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Subject: Renewable Fuel Standard Program: Standards for 2017 and Biomass-based Diesel
Volume for 2018; Proposed Rule
Docket ID No. EPA-HQ-OAR-2016-0004

Submitted via www.regulations.gov

The American Fuel & Petrochemical Manufacturers (“AFPM”)¹ submits these comments in response to the Environmental Protection Agency’s proposed rule entitled *Renewable Fuel Standard Program: Standards for 2017 and Biomass-based Diesel Volume for 2018*.² AFPM’s refining members are directly regulated as obligated parties under the Renewable Fuel Standard (“RFS”).

AFPM support EPA’s continued recognition of the E10 blend wall (the ethanol saturation point for gasoline which should take into account the demand for E0 and other limitations on using gasoline blends with more than ten percent ethanol). The E10 blend wall results from three primary factors: (1) the *decreasing* size of gasoline market, (2) the requirements imposed by the Energy Independence and Security Act of 2007 (“EISA”) to blend ever-*increasing* volumes of renewable fuel into the nation’s fuel supply, and (3) the failure to develop commercial quantities of second-generation biofuels that are compatible with the fleet of gasoline-fueled vehicles and existing refueling and pipeline infrastructure. Given that the vast majority of cars, trucks, and other non-road vehicles and engines in the United States can only be fueled with E0 to E10 gasoline without jeopardizing coverage under the manufacturer’s warranty and potentially damaging the engine, the E10 blend wall imposes a major impediment for obligated parties to achieve the statutorily mandated volume requirements. Transportation fuel producers and importers, as RFS obligated parties, are presented with only undesirable options: promote

¹ The American Fuel & Petrochemical Manufacturers (“AFPM”) is a national trade association representing virtually all U.S. refiners and petrochemical manufacturers. AFPM’s refinery members comprise more than 95 percent of U.S. refining capacity.

² 81 *Federal Register* 34778 (May 31, 2016) (the “Proposed Rule” or the “Proposal”).



gasoline with higher ethanol content that can damage consumers' cars and expose suppliers to liability for damages and that almost no one will buy or use in the United States in any event; run a compliance deficit for one year that further complicates compliance in future years; acquire renewable identification numbers ("RINs") at exorbitant prices; or reduce the volume of domestic transportation fuel supplied in order to comply with the RFS percentage requirements. All of these options result in adverse impacts to obligated parties, consumers of transportation fuels and the economy. Absent adjustment of the mandates consistent with reality, the ill effects of the RFS could spiral out of control as obligated parties are forced to take drastic action to remain in compliance with an infeasible law. Knowingly violating the Clean Air Act is not an option. Thankfully, EPA appears to understand and appreciate this unfortunate state of affairs and is rightfully taking action using its cellulosic biofuel and general waiver authorities.

AFPM supports EPA's decision to exercise a combination of the Agency's cellulosic biofuel and general waiver authorities to reduce the volumes of renewable fuel for 2017. The waivers take into account the ethanol blend wall and many of the limitations on blending additional renewable fuel into the nation's fuel supply. This action, with some additional alteration in required renewable fuel volumes, will help mitigate the significant economic consequences of the E10 blend wall.

Notwithstanding AFPM's strong support for these actions, we continue to have serious concerns regarding other elements of EPA's Proposed Rule, and offer the following recommendations to address these concerns.

1. AFPM believes that adjustments should be made to EPA's proposed waivers for the advanced biofuel and total renewable fuel volumes for 2017. Although EPA correctly acknowledges the potential adverse effects of the E10 blend wall, the proposed volumes continue to suffer from several methodological flaws. Specifically, the proposed renewable fuel volumes (i) underestimate consumer demand for E0, (ii) fail to acknowledge regulatory constraints on introducing greater volumes of E15 and E85 in the marketplace, and (iii) fail to acknowledge technical and structural barriers to introducing greater volumes of E15 and E85 in the marketplace. As a result, EPA's proposed advanced biofuel and total renewable fuel volumes for 2017 exceed the maximum volume of renewable fuel that can be expected to be consumed. In particular, EPA's proposal to establish a 2017 standard that requires ethanol to be blended with gasoline in amounts that exceed the E10 saturation point is divorced from market reality.

2. AFPM believes that adjustments should be made to EPA's proposed waiver for the cellulosic biofuel volume for 2017. The D.C. Circuit has previously held that EPA must "take neutral aim at accuracy" in establishing the proposed cellulosic biofuel requirements. *API v. EPA*, 706 F.3d 474, 476 (D.C. Cir. 2013). The Proposed Rule fails to satisfy this requirement because it relies on inaccurate methods for forecasting cellulosic biofuel production, including forecasts from cellulosic biofuel manufacturers that have consistently overestimated actual production.



3. The point of obligation should be moved to the title holder of the hydrocarbon fuel at the rack just prior to blending. EPA must make changes in the 2017 rule that are necessary to correct market failures and reduce the systemic cost of compliance with the RFS.

We are pleased that EPA issued the 2017 RFS proposal in a timely manner and appears to be on track to issue the 2017 RFS Final Rule by November 30, 2016. AFPM reminds EPA that the 2018 BBD standard must by law be promulgated prior to November 1, 2016, in order to comply with the statute's 14-months lead-time.

Compliance with the RFS is demonstrated through Renewable Identification Numbers ("RINs"). In effect, RINs operate like permits to sell specific quantities of gasoline and diesel for U.S. consumption. The number of RINs available for compliance depends on the consumption of renewable fuels in U.S. transportation fuels. Therefore, as the statutory schedules contained in the RFS exceed the ability of the underlying fuel supply and vehicle and refueling infrastructure to accommodate additional amounts of renewable fuels, there will be a shortage of RINs for compliance. This will in turn limit supplies of gasoline and diesel for U.S. consumption, resulting in severe economic harm to consumers and the overall economy.

RINs were merely intended to serve as a compliance mechanism; there is no evidence in the legislative and regulatory history of the RFS that RINs were to function as a tool to spur investment or to compel refining companies to subsidize gasoline marketers and retailers for mid-level ethanol blends or E85 sales.

In brief, the RFS is not a biofuels production mandate; it is dependent on gasoline and diesel fuel consumption in the U.S. Factors which limit transportation fuel consumption correspondingly limit the ability to use biofuels in the RFS program.

If you have any specific questions, please contact Tim Hogan at 202-552-8462.

Sincerely,

Attachment

**Comments of the
American Fuel & Petrochemical Manufacturers
On EPA’s Proposal for the 2017 RFS and
Biomass-based Diesel Volume for 2018**

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

I. Introduction

AFPM supports EPA’s continued recognition of the blend wall and its decision to: (1) exercise a combination of the Agency’s cellulosic biofuel and general waiver authorities to reduce the volume for total renewable fuel in 2017, and (2) use the Agency’s cellulosic biofuel waiver authority to reduce the volume for advanced biofuel in 2017. Notwithstanding our strong support for the exercise of EPA’s waiver authorities, AFPM has serious concerns with the specific volumes and methodologies underlying the Proposed Rule for 2017,¹ including actions EPA has proposed that are in excess of its statutory authority or arbitrary and capricious.

A. EPA Correctly Recognizes the E10 Blend Wall, but Continues to Ignore Market Realities

U.S. gasoline demand has remained essentially flat in 2015/2016 and is projected by EIA to decline in the coming years.² This is a very different reality from what Congress expected when the RFS was enacted. For obligated parties, this means there is a smaller volume of gasoline into which to blend increasing volumes of ethanol. This situation has led to the onset of the ethanol blend wall, which is the maximum amount of ethanol that the gasoline market can absorb given market, technical, and infrastructure barriers.³ AFPM is pleased that EPA continues to recognize the existence of the blend wall and that it is appropriate and necessary for it to use its statutory waiver authorities to adjust the annual renewable fuel mandates. That said, the Agency did not reduce the requirement enough in its proposal for the 2017 Renewable Fuel Standard (“RFS”) to adequately address the inability of the fuel supply to handle greater biofuel volumes. The failure of the agency to waive the volume sufficiently will create compliance and consumer challenges.

The predominant gasoline-ethanol blend in commerce is a mixture of 10 percent ethanol and 90 percent gasoline (“E10”). Nearly all gasoline engines and infrastructure are designed and warranted to handle no more than E10. When Congress enacted the Energy Independence and Security Act of 2007 (“EISA”), the Energy Information Administration (“EIA”) projected that

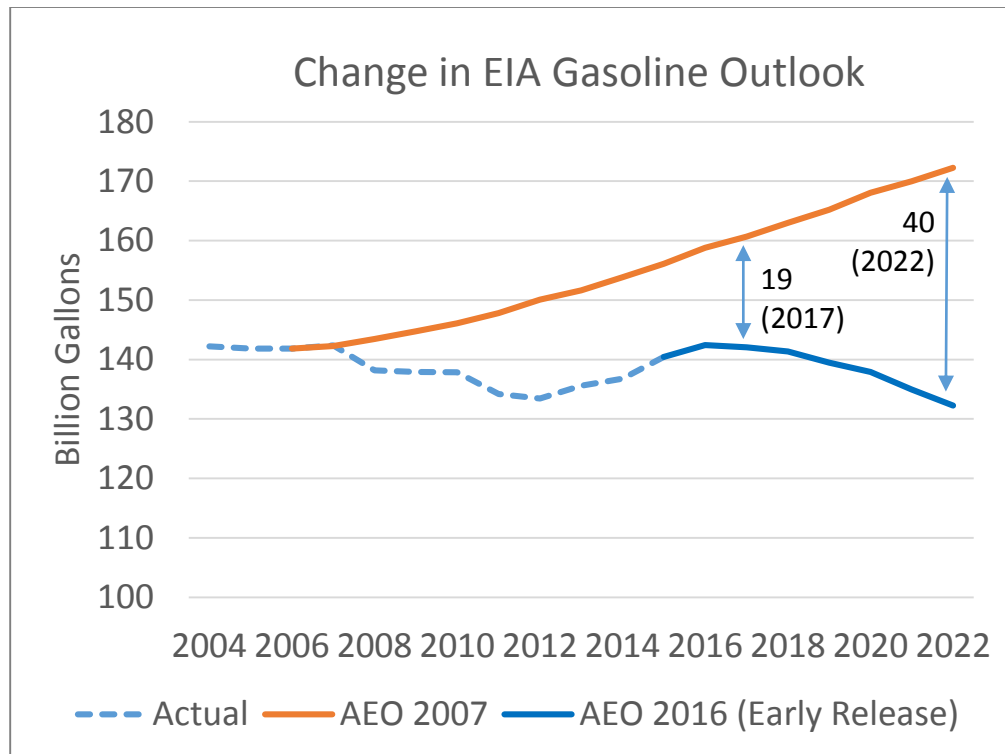
¹ 81 *Federal Register* 34778 (May 31, 2016) *hereinafter* the “Proposed Rule” or the “Proposal” or “NPRM.”

² See Figure 1 below.

³ The E10 blend wall is reached when all gasoline contains 10 volume percent ethanol.

the U.S. would consume 161 billion gallons of gasoline in 2017. Simple math shows that Congress believed the full 15 billion gallon conventional biofuel mandate would be capable of being consumed as E10, since 161 billion gallons would allow for 16.1 billion gallons of ethanol consumption. However, circumstances have changed. Given declining gasoline consumption, full adoption of E10 nationwide would only allow for about 14 billion gallons of ethanol consumption this year. This is shown below in Figure 1, highlighting the need for EPA to exercise its waiver authorities:

Figure 1.



B. The Role of RINs is Limited and Defined with Respect to Compliance

EISA does not guarantee any specific volume of renewable fuel will be consumed in any year. Instead, the statute requires that the renewable fuel obligation be “based on” an EIA projection of the volume of transportation fuel, biomass-based diesel, and cellulosic biofuel for the coming year.⁴ If the amount of transportation fuel supplied is less than the amount expected to be sold or introduced into commerce, then the statutory renewable fuel volumes will not be consumed. EPA explained this in the original RFS1 rules⁵ and Congress ratified this approach in EISA. Therefore, the RFS does not guarantee the use of any particular volume of renewable fuel.

⁴ CAA section 211(o)(3)(A).

⁵ As used in these comments, “RFS1” refers to the original RFS created by the Energy Policy Act of 2005. “RFS2” refers to the expanded RFS as amended by the Energy Independence and Security Act of 2007. “Although it is true that the Act specifies the annual volumes of renewable fuel that the program

Compliance with the RFS is demonstrated through Renewable Identification Numbers (“RINs”). In effect, RINs operate like permits to sell specific quantities of gasoline and diesel for U.S. consumption. The number of RINs available for compliance depends on the consumption of renewable fuels in U.S. transportation fuels. Therefore, as the statutory renewable fuel volumes in the RFS exceed the ability of the underlying fuel supply and vehicle and infrastructure compatibility to accommodate additional amounts of renewable fuels, there will be a shortage of RINs for compliance. This will in turn limit supplies of gasoline and diesel for U.S. consumption, harming consumers and the overall economy.

In brief, the RFS is not a biofuels production mandate; it is dependent on the amount of gasoline and diesel fuel consumption in the U.S. Factors which limit transportation fuel consumption correspondingly limit the ability to use biofuels in the RFS program.

EPA created the RIN system as the mechanism for obligated parties to demonstrate compliance with their individual renewable volume obligations (“RVOs”). In the RFS1 rulemaking, EPA identified several advantages to having a RIN-based system, including verification of renewable fuel production, real-time RIN trading to provide compliance certainty, ensuring the ability of renewable fuel to be produced, distributed, and blended “*where economic to do so*” (emphasis added), and reduction in double-counting of renewable fuel claimed for compliance.⁶ EPA described the RIN-based trading program as “an essential component of the RFS program, ensuring that every obligated party can comply with the standard while providing the flexibility for each obligated party to use renewable fuel in the most economical ways possible.”⁷ The RIN-based system was recognition that some refiners would have access to terminal blending facilities and others would not. RINs allow for trading that would ensure the RFS volume standards could be met without requiring wholesale changes to the fuel distribution infrastructure. In promulgating the RFS2 implementation rules, EPA reiterated its reasoning for utilizing the RIN-based system, emphasizing yet again that the RFS was not intended to change the existing system of fuel distribution and blending, despite claims to the contrary. EPA discussed its adoption of a RIN-based system:

[f]or compliance and credit purposes as the one which met our goals of being straightforward, maximizing flexibility, ensuring that volumes are verifiable, and *maintaining the existing system of fuel distribution and blending*. RINs represent the basic framework for ensuring that the

must require and directs EPA to promulgate regulations ensuring that gasoline sold each year ‘contains the applicable volume of renewable fuel,’ the Act also contains language that makes the achievement of those volumes imprecise. For instance, the deficit carryover provision allows any obligated party to fail to meet its RVO in one year if it meets the deficit and its RVO in the next year . . . In addition, if the projected gasoline volume falls short of the actual gasoline volume in a given year, the standard will fail to create the demand for the full renewable fuel volume required by the Act for that year. The Act contains no provision for correcting for underestimated gasoline volumes, and as a result the volumes required by the Act may not be consumed in use.” 72 Fed. Reg. 23900, 23919 (May 1, 2007)

⁶ Regulation of Fuels and Fuel Additives: Renewable Fuel Standard Program 72 Fed. Reg. 23900, 23908 (May 1, 2007) [*hereinafter* “RFS1 Final Rule”].

⁷ *Id.*

statutorily required volumes of renewable fuel are used as transportation fuel in the U.S. *Since the RIN-based system generally has been successful in meeting the statutory goals, we are maintaining much of its structure under RFS2*” (emphasis added).⁸

Throughout its implementation of the RFS, EPA has continually reaffirmed its interpretation of the statute that the intent of Congress was to minimize costs, ensure flexibility, and maintain the existing system of fuel distribution and blending. EPA noted that its approach in RFS1 was predicated on the belief “that there would be an excess of RINs at low cost” and that the “ability of RINs to be traded freely between any parties once separated from renewable fuel would provide ample opportunity for parties who were in need of RINs to acquire them from parties who had excess.”⁹ Therefore, RINs were merely intended to serve as a compliance mechanism; there is no evidence in the legislative and regulatory history of the RFS that RINs were to function as a tool to spur investment or to compel refining companies to subsidize gasoline marketers and retailers for mid-level ethanol blends or E85 sales.

II. 2017 Proposed RFS Standards

We are pleased that EPA issued the 2017 proposal in a timely manner and appears to be on track to issue the 2017 RFS implementation rule in accordance with the statutory deadline of November 30, 2016.¹⁰ Regulatory certainty is critically important to obligated parties, who must plan and begin implementing their RIN compliance strategies before the compliance period begins. We nonetheless have significant concerns with the specific volumes EPA proposed.

EPA proposes the following renewable fuel volumes, compared with the final regulatory values for 2016 (billion ethanol-equivalent RINs, except where noted):

| | 2016 | 2017 | 2018 |
|---------------------------------|-------------|-------------|-------------|
| Cellulosic biofuel | 0.23 | 0.312 | |
| Biomass-based diesel (physical) | 1.90 | 2.0* | 2.1 |
| Advanced biofuel | 3.61 | 4.0 | |
| Total renewable fuel | 18.11 | 18.8 | |

*Promulgated in December 2015.

Almost all gasoline today is E10. Gasoline demand growth would allow for more ethanol consumption, but EIA projects no growth in gasoline demand from 2016 to 2017. That only leaves increasing use of E15 or E85 as the path to using more ethanol. However, less than 15 percent of the light-duty vehicles on the road today are warranted to use ethanol blends higher

⁸ Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program 75 Fed. Reg. 14670, 14684 (March 26, 2010) [*hereinafter* “RFS2 Final Rule”].

⁹ Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program 74 Fed. Reg. 24904, 24963 (proposed May 26, 2009) [*hereinafter* “RFS2 Proposed Rule”].

¹⁰ See Clean Air Act sec. 211(o)(3)(B)(i). Note the 2018 BBD standard must be promulgated by October 31, 2016 to comply with the statutorily-mandated lead-time (CAA section 211(o)(3)(A)).

than E10. About 7 or 8 percent of the fleet are flexible-fueled vehicles (“FFVs”)¹¹ that can use gasoline blends from E0 to E85, and some newer model vehicles can use up to E15, but the overwhelming majority of the existing fleet would jeopardize warranties by using ethanol blends over 10 percent. Furthermore, infrastructure to deliver and dispense higher blend fuels is severely limited, consistent with the current small market for these high blend fuels. This creates a barrier, referred to as the blend wall, to any significant increase in ethanol consumption in the short-term.

In light of these realities, EPA’s proposed volumes are too high and must be reduced. EPA correctly recognizes the blend wall and the need to exercise its statutory waiver authorities to reduce mandated biofuel volumes from statutory levels. The Agency’s proposal, however, does not reduce volume requirements enough to ensure that consumers, fuel retailers, and obligated parties are protected from the adverse impacts of breaching the blend wall. Additionally, the Agency must recognize the U.S. Court of Appeals for the District of Columbia Circuit’s decision in January 2013 that EPA must be realistic, not aspirational in setting the annual renewable fuel standards. It is inappropriate for EPA to base the RFS volumes for 2017 on unrealistic market responses that history proves fail to materialize.¹² EPA should finalize 2017 RFS volumes that are reasonably achievable, especially given the short lead-time between publication in the *Federal Register* of the 2017 Final Rule and the beginning of the 2017 RFS compliance period. EPA must focus on the realistic implementation of the RFS, given the changed circumstances presented by the lack of growth in projected overall gasoline consumption and the failure of the advanced biofuel industry to produce adequate amounts of second-generation, drop-in biofuels as Congress had been led to believe by the investors in those technologies. Second-generation biofuels have not been developed as anticipated due to factors such as unforeseen technological challenges, lack of consumer interest, and economic infeasibility.

Circumstances have changed significantly since the RFS2 was enacted in 2007. Today’s gasoline consumption is substantially lower than projections indicated in 2007 and second-generation biofuels have not been developed at a level anywhere close to the commercial quantities Congress anticipated.¹³ In light of these realities, EPA must focus on the realistic implementation of the RFS.

A. 2017 Proposed RFS

EPA’s alternative compliance scenarios for 2017 are divorced from reality and should not be used in establishing the RVO, particularly in light of the fact that RIN generation to date suggests obligated parties could face a shortfall in compliance credits for 2016. EPA should use the methodology laid out in the following sections to finalize realistic RFS volumes for 2017, which should not exceed a total biofuel requirement of 17.12 billion gallons. The realistic

¹¹ EIA’s testimony offered at a hearing before the Senate Environment and Public Works Committee on February 24, 2016 reported 7 percent FFV penetration. EIA’s June 22, 2016 testimony at a hearing of the House Energy and Commerce Committee, Subcommittee on Energy and Power, included an 8 percent penetration estimate.

¹² *API v. EPA*, 706 F.3d 474 (D.C. Cir. 2013).

¹³ See Figure 1 in section I. A. above.

methodology proposed in the following section should also lead EPA to finalize the significantly lower volumes for biomass-based diesel (“BBD”), advanced biofuel and cellulosic biofuel.

1. AFPM Methodology for Total Ethanol

EPA should not set a requirement for ethanol in gasoline that exceeds 9.7 percent of gasoline demand in 2017. This recommendation represents the amount of ethanol that all vehicles and small engines can safely handle while allowing for a few billion gallons of E0 to remain available, protecting consumer fuel choice. A 9.7 percent ethanol limit for gasoline reflects historical differences between EIA projections of gasoline demand and actual demand, and promotes liquidity in the RIN market. The 9.7 percent ethanol limit also reduces the risk of overestimating the market’s ability to “absorb” the targeted ethanol, thus mitigating the potential impacts of breaching the blend wall.

In determining the appropriate volumes for 2017, AFPM assessed the May 2016 version of EIA’s Short-term Energy Outlook (“STEO”). The STEO’s gasoline consumption projection for 2017 is 9.31 million barrels/day (mmb/d), or 142.7 billion gallons (bg). Multiplying this value by 9.7 percent results in a maximum volume of 13.844 bg for ethanol consumed as E10.

For E85, EIA data indicate 87 million gallons were supplied in 2015, which was higher than in 2014 and 2013. The 2017 renewable fuel volumes in the Proposed Rule are derived from E85 estimates ranging from 200 million gallons to 600 million gallons.¹⁴ EPA’s E85 estimates are disconnected from reality. If E85 grows in 2016 and again in 2017, E85 in 2017 would be about 100 million gallons – far less than all of EPA’s alternative scenarios.¹⁵ This could add 74 million gallons of ethanol.¹⁶

As EPA did in the 2014-2016 RFS Final Rule, AFPM assumes that E15 sales will be very small in 2017. In last year’s final rule, EPA stated:

At this time, we continue to believe that the number of retail stations likely to offer E15 in 2016 is unlikely to increase fast enough to provide a significant increase in total ethanol consumption in 2016.... However, in the specific case of E15, there are liability concerns that make it less likely to be offered stations owners are nevertheless concerned about litigation liability for misfueling, either for vehicles manufactured before 2001 or for nonroad engines. This concern creates a disincentive for many retailers to offer E15. While such disincentives are not insurmountable, they do represent a constraint that we must take into consideration.¹⁷

¹⁴ See Proposed Rule, Table II.E-1, at 34799-34800.

¹⁵ 100 million gallons in 2017 is a 15 percent increase over AFPM’s estimate for E85 consumption (using EIA data) of 87 million gallons for 2015 (compared with 76.5 million gallons in 2014, and 64.6 million gallons in 2013).

¹⁶ E85 contains 51-83 volume percent ethanol. The annual average is about 74 percent.

¹⁷ 80 Fed. Reg. 77463, 77464.

Even with the most optimistic assumptions, EPA estimated E15 consumption would not appreciably help contribute to meeting the RFS requirement in 2016: “If all of these retail stations also offered E10, and the fuel throughput was the same for both E10 and E15 at each retail station, the total increase in ethanol consumption due to increased use of E15 would be about 17 million gallons in 2016.”¹⁸ For the purpose of setting the 2017 standard, AFPM assumes that E15 sales will be negligible.

Therefore, total ethanol consumption in 2017 is expected to be 13.844 billion gallons (the ethanol in gasoline) + 0.074 billion gallons (the ethanol in E85), or 13.92 billion gallons total.¹⁹ The derivation of these values is described above.

E0, E15, E85 and 9.7 percent are further discussed below in section III. They are briefly mentioned here in order to explain the derivation of 13.92 billion gallons for total ethanol in 2017.

2. AFPM’s Recommended 2017 Requirements

The following table compares EPA’s proposal for 2017 with AFPM’s recommendations (billion ethanol-equivalent RINs, except where noted):

| | EPA | AFPM |
|---|------------|-------------|
| Cellulosic biofuel | 0.312 | 0.200 |
| Biomass-based diesel (physical gallons, not RINs) | 2.0* | 1.28 |
| Advanced biofuel | 4.0 | 3.2 |
| Total renewable fuel | 18.8 | 17.12 |

*Promulgated in December 2015.

EPA’s final rule should reduce the cellulosic biofuel, advanced biofuel and total renewable fuel volumes to the levels suggested in the “AFPM” column of the above table. As EPA has noted, the RFS “does not require obligated parties to take actions specific to E15 and/or E85 infrastructure, as the RFS program does not require ethanol specifically.”²⁰ Moreover, Congress did not intend for EPA to create incentives for increasing ethanol consumption to a level greater than ten percent of the gasoline supply. The fact that when EISA was enacted EIA was projecting 161 billion gallons of gasoline consumption for 2017 coupled with the RFS limit of 15 billion gallons for conventional biofuel demonstrates that Congress believed the entire conventional biofuel requirement would be met through E10 consumption. The statute also contains multiple waiver mechanisms indicating that Congress intended to provide an ability for EPA to consider or avoid various impacts, including real world constraints on the ability to use

¹⁸ *Id.*

¹⁹ We have assumed that E15 sales are negligible and, therefore, have not presented those de minimis sales in this calculation.

²⁰ 80 Fed. Reg. at 77443.

renewable fuels. Given these facts and historical and legislative context, EPA should be realistic in setting the RVOs for 2017 and beyond and not finalize any requirement that attempts to force biofuel consumption at levels that exceed the limits of the blend wall or other market constraints.

EPA should not play the role of a renewable fuels promoter or cheerleader. The Agency has the responsibility to reasonably implement a complex program in a manner that ensures the existing industry can comply and consumers are not disadvantaged.

In addition to failing to accurately estimate overall ethanol consumption, EPA’s proposal understates consumer demand for E0. It is clear that the marketplace is unlikely to abandon billions of gallons of E0 in 2017 and replace it with ethanol blends in the short-term.

Furthermore, EPA grossly overstates the growth in marketplace demand for E15 and E85. Widespread use of these fuels faces significant challenges in relation to consumer acceptance, infrastructure compatibility, and logistical constraints. These issues will take years to address and cannot be resolved in the short time between publication of the 2017 Final Rule in the *Federal Register* and the beginning of the 2017 RFS compliance period.

AFPM explains its rationale underlying its volumetric recommendations in subsections 4 through 7 below.

3. NPRM Presents Unrealistic Alternative Volume Scenarios for Compliance

EPA presents alternative compliance scenarios in Table II.E-1 of the Proposed Rule for 2017 - units are million gallons:²¹

| E85 | E15 | E0 | Total ethanol | Sugarcane ethanol | Total Biodiesel | Minimum volume of advanced biodiesel |
|------------|------------|-----------|----------------------|--------------------------|------------------------|---|
| 200 | 600 | 100 | 14,358 | 0 | 2,738 | 2,425 |
| 200 | 600 | 300 | 14,337 | 0 | 2,752 | 2,425 |
| 200 | 600 | 300 | 14,377 | 200 | 2,752 | 2,292 |
| 200 | 600 | 300 | 14,377 | 400 | 2,752 | 2,159 |
| 200 | 600 | 300 | 14,377 | 638 | 2,752 | 2,000 |
| 200 | 800 | 100 | 14,368 | 400 | 2,731 | 2,159 |
| 400 | 600 | 300 | 14,469 | 638 | 2,664 | 2,000 |
| 400 | 800 | 100 | 14,500 | 0 | 2,643 | 2,452 |
| 400 | 800 | 100 | 14,500 | 200 | 2,643 | 2,292 |
| 400 | 800 | 100 | 14,500 | 400 | 2,643 | 2,159 |
| 400 | 800 | 100 | 14,500 | 638 | 2,643 | 2,000 |
| 400 | 800 | 300 | 14,480 | 200 | 2,657 | 2,292 |

²¹ Proposed Rule at 34799-800.

EPA understands that this is not a complete list of alternative ways to comply with the proposal. They are merely illustrative, given the nested nature of the RFS. However, all of these values are extremely aspirational, providing overly optimistic and unrealistic consumption scenarios that should not be used for standard-setting.

EPA is grossly overestimating 2017 consumption volumes for E85 and E15. The Agency projects that E85 will be 200 or 400 million gallons in 2017 and E15 will be larger, either 600 or 800 million gallons. These expected values are unrealistic. E85 volumes have been under 100 million gallons for the last several years and E15 volumes sold have, by EPA's own estimation, been very small. It is not reasonable for EPA to expect the E85 volume to be no more than 100 million gallons in 2017. The Agency also should continue to expect E15 volumes to be very low in 2017, much smaller than 50 million gallons.

Additionally, for reasons detailed later, EPA has grossly underestimated its projection for E0 consumption in 2017, which should be 4-5 *billion* gallons, not 100 or 300 million gallons.

As explained above (in section II.A.1.), the total ethanol volumetric requirement for 2017 should be no more than 13.92 billion gallons.

Furthermore, as part of this rulemaking, EPA should not encourage sugarcane ethanol imports through the advanced biofuel requirement. Instead, the volume for sugarcane ethanol should be zero for the purpose of setting the advanced biofuel standard to represent uncertainty inherent in such imports. In no event should EPA incentivize imports when to do so would exacerbate problems posed by the blend wall.

Finally, EPA expects a substantial amount of additional biodiesel consumption, over the 2017 standard of 2.0 billion gallons (actual gallons, not RINs). This conjecture should not be included in setting the advanced biofuel volume for 2017.

4. Implications of 2017 Biomass-based Diesel Requirement

EPA did not have the authority to promulgate a 2.0 billion gallons (actual) biomass-based diesel mandate for 2017. The statute requires EPA to establish biomass-based diesel volumes with a 14-month lead-time.²² For 2017, EPA only provided a 12.5-month lead-time (the RFS biomass-based volume for 2017 was promulgated on December 14, 2015). Therefore, EPA disregarded the plain statutory text. Instead, EPA should have promulgated a 1.28 billion gallon requirement for biomass-based diesel for 2017 after missing the 14-month lead-time based on the most recent level for BBD contained in a final rule.

Similarly, the Agency must promulgate the 2018 BBD volume on or before October 31, 2016.

5. Cellulosic Biofuel Requirement

²² CAA section 211(o)(2)(B)(v)

EPA proposes a 312 million gallon standard (27 million ethanol, remainder primarily biogas) for 2017 cellulosic biofuel.

CAA section 211(o)(7)(D)(i) requires EPA to reduce the statutorily-prescribed volume of cellulosic biofuel required “based on the estimate provided [by the Energy Information Administration] under paragraph (3)(A).” EPA did not rely on an EIA estimate when proposing the cellulosic biofuel standard for 2017. AFPM expects that the Agency will comply with the statute and use an EIA estimate when it determines the level of the cellulosic biofuel standard for 2017 in the final rule. If EIA’s and EPA’s projections for cellulosic biofuel volume in 2017 are not identical, then EPA must explain the differences.

It is important to emphasize that there is significant uncertainty associated with the cellulosic biofuel requirement because only a fraction of the biogas from municipal landfills counts for the RFS. It qualifies for the RFS only if it is ultimately consumed as a transportation fuel. If biogas is used as a boiler or furnace fuel, it does not qualify for the RFS. This uncertainty must be taken into account when finalizing the 2017 standard.

This issue is particularly relevant due the fact that biogas represents about 90 percent or more of cellulosic biofuel supply. Generally, RFS obligated parties do not distribute or market or consume biogas. Therefore, almost all of the cellulosic biofuel supply is outside of the petroleum distribution system. Yet, obligated parties are required to either purchase cellulosic biofuel RINs or cellulosic biofuel waiver credits. Obligated parties are generally in the liquid transportation fuel industry and have no connection to the biogas market.

EPA has access to actual data that demonstrates the proposed growth in the cellulosic requirement is unrealistic. EPA’s Moderated Trading System (“EMTS”) shows that there were only 47 million cellulosic RINs generated in January through April. Multiplying this number by 3 to annualize volumes for 2016 only yields 141 million RINs. This is well short of the 2016 standard of 230 million. It is contrary to statute for EPA to establish the applicable volume of cellulosic biofuel on any basis other than the projected volume of cellulosic biofuel for the calendar year in which the cellulosic biofuel requirement applies. It is therefore contrary to statute, arbitrary and capricious for EPA to raise the cellulosic standard from 230 million in 2016 to 312 million in 2017 given the already large potential shortfall for 2016. A shortfall for 2016 suggests caution in determining requirements for 2017, not optimism or exuberance.

In January 2013, the court admonished EPA to be reasonable, not aspirational. The D.C. Circuit held that the Agency must “take a neutral aim at accuracy.” EPA’s proposal does not comport with this legal standard in that it is aspirational, not neutral.

The Agency has a poor track record for predicting cellulosic biofuel volumes, as evidenced below (ethanol-equivalent gallons):

| Compliance Year | EPA Regulation (gallons) | Actual Supply (gallons) |
|-----------------|--------------------------|-------------------------|
| 2010 | 6.5 million | 0 |
| 2011 | 6.0 million | 0 |
| 2012 | 10.45 million | 20,069 |
| 2013 | 6.0 million | 810,185 |

Rows for 2014 and 2015 were not included in this table because those RFS rules were retrospective, not prospective. As pointed out above, however, EPA’s 2016 methodology continues to over predict the amount of cellulosic biofuel that will be produced.

EPA must correct its methodology and stop relying upon the biased representations of biofuel producers to set the cellulosic renewable fuel standards. The cellulosic biofuel standard for 2017 should represent three consecutive months of actual cellulosic RIN generation in 2016 (last 3 available) multiplied by four to annualize the requirement in the final 2017 rule. This likely would result in a 2017 cellulosic biofuel standard that is less than 200 million gallons.

EPA announced that it intends to use updated information on expected production of cellulosic biofuels when it promulgates the 2017 Final RFS Rule.²³ However, EPA’s methodology remains subjective and unclear, and precludes interested parties from providing informed comment on the specific methodology that EPA employs in the final rule and how EPA determined projected production. Therefore, in this case, EPA’s final cellulosic biofuel standards would at minimum violate the requirements of CAA section 307 respecting proposal and finalization of rules.

Specifically, the Agency must comply with the procedural requirements of the CAA, including the requirement that it provide a meaningful opportunity for interested parties to comment on information upon which EPA relies. The CAA requires EPA to provide advance notice and an opportunity to comment on “[a]ll data, information, and documents . . . on which the proposed rule relies.”²⁴ The statute also prohibits EPA from basing a final rule “(in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.”²⁵ With respect to any final rule, if EPA relies, as it apparently intends to do, on different data for the final rule than it relied upon in the proposed rule, it will also not comply with the Administrative Procedure Act, 5 U.S.C. Subchapter II.

6. Advanced Biofuel Requirement

²³ See 81 Fed. Reg. 34780 n. 5.

²⁴ See CAA section 307(d)(3).

²⁵ See CAA section 307(d)(6)(C).

The following table compares EPA’s proposal for advanced biofuel in 2017 (4.0 billion gallons) with AFPM’s recommendation (3.2 billion gallons). The units are billion ethanol-equivalent gallons.

| | EPA’s Proposal | AFPM |
|---|-----------------------|-------------|
| Cellulosic | 0.312 | 0.2 |
| Advanced biodiesel and renewable diesel | 3.450 | 3.0* |
| Imported sugarcane ethanol | 0.200 | 0 |
| Other non-ethanol advanced | 0.050 | 0 |

*2.0 bg promulgated (physical) times 1.5 equivalence value

EPA should use caution in setting the 2017 RFS to ensure that such volume does not incentivize imported biodiesel or Brazilian sugarcane ethanol – which could displace U.S. supplies.

Advanced biofuel (cellulosic + BBD + other advanced) RINs generated from January through April of 2016 totaled 1.013 billion. Multiplying this number by 3 to annualize these volumes for 2016 results in only 3.039 billion RINs. This is well short of the 2016 standard, 3.61 bg. It is unrealistic, arbitrary and capricious for EPA to raise the advanced biofuel standard from 3.61 billion in 2016 to 4.0 billion in 2017 given the potential 2016 shortfall. Once again, a shortfall for 2016 suggests caution for 2017 and EPA must take this into account when setting relevant RFS standards.

7. Total Renewable Fuel Requirement

EPA proposes requiring 18.8 billion gallons for total renewable fuel in 2017 (including 14.8 billion conventional biofuel).

Total renewable fuel (cellulosic + BBD + other advanced + conventional) based on RINs generated from January through April of 2016 was 5.875 billion. Annualizing this number for 2016 results in only 17.625 billion. This is well short of the 2016 standard, 18.11 billion. It is therefore, it is contrary to statute, arbitrary and capricious for EPA to raise the total renewable standard from 18.11 billion in 2016 to 18.8 billion in 2017 given the potential RIN shortfall that is materializing this year. A shortfall for 2016 requires the Agency to use caution in making projections for 2017.

AFPM’s proposal for 2017 total renewable fuel is 17.12 billion:

| | | |
|------------------|-------|--------------|
| advanced biofuel | 3.2 | billion RINs |
| all ethanol | 13.92 | billion RINs |

The reasoning underlying AFPM’s recommendation for a total ethanol requirement of 13.92 billion in 2017 is explained in subsection 1 above. This value is based on 9.7 percent of EIA-projected gasoline demand for 2017 plus a realistic assessment of additional ethanol from E85 consumption.

8. Expected RIN Shortfall in 2016

As previously mentioned and as detailed in the following table, RIN generation (billions of ethanol-equivalent gallons, except where noted) in the first four months of 2016 has been below the amount needed to satisfy the 2016 requirements:

| | EMTS Jan – April 2016 | Annualized Estimate for 2016 | 2016 Standard | Difference |
|-------------------------------|--------------------------------------|---|--------------------------|-------------------|
| Cellulosic biofuel | 0.047 | 0.141 | 0.23 | (0.09) |
| Biomass-based diesel (actual) | 0.633 | 1.899 | 1.90 | - |
| Advanced biofuel | 1.013 | 3.039 | 3.61 | (0.57) |
| Total renewable fuel | 5.875 | 17.625 | 18.11 | (0.48) |

The “Annualized Estimate for 2016” values are the numbers in the column labeled “EMTS Jan – April 2016” annualized (*i.e.*, multiplied by 3). The table above shows a shortfall in 2016 for three of the four RFS categories.

These observed possible shortfalls for 2016 call into serious question EPA’s methodologies for standard-setting. The methodology used for standard-setting for 2017 must be changed in order to promulgate achievable mandates for 2017.

B. Carryover RINs

Carryover RINs are critical for compliance flexibility, market liquidity, and unanticipated supply limitations. Obligated parties face growing uncertainties because of ever-increasing renewable fuel mandates.

We agree with EPA’s assessment regarding the necessity of carryover RINs:

The availability of carryover RINs is important both to individual compliance flexibility and operability of the program as whole. We believe that carryover RINs are extremely important in providing obligated parties compliance flexibility in the face of substantial uncertainties in the transportation fuel marketplace, and in providing a liquid and well-functioning RIN market upon which success of the entire program depends. As described in the 2007 rulemaking establishing the RFS regulatory program, and further reiterated in the 2014–2016 final rule, carryover RINs are intended to provide flexibility in the face of a variety of circumstances that could limit the availability of RINs, including weather-related damage to renewable fuel feedstocks and other circumstances affecting the supply of renewable fuel that is needed to meet the standards.²⁶

²⁶ 81 Fed. Reg. 34789.

Obligated parties are now constrained by several factors affecting the ability to use more renewable fuels in transportation fuel. These factors impact the ability of obligated parties to obtain sufficient amounts of carryover RINs. Ideally, obligated parties should be able to acquire and use carryover RINs for compliance when there are disruptions in the supply of renewable fuel (e.g., due to drought) or distribution issues (e.g., disruptions of shipments by rail because of snowstorms). In these situations, carryover RINs fulfill a vital role in the implementation of the RFS; they help ensure that the domestic fuel market can be served and that obligated parties are not placed in jeopardy of noncompliance, facing the possibility of CAA violations should sufficient RINs become unavailable.

We agree with EPA that carryover RINs should not be considered in setting the annual RFS standards for 2017:

For the reasons noted above, and 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, and not intentionally drawn down, to provide an important and necessary programmatic buffer that will both facilitate individual compliance and provide for smooth overall functioning of the program. Therefore, we are not proposing to set renewable fuel volume requirements at levels that would envision the drawdown in the bank of carryover RINs.²⁷

In relation to carryover RINs, AFPM agrees with EPA’s sentiments regarding the need to allow the program to function as it was designed so that obligated parties have at least some limited flexibility to manage their compliance using banked RINs. However, EPA’s 2017 proposed renewable fuel volume requirements jeopardize the ability of obligated parties to retain this necessary mechanism for compliance.

EPA information demonstrates the importance of banked RINs for compliance flexibility. EPA placed a memo in the 2014-2016 RFS docket, “Estimating Carryover RINs Available for Use in 2014,” dated November 2015.²⁸ The compliance deadline for the 2013 RFS was postponed until March 1, 2016 because of the delay in establishing the 2014 RFS.²⁹ In this memo, EPA *estimated* the 2012 RIN carryover available for use in 2013 to be 2.6 billion RINs.³⁰ In addition, EPA projected only 1.7 billion 2013 RINs would be carried over for use in 2014. EPA explains that this should be considered an “upper limit” because some obligated parties could carry deficits and enforcement actions on invalid RINs will require replacement with valid RINs. EPA concludes that the “[a]ctual number of RINs available for compliance with the 2016 standards may, in fact, be significantly less than this number.” Furthermore, based on January – April 2016 EMTS data, the infeasibility of meeting the 2016 standards³¹ could draw this RIN “bank balance” even lower.

²⁷ Proposed Rule at 34789.

²⁸ EPA-HQ-OAR-2015-0111-3643

²⁹ August 1, 2016 for 2014 RFS compliance and December 1, 2016 for 2015 RFS compliance

³⁰ D3+D7: 21,810 RINs; D4: 0.268 billion; D5: 0.167 billion; D6: 2.123 billion

³¹ Discussed above in Section II.A.8, Expected RIN shortfall in 2016.

1. Fraudulent RINs

EPA has announced over 150 million invalid RINs since 2011. The Agency could announce additional invalid RINs in the future. Historically, EPA requires that these invalid RINs have to be replaced with valid RINs that have the same D code. Continuing this practice in the event that any additional invalid RINs are discovered in the future would remove replacement RINs from the market – either reducing the number of new RINs generated or reducing the amount of banked RINs. This replacement would reduce the flexibility of RFS compliance provided by banked carryover RINs. EPA is involved in on-going investigations and should consider the consequences of future announcements of invalid RINs. The Agency's gross underestimate of E0 and overestimates of E15 and E85 volumes for 2017 likely mean that the RIN bank will be drawn down notwithstanding EPA's stated intent not to intentionally draw down the bank.

This is not a hypothetical concern. EPA announced invalid RINs this year.³² The Department of Justice announced on June 24, 2016 that two pled guilty to RFS biodiesel RIN fraud,³³ generating at least 60 million invalid biodiesel RINs.

III. Market & Infrastructure Constraints Limit Ethanol Consumption at Volumes Exceeding the Blend Wall

In proposing the 2017 RVOs, EPA used 14.4 billion gallons of ethanol (corn-based, sugar-based and cellulosic), which represents an increase in 2017 by over 270 million gallons compared to the ethanol volumes EPA assumed for 2016 in its 2014-2016 RFS Final Rule. AFPM notes that the ethanol volumes assumed to be absorbed in 2016 are already aggressively high, and depend on an expected gasoline demand increase in 2016. EIA is projecting no increase in gasoline demand in 2017 over 2016, which means all of the 270-million-gallon increase must come from increases in E85 and E15.

If E85 is to account for the 270-million-gallon ethanol increase, the market must consume an additional 365 million gallons of E85 in 2017, which is more than 4 times the 87 million gallons EIA data indicates were consumed in 2015. If the additional ethanol is to come from E15, the market must consume an additional 1.8 billion gallons of E15 in 2017. Since there are only 312 stations offering intermediate blends of ethanol today, it is unlikely E15 sales increases will play a significant role in contributing to 2017 ethanol growth.

Although EPA recognizes the constraints in expanding high ethanol blend fuels, the table below illustrates the disconnect between EPA's optimistic projections for using more ethanol in gasoline and reality. As discussed further below, the area with the largest impact on EPA's assumptions about potential ethanol use in gasoline is the Agency's erroneous predictions relating to E0 consumption. EPA's illustrations of potential compliance scenarios bring the total ethanol consumption as high as 10.2 percent.³⁴

³² <https://www.epa.gov/enforcement/civil-enforcement-renewable-fuel-standard-program>

³³ "Two Florida Men Plead Guilty to Multi-state Biodiesel Fraud Scheme," <https://www.justice.gov/opa/pr/two-florida-men-plead-guilty-multi-state-biodiesel-fraud-scheme>

³⁴ 81 Fed. Reg. 34800

Variations in Gasoline Volumes Other than E10 Used in the Proposal

| | Stations Available in 2017 | EPA Ranges of Complying Volumes⁽¹⁾ (million gallons) | 2015 Volumes (million gallons) |
|-----|-----------------------------------|--|---------------------------------------|
| E0 | 10,000 ⁽²⁾ | 100-300 | 5,300 ⁽⁵⁾ |
| E15 | 300-1,700 ⁽³⁾ | 600-800 | Approx 0 |
| E85 | 3,100-3,500 ⁽⁴⁾ | 200-400 | 87 ⁽⁵⁾ |

Note: The volumes EPA used to justify its 14.4 billion gallons of ethanol use in 2017 fall within the ranges shown.

⁽¹⁾ EPA proposal for 2017 RFS Standards, Table II.E-1 (81 Fed. Reg. 34800)

⁽²⁾ Pure-gas.org

⁽³⁾ DOE Alternative Fuels Data Center (312 stations in June 2016); EPA estimate 1700 in 2017 as a result of USDA's grant program to fund 1500 stations to provide E15.

⁽⁴⁾ DOE Alternative Fuels Data Center - 3155 public, private and planned; E85prices.com - 3500 stations

⁽⁵⁾ EIA (<http://www.eia.gov/todayinenergy/detail.cfm?id=26092>); EIA's production of >E55 from terminals and ethanol producers

EPA's aggressive ethanol assumptions theoretically may be met with solutions outside of ethanol. The RFS allows biodiesel or renewable diesel to satisfy the "other" advanced biofuel and total renewable fuel requirements. In proposing the 2017 RVOs, EPA is assuming an additional 400 million gallons of biodiesel and/or renewable diesel would be used to meet the "other" advanced biofuel and total renewable fuel requirements over and above the aggressive ethanol volumes. But even more biodiesel (including palm oil-based biodiesel, which because of the grandfathering clause qualifies for D6 RINs) or renewable diesel will likely be needed to fill in for the unachievable ethanol volumes being assumed. The Agency's promulgated 2.0 billion BBD gallons (physical) for 2017 and the aspirational hope for *additional* BBD consumption to help meet the proposed total renewable fuel and advanced biofuel categories for 2017 are disconnected from reality.

The process for setting RFS requirements has inherent uncertainties, and as the mandates increase relative to gasoline and diesel fuel demand, the economic risks associated with those uncertainties increase. Uncertainties include the program's reliance on transportation demand and biofuel production forecasts as well as assumptions about evolution of new technologies. The RFS has some flexibility, but when operating close to the blend wall, that flexibility is limited. In the short term, the system has little if any ability to quickly increase use of biofuels due to factors like consumer preferences and needed infrastructure changes. Regardless of incentives, these factors limit response to increasing targets.

A. Blend Wall and Blending Constraints

As previously described, we are at the blend wall now with very limited options to increase ethanol use in the short term. EPA acknowledges the blend wall, and states that the amount of ethanol supplied to the U.S. market for consumption is constrained by the following:

- Overall gasoline demand and the volume of ethanol that can be blended into gasoline as E10 (the so-called E10 blend wall),
- The number of retail stations that offer higher ethanol blends such as E15 and E85,
- The number of vehicles that can both legally and practically consume E15 and/or E85,
- Relative pricing of E15 and E85 versus E10 and the ability of RINs to affect this relative pricing,
- The demand for gasoline without ethanol (E0).

Despite the acknowledgement that additional ethanol consumption is constrained by the blend wall, EPA's proposed 2017 RVOs assume unrealistic volumes for E0, E15 and E85, thereby overstating the potential for the market to absorb increased ethanol in 2017.

B. E0 Demand Pushes Blend Wall Below 10 Percent

E0 demand represented almost 4 percent of 2015 gasoline demand. While a seemingly small percentage, it has a large impact on the amount of ethanol that may be consumed. E0 demand limits fuel suppliers' ability to add more ethanol into gasoline. While EPA recognizes the role E0 plays, it has arbitrarily refused to accept the EIA data that reveals the magnitude of E0 being consumed. These E0 consumption levels are unlikely to change significantly in 2017, rendering EPA's ethanol consumption estimates erroneous.

The proposed 2017 rule relies on the EPA view represented in the 2014-2016 RFS Final Rule. In laying out the justification for the 2014-2016 rule, EPA states its belief that the perceived purpose of the RFS is to incentivize a transition from E0 to ethanol blends of E10 and higher, but "the continued availability of E0 in certain markets is also something that we [EPA] believe we must consider in determining the supply of ethanol in 2016. E0 continues to be marketed in many parts of the country, often at a significant cost premium to E10, including in the Midwest where ethanol is most readily available at the lowest cost."³⁵ EPA "anticipated that E0 use would remain fairly limited and would tend to decrease over time given the widening use of ethanol overall."³⁶

Decreased E0 demand is unlikely in the short term as reflected in the AFPM/API comments to the 2014-2016 RFS proposed rule in July 2015. EIA data showed a sharp decline in the E0 share of the gasoline market until 2011, when E0 share of gasoline demand reached an apparent floor in the vicinity of 5 percent of total gasoline demand. However, E0 consumption has remained near that level since 2011, notwithstanding the RFS incentive to blend additional quantities of biofuel to ease compliance as statutory biofuel mandates increased in future years. The flat E0 share since 2011 conflicts with EPA's anticipation that E0 would continue to decrease over time.

EPA dismissed the AFPM/API comments indicating that using EIA's data for E0 is inappropriate since the EIA E0 volumes might be splash blended at smaller terminals beyond where EIA collects its data.

EPA indicated that EIA's data used in its demand calculation is collected from the "primary system," which EIA describes as follows:

³⁵ 80 Fed. Reg. 77462

³⁶ 80 Fed. Reg. 77462

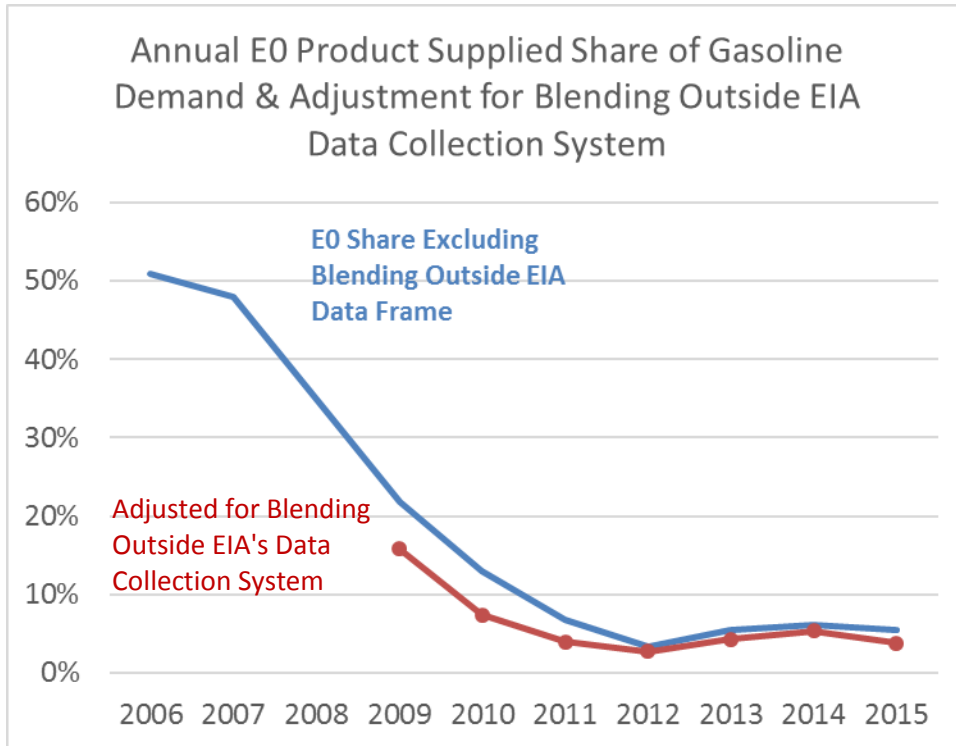
Facilities and activities in the primary supply chain include refineries and blending terminals, gas processing plants and fractionators, oxygenate producers, biodiesel producers, imports, exports, bulk storage terminals, and pipelines.... The secondary system is that portion of the overall distribution network that falls between producers and end-users. Product typically flows in bulk from the primary supply system into the secondary system before delivery in small quantities to consumers (the tertiary system).... The secondary system includes storage at bulk plants; at retail motor fuel outlets, such as service stations, truck stops, and convenience stores; and at retail fuel oil dealers. Bulk plants are wholesale storage facilities that have less than 50,000 barrels of storage capacity.³⁷

EIA has since provided updated E0 demand data for 2015 that includes additional splash blending in the secondary system,³⁸ and the information supports AFPM/API's prior claims. EIA's E0 demand for 2015 is 5.3 billion gallons versus EPA's estimate of 0.2 billion gallons. This is an enormous discrepancy that must be addressed as EPA finalizes the 2017 renewable fuel standards. Furthermore, using EIA's methodology to include blending outside of its collection frame, Figure 2 shows the same pattern presented to EPA previously (without the adjustment for blending outside the data collection frame) in which E0 share of the total gasoline pool declines until about 2011 when it appears to have reached a floor.

³⁷ Petroleum Supply Monthly's appendix of Explanatory Notes.

³⁸ Energy Information Administration, "Almost all U.S. gasoline is blended with 10% ethanol," Today in Energy, May 4, 2016, <http://www.eia.gov/todayinenergy/detail.cfm?id=26092>

Figure 2. E0 Share of U.S. Gasoline Demand



Note: Blue line represents standard calculation of demand from EIA data as production + imports – exports – stock increase (decrease). EIA’s data collection for these values covers the primary supply and distribution system, which does not include small terminals (less than 50,000 barrels) in the secondary system. Some blending of E0 with ethanol occurs in the secondary system. EIA published a method to correct for additional blending of E0 beyond the primary data collection system. The red line shows the E0 left for consumption after that correction.

The difference in EPA’s estimated E0 demand and actual E0 demand is significant when faced with the blend wall. When setting the standard, EPA’s estimate of how much ethanol can be consumed rests on the false assumption that E0 will disappear from the marketplace as ethanol can be put into almost all of the current E0 consumption gallons. The reality is that E0 demand will be closer to 5 billion gallons than EPA’s 100-300 million-gallon range presented in its example scenarios, which means EPA is overestimating the amount of ethanol that can be used by over 500 million gallons or about 3.5 percent of EPA’s 14.4 billion gallon assumption for ethanol use. For E85 to absorb the additional ethanol EPA assumed in replacing 5 billion gallons of E0, the market would need to consume another 700 million gallons of E85 in 2017 over and above the 87 million gallons EIA data indicate were used in 2015. That scenario not credible. EPA’s reliance on its simple presentation of a list of alternative ethanol consumption scenarios - without including a sensitivity analysis or explaining the feasibility of each of these alternatives

during the 2017 compliance period - is arbitrary and capricious. Use of this methodology also prevents meaningful comment on the Agency's rationale.

Rather than accept EIA data for E0, EPA examined one potential end-use segment that uses E0, recreational boating, and derived an E0 demand of about 200 million gallons. As reflected in AFPM/API comments to the proposed 2014-2016 RFS rule, EPA's estimate of E0 for marine-use is not accurate. EPA incorrectly assumed that E0 was mainly sold to boaters at marinas – not retail stations. EPA's marina E0 sales estimate was based solely on sales of gasoline additive from one supplier that serves 640 out of 3,000 U.S. marinas. The additive is designed, among other things, to mitigate some of the E10 problems recreational boats experience. The consumer's use of this additive is optional, making it a poor metric for determining actual E0 demand. EPA arbitrarily extended that limited information to all marinas without validation and assumed marina use represented all recreational boating consumption. EPA's refusal to expand this limited analysis in the face of direct criticism in a prior rulemaking is arbitrary and capricious.

In the 2014-2016 RFS Final Rule, EPA dismissed the National Marine Manufacturers Association ("NMMA") comments regarding EPA's analysis of E0 use as anecdotal. Yet, the NMMA indicated (with source provided) that 9000 gasoline stations offer E0 in the lower-48 states and showed that the stations are concentrated in states with the highest number of licensed recreational boaters. (Pure-gas.com indicated on June 9, 2016 that over 10,000 stations offer E0 in the lower 48 states.) But the final rule says that EPA "... expressed our view that it is most likely that any recreational marine engines refueled at retail service stations would use only E10 since E0 is *rarely offered at retail* (emphasis added)."³⁹ EPA then concluded that marine E0 use may be 200 million gallons. EPA's E0 methodology for the proposed rule is flawed, and as EIA's information on E0 indicates, EPA is ignoring EIA's expertise and EIA's data for the RFS rulemaking.

EPA has insufficient information on the end use breakdown of E0 to completely discount AFPM's and EIA's analyses. While EPA considered recreational marine use, the Agency did not consider small engines or antique car use for example. Tracking down all of the end use applications, however, should not be necessary. There is information on the volume of E0 being sold, which EPA has chosen to ignore, and the pattern of that data indicate that there is some consumer use that is not declining. EPA recognized that some E0 demand has persisted even though price incentives should have pushed both blenders and consumers to E10. EPA does not offer an explanation for this consistent E0 volume and it is unreasonable to simply assume that this volume will decline significantly in 2017. It is arbitrary and capricious to ignore this persistent E0 floor when estimating 2017 renewable fuel obligations under the constraints of the blend wall. Simply assuming a drastic reduction in historical E0 consumption without detailed analysis and well-reasoned explanations is the very definition of arbitrary and capricious rulemaking. The Agency must provide an adequate response to information submitted to the Agency for review in connection with this Proposed Rule. EPA cannot summarily reject EIA or other credible information.

³⁹ 80 Fed. Reg. 77462

C. The 9.7 Percent Recommendation

The EIA data for E0 consumption adjusted for blending in the secondary system still supports our prior observation that E0 share of gasoline was lowest in 2012 at 3 percent of the gasoline pool, even when strong incentives existed to blend to the E10 saturation point to build carryover RINs for future compliance when statutory renewable fuel mandates increased. AFPM uses this 3 percent low point to derive our recommendation for the 9.7 percent guidance. That low point indicated only 97 percent of gasoline pool may have been blended with 10 percent ethanol. Thus, we recommend that EPA use, as a prudent guide, 9.7 percent ethanol in the part of the gasoline pool that is not E85 when considering use of ethanol for establishing the RVOs for 2017.

D. E15

E15 is not expected to contribute significant volumes of additional ethanol in 2017, even with EPA's overly optimistic outlook for potential E15 sales. EPA's illustrative compliance scenarios (proposal's Table II.E-1⁴⁰) show E15 varying from 600 to 800 million gallons. EPA indicates that with existing E15 stations included, about 1700 stations might be offering E15 in 2017. EPA is assuming an additional 1500 blender pumps certified to dispense E15 will be installed by the beginning of 2017 as a result of USDA's Biofuels Infrastructure Partnership grant program. EPA then calculates that, under most favorable conditions, if these stations have average stations sales of 950,000 gallons per year, and half of that volume is E15, annual E15 sales would be 800 million gallons, and would contribute only 40 million gallons more ethanol relative to the E10 it replaces. While the net ethanol increase EPA illustrates is seemingly small, it is another exaggeratedly optimistic estimate of ethanol consumption which that when added on top of the 500 million gallons of ethanol derived from the Agency's unrealistic E0 assumptions, creates ethanol use assumptions that will not be achieved in the real world.

For the 2014-2016 RFS Final Rule, EPA assumed 700 stations would be offering E15 in 2016. As of June 10, 2016, the DOE Alternative Fuels Center indicates 312 stations are offering intermediate ethanol blends (which we assume would be mostly or all E15). While USDA grants may have a marginal impact on the number of blender pumps in the marketplace, EPA provided no evidence that it had checked on the status of the USDA program. Additionally, even with the installation of more blender pumps, there is no guarantee consumers will purchase additional volumes of E15.

For the same reasons discussed in AFPM/API's comments to the 2014-2016 proposed rule, E15 is expected to provide no relief to the blend wall in 2017 for three reasons. First E15 is not compatible with most of the existing vehicle fleet. Second, E15 is not compatible with existing refueling infrastructure. Third, the potential liability issues associated with marketing the fuel will likely hinder E15 introduction by fuel marketers.

1. E15 is Not Compatible With Most of the Current Fleet

⁴⁰ 81 Fed. Reg. 34799, 34800

In the 2014-2016 RFS Final Rule, EPA indicated the number of vehicles that can use E15 is not the driving factor behind E15 use in 2016, but rather the number of retail stations offering the fuel. At that time, EPA indicated 120 stations were registered to offer E15. But one reason so few stations offer E15 is that the vast majority of vehicles on the road today have warranties that exclude damages caused by fuels that contain more than 10 percent ethanol.⁴¹ Notwithstanding numerous representations by fuel providers, vehicle manufacturers, and AFPM, EPA does not recognize this warranty issue in its 2017 proposal, but instead notes that “the vast majority of vehicles in the current fleet are legally permitted to use E15.”⁴² This is misleading. While some automakers are moving to harden their new vehicles to be able to use E15, automakers have testified⁴³ about their concerns over potential damage to their legacy vehicles and thus why they are not changing legacy vehicle warranties. In addition, the Coordinating Research Council has shown that gasoline blends exceeding 10 percent ethanol can lead to engine and fuel system damage.⁴⁴ Turnover of the existing fleet is slow, indicating it may be some years before enough vehicles compatible with E15 will encourage many more stations to consider investing in the infrastructure and offer the fuel.

2. E15 Infrastructure Incompatibility

Approximately 96 percent of the gasoline stations in the country are independently owned and it is beyond the control of the obligated parties to require investments to enable those stations to sell E15. Retail stations’ decision to offer E15 is not just a marketing decision. As much as half of the retail gasoline infrastructure may not be compatible with ethanol blends above 10 percent.⁴⁵ Prior to 2010, Underwriters Laboratories (the primary Nationally Recognized Testing Laboratory) had not listed a single dispenser as compatible with any alcohol concentration greater than 10 percent. Given that state fire codes require this certification and that dispensers have useful lives greater than 20 years, the vast majority of dispensers in the country are not currently authorized to dispense E15. The same issue exists with the underground storage tanks and piping systems.

The Petroleum Marketers Association of America (“PMAA”) testified at the public hearing on the 2017 RFS in Kansas City, MO on June 9, 2016:

Our critics don’t believe there is an E15 compatibility problem for retailers. They claim that more than 90 percent of existing USTs are certified by manufacturers to store E15 blends. That may be true with regard to *tanks*. But tanks are only one piece of equipment in a multi component gasoline storage and dispensing system. Most other UST system components, from piping to fuel dispensers currently in service, are not certified for E15 use and never will be under existing equipment compatibility requirements. The truth is that the only alternative left for retailers, should the EPA move to

⁴¹ See AFPM/API comments on the 2014-2016 RFS in July 2015 at 29.

⁴² 81 Fed. Reg. 77447

⁴³ AFPM/API comments at 30.

⁴⁴ AFPM/API comments at 31-32.

⁴⁵ Larry Gregory Consulting, LLC, “A Comprehensive Analysis of Current Research on E15 Dispensing Component Compatibility,” March 2012.

higher ethanol blends to meet the requirements of the RFS program would be to replace existing equipment with new E15 certified systems. Unfortunately, there is not enough money, time, available equipment or installers to complete such an enormous undertaking. Without a legal way to demonstrate UST equipment compatibility short of installing all new equipment, E15 cannot be mandated through the RFS program without throwing the nations fuel distribution chain into long term chaos....

* * *

PMAA believes there is no doubt severe economic harm and supply disruption would occur if retailers are forced to sell blends of ethanol greater than E10 just to satisfy arbitrary volumetric blending obligations established by Congress almost 10 years ago. The vast majority of the nation's retail outlets, 95 percent of which are owned by independent petroleum marketing businesses, cannot legally store and dispense blends of gasoline over 10 percent ethanol. Existing equipment is certified for a maximum E10 blend and no more. Currently, there is no viable way for UST system operators to demonstrate that existing equipment is compatible with gasoline blends over E10. The EPA Office of Underground Storage Tanks (OUST) put forth their best efforts to expand compatibility demonstrations beyond UL certification. Unfortunately, none of the three options for certifying compatibility of existing equipment; certification by a national standard setting authority, manufacturer certification, or through state certification programs are viable. The preeminent national standard setting authority, Underwriters Laboratory, has refused to recertify existing E10 equipment for blends higher than 10 percent ethanol. Manufacturers of UST E10 equipment have recertified very few system components other than storage tanks themselves, just one component of a UST dispensing system. Finally, state underground storage tank programs do not have the resources needed to develop an alternative method of demonstrating compliance that would satisfy federal and state fire code compatibility requirements.⁴⁶

PMAA believes that E15 is not compatible with infrastructure.

3. E15 Liability Concerns

As noted in our comments for the 2014-2016 RFS proposed rule, since E15 is not compatible with most of the existing fleet, it brings liability concerns that will slow down its acceptance among suppliers, distributors, and retail establishments. In particular, E15:

- Could damage engines and other systems in millions of vehicles that have been “approved” by EPA for E15, but which are unapproved for such fuel by the vehicle manufacturers and for which use may jeopardize coverage under the vehicle warranty;

⁴⁶ http://www.pmaa.org/weeklyreview/attachments/EPA_RFS_Hearing_June2016.pdf

- Is illegal and unavailable for use in tens of millions of other automobiles, trucks, off-road vehicles, boats and small-equipment products, and which will decrease the availability of the gasoline required by owners of these products;
- Results in diminished fuel economy for most vehicles, thus reducing vehicle efficiency at a time when the federal government is promulgating aggressive vehicle efficiency standards; E15 gets 5 percent less mpg than E0;⁴⁷
- Is incompatible with, and thus cannot legally be stored in or dispensed from, the vast majority of the existing gasoline retail distribution system (see also comments on E85 infrastructure below), thus forcing thousands of small business owners to either incur enormous costs to upgrade their systems or run the economic and environmental risks posed by carrying an incompatible product; and
- Could result in obligated party manufacturers and importers, fuel suppliers, distributors and retailers, engine and vehicle manufacturers, and many others, facing potential liabilities and a continued threat of litigation.

E. E85

EPA states in their 2014-2016 RFS Final Rule that “(t)he volume requirements that we [EPA] are setting today, particularly for 2016, are intended to result in pressure on the market to exceed the E10 blend wall, but we [EPA] do not believe the 2016 standards are capable of overcoming all constraints.”⁴⁸ EPA believes that only mild constraints exist for initial increments of growth above 10 percent ethanol in the transportation fuel pool, and will be achieved with changes in the RIN prices. However larger constraints loom as infrastructure changes are needed. Furthermore, EPA includes mention of consumer acceptance, noting that “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 vehicles’ ability to handle these fuel blends and where they are available for purchase.”⁴⁹ This philosophy is repeated in the 2017 proposal, but largely ignored as EPA moves to promote higher blends of conventional ethanol – a strategy Congress never envisioned.

EPA continues to use estimates for historical E85 demand that do not agree with EIA production data. EPA previously indicated that EIA data “cannot be used to derive nationwide, annual E85 volume estimates, since it excludes E85 produced at small blending facilities and does not accurately account for E85 produced at ethanol production facilities.”⁵⁰ Additionally, EPA indicates that the EIA E85 data from ethanol production facilities is net rather than gross volumes, adding to EPA’s reasons for not using the EIA data.

Having dismissed EIA data, EPA performs a stochastic analysis of E85 data from five states using proprietary data from 200 stations. The analysis produces very large uncertainties around the Agency’s estimates, but EPA used this approach to estimate sales of E85 in lieu of direct data. EPA does not seem to have coordinated with EIA on this issue. At a minimum, EPA

⁴⁷ <http://www.edmonds.com/fuel-economy/controversial-e15-fuel-blend-is-on-the-way.html>

⁴⁸ EPA, 2014-2016 RFS Final Rule, 80 Fed. Reg. 77457.

⁴⁹ 81 Fed. Reg. 77460

⁵⁰ David Korotney, EPA, “Preliminary estimate of E85 consumption in 2015,” Docket EPA-HQ-OAR-2016-0004

should be able to present the level of uncertainty associated with the EIA data⁵¹ versus the uncertainty in their analytical approach. As with E0, it seems EPA has dismissed EIA data without discussing the issue with EIA, who may have been able to assist EPA in getting better estimates of E85. This is not an acceptable approach when setting regulations that impact billions of dollars and could adversely impact consumer fuel supplies. EPA must work with EIA, the federal energy data collection organization and the agency specifically identified in the RFS to provide estimates regarding transportation fuel, to determine the most accurate volumes available for EPA's purposes.

EPA estimates 166 million gallons of E85 were sold in 2015, while EIA's data indicates the sale of only 87 million gallons,⁵² about half the EPA estimate. Historically, EIA data is showing growth in E85, especially since reaching the blend wall (Figure 3) with accompanying higher RIN prices. Yet the growth is far from robust and geographically limited.

The Minnesota Department of Commerce data showed a 13 percent decline in that state's 2015 E85 sales over 2014. This decline in E85 consumption occurred despite E85 prices showing a discount of 21 percent⁵³ or more from E10 in 8 of the 12 months surveyed, and despite the E85 station count rising from 285 in January to 298 in December 2015. Furthermore, EPA acknowledged mixed experience at retail with some stations reporting positive experience selling E85 while others are dropping E85 or deciding to market E0 in lieu of E85.

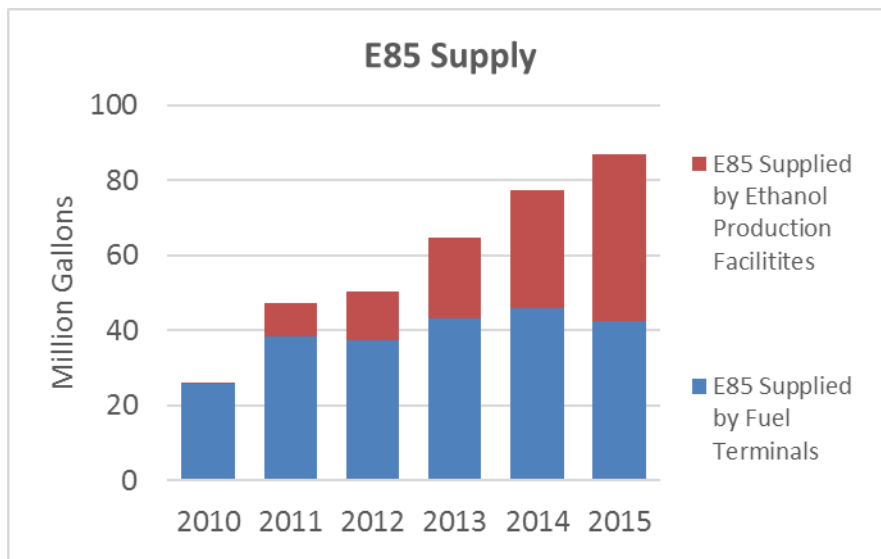
EPA's 2017 alternative compliance scenarios show E85 varying from potentially 200-600 million gallons. As discussed, there are significant challenges to increasing E85 volumes. While E85 sales could initially increase somewhat through greater utilization of current infrastructure, any significant consumption growth ultimately faces costly challenges dealing with expansion of delivery and retail sale infrastructure as well as vehicles that can use E85. A number of factors, including costs, time to respond, and even consumer acceptance come together to slow these increases and render EPA's predictions arbitrary in the 2017 compliance period.

⁵¹ EIA data is published as part of its monthly petroleum data collection. EIA also produces modeled estimates of E85 for their long-term outlook. The E85 values shown in historical years are not historical data, but modeled estimates.

⁵² Compared to 64.6 million gallons for 2013 and 76.5 million gallons for 2014, both using EIA data.

⁵³ The ethanol content in E85 can vary throughout the year. E85 contains 51-83 volume percent ethanol. EIA uses a 74 percent annual average based on potential summer versus winter uses. If E85 contains 74 percent ethanol on average, it would have to sell at a discount of about 22 percent to have the same energy content (Btu) value as E10.

Figure 3. E85 Supply from EIA Data



Note: E85 Supply is the sum of EIA gasoline production volumes for gasoline >E55 (which is E85), and for finished gasoline production from oxygenate producers (i.e., ethanol producers), which EIA indicates would be E85.

1. E85 Delivery Infrastructure and Costs

The main infrastructure change needed to use more E85 is at terminals and retail stations. There are somewhere between 3,100⁵⁴ and 3,500⁵⁵ retail stations offering E85. This represents about 2 percent of all gasoline stations.

As summarized in the AFPM/API comments to the 2014-2016 RFS proposed rule, PMAA testified that “The problem for underground tank owners is 99 percent of existing equipment currently in the ground is not legally certified as compatible with ethanol blends higher than 10 percent.”⁵⁶ This means that most retail establishments would need extensive retrofits to install or upgrade existing equipment to become E85 compatible.

PMAA indicates retrofitting a retail station for E15 could cost well over \$200,000 in total⁵⁷, and the USDA grant program to install E85 and E15 capabilities at retail is providing \$70,000 per

⁵⁴ DOE Alternative Fuel Data Center E85 stations including private, public, and planned.

⁵⁵ E85prices.com web site that cites almost 3500 stations reporting E85 information to them.

⁵⁶ PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015.

⁵⁷ Petroleum Marketers Association of America, Comments to EPA Proposed RFS Rulemaking 2014-2016, Docket ID No: EPA-HQ-2015-0111, July 27, 2015.

station with at least another \$70,000 per station from state and private matching funds – totaling \$140,000 per station.⁵⁸

PMAA's position reflects the nature of retail station ownership. About 59 percent of the stations are owned by individuals who own a single store.⁵⁹ The size of E85 investment and potential return based on volumes forecasts and perceived product margin potential. The Fuels Institute publication reported that E85 sales at the 304 locations from which they collected data averaged 2.8 percent of unleaded sales with a margin that was 20 percent lower than unleaded.⁶⁰

PMAA testified at the public hearing on EPA's 2017 RFS proposal in Kansas City, MO on June 9, 2016:

The Chairman of the Board of the North Dakota Petroleum Marketers is a manager for a farmer owned cooperative. They recently built a new travel plaza and asked for two bids on fuels infrastructure, one legal for everything up to E10 and one legal for anything up to E85. They invested in the fully legal for higher blends infrastructure to the tune of an additional \$178,260. The return on that very large infrastructure investment has been dismal to say the least. They are averaging only a total of 92 gallons a day of gasoline blends over E10, just 1.5 percent of total gasoline gallons sold each day.⁶¹

This clearly shows that E85 is an investment risk for retailers.

EPA highlighted the USDA Biofuels Infrastructure Partnership, which is providing states with grants that, along with state funding, could add 1500 E15-compatible station, some of which will have E85 capability also. This program involves about \$100 million in federal funding, which averages about \$70,000 per retail station. The federal grants are accompanied by additional state funding, which means taxpayers are contributing more than \$70,000 per retail station. However, all of the government funding will not add much E85 capability in 2017. If the federal government provided \$70,000 on average to only 10 percent of all U.S. retail stations, which number about 150,000 outlets, taxpayers would have to contribute over a billion dollars.

2. Flexible Fuel Vehicles

EIA indicates that flexible fuel vehicles comprise about 7 or 8 percent of the U.S. light-duty car and truck fleet.⁶² They will grow some in the future, but incentives for making more FFVs are

⁵⁸ Biofuel Infrastructure Partnership State Table, <http://www.fsa.usda.gov/programs-and-services/energy-programs/bip/index>, and USDA News Release No. 0249.15, "USDA Announces State Finalists for the Biofuel Infrastructure Partnership," September 10, 2015.

⁵⁹ NACS 2016 Retail Fuels Report, Summary, p. 3.

<http://www.nacsonline.com/YourBusiness/FuelsCenter/Pages/2016-Retail-Fuels-Report.aspx>

⁶⁰ The Fuels Institute, "A Market Performance Analysis and Forecast," November 2014, p. 3

<http://www.fuelsinstitute.org/research.shtm>

⁶¹ http://www.pmaa.org/weeklyreview/attachments/EPA_RFS_Hearing_June2016.pdf

⁶² EIA's testimony offered at a hearing of the Senate Environment and Public Works Committee on February 24, 2016 reported 7 percent FFV penetration. EIA's June 22, 2016 testimony at a hearing of the

phasing out as a result of the new light-duty vehicle NHTSA/EPA CAFE/tailpipe GHG requirements.⁶³ This means that EPA cannot rely on FFVs and consumer utilization of FFVs to drive growth in the E85 market.

3. Consumer Acceptance

The 2016 NACS Retail Fuels report indicates that 64 percent of gasoline buyers say price is the most important factor when choosing fuel.⁶⁴ But that choice is complicated when considering E85. With E85, a consumer may not have more than one E85 station that is close to where they live. They must be informed to know when the E85 price has dropped low enough below E10 to be competitive on a miles-per-gallon basis, since E85's lower energy content reduces fuel economy and range by 20-30 percent from E10. And the price must be low enough not only for the energy penalty, but also to compensate for the increased number of times a consumer must fill up when using E85 compared to E10.

With limited data points and for the reasons mentioned above, studies vary as to the exact relationship between E85 price and consumer purchasing behavior. For example, the short term and limited analyses (focusing on several states for example) by The Fuels Institute and EPA indicate that consumers would respond to E85 price changes that account for the lower E85 energy content. But the results vary. Testimonial evidence provided by a gasoline marketer at EPA's Public Hearing on the 2014-2016 RFS in Kansas City, KS on June 25, 2015 indicated demand declined despite E85 being priced 25 percent below E10.⁶⁵ Also, as mentioned previously, Minnesota has been seeing volume declines despite favorable pricing. In the face of this evidence in the administrative record, it would be arbitrary and capricious to base the 2017 renewable fuel standards on significant E85 growth.

IV. EPA Appropriately Uses its RFS Waiver Authorities to Address the Decline in Gasoline Consumption, the E10 Blend Wall, and Market Conditions Affecting the Supply of Transportation Fuel.

A. RFS Statutory Volumes are Unachievable

The renewable fuel volumes for 2017 set forth in EISA are not achievable for three categories. AFPM supports EPA's proposal to use a combination of the Agency's general and cellulosic biofuel waiver authorities to promulgate final standards for the 2017 RFS. For the reasons outline in more detail in Section III below, the renewable fuel volumes for 2017 specified in CAA section 211(o)(2)(B) simply are not achievable for three categories of renewable fuel: total renewable fuel, advanced biofuel and cellulosic biofuel.

House Energy and Commerce Committee, Subcommittee on Energy and Power, included an 8 percent penetration estimate.

⁶³ AFPM/API comments at 38.

⁶⁴ NACS 2016 Retail Fuels Report, page 14

⁶⁵ AFPM/API comments at 29.

B. EPA Has Authority to Address E10 Blend Wall and other Constraints on Transportation Fuel

CAA section 211(o)(7)(A) gives EPA broad authority to grant waivers of renewable fuel volumetric requirements. This authority includes a general waiver authority that may be exercised based on a determination that a specific year's volumetric requirement "would severely harm the economy or environment of a State, a region, or the United States" or that there is "an inadequate domestic supply." EPA also has authority to reduce the applicable volume of renewable fuel and advanced biofuel where the Administrator determines the applicable volume of cellulosic biofuel should be reduced to "the projected volume available during that calendar year."⁶⁶

Since the consumption of renewable fuel is constrained by the ethanol saturation point (the E10 blend wall) and the amount of transportation fuel into which the renewable fuel is blended, a plain reading of the statute requires EPA to consider these external constraints on the *use* of renewable fuel when determining whether there is an "inadequate domestic supply." Therefore, the statute plainly requires EPA to adjust the volumetric obligations to account for reductions in, or declines in the expected transportation fuel volumes as outlined above in Section I. A. and acknowledged by EPA in the Proposed Rule.⁶⁷ EPA also has express authority to grant waivers of the statutory renewable fuel volumes where failing to do so would cause severe economic harm to any portion of the nation or lead to transportation fuel supply issues.

C. EPA Must Rely on Both General and Cellulosic Biofuel Waiver Authorities in this Rulemaking.

EPA must waive EISA's cellulosic biofuel volumes contained in CAA section 211(o)(2)(B)(i)(III) when the projected volume of cellulosic biofuel production shows that these cannot be met. EPA has used this authority every year since 2010 and the situation for 2017 is not markedly different, production of cellulosic biofuel will be exceedingly small compared with the statutory schedule. As noted in greater detail below, exercise of this waiver authority is required to address a continued inability of the cellulosic biofuel industry to produce anywhere close to the volumes of this fuel Congress originally projected.

The Agency also has clear authority to make concomitant reductions in EISA's total renewable fuel and advanced biofuel volumes when it exercises its cellulosic biofuel waiver authority under CAA section 211(o)(7)(D).

EPA properly concludes that it is not possible to deliver transportation fuel containing total renewable fuel and advanced biofuel to consumers at the volumes provided for in CAA section 211(o)(2)(B)(i). This is because of the E10 blend wall and other substantial limitations regarding advanced biofuels and cellulosic biofuel. Simply stated, the annual increases in the statutory volumes of total renewable fuel, advanced biofuel and cellulosic biofuel required to be used have far outpaced production and the ability of the total supply of domestic transportation fuel to absorb those volumes.

⁶⁶ CAA section 211(o)(7)(D).

⁶⁷ See, for example, 81 Fed. Reg. at 34788.

We support EPA's perspective on the need to utilize both waiver authorities:

Under 211(o)(7)(D), EPA must lower the required cellulosic volume to the projected production volumes. Doing so also provides EPA with authority to lower advanced and total renewable fuel volumes by the same or a lesser amount. Additionally, we believe that even after reducing total renewable fuel volumes to the full extent possible under the cellulosic waiver authority in 211(o)(7)(D), there is an inadequate domestic supply of renewable fuel to achieve those volumes, both warranting and justifying a further reduction in the total renewable fuel volumes under the authority of 211(o)(7)(A). The inadequate domestic supply is due to a combination of projected limitations in the production and importation of qualifying renewable fuels, as well as factors limiting supplying those fuels to the vehicles that can consume them.... EPA, in consultation with DOE and USDA, continues to find that the circumstances justifying the use of the general waiver authority exist and support a finding of inadequate domestic supply. As discussed in the 2014–2016 final rule, we find that this undefined provision is reasonably and best interpreted to encompass the full range of constraints that could result in an inadequate supply of renewable fuel to the ultimate consumers, including fuel production, infrastructure and other constraints. This includes, for example, factors affecting the ability to produce or import biofuels as well as factors affecting the ability to distribute, blend, dispense, and consume those renewable fuels as transportation fuel, jet fuel or heating oil.⁶⁸

D. EPA's Proposed Use of These Waivers for the 2017 Standards is Appropriate and Reasonable.

AFPM explains the use of these two waivers by comparing the 2016 Final RFS with the Proposal for 2017. The 2016 RFS was prospective; the Agency promulgated regulations for the 2016 RFS in 2015. We expect that the 2017 Final RFS Rule will be promulgated in 2016. Since both years are prospective, they can be compared.

The purposes of the table below are to show how these waivers were used for the 2016 Final RFS v. EPA's proposal for 2017 and to demonstrate that the waivers have been used both appropriately and reasonably.

⁶⁸ 81 Fed. Reg. 34785.

Waived Volumes by Category and Type of Waiver
(billion ethanol-equivalent gallons)

| | EISA for 2016 | Final Waived Volume for 2016 | EISA for 2017 | Proposed Waived Volume for 2017 |
|----------------------|--------------------------|---|--------------------------|--|
| Cellulosic biofuel | 4.25 | | 5.50 | |
| cellulosic waiver | | 4.02 | | 5.188 |
| Advanced biofuel | 7.25 | | 9.00 | |
| cellulosic waiver | | 3.64 | | 5.0 |
| general waiver | | 0.0 | | 0.0 |
| Total renewable fuel | 22.25 | | 24.00 | |
| cellulosic waiver | | 3.64 | | 5.0 |
| general waiver | | 0.50 | | 0.2 |

AFPM, however, does not endorse the volumes that EPA has proposed for the 2017 RFS standards. EPA must finalize lower volumes that are more likely to represent the amount of renewable fuels that are actually blended during the compliance period. We continue to believe, however, the proposed waivers, with some additional reductions in required renewable fuel volumes, will provide some mitigation against the consequences of unachievable mandates.

AFPM believes that EPA should set the applicable volume for cellulosic biofuel at 200 million gallons rather than the 312 million gallons that it has proposed (see Section II.). As such, AFPM believes that EPA should waive 5.3 billion gallons of the cellulosic biofuel requirement for 2017 (rather than the 5.2 billion gallons that EPA has proposed). EPA should then reduce the applicable volume of total renewable fuel further than it has proposed, using its general waiver authority, limiting requirements in 2017 to 17.12 billion gallons for total renewable fuel and 3.2 billion gallons for advanced biofuel (again, see Section II.). This will require using both waiver authorities for both categories. EPA should use its waiver authority under section 211(o)(7)(D)(i) to reduce the advanced biofuel and total renewable fuel volumes by the full amount of the waived cellulosic biofuel volume (5.3 billion gallons). EPA should then use the general waiver authority under section 211(o)(7)(A) to further reduce the total renewable fuel and advanced biofuel volumes to address the unachievable statutorily prescribed mandates for 2017.

E. Incorporate by Reference the AFPM/API 2014-2016 RFS Comments

The comments submitted to EPA in July 2015 by AFPM and API provide further discussion on waivers (and other topics) and are incorporated by reference.⁶⁹

⁶⁹ In docket EPA-HQ-OAR-2015-0111.

V. Biomass-Based Diesel for 2018

EPA proposes 2.1 billion gallons (physical) for biomass-based diesel in 2018.

EPA does not have the authority to promulgate 2.1 billion gallons (physical) for biomass-based diesel for 2018 unless it promulgates that requirement by October 31, 2016 in accordance with CAA section 211(o)(2)(B)(ii). The statute requires EPA to establish biomass-based diesel volumes with a 14-month lead time. EPA cannot disregard this clear statutory provision.

EPA provided 12.5-month lead time (the biomass-based diesel volume for 2017 was promulgated on December 14, 2015) for 2017. The Agency should therefore have promulgated 1.28 billion gallons for biomass-based diesel in 2017 based on the most-recently promulgated requirement prior to 2017. Similarly, if the Agency promulgates the 2018 BBD volume after October 31, 2016 (violating the 14-month requirement), then EPA must promulgate no more than 1.28 billion gallons for 2018.

EPA placed a memo in this docket to summarize its assessment.⁷⁰ EPA's analysis is an inadequate assessment of the required six statutory factors. The Agency's entire analysis of how much biomass-based diesel should be mandated is contained in this cursory memo. The Agency's analysis of this important issue must be more robust to facilitate informed comment.

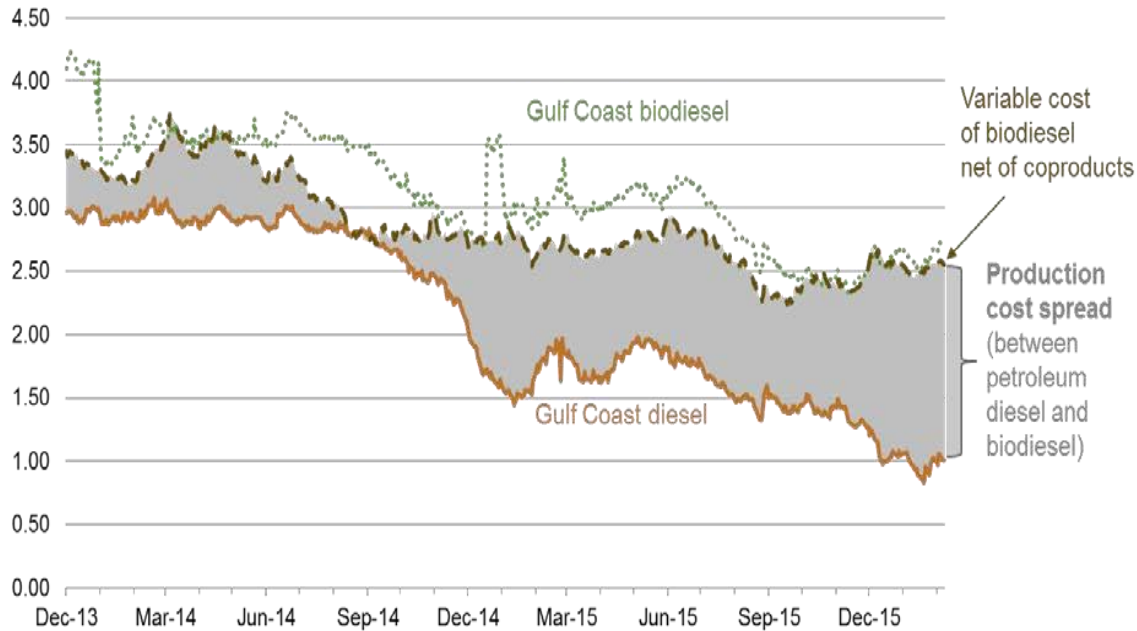
EPA should understand that biodiesel is significantly more expensive than petroleum diesel. EIA has recently documented this difference in Congressional testimony.⁷¹ See EIA's Figure 4:

⁷⁰ "Draft Statutory Factors Assessment for the 2018 Biomass Based Diesel (BBD) Applicable Volume" in docket EPA-HQ-OAR-2016-0004.

⁷¹ EIA's testimony at a hearing of the Senate Environment and Public Works Committee on February 24, 2016. EIA also testified at a hearing of the House Energy and Commerce Committee, Subcommittee on Energy and Power, on June 22, 2016 with an update: "Between January 4, 2016 and June 10, 2016, the difference between the Gulf Coast spot market prices of biodiesel and petroleum diesel averaged \$1.43 per gallon."

Figure 4: As oil prices have declined, the gap between petroleum diesel and biodiesel production costs has grown

daily spot prices of wholesale diesel, biodiesel, and soy oil
dollars per gallon



Sources: Oil Price Information Service, Argus, CME, Thomson Reuters, and Bloomberg

EIA concludes that biodiesel is significantly more expensive than petroleum-based diesel:

In its November 2015 final RFS rule, EPA set the renewable volume obligation for biomass-based diesel (biodiesel plus renewable diesel) at 1.9 billion gallons for 2016 and 2 billion gallons for 2017; this volume obligation is calculated in biodiesel gallon equivalents rather than ethanol gallon equivalents. As shown in Figure 4 [above], biodiesel is significantly more costly than petroleum-based diesel under recent market conditions. Between August 2015 and January 2016, the difference between the Gulf Coast spot market prices of biodiesel and petroleum-based diesel averaged \$1.25 per gallon. Despite this, a combination of biodiesel tax credits (BTC) and the implementation of the RFS itself enable the blending of the biodiesel volumes required by the RFS program. The most common raw material for biodiesel production in the U.S. is soybean oil. Soybean oil prices, along with costs of other inputs required and the value of byproducts from the biodiesel production

process, can be used to estimate the cost of soy-based biodiesel production.

Based on Chicago Mercantile Exchange soybean oil prices, the difference between biodiesel production cost and Gulf Coast diesel averaged \$1.15 per gallon between August 2015 and January 2016. For the month of January 2016 alone, when oil prices fell markedly, the difference between biodiesel production cost and Gulf Coast diesel averaged \$1.55 per gallon.

In the face of the compelling economic data on biodiesel, the Agency's proposal for 2.1 billion BBD gallons (physical) and the aspirational hope for additional BBD consumption to help meet the other nested categories is disconnected from reality, ignores EIA's testimony, and is arbitrary and capricious.

VI. Point of Obligation

AFPM has long supported placing the point of obligation on the entities holding title to the petroleum product at the point of blending, including in response to EPA's 2014-16 RFS rulemaking.⁷² However, EPA dismissed these comments as "beyond the scope of this rulemaking," providing only the following pro forma response:

In the proposed rule, EPA did not propose any changes to the definition of an obligated party, nor did we specifically seek comment on this issue. EPA received comments requesting that we change the point of obligation in the RFS program primarily from parties that are obligated under the current regulations. In response we also received comments primarily from those who did not wish to see the obligation placed on them. These comments are beyond the scope of this rulemaking. EPA's current regulations, published in March 2010, define an obligated party as any refiner that produces gasoline or diesel fuel within the 48 contiguous states or Hawaii, or any importer that imports gasoline or diesel fuel into the 48 contiguous states or Hawaii during a compliance period (*see* 40 CFR 80.1406(a)(1)).⁷³

Contrary to EPA's assertions, the point of obligation is within the scope of any proposed rule purporting to address constraints on supply of renewable fuel under the current RFS program. EPA must consider this issue and make any changes in the 2017 rule that are necessary to correct market failures and reduce the systemic cost of compliance with the RFS.

⁷² *See* American Fuel & Petrochemical Manufacturers (formerly NPRA) comments to Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program 74 Fed. Reg. 24904 (proposed May 26, 2009); AFPM comments to Renewable Fuel Standard Program: Standards for 2014-2016 and Biomass-Based Diesel Volume for 2017; Proposed Rule, 80 Fed. Reg. 33100 (proposed June 10, 2015).

⁷³ EPA Response to Comments, Docket ID. No. EPA-HQ-OAR-2015-0111-3671 at 882.

EPA itself recognizes that its rationale for placing the point of obligation on refiners is not justified in today's fuels market. In the final RFS2 rule, EPA again recognized that "the rationale in RFS1 for placing the obligation on just the upstream refiners and importers is no longer valid."⁷⁴ Despite the recognition, EPA maintained the previous point of obligation based on its belief that "the market will continue to provide opportunities for parties who are in need of RINs to acquire them from parties who have excess."⁷⁵ Notably, however, EPA stated that it would "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."⁷⁶

As has been apparent for several years, the RIN market is broken. Throughout its implementation of the RFS, EPA has continually reaffirmed its interpretation of the statute that the intent of Congress was to minimize costs, ensure flexibility, and maintain the existing system of fuel distribution and blending. EPA noted that its approach in RFS1 was predicated on the belief "that there would be an excess of RINs at low cost" and that the "ability of RINs to be traded freely between any parties once separated from renewable fuel would provide ample opportunity for parties who were in need of RINs to acquire them from parties who had excess."⁷⁷ RINs were merely intended to serve as a compliance mechanism; there is no evidence in the RFS' legislative or regulatory history of the RFS that RINs were to function as a tool to spur investment or to compel refining companies to subsidize gasoline marketers and retailers for mid-level ethanol blends or E85 sales. It appears that, starting in 2013, EPA's assumption that there would be an "excess of RINs at a low cost" is simply not justified by market data (see Figure 5).

⁷⁴ RFS2 Final Rule at 14670, 14722.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ RFS2 Proposed Rule at 24963.

Figure 5.

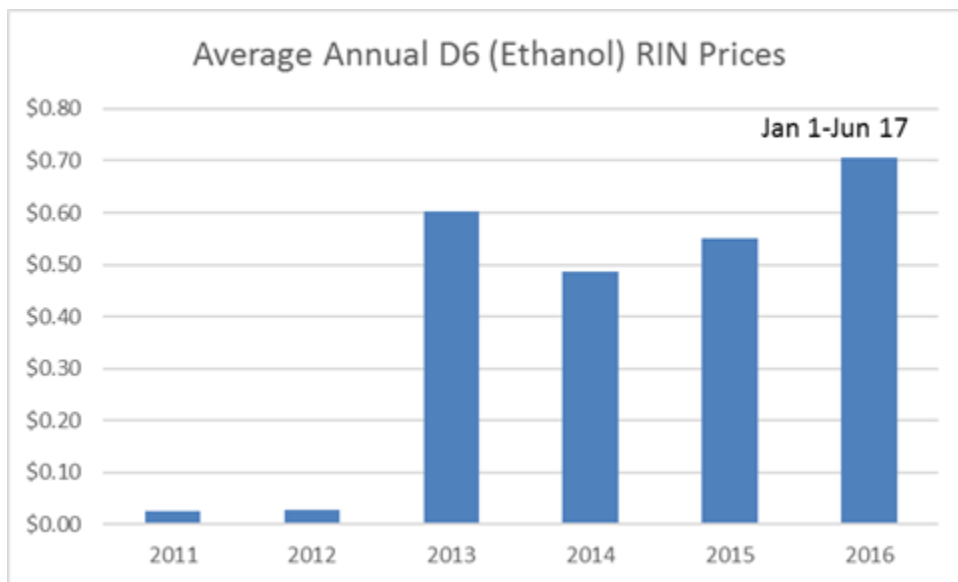


Figure 1 Average Annual D6 RIN Prices (Source: OPIS)

In addition, with the 2016 final rule and the 2017 proposal, the detriments of the program have become more apparent, as evidenced by a June 29, 2016 report by Goldman Sachs that reported downgrading stocks for several refiners because they do not have adequate access to RINs.⁷⁸ The fact that Goldman Sachs considers the RFS program significant enough to change the financial outlook for certain refining companies means that the program is not working efficiently. It is not a balanced program designed to ensure compliance flexibility as Congress intended. These detriments and unintended consequences undermine the RFS and distort the fuel market harming independent refiners and small retailers reversing years of increasing competition in the fuel market.

AFPM is aware of several petitions submitted to EPA requesting a rulemaking to address this issue. By placing the obligation on the title holder of the hydrocarbon fuel at the rack just prior to blending, EPA would place the point of obligation and the point of compliance in closer proximity. Having these two points separated, as is currently the case, is a major regulatory flaw. Addressing the point of obligation in the 2017 rulemaking is necessary to provide additional certainty for 2017 and beyond. AFPM urges EPA to adhere to its commitment to readdress the point of obligation in this rulemaking.

VII. Miscellaneous

A. Greenhouse Gas Implications

⁷⁸ Adam Samuelson, et. al, *Tighter RIN markets into 2017 create biofuel/refiner dislocations*, Goldman Sachs Investment Research, Americas: Energy (June 29, 2016).

“According to EPA’s own estimates, corn grain ethanol produced in 2011 is a higher emitter of GHG than gasoline.”⁷⁹ Therefore, more corn ethanol will increase lifecycle greenhouse gas emissions. This is an additional factor that the EPA should consider when projecting the level of ethanol use in the RFS and establishing RFS requirements.

B. Rescission of the 2011 Cellulosic Biofuel Standard

In 2015, EPA edited the Code of Federal Regulations to rescind the 2011 cellulosic biofuel standard.⁸⁰ The Agency pledged to refund the money paid by obligated parties to purchase cellulosic biofuel waiver credits for compliance with the 2011 cellulosic biofuel standard.⁸¹ Has EPA completed this refund commitment? To the best of our knowledge, EPA has not yet completed the issuance of these refunds.

⁷⁹ National Research Council, *Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuels Policy*, 2011. (Emphasis added).

⁸⁰ 80 Fed. Reg. 77517 (December 14, 2015)

⁸¹ 80 Fed. Reg. 77509.