Key Points From the Written Testimony for the Senate Committee on Environment and Public Works Hearing on the Renewable Fuel Standard

February 24, 2016

Ronald E. Minsk

Introduction:

- My name is Ron Minsk, and from 2013 until 2015, I was privileged to serve as Special Assistant to the President for Energy and Environment on the staff of the National Economic Council at the White House. In that capacity, I participated in the interagency review process for the Environmental Protection Agency's (EPA or the "Agency") Renewable Fuel Standard (RFS) program.
- In my view, the RFS promotes an important policy goal. However, as currently administered by EPA, the program is flawed and is not achieving its goals. The problem is that the program EPA developed in 2005 and 2010 does not reflect the evolution of the U.S. crude oil and fuel markets since that time.
- I believe that there are opportunities within the statute, or by making modest changes to the statute, which could substantially improve the operation of the program and help it to better achieve its goals of getting more renewable fuel into the United States' fuel supply in the most efficient manner possible.

The Problem:

• In my written statement, I explain some of the challenges we face in trying to bring more renewable fuel to market. I also review some of the problems associated with promoting the use of more E85 and biodiesel under the current program; and the failure of the RIN market to overcome these challenges and failures.

The Solution:

- This morning, I want to focus on 3 possible solutions to the problems.
- The first option would be for EPA to make adjustments to the rules governing the RFS program. Specifically, by moving the point of obligation from importers and refiners to the terminal rack, a point in the supply chain through which all fuel passes, from which motor fuel is distributed, and where motor fuel is taxed.
 - By taking this step EPA would increase the incentives for obligated parties to blend ethanol into the gasoline supply and reduce the costs of the program.
 - EPA has the legal authority to make this change to the program and could do so by the end of this year.

- The second option would be for EPA to establish lower Renewable Volumetric Obligations (RVOs) for conventional renewable in its annual rulemaking process in order to reduce the overall compliance costs of the RFS, without substantially reducing the volume of conventional renewable fuel that is blended into the fuel supply. In doing so, EPA also could continue to establish RVOs for advanced renewable fuels at levels in a manner similar to what they did in the recent final rule.
- The third option would be for Congress to amend the statute to accomplish a similar result as EPA lowering the RVO.

Conclusion:

- Under the current program structure, there is a misalignment between the parties obligated to ensure that blending occurs and the parties that are situated in the supply chain to blend.
- As EPA recognized in 2009, moving the point of obligation to blenders can better align the obligation and the ability to blend. Moreover, moving the point of obligation to the blender more evenly distributes the cost of obligation across the obligated parties and likely reduces cost of the program to consumers.
- Rather than incentivizing major obligated parties to hoard Renewable Identification Numbers (RINs) and withhold from infrastructure investments, obligated parties would now be able to compete on an even playing field as the RFS drafters envisioned. With all of the major parties competing for E85 market share, consumer prices have the best opportunity to be competitive with E10 and gain penetration into the market.
- Ultimately, moving the point of obligation represents the best chance for policymakers to get past the difficult problems presented by the blend wall and to achieve the fundamental goal of the program—getting more renewable fuel into the market.

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Chairman Inhofe, Ranking Member Boxer, and Members of the Committee, good morning and thank you for this opportunity to discuss the Renewable Fuel Standard. My name is Ron Minsk, and from 2013 until 2015, I was privileged to serve as Special Assistant to the President for Energy and Environment on the staff of the National Economic Council at the White House. In that capacity, I participated in the interagency review process for the Environmental Protection Agency's (EPA or the "Agency") Renewable Fuel Standard (RFS) program. Since leaving the White House, I have had the opportunity to reflect further upon the difficult challenges confronting policymakers faced with the task of implementing a RFS statute in a world and energy sector that has radically changed since it was last amended in 2007.

Managing the RFS program over the past three years has presented EPA with intricate, and often intractable, policy decisions. I want to stress at the outset that I continue to believe that the RFS has an important role to play in promoting the use of second generation biofuels, which is an important policy objective, especially when oil prices are low and there may be a natural tendency to pay less attention to our long term energy future. Additionally, given the constraints of the statute and the current program rules, I believe that EPA found a reasonable middle ground in establishing Renewable Volumetric Obligations (RVOs) for 2014, 2015 and 2016. Having made those two observations, there is no doubt that the program faces many challenges stemming from the evolution of the U.S. crude oil and fuel markets since the RFS was enacted in 2005 and expanded in 2007. While these are complex challenges, I believe that the operation of the program could be substantially improved by utilizing opportunities within the statute or by making modest changes to it, all of which would help it to better achieve its first-order goal of getting more renewable fuel into the United States' fuel supply in the most efficient manner possible.

In 2002, the United States consumed approximately 2 billion gallons of ethanol. By 2015, our consumption grew to approximately 14.4 billion gallons due in part to the RFS, while an additional 850 million gallons of ethanol was exported. The United States also consumed almost 2.1 billion gallons of biodiesel. These demand levels represent a measure of success for the RFS.

Energy Information Administration, *Annual Energy Review 2011*, at Table 10.3 (2011).

² Environmental Protection Agency, 2015 Renewable Fuel Standard data, available at www.epa.gov/fuels-registration-reporting-and-compliance-help/2015-renewable-fuel-standard-data.

Energy Information Administration, U.S. Exports of Ethanol Fuel, available at www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPOOXE_EEX_NUS-Z00_MBBL&f=M.

Environmental Protection Agency, 2015 Renewable Fuel Standard data, available at www.epa.gov/fuels-registration-reporting-and-compliance-help/2015-renewable-fuel-standard-data.

But while the RFS has helped promoted the use of more conventional renewable fuel and biodiesel, its success has not been uniform. It has largely failed at increasing the volumes of advanced renewable fuel and cellulosic ethanol sold into the market. It has also failed to promote the use of blends of ethanol in excess of 10 percent at a level sufficient that would alleviate the legitimate concerns about the repercussions of moving the RFS mandate beyond the "blend wall." As a result, I remain concerned that we could continue to see high and volatile RIN prices as a consequence of trying to force the market through the blend wall, and about tightness in the RIN market resulting from high RVOs and long-term uncertainty about this program. While EPA has stated in the past that high RIN prices would incentivize the market to get beyond the blend wall, I am skeptical that, as currently structured, the program will substantially increase the volume of cellulosic or higher blends of ethanol in the fuel supply.

I believe that there are three separate ways to reduce the costs of the RFS while still promoting the use of conventional and advanced renewable fuels: first, EPA could set RVOs for conventional renewable fuel that are below the blend wall. While this might be desirable, absent legislation, EPA is unlikely to lower RVOs from their current volumes or to a level below the blend wall because it views doing so as inconsistent with the purpose of the statute, which is to grow renewable fuel volumes over time, not shrink them.

Second, Congress could address the problem, either by setting lower mandates for conventional renewable fuel, or by eliminating the RVO for conventional renewable and establishing, in addition to the existing RFS requirements for advanced renewable fuels, a separate mandate that all fuel be blended to include a specified percentage, perhaps 9.7 percent, of conventional renewable fuel, a level that is below the blend wall. That approach would guarantee corn farmers 90 percent of the annual volume of 15 billion gallons that the RFS established,⁵ but would eliminate the compliance costs associated with the current conventional fuel mandate.

The third approach would be for EPA to make adjustments to the rules governing the RFS program. Specifically, by moving the point of obligation from importers and refiners to the terminal rack, a point in the supply chain through which all fuel passes, from which motor fuel is distributed, and where motor fuel is taxed. It is my belief that by taking this step EPA would increase the incentives for obligated parties to blend ethanol into the gasoline supply and reduce the costs of the program. EPA has the legal authority to make this change to the program and could do so by the end of this year.

1. Bringing More Renewable Fuel to Market

While the original supporters of the RFS may have had varied motivations—from energy security to environmental stewardship—the primary first-order goal of the RFS today remains the same as it was in 2005 when it was enacted and 2007 when it was amended: to substantially increase the volume of renewable fuel blended into the transportation pool. This was the fundamental purpose of the statute and it remains its most pressing challenge. For the majority of that time, renewable fuel producers and obligated parties were part of a system that had manageable mandates and ample room within the nation's fuel supply to grow.

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⁵ Energy Information Administration, *Annual Energy Outlook 2015*, at Table 11 (2015).

When the 2007 amendments to the RFS were passed, they effectively mandated that the fuel supply absorb 15 billion gallons of conventional ethanol each year beginning in 2015, a year in which EIA was forecasting gasoline demand of 163 billon gallons. Had actual demand been near to EIAs forecast, the 15 billon gallons of conventional ethanol would have constituted 9.2 percent of the gas demand, allowing ample room for the supply to absorb the conventional ethanol without breaching the "blend wall." In fact, however, demand for gasoline grew slower than forecast, in part, because new vehicle fleet fuel economy improved by an average of 0.8 mpg/year between 2010 and 2014.8 Initially, drivers drove less because they had less money due to the recession. As they started to drive more, they did so in cars that were increasingly efficient. The result was that demand for gasoline in 2015 was approximately 138.4 billion gallons, 25 billion gallons less than forecast when the RFS standards were enacted. For the fuel supply to absorb 15 billion gallons ethanol, it would have to constitute about 10.8 percent of the fuel supply, a level the fuel supply could not easily accommodate because of the ethanol "blend

wall"

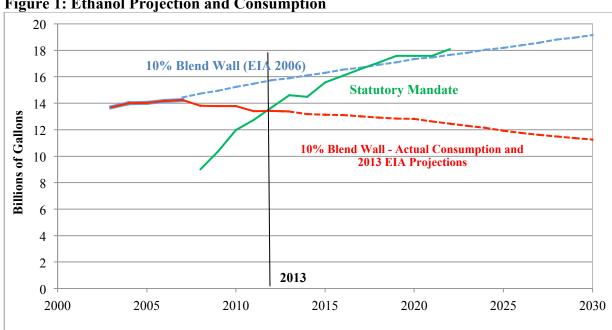


Figure 1: Ethanol Projection and Consumption

Sources: EIA Annual Energy Outlook, 2007 and 2013.

Much of the U.S. infrastructure was designed to operate on fuel containing no more than 10 percent ethanol, which creates the "blend wall." Fueling infrastructure, including underground storage tanks at gasoline stations and gasoline pumps were, until recent years, generally designed

⁴² USC 7545(o)(2)(B)(i).

Department of Energy, Annual Energy Outlook, at Table 11 (2007).

University of Michigan Transportation Research Institute, Monthly Monitoring of Vehicle Fuel Economy and Emissions, available at www.umich.edu/%7Eumtriswt/EDI sales-weighted-mpg.html.

Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, 80 Fed. Reg. 77420, 77511 (Dec. 14, 2015).

and certified to accommodate no more than 10 percent ethanol.¹⁰ Similarly, vehicles also were generally designed to operate on fuel containing no more than 10 percent ethanol until a few years ago.¹¹ A small portion of the fleet, perhaps about 17 million vehicles, are flexible fuel vehicles that can operate on fuel containing up to 85 percent ethanol.¹² The blend wall can be estimated at about 10 percent of the fuel consumed plus the additional volume of ethanol contained in the higher blends of ethanol sold including E15, on which many new cars can operate, E85, on which flexible fuel vehicles can operate, and other blends in between these levels. As the volume of the fuel sold as higher blends designed to operate in flexible fuel or other vehicles grows, the blend wall grows to reflect the additional space in the total fuel supply for ethanol.

As has been ably and more thoroughly discussed in other papers, and in the preamble to EPA's rule, the real test of the program's functionality began in late 2012 and early 2013. Prior to then, there was ample room in the fuel supply to accommodate the statutory mandates without approaching the blend wall. Moreover, over much of that time period, ethanol cost less than gasoline blendstock, meaning that it cost less to produce finished gasoline containing up to 10 percent ethanol than clear gasoline, and consumers were largely oblivious to the small penalty in fuel economy due to the lower energy content of the ethanol. By the end of 2012, however, the market recognized that the fuel supply could no longer accommodate the mandated ethanol.

The combination of reduced demand for fuel, the effective limit on ethanol blend rates, and limited infrastructure for higher ethanol blends shocked the market for Renewable Identification Numbers ("RINs")—the primary means of compliance with the RFS. Whereas the price of RINs had been *de minimis* through 2012, the RIN price rose to nearly \$1 by March 2013 and climbed to well over \$1 by that summer. The cause for the rapid rise in compliance costs can be seen in the RIN supply curve in Figure 2. In this figure, the supply curve for RINs for conventional renewable fuel is the vertical difference between the ethanol supply curve and the ethanol demand curve when the supply curve is above the demand curve. When demand for ethanol exceeds supply, the price of RINs is zero, so long as ethanol is the low cost source of octane. In that case, the price of RINs is *de minimis* until the RVO exceeds the blend wall because when the mandate is below the blend wall, it is not difficult to blend an incremental gallon of ethanol into the fuel supply. However, once ethanol has been blended into the fuel supply at the level of the blend wall, it becomes substantially more expensive to separate a RIN from ethanol because it is substantially more difficult to blend an incremental gallon of ethanol into the fuel supply. Because it is harder to blend the incremental gallon of ethanol into the fuel supply at that point,

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K. Moriarty and J. Yanowitz, *E15 and Infrastructure*, National Renewable Energy Laboratory, May, 2015.

See Regarding Fuels and Fuel Additives. Gasohol; Marketability, 44 Fed. Reg. 20777 (April 6, 1977). While EPA and DOE have certified that vehicles manufactured after 2001 can operate on E15, vehicle manufacturers have generally declined to confirm that the cars they manufactured can reliably be operated on that fuel. I believe that many drivers would prefer to not use in their vehicle a fuel that the manufacturer of their vehicle has not approved for use in the vehicle, even if the government has indicated its approval, given that drivers, and not the government, would incur the cost of repairing vehicles that are damaged by that fuel.

Department of Energy, Alternative Fuels Data Center, *Flexible Fuel Vehicles*, available at www.afdc.energy.gov/vehicles/flexible_fuel.html.

United States Department of Agriculture, Economic Research Service, U.S. Bioenergy Statistics, Table 14, available at www.ers.usda.gov/data-products/us-bioenergy-statistics.aspx.

the demand for ethanol falls sharply. With the statute mandating continued growth in renewable volumes, it was not clear how the obligated parties could meet their obligations to blend specified volumes of conventional renewable fuel into the fuel supply absent fundamental changes to the program or a more rapid increase in the ability of higher ethanol blends (e.g., E85) to break into the market.

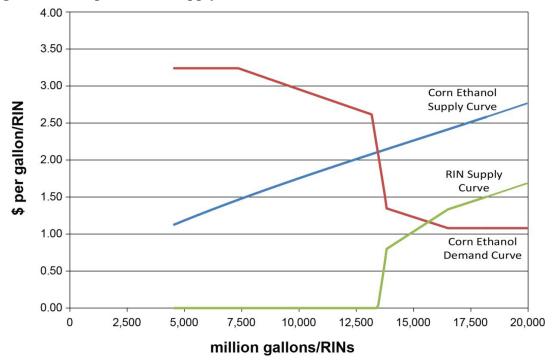


Figure 2: Example of RIN Supply Curve in 2013

Source: Bruce A. Babcock, Marcelo Moreira, and Yixing Peng, Biofuel Taxes, Subsidies, and Mandates: Impacts On US and Brazilian Markets, Center for Agricultural and Rural Development, Iowa State University (2013).

Faced with this transformative shift in the market, EPA acknowledged the difficult problem of the ethanol blend wall by proposing to lower the total renewable fuel mandate in the final rule establishing RVOs for 2013, ¹⁴ and subsequently proposed lower the total renewable fuel mandate, which had the effect of lowering the conventional renewable fuel RVO, in the proposed rule establishing RVOs for 2014. ¹⁵ Predictably, this decision generated significant debate amongst stakeholders and resulted in a significant delay prior to the issuance of the 2014 – 2016 rule.

EPA's recent rule had to address the issue of how best to use the program's capabilities and/or market forces to break through the blend wall and bring more renewable fuel into the market. In the rule, EPA has taken the view that increases in the price of RINs—rather than being indicative of a programmatic failure—actually can function to incentivize the type of infrastructure

¹⁵ 2014 Standards for the Renewable Fuel Standard Program, Proposed Rule, 78 Fed. Reg. 71732, 71734 (Nov. 29, 2013).

¹⁴ Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards, Final Rule, 78 Fed. Reg. 49794, 49823 (Aug. 15, 2013).

investment necessary to make higher ethanol blends available in a cost-competitive way to consumers. As I discuss in the next section in greater detail, however, I believe that there are more cost-effective methods available to address this problem.

2. Problems in E-85 and Biodiesel Market Penetration

Before focusing on potential solutions, I would like to explain what informs my thinking on the issue of E85 and biodiesel market penetration. As others have pointed out, in the simplest of terms, the RFS is designed to increase the cost of fuel with little to no renewable content and use that incremental cost to reduce the cost of renewable fuels, with a preference for renewable fuels with a low-carbon content. Stated differently, it could be thought of as a tax on fuel with relatively higher carbon content that is used to subsidize fuel with relatively lower carbon content. Thus, as EPA describes in last year's proposed rule, a functional market system for the program would be designed to pass the benefits of generating RIN credits from the renewable fuel producer, to the blender, and then to the retail customer. As Christopher Knittel, Ben Meiselman, and James Stock state in their June 2015 paper on this topic, "[i]n theory, RIN prices provide incentives to consumers to use fuels with a high renewable content and to biofuels producers to produce those fuels[.]"

As I stated previously, the early years of the RFS are not especially instructive in evaluating the functionality and effectiveness of this system because there was ample room in the fuel supply to comfortably accommodate the RFS's RVOs within the then current fuel supply and with the then current automotive fleet. However, with the challenges that began in late 2012 and early 2013 as the market recognized that the fuel supply could not accommodate the statutory obligations without breaching the blend wall, the question of how this system was working to incentivize the use of higher ethanol blends increasingly animated the interagency review process. If the market was functioning as expected, and RIN prices were rising—making higher ethanol blends more valuable—why were we not seeing the expected rise in E85 market penetration?

In their June 2015 paper, Knittel et al. analyzed the behavior of the RINs market from January 2013 to March 2015 and described their most troubling finding as follows:

To us, the most intriguing and challenging finding here is the near absence of pass-through of RIN prices to retail E85 prices. While RIN prices might be passed through at some retail outlets at some times, this is not the case on average using national prices. The goal of the RFS program is to expand the use of low-carbon domestic biofuels, and the key economic mechanism to induce consumers to purchase high-renewables blends is the incentives provided by RIN prices. If the RIN price savings inherent in blends with high biofuels content are not passed on to the consumer, then this key mechanism of the RFS is not functioning properly.¹⁸

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Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, Proposed Rule, 80 Fed. Reg. 33100, 33119 (June 10, 2015) (hereinafter, the "2015 Proposed Rule").

¹⁷ See Christopher R. Knittel, Ben S. Meiselman, and James H. Stock, *The Pass-Through of RIN Prices to Wholesale and Retail Fuels under the Renewable Fuel Standard*, National Bureau of Economic Research (June 2015), available at: www.nber.org/papers/w21343.

¹⁸ See id.

In the final rule, EPA reached the same conclusion. In the preamble to the rule, EPA stated that:

[We] examined available data in an attempt to determine whether or not higher RIN prices resulted in lower E85 prices at retail, and whether lower E85 retail prices lead to substantial increases in E85 sales, as economic theory would suggest would be the case when FFV owners receive better value for purchasing E85 rather than E10. Our analysis suggests that the market was not sufficiently responsive to higher RIN prices to drive large increases in E85 sales volumes in the period of time at question. For instance, we found that between January 2013 and July 2015 only 44% of the RIN value was passed on to E85 customers in the form of lower E85 retail prices We also found that while sales volumes of E85 did increase as the price discount for E85 relative to E10 increased, these sales increases were both less dramatic than many have assumed, and perhaps more importantly, did not increase sharply when the price discount exceeded energy parity, as others . . . have assumed. While we did not investigate all factors that might slow retail response to changing RIN prices, our observations lead us to conclude that if EPA were to increase the total renewable fuel volume requirement significantly, we would expect to see sharply higher RIN prices, but sales volumes of E85 would be expected to see only modest increases that would be insufficient to enable the market to reach the statutory targets.¹⁹

Another data point used to evaluate the functionality of the current system is to look at whether the high RIN prices in early 2013 did indeed incentivize any additional build-out of E85 infrastructure in those areas of the country where E85 is most readily available. Tellingly, what happened in Minnesota, the state with most stations selling E85, ²⁰ tracked Knittel et al.'s findings—as RIN prices rose in early 2013, the number of stations selling E-85 declined. As depicted in Figure 3, the number of stations selling E85 at the end of 2015 in Minnesota was 15 percent lower than at the end of 2013. Likewise, the volume of E85 sales also declined over that same time period. Reviewing this data leads me to concur with Knittel et al.'s conclusion that the RINs market is simply not functioning as it should, or as EPA has been assuming it would. ²³

¹⁹ Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, 80 Fed. Reg. 77,420, 77,459 (Dec. 14, 2015).

Department of Energy, Alternative Fuel Data Center, *E85 Fueling Station Locations by State*, available at www.afdc.energy.gov/data/10367.

The number of stations carrying E85 in Minnesota declined from 350 in 2013 to 293 at the end of 2104, and has declined by another 8 stations since then. 2015 Minnesota E85 + Mid-B lends Station Report, Minnesota Department of Commerce, June, 2015, available at mn.gov/commerce/energy/images/2015-05may-e85.pdf.

²² Minnesota Department of Commerce, Minnesota E85 + Mid-Blends Station Report (2015).

The issue of properly aligned incentives and the need for infrastructure also exists for biodiesel blending. In order to blend biodiesel, a terminal needs to add significant infrastructure, including: receipt and offloading equipment, dedicated storage tanks, heat traced transfer lines, rack injection meters, and rack automation control systems.²³ The installation of terminal injection projects can cost millions of dollars,²³ and terminal owner-operators need the support and long-term financial commitment of all rack customers to proceed with the necessary capital investments. Because not all customers are in need of RIN's under the current rules, critical consensus for investing may never mature. This can delay or foreclose the necessary investments in biodiesel infrastructure. This would not happen if all users of the terminal were obligated parties.

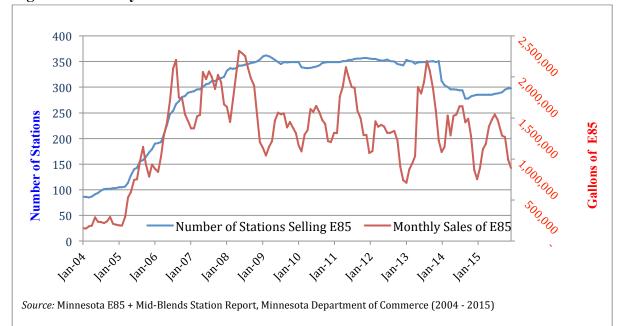


Figure 3: Monthly E85 Stations and Sales in Minnesota

3. REDUCING THE COST OF THE RFS

As I described above, there are three general approaches to help lower the cost of complying with the RFS while still adhering to its primary goal of increasing the volume of renewable fuel blended into the United States' fuel supply: EPA could establish lower RVOs for conventional renewable fuels, Congress could convert the mandate for conventional renewable fuels from one that requires a particular volume to one that requires a concentration of conventional renewable fuel in the fuel supply that is below the blend wall, or EPA could change the program rules to better align the obligation to blend renewable fuel into the fuel supply with the ability to blend renewable fuel into the fuel supply.

a. Establishing Lower Renewable Volume Obligations By Rule

EPA could establish lower RVOs for conventional renewable in its annual rulemaking process in order to reduce the overall compliance costs of the RFS, without substantially reducing the volume of conventional renewable fuel that is blended into the fuel supply. In doing so, EPA also could continue to establish RVOs for advanced renewable fuels at levels in a manner similar to what they did in the recent final rule.

The current fuel supply can accommodate nearly the entire conventional RVO with relatively little trouble. In the final rule, EPA estimated that gasoline consumption in 2016 will be 139.96 billion gallons and effectively mandated that that fuel supply absorb approximately 14.15 billon gallons of conventional ethanol, reflecting about 10.1 percent of the total demand for gasoline.²⁴

²⁴ Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, 80 Fed. Reg. 77,420, 77,511 (Dec. 14, 2015).

Because of the ability of the fuel supply to easily absorb ethanol until it reaches 10 percent of the fuel supply, the cost of mandating an RVO the allows for a concentration of conventional ethanol of less than 10 percent is modest, as depicted in the supply curve for ethanol in Figure 1. We experienced this when the RVO was below the blend wall through the end of 2012, and the price of RINs for conventional fuel averaged just a few pennies through the end of 2012. Therefore, establishing RVOs for conventional renewable fuel below the blend wall, which is reflected as the inflection point in the RIN supply curve in Figure 1, would reduce RFS compliance costs substantially. Moreover, setting an RVO for conventional renewable fuel at 9.7 percent, for example, would still effectively mandate that the fuel supply absorb 13.58 billon gallons of conventional renewable fuel. Such an RVO would guarantee the producers of conventional renewable fuel over 90 percent of the volumes that were mandated by the statute, while lowering compliance costs associated with this particular mandate.

The mandates for advanced and cellulosic renewable fuels would still push the overall concentration of ethanol in the fuel supply above the blend wall. However, because the entire conventional renewable fuel RVO could be accommodated in the supply without breaching the blend wall, the higher RIN costs would be limited to the RINs for the advanced fuels, where the volumes are low for now, which would result in lower compliance costs. Stated more simply, the market would continue to incur higher RINs costs for advanced fuels, which are the types of fuels that the statute itself favored, but would substantially reduce the compliance costs for conventional renewable fuel, whose use the statue placed less emphasis in over time.

EPA, however, is unlikely to reduce the RVOs below the blend wall because it believes that reducing the RVOs from one year to the next is inconsistent with the purpose of the statute, and EPA is not going to back away from its commitment to try and increase the RVOs to the statutory levels over the next several years.

b. Amending the Statute

Congress could amend the statute in a manner to accomplish a similar result as EPA lowering the RVO. Moreover, because Congress has more latitude to amend the statute than EPA has to manage the RFS program under the current statue, it would be a less cumbersome result.

Rather than reducing the mandated volumes for conventional renewable fuel, Congress could entirely eliminate the conventional renewable fuel requirement from the current RFS program. In its place, Congress could mandate that all fuel be blended to include 9.7 percent ethanol. Compliance with this requirement would be separate and apart from the existing RFS requirements. All blenders would be subject to audit and substantial fines for failure to meet this blending requirement. The system could accommodate a statutory requirement that all fuel contain 9.7 percent conventional renewable fuel, for instance, at little cost, because that would be at a point to the left of the inflection point in the RIN supply curve in Figure 1. Moreover, based on current EIA forecasts, the fuel supply would still be required to absorb 13.4 billion of gallons of ethanol in 2017, representing 90 percent of the current mandate, but without any of the transaction costs associated with the conventional renewable fuel mandate in the RFS.²⁵

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²⁵ Department of Energy, *Annual Energy Outlook*, at Table 11 (2015).

Congress also could acknowledge that some consumers prefer fuel with lower concentrations of ethanol for vehicle performance or other reasons. It could accommodate them by allowing the sale of fuel with lower concentrations of ethanol, subject to an excise tax that would be inversely related to the amount of ethanol in the fuel. Finally, Congress also could exempt from the requirement gasoline sold at marinas and dispensed directly into marine vessels or fuel sold in containers of less than one gallon for use in small engines, for which there is evidence that ethanol creates greater risks of engine problems than in automobiles.²⁶

This approach would reduce compliance costs and provide a clearer requirement moving forward, because the RVO would not have to be recalculated each year and would not be subject to the natural uncertainty of that process. Moreover, there would be no question as to its legality if incorporated into the statute.

c. Changing the Point of Obligation By Regulation

A third alternative would be for EPA to change the point of obligation by rulemaking. Changing the point of obligation is clearly within EPA's existing legal authority,²⁷ could both better align the incentive to blend renewable fuel with the obligation to do so and substantially reduce the compliance cost of the program, while preserving the goals of promoting the use of advanced renewable fuels.

i. Background

The issue of the appropriate point of obligation has been understood as a critical choice in the structure of the RFS since the inception of the program. Where the compliance obligation falls within the fuel supply chain has a tremendous impact on the RFS' ability to allocate costs, award benefits, incentivize changes in the market, and achieve the goals set out by Congress in the statute. Before discussing why this issue is critically important moving forward, it is important to review the history of EPA's deliberations on this subject and understand how EPA arrived at placing the point of obligation on refiners and importers (*i.e.*, the parties who produce and supply fuel to the rack at fuel terminals) versus blenders (*i.e.*, those parties actually blending the renewable fuel into gasoline and diesel).

In the initial phase of the RFS—from 2005-2007—EPA largely based its decision on point of obligation on ease of administration. As EPA explained, "[w]hen the RFS1 regulations were drafted, the obligations were placed on the relatively small number of refiners and importers rather than on the relatively large number of downstream blenders and terminals in order to minimize the number of regulated parties and keep the program simple."²⁸

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See Partial Grant of Clean Air Act Waiver Application Submitted by Growth Energy To Increase the Allowable Ethanol Content of Gasoline to 15 Percent; Decision of the Administrator, Notice of Decision Granting a Partial Waiver, 76 Fed. Reg. 4,662 (Jan. 26, 2011).

See 42 USC 7545(o)(2)(A)(iii) "the regulations promulgated under this clause shall contain compliance provisions applicable to refineries, blenders, and importers, as appropriate"

Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program; Final Rule, 75 Fed. Reg. 14670, 14722 (March 26, 2010) (hereinafter, the "RFS2 Final Rule").

In 2009, with the amended program placing increased renewable mandates onto the system, EPA once again considered the issue of whether to place the point of obligation on refiners who provide fuels to the market for further distribution at the rack or on the blenders who actually put the renewable fuel into the system. In doing so, EPA considered a new issue—the disparity in compliance burden between major integrated refiners who possess blending operations (which generate RINs) and refiners who are primarily focused on refining and do not generate their own RINs. EPA framed the issue in its 2009 proposed rule as follows:

The result is that in some cases there are significant disparities between obligated parties in terms of opportunities to acquire RINs. If those that have excess RINs are reluctant to sell them, those who are seeking RINs may be forced to market a disproportionate share of E85 in order to gain access to the RINs they need for compliance. If obligated parties seeking RINs cannot acquire a sufficient number, they can only carry a deficit into the following year, after which they would be in noncompliance if they could not acquire sufficient RINs. The result might be a much higher price for RINs (and fuel) in the marketplace than would be expected under a more liquid market. Given the change in circumstances brought about through EISA, it may be appropriate to consider a change in the way that obligated parties are defined to more evenly align a party's access to RINs with that party's obligations under the RFS2 program.²⁹

In addition to describing the problem, EPA also considered a potential solution—moving the point of obligation from refiners to blenders—specifically recognizing the impact of the blend wall on the viability of the RFS. EPA described the issue as follows:

Given the change in circumstances brought about through EISA, it may be appropriate to consider a change in the way that obligated parties are defined to more evenly align a party's access to RINs with that party's obligations under the RFS2 program. The most straightforward approach would be to eliminate [unfinished gasoline] from the list of fuels that are subject to the standard, such that a party's RVO would be based only on the non-renewable volume of finished gasoline or diesel that he produces or imports. Parties that blend ethanol into [unfinished gasoline] to make finished gasoline would thus be obligated parties, and their RVOs would be based upon the volume of [unfinished gasoline] prior to ethanol blending. Traditional refiners that convert crude oil into transportation fuels would only have an RVO to the degree that they produced finished gasoline or diesel[.] Since essentially all gasoline is expected to be E10 within the next few years...this approach would effectively shift the obligation for all gasoline from refiners and importers to ethanol blenders (who in many cases are still the refiners)....a variation of this approach would be to move the obligations for all gasoline and diesel downstream to parties who supply finished transportation fuels to retail outlets or to wholesale purchaser-consumer facilities.

This variation would have the additional effect of more closely aligning obligations and access to RINs for parties that blend biodiesel and renewable diesel into petroleum-based

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Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program; Proposed Rule, 74 Fed. Reg. 24904, 24963 (May 26, 2009) (hereinafter, the "RFS2 Proposed Rule").

diesel...it would have certain advantages. Currently, blenders that are not obligated parties are profiting from the sale of RINs they acquire through splash blending of ethanol. By eliminating [unfinished gasoline] from the list of obligated fuels, these blenders would become directly responsible for ensuring that the volume requirements of the RFS program are met, and the cost of meeting the standard would be more evenly distributed among parties that blend renewable fuel into gasoline. With obligations placed more closely to the points in the distribution system where RINs are made available, the overall market prices for RINs may be lowered and consequently the cost of the program to consumers may be reduced. ³⁰

Despite its recognition of this issue, in the 2010 final rule, EPA elected not to change the point of obligation. Once again, EPA cited administrative considerations ("a change in the designation of obligated parties would result in a significant change in the number of obligated parties and the movement of RINs, changes that could disrupt the operation of the RFS program during the transition from RFS1 to RFS2.") but the Agency did acknowledge that it remained concerned about this issue and that it would revisit the issue of point of obligation if necessary. As EPA stated, "[w]e will continue to evaluate the functionality of the RIN market. Should we determine that the RIN market is not operating as intended, driving up prices for obligated parties and fuel prices for consumers, we will consider revisiting this provision in future regulatory efforts."³¹

In the preamble to the recent final rule, EPA noted that commenters suggested that EPA "change the RFS program's point of obligation from its current focus on producers and importers of gasoline and diesel," and acknowledged that the idea can "play a role in improving incentives provided by the RFS program to overcome challenges that limit the potential for increased volumes of renewable fuels." The Agency concluded that such a change was "beyond the scope of this rulemaking," but stated that it would "continue to actively monitor the functioning of the market, assess all relevant data, and review our options as necessary."³²

ii. EPA Should Revisit the Point of Obligation

Based on my review of the data and my experience and knowledge gleaned from meeting with a wide and diverse range of stakeholder groups, it is apparent to me that the current RIN market dictates EPA revisiting the RFS' point of obligation. Before elaborating further on this point, it is important to state clearly my view that EPA has ample authority to address the point of obligation in the current rulemaking. The statute grants EPA the authority to promulgate regulations that "contain compliance provisions applicable to refineries, blenders, and importers, as appropriate." Moreover, as just discussed above in the previous subsection, EPA itself considered establishing the point of obligation at the blender in both the EPA's proposed and final rules governing the program in 2009 and 2010. Thus, it is clear that the Agency has the statutory authority to address the issue.

³⁰ See id.

³¹ See RFS2 Final Rule at 14722.

Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, Final Rule, 80 Fed. Reg. 77420, 77431 (Dec. 14, 2015).

³³ 42 USC 7545(o)(2)(A)(iii); *see also* discussion above of EPA's consideration of this issue in the proposed and final rules establishing the RFS2 program.

The current point of obligation is a significant factor inhibiting greater amounts of E85, and perhaps biodiesel, from reaching the market due primarily to the lack of properly aligned incentives and the resulting shortfall in blending infrastructure expansion. Reaching this conclusion only requires extending the reasoning acknowledged above by EPA in 2009, namely: a portion of obligated parties, refiners with large marketing operations, are almost immediately "long" on RINs at the beginning of every compliance period, a position that occurs because when they market more fuel than they refine, they generate more RINs through blending than they need for their own compliance obligations.

Having several large obligated parties structurally long on RINs has important implications for the operation of the RFS program. First, blending high concentrations of ethanol at wholesale distribution facilities at scale often requires modifications to the infrastructure.³⁴ At many distribution facilities, however, obligated parties long on RINs are the largest customers, and are in a position to effectively block installation of infrastructure to promote large scale E85 blending. Once the RIN-long party has met its own RVO, it has little incentive to participate financially in the expansion of blending infrastructure to allow for higher level blends (E85 and E15) or additional advanced renewable fuels (B5-B20) because they already have the RINs they need and do not want additional blending to lower the value of their excess RINs.

Second, under the current program structure, these parties also may not even have an incentive to blend to the blend wall. Because they have the RINs that they need, and the availability of fewer RINs can keep RIN prices higher, generation of fewer RINs could help them maximize their return on existing blending (E10) and, contrarily, have a direct disincentive to facilitate expansion of infrastructure and blending (B5, E85), because meeting the mandate level decreases RIN profits generated from being a RIN-long party. This is especially clear when the industry confronts the blend wall and additional capital or marketing is required to generate the RINs necessary to meet EPA's goals of increasing renewable fuels consumption and making the RFS program successful. Conversely, the RIN-short refiners supply fuels to the market, but do not market fuel and therefore do not participate in any significant way in blending of renewable fuels, thus lacking access to, or control over, RIN generating blending infrastructure.

Ironically, the current structure, which puts the point of obligation on refiners instead of where the actual compliance is achieved at the point of blending, provides the least incentive to those who are best situated to undertake the blending that the RFS seeks to motivate and imposes the greatest obligation on the parties who are most poorly situated to increasing the volumes of renewable fuel that is blended into the fuel supply. Whether RIN-long refiners sell these RINs or bank them, these parties are not incentivized to invest significantly in biodiesel, advanced fuels, or E-85 infrastructure that would enable more renewable fuel to reach the market. They can remain relatively content to hold their long position. They are so competitively advantaged that they do not have to discount fuels to incentivize higher-level blends and thus protect their RIN windfall. In fact, they are actually incentivized to forestall more renewable fuel from entering

³⁴ See, e.g., Michael Leister, Biofuels Blending Infrastructure, SAE Government and Industry Conference, May 13, 2008; Daniel Measurement and Control Application Guide, An Introduction to Blending Ethanol, available at www2.emersonprocess.com/siteadmincenter/PM%20Daniel%20Documents/Ethanol_Blending.pdf; Robert Jagunich, Biofuels Mid-Stream Infrastructure Requirements, California Energy Commission, Apr. 14, 2009.

the market, thus protecting hydrocarbon volumes being sold and keeping the RIN price as high as possible.

Other obligated parties, in turn, are inherently short on RINs—i.e., they do not have blending operations and therefore have no direct access to RINs—and are faced with ever-increasing compliance costs. In the past, EPA had taken the view that the parties facing growing costs for RINs would be incentivized to build new infrastructure or to invest in blending operations. To me, it was inappropriate to presume this as a path to compliance, as it was akin to telling a product's manufacturer that it also must become its distributor as part of an effort to sell a competing product. Effectively, that view essentially expected RIN pricing to become so severe that it would reverse the last 20 years of de-integration in the refinery industry. In the final rule, EPA backed away from that position, stating that:

We do not believe the statute should be interpreted to require that refiners and importers change the nature of their businesses so as to comply with RFS requirements, as this would be a far-reaching result that Congress can be expected to have clearly specified if it was intended. For example, to the extent that commenters imply that refiners should be required to build or purchase renewable fuel production facilities, take ownership of retail stations, produce or sell cars capable of using high-ethanol blends, or plant cropland to provide feedstock for increased renewable fuel production, we would disagree. Rather, if other parties engaged in these activities fail to adjust those activities to allow the statutory volume targets to be met, we believe the result is an inadequate domestic supply.³⁵

EPA hopes that higher RIN prices will incentivize the consumption of more E85. In the final rule, EPA acknowledged, however, that:

[i]f higher RIN prices, which would likely result from a higher total renewable fuel standard, are to lead to substantial increases in E85 consumption, two independent events must occur. First, the higher RIN prices must lead to lower E85 retail prices. If this does not happen consumers would have no incentive to purchase additional volumes of E85 as a result of higher RIN prices. Second, FFV owners must respond to these lower prices by purchasing E85 instead of E10 when E85 is available. Authors such as Babcock and Pouliot, who have written about the ability for RINs to drive significant increases in E85 sales volumes, optimistically assume that RIN prices are passed through to E85 prices and that consumers are highly responsive to E85 prices.³⁶

But as discussed above, EPA has acknowledged that a substantial portion of the value of the RIN is not being used to reduce the cost of E85 at the pump, with "only 44% of the RIN value [being] passed on to E85 customers in the form of lower E85 retail prices." EPA acknowledged that:

Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, 80 Fed. Reg. 77,420, 77,459 (Dec. 14, 2015).

³⁶ *Id*.

³⁷ *Id*.

While economic theory . . . support[s] the idea that RINs can serve as a mechanism to increase the production, distribution, and consumption of renewable fuels, it is important to note that this result is dependent on the marketplace working both efficiently and quickly. In reality, there is a timing component associated with each of the steps outlined above. Renewable fuel producers and investors must see a sustained, profitable market for renewable fuels before they will be willing to invest in the construction of additional fuel production capacity, which may take years to construct and bring online. Fuel blenders and distributors must see sustained profit opportunities before they are willing to invest in new infrastructure to increase their capacity to blend and distribute renewable fuels. Market competition must increase before fuel blenders and distributors are willing to pass along all of the reduced effective price of renewable fuel (in essence, the value of RINs) to consumers at retail. New fueling infrastructure will need to be built to facilitate the growth in sales of fuels containing an increasing percentage of renewable fuel. And as exposure to renewable fuels increases, it will take some time for consumers to learn to identify value in fuel blends containing higher proportions of renewable fuels, as well as their vehicle's ability to handle these fuel blends and where they are available for purchase.38

Part of the challenge is that at the moment, there is not obvious good value for consumers purchasing E85. We can observe this by looking again at data reported by the State of Minnesota. Table 1 reports the monthly average price of E10 and E85 in Minnesota. When the price of E85 is adjusted to account for the fact that it contains, on average about 25 percent less energy per gallon, the price often exceeds the price of gasoline, and did exceed it on average for the year, even as the average price of a RIN for conventional fuel was 54 cents over 2015. This demonstrates the challenge faced by the ethanol industry. Even with the value of the RIN incorporated into the price of E85, E85 is selling at a premium price over gasoline, and because of its lower energy content, consumers using E85 have to go to the service station one additional time each month to fill their fuel tanks.

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³⁸ *Id*.

³⁹ Clearview Energy Partners, A Framework for Year Eight, at 38 (Jan. 15, 2016).

Assumes that a car is driven 12,000 miles per year at 25 mpg using E10 or 18.75 mpg using E85, and purchases 15 gallons of fuel each trip to the service station.

Table 1: Prices of E10 and E85 in Minnesota During 2015

			3	
			Energy Content	Premium for E85
	Price of E10	Price of E85	Adjusted Price of E85	Above E10
Jan	\$1.96	\$1.64	\$2.16	\$0.20
Feb	\$2.16	\$1.70	\$2.24	\$0.08
Mar	\$2.38	\$1.78	\$2.34	-\$0.04
Apr	\$2.31	\$1.74	\$2.29	-\$0.02
May	\$2.54	\$1.89	\$2.49	-\$0.05
Jun	\$2.65	\$1.99	\$2.62	-\$0.03
Jul	\$2.69	\$1.99	\$2.62	-\$0.07
Aug	\$2.56	\$1.94	\$2.55	-\$0.01
Sept	\$2.29	\$1.81	\$2.38	\$0.09
Oct	\$2.39	\$1.91	\$2.51	\$0.12
Nov	\$2.13	\$1.79	\$2.36	\$0.23
Dec	\$1.88	\$1.61	\$2.12	\$0.24
Annual Average				\$0.06

Source: 2015 Minnesota E85 + Mid-Blends Station Report, Minnesota Department of Commerce

Moreover, because Minnesota has more E85 stations than any other state, and there is a greater opportunity for pump-on-pump competition in Minnesota than elsewhere, there is a greater likelihood that a larger portion of the value of the RIN is being passed through to the retail customer in Minnesota. It seems likely that in other states, a smaller portion of the value of the RIN is being passed through to the retail price, and that E85 provides even less value than it does to drivers in Minnesota.

If E85 is not providing good value for consumers, there is little reason for them to purchase it. And if consumers are not going to purchase E85, then none of the things that EPA identified as necessary for RINs to serve as a mechanism to increase the production, distribution, and consumption of renewable fuels will occur:

- New retail fueling infrastructure will not be built because there is not demand for the fuel:
- Fuel blenders and distributors will not pass along the value of the RIN to the retail level because there is not sufficient retail competition to force them to do so;
- Fuel blenders and distributors also will not see larger profits through larger sales of higher blends, so they will have no incentive to invest in new infrastructure to increase their capacity to blend and distribute renewable fuels; and,
- Renewable fuel producers and investors will not see the sustained, profitable market for renewable fuels required to justify investment in additional fuel production capacity.

Finally, EPA also needs to consider the operating and export incentives created with a high RIN price. If a refiner cannot generate RINs, the only options the RIN-short refiners have other than paying high RIN prices to RIN-long parties who are disincentivized to meet the mandated volumes -- are curtailing production or exporting. If they do either, the fuel supply in the United States shrinks, and there is both less competition for the advantaged refiners and less opportunity for renewable blending. It will make meeting the RVO targets that much more difficult and likely increase the domestic cost of fuel without incentivizing the blending of renewable fuels to the degree that EPA seeks to require.

Ironically, we need not wreak havoc to realign the incentives in the market. We need only place the obligation where it will evenly apply the burden and let the market work. If EPA moves the point of obligation to the owner of the hydrocarbon fuel just before blending, it will assure that every person controlling the blending will be fully incentivized to maximize the blending of renewable fuels into the fuel supply because they will need RINs in proportion to the fuel they blend and not in proportion to the fuel that they produce.

iii. No Real Administrative Advantage to Refiners

Finally, with respect to ease of administration, it seems possible that nearly every party that would be an obligated party if the point of obligation was moved to the rack is already an obligated party. All RIN related transactions must be executed via the EPA Moderated Transaction System (EMTS), which requires transactional, quarterly, and annual reports for all registered users. According to EPA's recently released EMTS data, over 80 percent of RINs are separated by currently obligated parties.

This observation is consistent with data that Valero reported in comments to the EPA docket in the final rule establishing RVOs for 2014 – 2016 last fall.⁴³ In its submission to EPA, Valero stated that EPA has indicated that there currently are about 200 parties obligated under the RFS. Valero collected and analyzed data to determine how many parties it believes would be obligated if the point of obligation was moved to the terminal rack. Its analysis identified about 107 parties that post prices at fuel terminals who would be obligated if the point of obligation was moved.⁴⁴ This analysis would not include parties that blend fuel at a terminal but do not sell to the public or post a price. However, it seems unlikely that the number of parties that blend fuel at a terminal but do not sell to the public or post a price would be so large as to represent a meaningful departure from the number of currently obligated parties. Therefore, to the extent that EPA was concerned years ago about establishing a point of obligation that would substantially increase the number of obligated parties, it may no longer need to be concerned. Finally, according to Valero's analysis, nearly all of the 107 obligated parties are already registered with EPA under the RFS, because they are either refiners or importers as well as blenders.

I have attached a copy of the analysis that Valero reported to EPA to my testimony as Appendix 1. In an effort to allow other stakeholders to reach their own conclusions about the data, I asked Valero for a list of the parties that it identified as obligated parties if the point of obligation is moved. I have attached that information to my testimony as Appendix 2.

⁴¹ See 40 CFR 80.1451.

According to 2014 EPA EMTS data report on July 10, 2015: 11,536,302,607 of 14,052,892,893 total D6 RINs were separated by obligated parties. 82.1% of all D6 RINs separated in 2014 were done by obligated parties. 84.3% when only considering blenders and obligated parties as described in the ideal EPA sequence. Greater than 11.5 billion RINs were separated by obligated parties as compared to just 2.1 billion by blenders. www.epa.gov/otaq/fuels/rfsdata/2014emts.htm.

Comment submitted by Richard J. Walsh, Senior Vice President, Deputy General Counsel litigation and Regulatory Law, Valero to the Environmental Protection Agency (Oct. 16, 2015) available at www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2015-0111-3530.

⁴⁴ *Id*.

Although we may not know today exactly how many obligated parties there would be if the point of obligation was moved, it is clear from the available analyses that the number would be manageable and in keeping with the reach of other EPA programs. To help achieve the program's goals, EPA should update its analysis from 2010, propose a change in obligated party as part of the next RFS rulemaking and accept public comment on the proposal.

* * *

Under the current program structure, there is a misalignment between the parties obligated to ensure that blending occurs and the parties that are situated in the supply chain to blend. As EPA recognized in 2009, moving the point of obligation to blenders can better align the obligation and the ability to blend. Moreover, moving the point of obligation to the blender more evenly distributes the cost of obligation across the obligated parties and likely reduces cost of the program to consumers. Rather than incentivizing major obligated parties to hoard RINs and withhold from infrastructure investments, obligated parties would now be able to compete on an even playing field as the RFS drafters envisioned. With all of the major parties competing for E85 market share, retail E85 prices have the best opportunity to be competitive with E10 and gain penetration into the market. Ultimately, this represents the best chance for policymakers to get past the difficult problems presented by the blend wall and to achieve the fundamental goal of the program—getting more renewable fuel into the market.

Appendix 1

RE: Supplement to Valero Comments on Proposed Renewable Fuel Standards for 2014, 2015 and 2016 and Biomass-Based Diesel Volume

Available in EPA Docket No. EPA-HQ-OAR-2015-0111





Senior Vice President and Deputy General Counsel Litigation and Regulatory Law

October 16, 2015

Via Federal Express No. 7747-5828-9186

EPA Docket Center U.S. Environmental Protection Agency 1200 Pennsylvania Ave., NW Mail code 28221T Washington, DC 20460

Attn: Docket ID No. EPA- HQ-OAR-2015-0111

RE: Supplement to Valero Comments on Proposed Renewable Fuel Standards for 2014, 2015 and 2016 and Biomass-Based Diesel Volume

On July 27, 2015, Valero submitted comments on the Proposed Renewable Fuel Standards ("RFS") for 2014, 2015 and 2016 urging EPA to revise the RFS to move the point of obligation to the owner of the fuel at the wholesale rack. When EPA considered revising the structure of the RFS in 2010, EPA argued that at that time "a change in the designation of obligated parties would result in a significant change in the number of obligated parties and the movement of RINs, changes that could disrupt the operation of the RFS program during the transition from RFS1 to RFS2." To address this concern in support of the submitted comments, Valero completed analysis regarding the administrative burden that might result from a change in the point of obligation. As described below, Valero's analysis finds that the change will result in no additional administrative burden because the change will not increase the number of obligated parties under the RFS. An analysis of information available in the Oil Price Information Service ("OPIS") and EPA's list of RFS registered parties shows that the number of directly obligated parties is expected to decrease if the point of obligation is moved to the wholesale rack.

As background, Valero summarizes the comment submitted in July as follows:

The current problems with the RFS, as outlined below, can largely be resolved by shifting the RFS compliance obligation to the owner of the fuel immediately prior to blending at the rack, ensuring that all parties would have an equal incentive to maximize the generation of additional RINs. The infrastructure that is needed to increase market penetration of renewable fuels is downstream of refiners. As long as those downstream of refiners do not have compliance obligations, there will be few market opportunities for investments in downstream infrastructure. By moving the obligation closest to the place where blending occurs and where renewable fuel is purchased and delivered, EPA would incent blenders to maximize blending and marketing of renewable fuel. No party would have a surplus of RINs by virtue of their downstream position alone, while all parties would be equally obligated and, most importantly, fully incented to push renewable fuels into the market.

Valero's comments explain that the action to correct the flaw in the RFS system is simple and will not create unreasonable additional administrative burden on regulated parties:

The regulatory change necessary to correct the flaw is simple. To move the point of obligation to the rack is a straightforward edit to the definition of obligated party. The change places insignificant additional administrative burden on regulated parties. Further, even if some degree of additional administrative effort is involved in moving the obligation to blenders, it is not reasonable to compromise a program design that will more effectively achieve the goals of the statute for the sake of administrative convenience.

Analysis of Potential Administrative Burden Based on Increase in Number of Obligated Parties

As a follow-up to the comments submitted in July, Valero completed analysis of the potential additional administrative burden that might be imposed on regulated parties by the recommended change in the point of obligation. Valero offers the results of this analysis for EPA consideration in the development of the final rule. Valero recognizes that this information is being submitted after the close of the comment period for the proposed rule. However, in light of the enormous benefits associated with a rule change, it is important for EPA to recognize the change will not create additional administrative burden for the agency nor industry. The information provided herein is information that EPA can obtain on its own and the analysis is well within EPA's ability to undertake for evaluating options to resolve the RFS structural flaws. Nonetheless, Valero offers the information to provide EPA support for making the appropriate changes to ensure the success of the RFS program.

The purpose of the analysis was to quantify the number of obligated parties under a revised RFS by identifying the entities that post wholesale rack prices for gasoline and diesel fuels at all terminals in the United States. In meetings with Valero, EPA indicated that there are approximately 200 obligated parties and raised d a concern that moving the point of obligation to the owner of the hydrocarbon immediately prior to sale at the wholesale rack may significantly increase the number of obligated parties. Utilizing wholesale rack pricing data gathered from OPIS, Valero identified potential obligated parties by reviewing the entities who supply gasoline and diesel fuel for sale at wholesale rack terminals as reported in the OPIS Wholesale Rack Pricing Report. The analysis quantified the number of unique "Parties" posting wholesale rack prices at all US terminals and then cross-referenced the parties with EPA's most recent Title 40 CFR Part 80 registration.

The wholesale rack data set included all published finished product price information by posting party for both Branded and Unbranded products, excluding Avgas, Jet Fuel, and LPG's. The analysis consolidated posted products by product group and product type. The Product Groups included; "Gas or Diesel" and "Alternative Fuels". The product group "Gas or Diesel" included all gasoline's (E0 to E15) and all diesel fuels (Motor Vehicle, Non-road, Locomotive, or Marine (MV-NRLM)), including all blends containing biomass based diesel's (B0 to B98). As the purpose of the analysis was to quantify the number of obligated parties under a revised RFS, whereby the obligated party would be the owner of the hydrocarbon immediately prior to sale at the wholesale rack, the entities posting products for sale within the product group "Gas or Diesel" were considered obligated parties for this analysis.

Finding: Rule Revision Will Reduce Number of Obligated Parties

Based on the analysis of the OPIS data, Valero found 107 posting entities; 100 were registered with EPA under the RFS. For 7, direct registration was not found, however they might be exempt, registered under a parent company, or could potentially be RFS non-compliant. (See Appendix) This number is significantly fewer than the number assumed by EPA in its prior discussions. Thus, the analysis indicates that placing the compliance obligation on the owner of the gasoline or diesel fuel immediately before sale at the rack will result in fewer obligated parties than the current RFS structure.

EPA Registration Status	Est of Current Obligated Parties* (per EPA meetings)	Obligated Party at the Rack** (per OPIS rack posting detail)	Favorable Variance
EPA Registered	200	100	(100)
EPA Registration Unknown		7.	7
Grand Total	200	107	(93)

- * Number of currently Obligated Parties as referenced during meetings with EPA
- ** Obligated Party count based on the number of parties posting rack prices for all finished Gas and Diesel products as published by OPIS
 - Finished Gas and Diesel products = Gasoline (includes E0-15), Diesel (includes all MV-NRLM and B0-98)
 - Excluded materials = E85, Ethanol, and Biodiesel (B99 and B100)

Data Source: OPIS - All Published Terminals, All Published Finished Product Posting (excluding Avgas, JetFuel, and LPG)

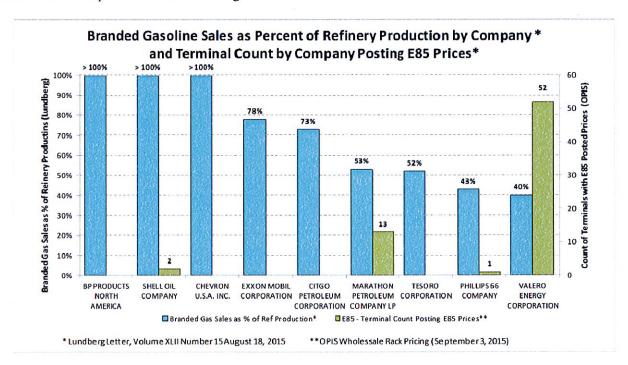
Due to the smaller than anticipated number of unique parties identified in the Rack Posting Analysis, Valero contacted OPIS to confirm the results. OPIS provided a list of 123 "Active Rack Suppliers" posting gas and diesel prices. OPIS refers to any entity posting a rack price as a "rack supplier." After accounting for duplications created by suppliers posting both branded and unbranded prices, OPIS indicated the count of unique supplier's was approximately 110.

When looking at the number of directly obligated parties resulting from moving the point of obligation to the owner of the hydrocarbon immediately prior to sale at the wholesale rack, both the posted price analysis and OPIS supplier validation methodologies yielded similar results and both reflected a significant decrease in the number of directly obligated parties.

Finding: RIN-Long Obligated Parties are Not Offering E85

The analysis yielded additional information regarding obligated parties under the current RFS that supports Valero's comments submitted to EPA in July. Valero's comments, and the comments of others, describe the fact that RIN-long obligated parties do not have any incentive to provide E85. The analysis of the OPIS data confirms that RIN-long obligated parties are not pricing E85.

The data described in the table below identifies the number of terminals at which each company posts E85 prices. EPA already knows that the companies shown below with branded sales that are greater than 70% of their refinery production are also companies that are RIN-long.



This finding confirms that the current point of obligation of the RFS does not incent RIN-long obligated parties to invest in infrastructure to blend additional biofuels, particularly those which would break the E10 blendwall. As can be seen above, the high RIN prices in 2013, 2014, and 2015 did not caused RIN-long obligated parties to offer E85. Further, most RIN-long obligated parties benefit from disproportional obligations under the RFS current point of obligation. In the short term, these parties have no need to make investments to meet increasing RVOs and they enjoy windfall profits from selling high priced RINs to structurally short parties. In the long term, this dysfunction in the RFS creates instability and risk to RFS program and results in failure of program to achieve its goals. The ultimate collapse of the RFS program will benefit RIN-long parties, particularly if it occurs after reducing competition in the market from RIN-short parties.

Conclusion

The two findings from the analysis are important for EPA's consideration of how to remove the constraints on the RFS program. Contrary to EPA's assumptions in 2010, changing the point of obligation to the owner of the hydrocarbon immediately prior to sale at the wholesale rack will not increase the number of obligated parties. Thus, EPA's concern about the additional administrative burden is unfounded; there will be no additional administrative burden on the agency nor parties that are not already participating in the RFS program. Not only will a correction to the regulatory structural flaw allow better market penetration of renewable fuels by ensuring that all relevant parties have the incentive to push renewable fuels to the market, a correction is necessary to provide stability in the RFS program and to prevent the ultimate collapse of the RFS program. The findings support Valero's comments submitted in July. We urge EPA to consider these findings as further support for those comments.

Sincerely,

Richard J. Walsh

cc: Benjamin Hengst

Julia McAllister Janet McCabe Chris Grundler Gina McCarthy

Appendix: EPA Registration Unknown - Detail by Product Type

- 9 parties who posted a rack price could not be directly linked to an existing EPA registration
 - 7 parties posted Gas, Diesel, or both
 - 2 parties posted Ethanol, Biodiesel, or both
- Registration Unknown indicates no direct link to an EPA Company Name and EPA ID Number
- Parties may operate outside of the programs implementation jurisdiction (i.e. AK), are currently violating the regulations (i.e. posting ethanol with RINs), or are likely registered under parent company

		Product Type 💌			
Registration Status	EPA Company Name	GAS	DSL	ETH	BIO
Registration Unknown	FI 9987 - ACORN (UNKNOWN EPA ID - B20 posting - Fountain, CO)		1		
	■ 9989 - DANSK WLS (UNKNOWN EPA ID - ULSD & B20 posting - El Paso, TX)		1		
	■ 9991 - DEADRIVER (UNKNOWN EPA ID - ULSD & HSD posting - Bangor, ME)		3		
	9992 - DWNTOERTH (UNKNOWN EPA ID - Bio posting ONLY - 3 locations in GA)				:
	🗐 9993 - PERTOL UBE (UNKNOWN EPA ID - HSD posting - Philadelphia, PA)		1		
	☐ 9994 - PFI (UNKNOWN EPA ID - Gas & Diesel posting - Albany, NY)	1	1		
	😑 9995 – PIASA (UNKNOWN 🗗 A ID - Ethanol w/ RINs posting - Columbia, MO)			1	
	■ 9996 – USA (UNKNOWN EPAID - Gas & Diesel posting Anchorage, AK)	1	1		
	■ 9997 - WESTMORE (UNKNOWN EPAID - ULSD posting - Mt Vernon, NY)		1		

Appendix 2

List of Entities that Valero Identified as Obligated Parties if Point of Obligation Mover to Fuel Distribution Terminal EPA Docket No. EPA- HQ-OAR-2015-0

List of Entities that Valero Identified As Obligated Parties With New Point of Obligation

To identify the approximate number of obligated parties if EPA moved the point of obligation to the owner of fuel as it passed across the rack at fuel terminals, Valero obtained OPIS posted price data for all gasoline and diesel fuel suppliers who post gasoline and diesel fuel prices at all fuel terminals across the nation. Valero then reviewed the list to eliminate duplicate names and identified 107 unique entities. terminals across the nation.

Valero then obtained a list of all external fuel suppliers from OPIS. The list contained 123 supplier codes, which represented 94 unique suppliers, as some suppliers had more than one code.

After comparing the two lists, Valero concluded that the list of suppliers that posted prices was the more inclusive list, because it included not only suppliers of gasoline and diesel, but also suppliers of only B5-98 who did not appear on the list of active suppliers.

In the list following this explanation, Column 4 identifies the 107 companies that Valero identified from OPIS data as posting prices for fuel at fuel terminals. Column 5 identifies the 94 unique companies that Valero identified as being on OPIS's list of active fuel suppliers.

- OPIS Posted Price Data vs. OPIS External Supplier Code Mapping Comparison (All)

 o Maps the OPIS Posted Price Data by Unique Entity to (vs.) the OPIS External Supplier Code. This reflects the number of entities posting prices vs. the OPIS External supplier list grouped by the EPA registered entity

 o OPIS Gas and Diesel Posted Price entity count yielded 107 unique entities.

 - o OPIS Active Supplier List = 123 Supplier Codes, which mapped to 94 EPA ID/Company Names

n of Unique Party Count		Sourc	Source		
ID (Company Name	External Supplier CotIS Price	ce Data SnapshS Acti	ve Suppliei	
3000	WESTERN PETROLEUM COMPANY	WESTERN	1.00	1.0	
3052	VITOL INC	VITOL	1.00	1.0	
3053	WESTERN REFINING COMPANY	WSTRN. REF	1.00	1.0	
3054	G.P.&W. INC DBA CENTER OIL CO	CENTER	1.00	1.0	
3072	NOBLE AMERICAS CORP	NOBLE	1.00	1.0	
3074	COFFEYVILLE RESOURCES REFINING	COFFEYVILL	1.00	1.0	
3110	HWRT OIL COMPANY, LLC	HARTFORD	1.00		
		HWRT INC		1.0	
3120	GOLDEN GATE/SET PETROLEUM PARTNERS OF NEVADA	GOLDNGATE	1.00		
3135	NEW ENGLAND PETROLEUM LIMITED PARTNERSHIP	NEWENGLND	1.00	1.0	
3136	BENCHMARK BIODIESEL, INC.	BENCHMRK	1.00		
3364	GENERAL BIODIESEL SEATTLE, LLC	BIOBLEND	1.00		
3670	WESTERN BIODIESEL INC	WESTRNBIO	1.00		
3671		FLYERS	1.00	1.0	
3700	JUBITZ CORPORATION	JBCO	1.00		
3825	ST. PAUL PARK REFINING CO. LLC	SPPREFCO	1.00	1.0	
3994	SINCLAIR WYOMING REFINING COMPANY	WYOMING	1.00	1.0	
4006	VALERO ENERGY CORPORATION	DIAMSHVAL	0.33	2.0	
		DIAMSHVALB	0.55	0.3	
		VALERO	0.33	0.3	
		VALERO B	5.55	0.3	
		VALERO B	0.33	0.3	
4037	IRVING OIL CORPORATION	IRVING	0.50	0.5	
4037	INVING OIL CON GNATION	IRVING B	0.50	0.5	
		IRVING B	0.50	0.2	
4043	BIG WEST OIL LLC	BIGWEST	1.00	1.0	
4043	CITGO PETROLEUM CORPORATION	CITGO	1.00	0.6	
4044	CITGO PETROLEOWI CORPORATION	MYSTIK	0.33	0.0	
				0.3	
		CITGO B	0.33		
***	CINCIAID OU CORROLATION	CITGO U	0.33	0.5	
4047	SINCLAIR OIL CORPORATION	SINCLAIR	0.50	0.5	
		SINCLAIR B	0.50	0.5	
****		SINCLAIR U	0.50		
4068	TESORO CORPORATION	TESORO	0.33	0.3	
		TESORO B		0.3	
		TSORO-XOM	0.33	0.3	
		TESORO B	0.33		
4071	FLINT HILLS RESOURCES, LLC	FLNT HLS	1.00	1.0	
4074	AMERICAN REFINING GROUP INC	AMER.REF.	1.00	1.0	
4077	APEX OIL COMPANY, INC.	APEX OIL	1.00	1.0	
4080	HUNT REFINING COMPANY	HUNT		1.0	
		HUNT U	1.00		
4088	PETRO-DIAMOND INCORPORATED	PESRM		1.0	
		PETRO DIA	1.00		
4092	GLOBAL COMPANIES LLC	GLOBAL	0.50	0.5	
		GLOBALXOM	0.50		
		GLOBALXOMB		0.5	
4101	SPRAGUE OPERATING RESOURCES LLC	SPRAGUE	1.00	1.0	
4118	COASTAL REFINING & MARKETING	COASTAL B		1.0	
		COASTAL B	1.00		
4123	PETROLEUM PRODUCTS CORP	PYRAMID	1.00	1.0	
4127	TRANSMONTAIGNE PRODUCT SERVICES INC.	TPSI		1.0	
		TRANSMONT	1.00		
4133	HUSKY MARKETING AND SUPPLY COMPANY	HUSKY	1.00	1.0	
4140	BUCKEYE ENERGY SERVICES LLC	BUCKEYE	1.00	1.0	
4268	MARATHON PETROLEUM COMPANY LP	MARATHON		0.3	
		MARATHON B	0.33	0.3	
		MARATHON U	0.33		
		MPC2	0.33	0.3	
4295	MOTIVA ENTERPRISES LLC	MOTIVA B		1.0	
		MOTIVA B	1.00		
4320	BP PRODUCTS NORTH AMERICA	BP OIL		0.5	
1323		BP OIL B		0.5	
		BP OIL B	0.50	0.5	
		BP OIL U	0.50		
4242	EVYON MORII COPPODATION			0.3	
4343	EXXON MOBIL CORPORATION	EXXN MOB B	0.50	0.3	
		EXXN MOB U	0.50	0.3	
	IDENTICIA ADOLLO CODO	XOM	4.00	0.3	
	IDEMITSU APOLLO CORP	IDEMITSU A	1.00		
4348	IDEINITION AT OLLO COM	IDEMITSU APOLLO	2.00	1.0	

4384	ALON USA	ALON B		0.50
		ALON B	0.50	
		ALON U	0.50	
4433	PBF HOLDING COMPANY LLC	PBFNERGY	1.00	1.00
4448	KINDER MORGAN TRANSMIX CO LLC	KINDER MGN	1.00	1.00
4502	ALLIED ENERGY COMPANY LLC	ALLIED EN	1.00	1.00
4517	MUSKET CORPORATION	MUSKET	1.00	1.00
4528	PHILLIPS 66 COMPANY	PSX	0.50	0.50
		PSX B		0.50
		PSX B	0.50	
4535	PRO PETROLEUM INC	PROPETRO	1.00	1.00
4588	SUNCOR ENERGY (USA) INC	SNCOR-SHLB	0.50	0.50
		SUNCOR U	0.50	0.50
4614	SPRINGFIELD TERMINALS INC	SPRINGTER	1.00	1.00
4647	ERGON REFINING INC	ERGON	1.00	1.00
4648	MCCALL OIL & CHEMICAL CORP	MCCALL	1.00	1.00
4651	LEONARD E BELCHER INCORPORATED	LE BELCHR	1.00	1.00
4658	PARKER OIL COMPANY,INC.	PARKER	1.00	1.00
4661	DUCK ISLAND TERMINAL INC	DUCK ISLND	1.00	1.00
4664	FUTUREFUEL CHEMICAL COMPANY	FUTURE FL	1.00	1.00
4759	CARSON OIL	CARSONOIL	1.00	
4858	ENTERPRISE PRODUCTS OPERATING LLC	ENTERPRS		1.00
		ENTERPRS U	1.00	
4925	PETROCOM ENERGY GROUP, LLC	PETROCOM	1.00	1.00
4969	INLAND FUEL TERMINALS INC	IFT		1.00
		INLAND	1.00	
4980	BAYSIDE FUEL OIL DEPOT CORP	BAYSIDE	1.00	1.00
4982	BAY BIODIESEL LLC	BAYBIO	1.00	
4993	AMERIGREEN ENERGY INC	AMERGREEN	1.00	1.00
5008	UNITED REFINING COMPANY	UEPT	0.50	0.50
		UNITED RF	0.50	0.50
5036	COUNTRYMARK REFINING AND LOGISTICS,LLC	CNRTYMARK		1.00
		CNTRYMARK	1.00	
5038	KERN OIL & REFINING CO	KERN		1.00
		KERN OIL	1.00	
5042	LINCOLN OIL COMPANY INC	LINCOIL		1.00
5051	MURPHY OIL USA INC	MURPHY		1.00
		MURPHY U	1.00	
5053	HOLLYFRONTIER REFINING & MARKETING LLC	HLYFRNTR	0.50	0.50
		NAVAPHIL B	0.50	0.50
5064		PLACID	1.00	1.00
5081	US OIL & REFINING CO	U.S. OIL	0.50	
		US OIL		0.50
		USOIL&REF	0.50	0.50
5086	CHEVRON U.S.A. INC.	CHEVRON		0.33
		CHEVRON U		0.33
		TEXACO B		0.33
		CHEVRON B	0.33	
		CHEVRON U	0.33	
		TEXACO B	0.33	
5093	CHS INC	CENEX	0.00	0.67
		CENEXUFM	0.33	0.33
		CENEX B	0.33	
	SUNIOCO INIC (DRMA)	CENEX U	0.33	1 00
5105		SUN R&M	1.00	1.00
5112	SHELL OIL COMPANY	SHELL B		0.33
		SHELL U SHELL-TSO	0.33	0.33
		SHELL B	0.33	0.55
		SHELL U	0.33	
5132	SOUTHERN STATES COOPERATIVE	SOSTATES B	0.50	0.50
3132	SOOTHERIN STATES COOFERATIVE	SOSTATES U	0.50	0.50
5135	HARTLAND FUEL PRODUCTS LLC	HARTLAND	1.00	1.00
5146		SAPP BROS	1.00	1.00
5177		COLONIAL	1.00	1.00
5187		NORTHVILLE	1.00	1.00
5190		JDSTREETT	1.00	1.00
5207		GRTISLENG	0.33	0.33
5207		GULF OIL	0.33	0.33
		PWI-GULF	0.33	0.33
5257	TRI-GAS & OIL CO INC	TRIGAS U	1.00	55
5285		ATLAS OIL	1.00	
5753		RENEWABLE	1.00	1.00
5786		LION		1.00
3,00	- y-=	LION OIL	1.00	
5921	NOCO ENERGY CORP	NOCO	1.00	1.00
5957	TARGA SOUND TERMINAL LLC.	TRGASOUND	1.00	
		DELEK	1.00	1.00
5963				
5963	PHILADELPHIA ENERGY SOLUTIONS REFINING AND MARKET	r PDI		1.00
	PHILADELPHIA ENERGY SOLUTIONS REFINING AND MARKET	r PDI PESRM	1.00	1.00
	PHILADELPHIA ENERGY SOLUTIONS REFINING AND MARKET HUGUENOT FUELS INC.		1.00 1.00	1.00

6037	CALUMET MONTANA REFINING, LLC	CALUMETMT	1.00	1.00
6071	CALUMET SAN ANTONIO REFINING, LLC	CALUMET	1.00	1.00
6113	SOYMET ENERGY LLC	SOYMET	1.00	
6129	SEQUENTIAL PACIFIC BIODIESEL	SQPB	1.00	
6200	DIRECT FUELS LLC	DIR FUELS	1.00	
6211	SUNOCO LLC	SUNOCO B		1.00
		SUNOCO B	1.00	
6250	NGL CRUDE LOGISTICS, LLC	NGLCRLOG	1.00	1.00
6262	DAKOTA PRAIRIE REFINING, LLC	DAKOTA		1.00
7029	ESSO STANDARD OIL CO (PR)	ESSO OIL		1.00
7080	SUPERIOR PLUS ENERGY SERVICES, INC.	GRIFFITH	0.50	1.00
		SUPERIORPL	0.50	
7321	DENNIS K. BURKE INC	DKBURKE	1.00	1.00
7340	OAKBORO OIL CO., INC.	OAKBORO	1.00	
7738	SUMA ENERGY LLC	SUMA	1.00	
9894	MAPLES GAS COMPANY INC	MAPLES	1.00	1.00
9916	GROWMARK INC	GROWMARK	1.00	1.00
9987	9987 - ACORN (UNKNOWN EPA ID - B20 posting - Fountain, IACORN		1.00	
9989	9989 - DANSK WLS (UNKNOWN EPA ID - ULSD & B20 postin; DANSK WLS		1.00	1.00
9991	9991 – DEADRIVER (UNKNOWN EPA ID - ULSD & HSD postin; DEADRIVER		1.00	1.00
9993	9993 – PERTOLUBE (UNKNOWN EPA ID - HSD posting - Phila PETROLUBE		1.00	1.00
9994	9994 - PFI (UNKNOWN EPA ID - Gas & Diesel posting - Alban PFI		1.00	1.00
9996	9996 – USA (UNKNOWN EPA ID - Gas & Diesel po	osting Anche USA	1.00	
9997	9997 – WESTMORE (UNKNOWN EPA ID - ULSD posting - Mt \ WESTMORE		1.00	
9998	9998 – WILSONS (UNKNOWN EPA ID - Canadian	rack posting WILSONS		1.00
Grand Total			107.00	94.00