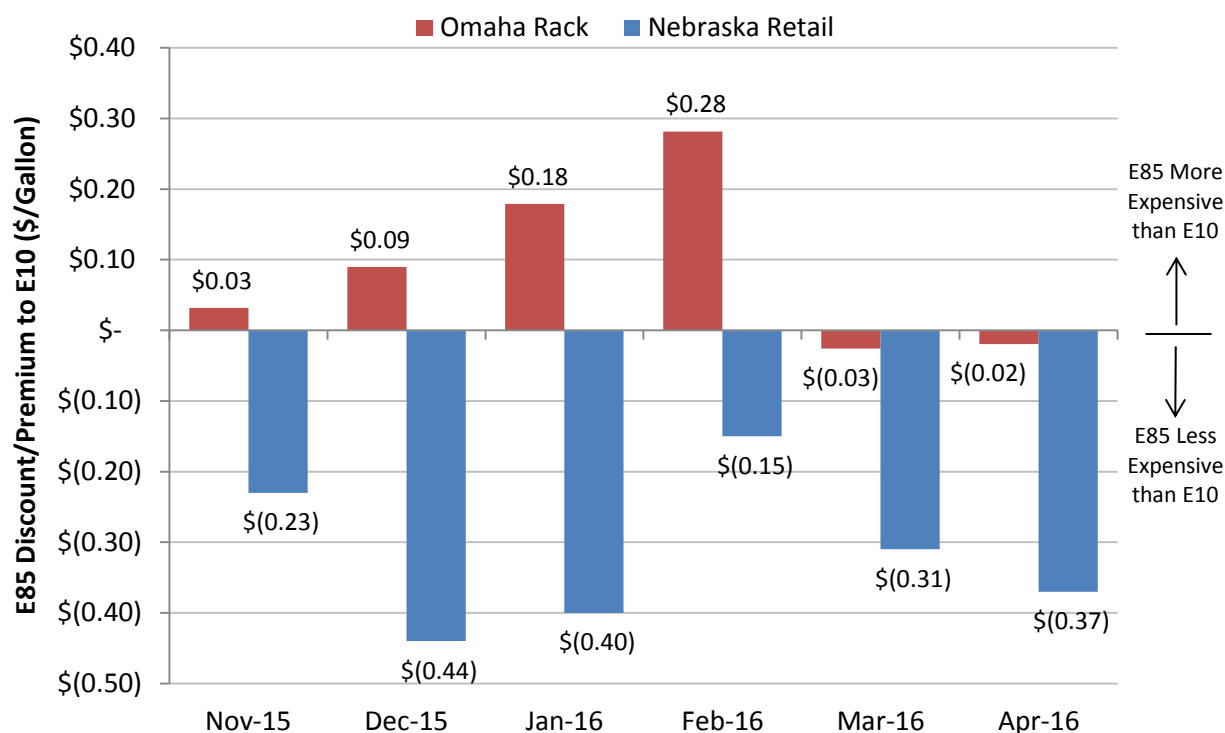
⁴ An Assessment of the Impact of RIN Prices on the Retail Price of E85," Dallas Burkholder, Office of Transportation and Air Quality, US EPA. November 2015. EPA Air Docket EPA-HQ-OAR-2015-0111.

⁵ We assume E85 is a blend containing 74% ethanol and 26% hydrocarbon. Thus, the RIN value associated with a gallon of E85 is OPIS RIN value x 0.74.

period, ethanol prices were near parity or higher than gasoline prices at most wholesale terminals. Thus, if RIN values were not being passed through to retail during this period, we would expect to see retail E85 prices at parity with or above E10 prices. Yet, this did not occur.

As an example, we examined Nebraska Energy Office (NEO) data for wholesale prices for ethanol and gasoline at the Omaha terminal rack and compared it to Nebraska retail prices for E85 and E10 from E85prices.com.⁶ For the six months from November 2015 to April 2016 (the period in which gasoline prices collapsed in most U.S. markets), wholesale ethanol prices averaged \$1.49 per gallon at the Omaha rack. During this same period, wholesale E0 gasoline prices averaged \$1.35 per gallon, or 9% less than ethanol. These data imply the cost to produce E85 at the rack would be \$1.45 per gallon and the wholesale cost to make E10 would be \$1.36 per gallon, meaning wholesale E85 would be 7% more expensive than wholesale E10. Yet, at Nebraska retail stations during this period, E85 prices averaged \$1.60 per gallon and E10 prices averaged \$1.92 per gallon. Thus, while E85 was 7% more expensive than E10 at the terminal during this six-month period, it was priced 17% below E10 at retail. The wholesale-to-retail markup during this period averaged \$0.56 per gallon for E10 but just \$0.15 per gallon for E85.

Figure A. E85 Discount/Premium to E10 at Omaha Terminal Rack vs. Nebraska Retail Stations



⁶ Ethanol and Unleaded Gasoline Average Rack Prices, <http://www.neo.ne.gov/statshtml/66.html>; E85prices.com: Nebraska, <https://e85prices.com/nebraska.html>. As discussed elsewhere, there are robustness concerns associated with the E85prices.com data, but it is the best source available for Nebraska E85 prices. Data used for analysis available upon request.

Clearly, RIN values allowed Nebraska retailers to offer E85 at a meaningful discount to E10 even at a time when ethanol was more expensive than gasoline at the terminal rack (Figure A). The cost to make E85 at the terminal rack was \$0.09 per gallon higher than the cost to make E10 on average during this period. Yet, E85 was an average of \$0.32 per gallon cheaper than E10 at retail, meaning the retail “spread” between E85 and E10 was \$0.41 per gallon lower than the wholesale spread. Meanwhile, the RIN value associated with E85 averaged \$0.45-0.49 per gallon during this period, implying that 84-97% of the RIN value was transmitted to retail in order to enable discounting.⁷ In one particularly insightful example, the Omaha wholesale rack price of E85 in January 2016 was \$0.18 per gallon *above* the wholesale rack price of E10. Yet, the average E85 retail price was \$0.40 per gallon *below* the average E10 retail price (Figure A). The difference of \$0.58 per gallon between the E85-E10 wholesale and retail spread is nearly equivalent to the average RIN value associated with a gallon of E85 that month.⁸

If we broaden the time period to cover January 2014 through May 2016, the NEO and E85prices.com data imply that, on average, 86-90% of the RIN value was passed through to retail.⁹ The data also reveal that the magnitude of the pass-through can vary widely from month to month, which is not surprising. The amount of RIN value passed through tends to be smallest when ethanol’s discount to gasoline at the wholesale terminal rack is widest (i.e., implying that there is a “natural” wholesale discount and less of the RIN value is needed to facilitate an attractive retail discount). Conversely, the magnitude of the pass-through is largest when ethanol has only a small discount to gasoline or is priced above gasoline at the terminal (i.e., implying that much more of the RIN value is needed during these periods to facilitate discounting at retail).

These results from Nebraska, which indicate a substantial amount of the RIN value was being passed on to retail, stand in contrast to the Burkholder memo’s suggestion that “only 44% of the RIN value is passed on from wholesale to the customer...” Some of the reasons for this disagreement are further explored in the following sections.

III. The Limited Time Period Examined in the Burkholder Memo Likely Skews the Results

The regression analyses included in the Burkholder memo focus on the time period of January 2013 through July 2015. For several reasons, the use of this time period likely skews the results and likely does not provide a comprehensive view of RIN pass-through behavior. The Burkholder memo’s time period begins at roughly the same time that the RIN market began experiencing significant volatility. Thus, there is essentially no “baseline” included in the Burkholder analysis to represent the period of time prior to RINs having meaningful value. The

⁷ The percent pass-through = $((\text{E85 cost of production at rack} - \text{E10 cost of production at rack}) - (\text{E85 retail price} - \text{E10 retail price})) / (\text{OPIS RIN value} \times .74)$. The average RIN value using the same six-month period is \$0.49, but the average RIN value is \$0.45 if RIN values are lagged one month to account for the fact that it takes some time for RIN values to work through the supply chain and manifest at the retail level. This issue is discussed in more detail elsewhere in this paper. The 84% pass-through figure represents no lag, while the 97% figure represents a one-month lag in RIN values.

⁸ The January 2016 average RIN value associated with a gallon of E85 (74% ethanol) was \$0.50, while the December 2015 average RIN value was \$0.53.

⁹ The 86% figure reflects no lag; the 90% figure reflects a one-month lag in RIN values.

year 2012, in which RINs averaged just \$0.03 and ranged from only \$0.01 to \$0.05, should be included in these types of analysis to provide context for E85 and E10 wholesale and retail price relationships in the absence of meaningful RIN values. The January 2013 RIN price average was \$0.13, but had risen to \$1.16 by July 2013, then plummeted to \$0.31 by December 2013. The extreme volatility of 2013—coupled with the relative newness of RINs as a pricing factor to be considered in wholesale and retail markets—makes it difficult to identify any clear trends in RIN pass-through for that year or draw definitive conclusions.

Further, EPA’s understanding of RIN pass-through behavior omits the most recent year of activity. By cutting the Burkholder analysis off in July 2015, EPA misses the most recent period in which gasoline prices have fallen dramatically relative to ethanol prices. As indicated earlier, it is during these periods when wholesale gasoline is at parity with or cheaper than wholesale ethanol that a larger share of the RIN value needs to be passed through to enable E85 discounting relative to E10 at the retail level.

EPA should update its RIN pass-through analysis to capture both 2012 (i.e., the period in which RINs had little or no value) and late 2015/early 2016. This would provide a clearer picture of the market’s behavior under a wider variety of conditions.

IV. Data Limitations Regarding E85 Prices

The Burkholder memo’s analysis of RIN pass-through uses E85 retail price data from E85prices.com. While the pricing data presented on E85prices.com may indeed provide an accurate representation of pricing at specific stations on specific dates, it is user-reported and may not be broadly representative of average prices actually paid by E85 consumers across the marketplace over time. For example, the data that underpins the Minnesota average E85 retail price on E85prices.com comes from roughly 6-8% of the stations offering E85 in the state. Other state average E85 retail prices on E85prices.com draw from an even smaller sample of stations.

Further, the pricing data are not volume-weighted. For example, a 3-gallon E85 sale at \$1.75 per gallon contributes equally to the E85 price “average” as a 25-gallon E85 sale at \$1.25 per gallon. E85prices.com would report the average price from these two transactions as \$1.50 per gallon, when in reality it is \$1.30 per gallon.

We fully understand that E85prices.com provides the only publicly available E85 pricing data set that is national in scope, and we believe the data is accurate in representing prices at specific stations on specific dates. However, it does not appear the limitations of these data are properly characterized in the Burkholder memo and the data is likely not robust enough to support the definitive conclusions presented in EPA’s proposal for 2017 RVOs.

Due to the paucity of consistent and robust national-scale data on E85 prices, it is likely more instructive to examine state-level data from the few states that collect and publish E85 retail prices. The richest state-level data set in the public domain regarding E85 sales volumes and E85 prices relative to E10 is maintained by the Minnesota Dept. of Commerce (MDOC).¹⁰

¹⁰ Available at: <http://mn.gov/commerce/consumers/your-vehicle/clean-energy.jsp>

MDOC surveys the state's E85 retailers on a monthly basis to determine E85 sales volumes, E85 prices, and E10 prices. MDOC receives E85 and E10 pricing and sales volume data from 160-170 stations per month, equating to roughly 60% of stations offering E85 in the state.

V. Failure to Account for 'Lag' in Transmission of RIN Value to Retail E85 Price

In examining the relationship between RIN prices and the E85 discount relative to E10, the Burkholder memo finds a correlation and shows that the E85 discount to E10 generally increases as RIN prices increase. This suggests that as RIN prices escalate, retailers pass on an increasing share of the RIN value to consumers through lower E85 prices. Still, with an R-squared value of just 0.079, Burkholder characterizes the relationship as a "weak correlation" and suggests that very little of the RIN value is being passed through. The memo then adds a caveat, noting that it is "not possible to use this correlation to determine how much of the RIN value is being 'passed on' to consumers..." and suggests that an examination of wholesale-to-retail mark-ups is also necessary. However, EPA does indeed use this information in both the 2014-2016 final rule and the 2017 proposal to support the argument that the "market was not sufficiently responsive to higher RIN prices to drive large increases in E85 sales volumes."¹¹

In any case, Burkholder's regression analysis fails to account for the fact that *it takes some time for the value of the RIN to work downstream through the supply chain*. Burkholder appears to assume that the OPIS-reported market price received for a detached RIN credit on a specific date is the same as the RIN value associated with a gallon of E85 sold at retail on the same date. In reality, blenders separate RINs from ethanol at the point upstream where it is blended with hydrocarbon to make E85. After blending, the E85 may sit in terminal storage, be in transit, and/or sit in a tank at the retail station for a period of days or weeks before it is actually purchased by the customer. Thus, the RIN originally associated with the ethanol in the E85 gallon likely was separated from the ethanol and monetized days or (more likely) weeks before the E85 is actually purchased by the consumer (Figure B). Contracting and delivery terms may also affect the timing of the RIN value being manifested at the E85 point of sale. Thus, regression analyses examining the relationship of RIN values to E85's discount to E10 at retail should account for this temporal element. This is done most simply by "lagging" the E85-E10 discount by one month relative to the average RIN prices. Not surprisingly, lagging this relationship by one month results in a significantly tighter correlation between the E85-E10 discount and RIN prices.

To examine the effect of lagging this relationship, we first attempted to replicate Figure 2 of the Burkholder memo, and then re-ran the regression with a lone-month lag on RIN values. Our attempt to replicate Figure 2 was successful, as the R-squared and Y-intercept values we generated were nearly identical to those in the Burkholder analysis (Figure C).¹² When performing the same regression analysis with a one-month lag on RIN values, the R-squared value nearly quadrupled from .079 (no lag) to .277 (Figure D). This lends support to the notion

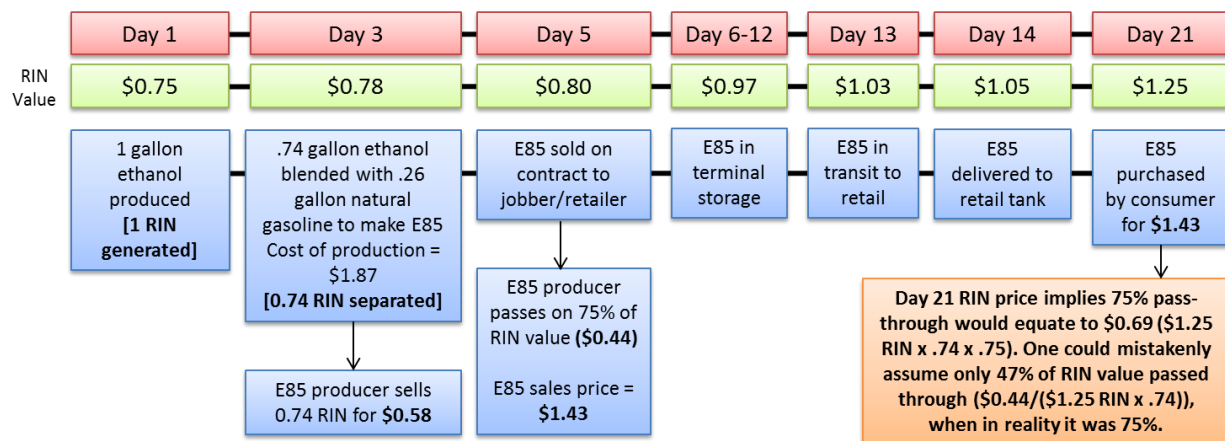
¹¹ 80 Fed. Reg. 77459

¹² Figure 2 of the Burkholder memo displays an R-squared value of 0.079 and a slope and Y-intercept of $0.0509x+0.1445$. Our replication generated an R-squared value of 0.076 and a slope/Y-intercept of $0.0501x+0.148$.

that RIN values are not immediately transmitted through to retail, and that the actual magnitude of RIN “pass-through” is greater than indicated by the Burkholder memo.

FIGURE B. Importance of Accounting for Lag Time in Transmission of RIN Value to Retail Price

Example assumes ethanol price of \$2, NG price of \$1.50, no mark-up:



**FIGURE C. Replication of Burkholder Figure 2
D6 RIN Price vs. E85 Discount Relative to E10
January 2013 - July 2015**

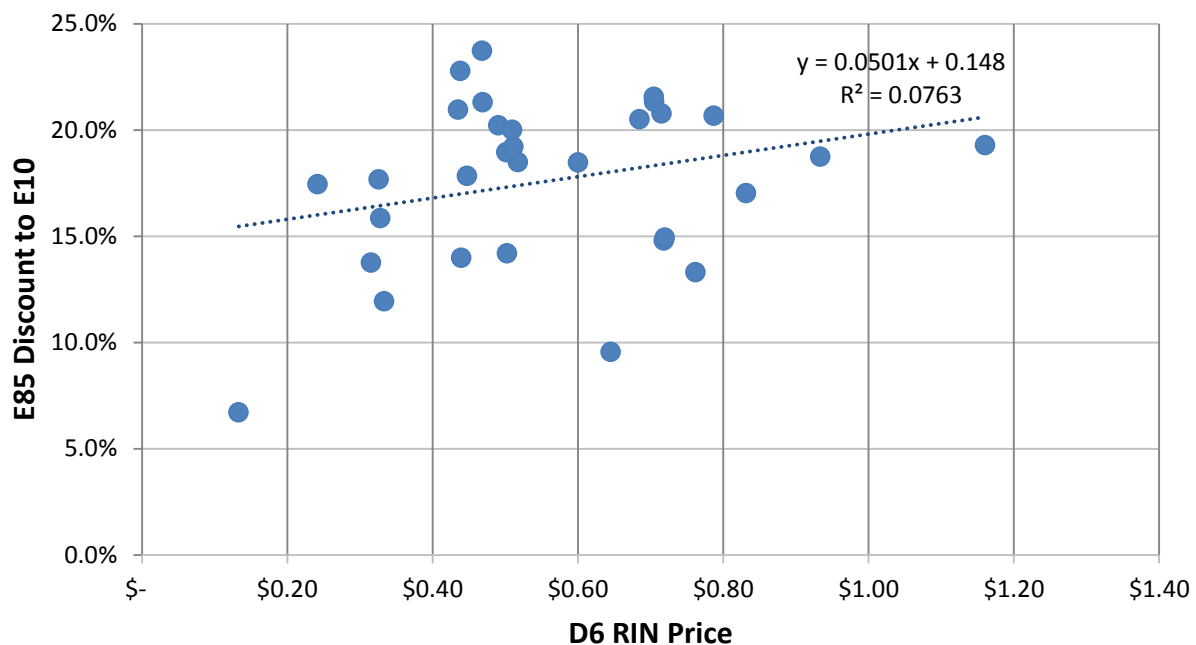


FIGURE D. Replication of Burkholder Figure 2 w/RIN Price Lag 1 Month
D6 RIN Price (Lagged 1 Month) vs. E85 Discount Relative to E10
(January 2013 - July 2015)

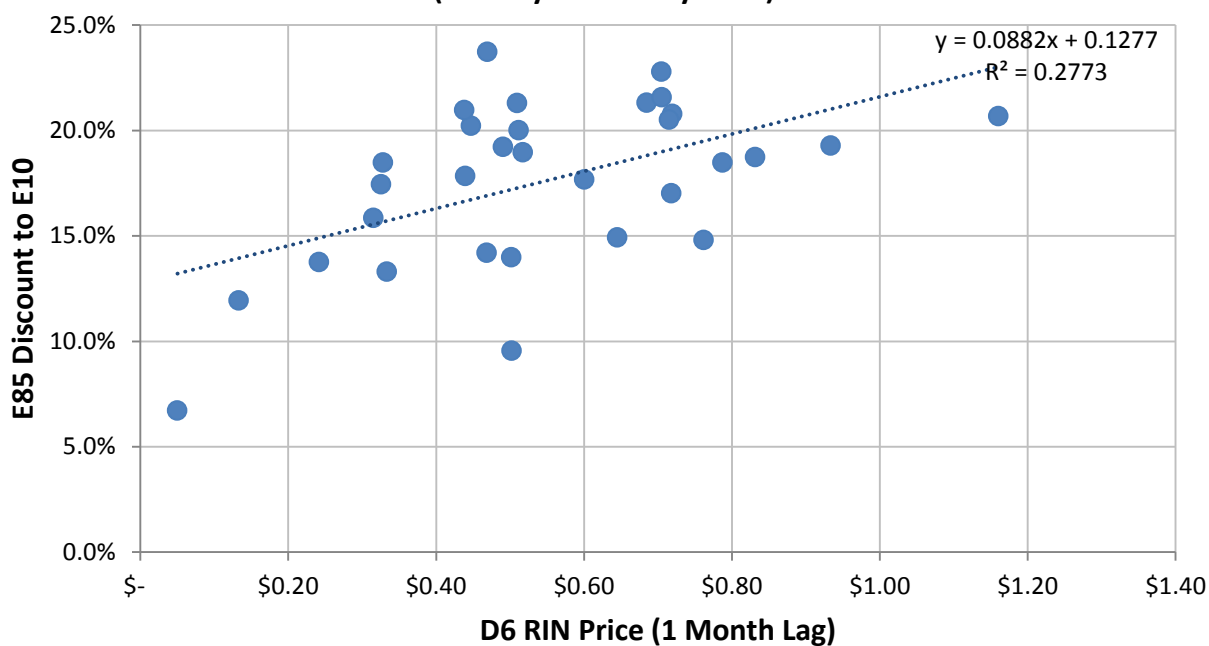
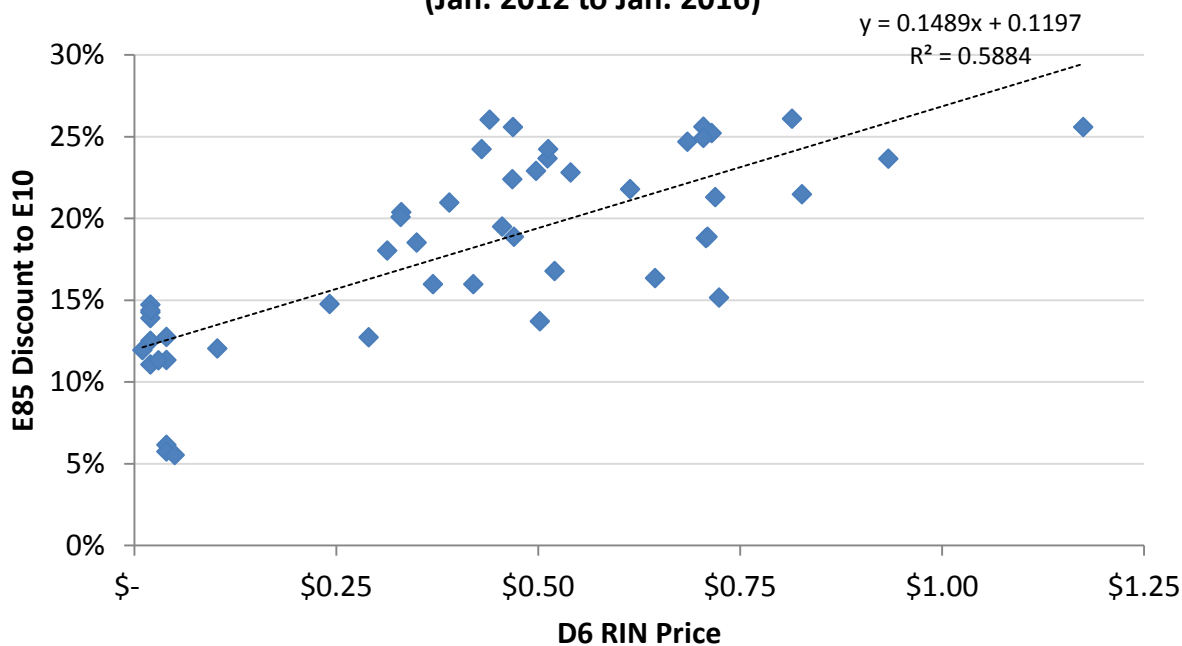


FIGURE E. Minnesota E85 Retail Price Discount to E10 and Avg. RIN
Prices with 1-Month Lag
(Jan. 2012 to Jan. 2016)



Due to the limitations of the E85prices.com data used by Burkholder (as described above), we performed a second set of regressions using the MDOC data on the E85-E10 discount for the period of Jan. 12 through Jan. 16 (Figure E). We used a longer time period that included 2012 and ran through January 2016 and incorporated a one-month lag on RIN values. The result was an R-squared value of 0.59. This compares to an R-squared value of 0.40 when the MDOC data are not lagged and the 0.079 value in the Burkholder analysis. The value of 0.59 derived from the MDOC data indicates a modestly strong relationship between RIN prices and the magnitude of E85's retail discount to E10, indicating that much of the RIN value was passed along to consumers in the form of reduced E85 prices.

VI. Analysis of E85 “Mark-Up” is Fundamentally Flawed

The Burkholder memo also includes analysis of the relationship between the E85 retail mark-up (i.e., difference between E85 wholesale “cost of production” and E85 retail price) and RIN prices (Burkholder memo figure 3). This regression portends to show that the E85 mark-up increases as RIN prices increase. Burkholder uses this analysis to argue that as RIN prices increase, E85 blenders keep an increasing share of the RIN value as profit rather than passing a greater portion of the RIN value through to retail to facilitate a larger E85 discount to E10. EPA's proposed rule suggests this piece of Burkholder's analysis provides support for the notion that blenders are “retain[ing] a substantial portion of the RIN value [which] substantially reduces the effectiveness of this aspect of the RIN mechanism.”¹³

Such a definitive conclusion cannot be drawn from the Burkholder analysis for several reasons:

- Once again, the Burkholder “mark-up” analysis fails to account for the fact that there is a lag time associated with RIN values manifesting in retail E85 pricing.
- The analysis assumes blenders make E85 by mixing E10 and fuel ethanol. In reality, blenders typically use natural gasoline (NGLs) or more rarely E0 gasoline (CBOB/RBOB)—not E10—as the hydrocarbon component of E85. Thus, using a national E10 wholesale price to construct the E85 “cost of production” is inappropriate. At a minimum, if natural gasoline prices are not available, E0 gasoline prices (such as CBOB or RBOB)—not E10 prices—should be used to represent the hydrocarbon component of E85 (e.g., the Nebraska Energy Office provides wholesale terminal rack data for E0). In addition, there would be some nominal RIN value associated with the E10, for which the Burkholder memo's E85 “cost of production” equation fails to account.
- The mark-up analysis uses Iowa wholesale prices for ethanol, but national prices for the wholesale E10 that is blended with ethanol to make E85. Further, the author apparently used E85 retail prices from OPIS for this regression [according to the note under Figure 3], rather than using the same E85prices.com data that was used for other regressions. It is unclear why OPIS data is used for E85 retail prices in this instance, and the raw OPIS data are not presented for scrutiny.

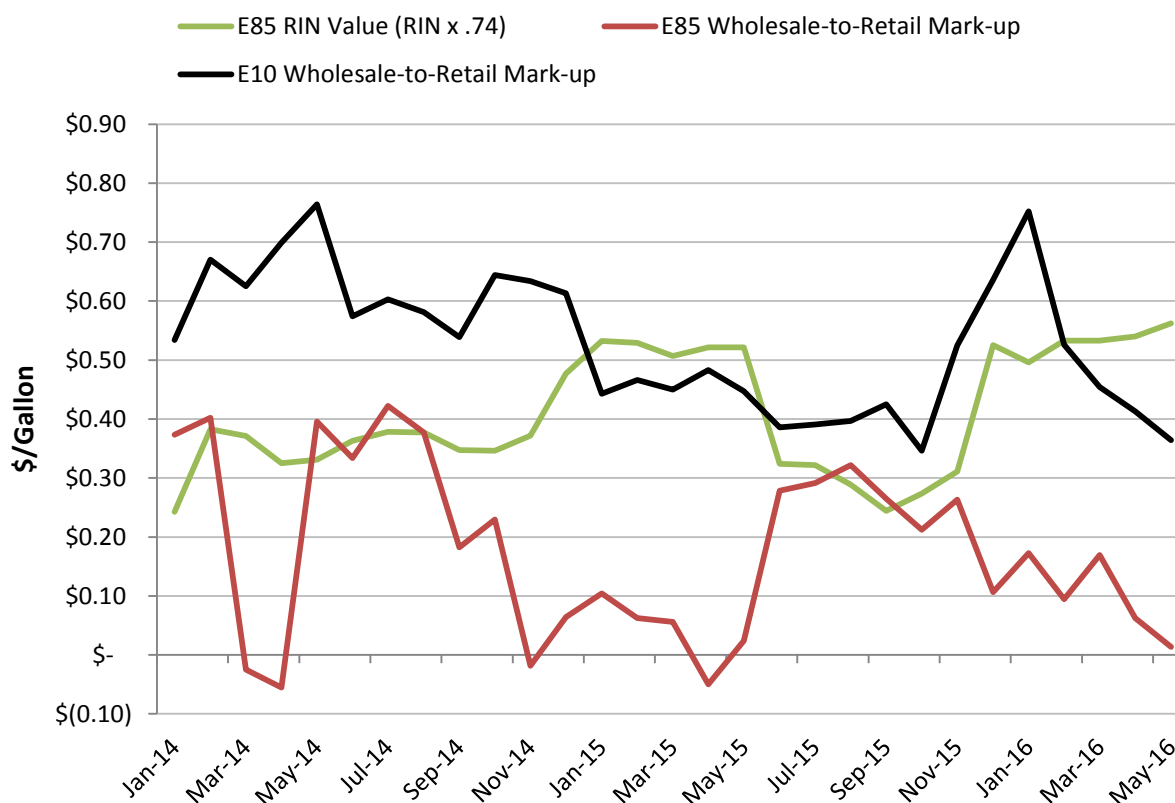
We were unable to replicate Figure 3 from the Burkholder memo or perform sensitivity analysis (i.e., examine impact of lagging, etc.) due to the opacity of the data sources. However, as

¹³ 81 Fed. Reg. 34790

mentioned earlier, an important consideration in examining the relationship of the E85 retail mark-up to RIN prices is the wholesale price relationship for fuel ethanol and gasoline. That is, if wholesale fuel ethanol is priced at a significant discount to wholesale gasoline, then less of the RIN value needs to be passed on to facilitate E85 discounting at the retail level. In these cases, the blender may pass just enough of the RIN value along to maintain an attractive E85 discount to E10 at retail. Conversely, when wholesale fuel ethanol is priced at parity with or above wholesale gasoline, much more of the RIN value must be passed along to enable retail discounting. The simple Nebraska RIN pass-through analysis included at the beginning of this report lends empirical support to this idea. When Nebraska ethanol prices were above gasoline prices at the wholesale level, most or all of the RIN value was passed downstream to retail to enable E85 to be sold at a discount to E10.

Our own analysis suggests the magnitude of the E85 wholesale-to-retail “mark-up” is more a function of the wholesale spread between ethanol and gasoline than it is a function of RIN prices. We also found that the average E85 mark-up from January 2014 to May 2016 was just \$0.18 per gallon, while the mark-up on E10 was \$0.53 per gallon. Further, our own analysis of E85 and E10 mark-up in Nebraska show a very weak *inverse* correlation between RIN values and the magnitude of the E85 mark-up, implying that the mark-up more likely decreases as RIN price increases (Figure F). This is the complete opposite of the suggestion in the Burkholder memo, highlighting the need for further analysis and underscoring the danger of offering definitive conclusions based on thin data.

FIGURE F. Nebraska E10 and E85 Mark-up and E85 RIN Value



In cases where the blender or retailer retains more of the RIN value, it stands to reason that some of this profit would be used to invest in infrastructure capable of dispensing even more E85 or other fuels with increased renewable fuel content (the Burkholder memo recognizes this, stating that the portion of RIN value kept by retailers would “perhaps [be used] as a means to pay off their infrastructure investments”).

VII. Independents vs. Majors

The Burkholder memo’s discussion of RIN pass-through fails to distinguish between the behavior of independently-branded E85 retailers and major oil company-branded E85 retailers. A detailed analysis by AJW, Inc. reveals that independent stations are far more likely to pass through a larger share of the RIN value to consumers (the AJW analysis was shared with EPA by multiple stakeholders during the notice and comment period on the 2014-2016 RVO proposed rule).

This is important because the majority of growth in stations offering E85 in recent years has come from independents, while major oil-branded E85 stations have been declining. Further, independents represent the overwhelming majority of the retail stations installing E85-capable pumps as a result of USDA’s Biofuels Infrastructure Partnership program and other initiatives.

VIII. More Competition Means More RIN Value Passed Through

Perhaps the most important revelation from the Burkholder memo is EPA’s position that the E85 market is largely non-competitive and this is preventing a larger share of the RIN value from being passed on to consumers. While we have shown that a significant portion of the RIN value is already being passed through, we do agree that more competition would drive even more attractive E85 pricing relative to E10. This is precisely why the conventional renewable fuel RVO should be set at the statutory level of 15 bg in 2017—to drive more competition in the E85 market. EPA acknowledges that expansion of E85 would enhance competition, stimulate lower E85 prices via increased pass-through of RIN values, and ultimately drive increased demand for E85: “As the number of terminals and number of retail stations selling E85 increases it is expected that competitive pricing behavior will reduce the per gallon profit margins for E85 until they are at or near the low levels currently realized for gasoline and diesel fuel. Such a scenario is, ultimately, the dynamic that will enable E85 sales volumes to increase at a more rapid rate than would be expected by infrastructure expansion alone. As we approach this point, encouraged by standards that push beyond the E10 blendwall, we would expect to see an increasing portion of the RIN value passed through to consumers of E85 at the retail level.”

In the memo’s conclusion, Burkholder states “...we believe that the RFS program – through the RIN price mechanism – can lead to E85 sales growth that accelerates at an increasing pace by encouraging infrastructure investment motivated by higher profit margins in the near term, and lower E85 retail pricing that results from increasingly competitive E85 markets in the long term.” These statements represent a clear indication that EPA understands annual RFS standards must be set sufficiently above the E10 “blend wall” in order for RINs to more consistently drive E85 expansion—yet EPA has proposed a 2017 RVO that can be readily satisfied without selling any more E85 than is being sold today.