American
Fuel & Petrochemical
Manufacturers

Comments of the American Fuel & Petrochemical Manufacturers on the Environmental Protection Agency's Notice of Proposed Rulemaking, *Renewable Fuel Standard (RFS) Program: RFS Annual Rules*, Docket No. EPA-HQ-OAR-2021-0324, 86 Fed. Reg. 72,436 (Dec. 21, 2021)

February 4, 2022

I. Introduction.

The American Fuel & Petrochemical Manufacturers (AFPM) appreciates the opportunity to comment on the United States Environmental Protection Agency's (EPA or the Agency) proposed rule, Renewable Fuel Standard (RFS) Program: RFS Annual Rules, Docket No. EPA-HQ-OAR-2021-0324, 86 Fed. Reg. 72,436 (Dec. 21, 2021) (the Proposal).

AFPM is a national trade association whose members own and operate most of the United States' refining and petrochemical manufacturing capacity. AFPM members produce petroleum fuels and biofuels, including renewable diesel - a "drop-in" fuel that substantially reduces greenhouse gas (GHG) emissions. AFPM members are directly regulated as obligated parties under the RFS and will be substantially affected by this rulemaking.

II. Executive Summary.

AFPM supports many aspects of the Proposal to align RFS with reality, but strongly opposes others.

2020 and 2021 Renewable Fuel Volumes - AFPM supports EPA's exercise of its reset and cellulosic-waiver authorities for 2020 and 2021. We support EPA's mindfulness of the role of the Renewable Identification Number (RIN) bank in maintaining appropriate liquidity in the RIN market and controlling the costs of complying with the RFS. It is important to note that the RIN bank is not a single bank, but rather the carryforward RINs available in each component part of the RFS. When examined in this level of detail, EPA's Proposal will likely lead to significant deficits within specific RIN categories, as explained below. We support EPA's decision to reopen the 2020 rule and its Proposal to lower the requirements for 2020 to the actual levels of biofuels blended in that year. This is the only appropriate course of action, because 1) it is compelled by the unprecedented demand destruction (especially of gasoline) wrought by the COVID-19 pandemic and 2) doing so will partially remedy the effects of EPA's Small Refinery Exemption (SRE) reallocation policy as adopted in the final 2020 rule, which had assumed a projected SRE volume reflecting 770 million RINs even though EPA has granted zero 2020 SRE petitions to date. AFPM further supports EPA proposing to set volumes for 2021 at actual levels, given that the standard will not be finalized until well after the year has concluded. Moreover, as EPA points out, re-opening 2020 and setting 2021 to actuals helps protect the RIN bank.

2022 Renewable Fuel Volumes – AFPM strongly opposes EPA's proposed record-high biofuel volumes for 2022. The proposed volumes are unachievable and would result in the RIN bank being drawn down significantly, if not fully depleted. This is inconsistent with the EPA's own acknowledgment of the importance of the RIN bank and intention to maintain it with adequate margins and liquidity. EPA must not ignore the consequences of the severe delay in setting a 2022 rule, which will now operate

retroactively for much of 2022. EPA should therefore finalize 2022 volumes in line with actual year-to-date volumes at the time of finalization.

Reset – EPA has a non-discretionary duty to exercise its cellulosic and reset authority, which it has been required to do for the total, cellulosic, and advanced fuel categories since it finalized its standards for 2019. EPA's Proposal is a proper exercise of this authority for 2020 and 2021. However, its approach to reset for 2022 is inconsistent and not appropriate. EPA must use its reset authority as Congress intended: a mandatory mechanism to reduce statutory volumetric targets when they have proven to be unachievable, triggered by a single waiver of 50 percent or waivers two years in a row of 20 percent. Reset is therefore a tool to *lower* aspirational biofuel mandates and should be utilized to lower the renewable fuel requirements for 2022.

Supplemental Mandates (2016 Remand) – We strongly oppose EPA's Proposal to supplement these proposed 2022 volumes, which are already overly aggressive and infeasible, by adding 250 million gallons as a first installment of its proposed response to the D.C. Circuit's 2017 remand of the 2016 RFS rule (2016 Remand), while promising another supplemental installment of 250 million gallons for 2023. The court did not direct EPA to take this step—it did not order "restitution" or any other form of action resembling the approach that EPA proposes here. This proposed action would unduly burden current obligated parties and threaten the functioning of the program, while plainly doing nothing to incentivize biofuel production in 2016. EPA's proposed supplemental mandate is particularly inappropriate because it has other, effective options available. EPA should use its statutory authority to lower the total renewable fuel standard for 2016 by exercising the full amount of its cellulosic waiver authority for that year, and/or by exercising its general-waiver authority for inadequate domestic supply for 2016.

Small Refinery Exemptions Denial - AFPM strongly opposes the pending Proposal to issue a blanket denial of all pending SRE petitions. This would eliminate a key aspect of Congress's design of the RFS program, as recently affirmed by the Supreme Court. EPA has an obligation to assess each SRE petition on its own merits, rather than fall back on a blanket conclusion based on macro-economic information that does not consider the specific market circumstances and actual fuel transactions in the markets where the small refinery does business.

AFPM also offers comments on other aspects of the Proposal and of the RFS program, including e-RINs, biointermediates, and public access to information.[1]

III. Proposed Volume Comments.

A. AFPM supports EPA's proposed revisions to the 2020 volumes.

AFPM supports EPA's proposal to reopen the 2020 standards and retroactively lower them using its reset authority. There are five principal reasons why this is an appropriate step for EPA to take.

Non-Discretionary Duties to Exercise Reset and Cellulosic Waiver Authorities – In addition to its mandatory duty to exercise the cellulosic waiver when the volume of cellulosic biofuel production is less than the volumes specified in the statute,[2] EPA acknowledges that reset was triggered at least as early

[1] While EPA has not utilized its general waiver authority in this proposed rulemaking, the conditions underlying the fuels markets during the pandemic would support its use to lower renewable volume obligations to match the quantity of renewable fuel actually produced.
[2] *See* 42 U.S.C. § 7545(o)(7)(D).

as 2019.[3] The statute clearly provides that when the statutory volumes are waived by at least twenty percent in two consecutive years or 50% in a single year, "the Administrator shall promulgate a rule (within 1 year after issuing such waiver) that modifies the applicable volumes set forth in the table concerned …."[4] This unambiguous statutory language requires EPA to apply reset to lower the volumes in 2020-2022; if EPA did not do so, it would violate this mandatory duty. Moreover, the reset criteria compel this result because the original volumes were aspirational, so they did not fully account for the blendwall. EPA is right to correct these errors.

Covid Demand Disruption - EPA rightly notes that the COVID-19 pandemic severely disrupted the fuels market. The market for gasoline in particular was disproportionately impacted compared to the market for diesel since remote work reduced commuting (largely gasoline) but freight delivery (largely diesel) was less impacted.[5] This imbalance further complicates the ability of obligated parties to comply with the 2020 standards as they were first finalized. Every gallon of transportation fuel, including diesel, sold or introduced into commerce in the United States carries with it a corresponding requirement for obligated parties to secure RINs in every category. Because the impact of the pandemic disproportionately reduced gasoline demand compared to diesel demand, diesel constituted a higher proportion of the 2020 fuel market than EPA anticipated when it conducted the 2020 rulemaking. Since biomass-based diesel is only about 4% of the total United States diesel supply, obligated parties faced a disproportionate need for RINs to satisfy their obligations. Essentially, as EPA notes, this "adversely affect[s] the ability of obligated parties to comply with the applicable volumes in the 2020 final rule."[6]

Reallocation in 2020 - In the 2020 standards, EPA improperly "re-allocated" RFS obligations by adjusting the percentage-standard calculations to account for anticipated SREs under Clean Air Act (CAA) § 211(o)(9).[7] As AFPM explained when EPA first proposed this approach in 2019, reallocation violates Congress's direction "to prevent the imposition of redundant obligations on any" obligated party when determining annual percentages.[8] Indeed, AFPM filed a petition for reconsideration with EPA in which AFPM explained these concerns.[9]

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[3] Indeed, EPA concedes that the *conditions* for resetting the cellulosic volumes were triggered as early as 2010. 86 Fed. Reg. at 72,442/3-72,443/1 (acknowledging cellulosic reset triggered "in 2010," advanced reset triggered "by the 2014 and 2015 annual standards," and total reset triggered "by the 2018 and 2019 annual standards").

[4] 42 U.S.C. § 7545(o)(7)(F).

[5] *See* 86 Fed. Reg. at 72,438/3, 72,448/3.

[6] *Id.*

[7] *See generally* 84 Fed. Reg. 57,677 (Oct. 28, 2019) (supplemental proposal to 2020 RFS rulemaking proposing re-allocation); 85 Fed. Reg. 7,016 (Feb. 6, 2020) 7,048/2-7,053/2 (final 2020 RFS rule containing finalized reallocation approach); AFPM incorporates herein by reference its comments on the Nov. 2019 Supplemental Proposal, EPA-HQ-OAR-2019-0136-0735, as well as its petition for administrative reconsideration, *infra*. *See generally* Initial Brief of APM *et al.*, *RFS Power Coalition v. EPA*, No. 20-1046 *et al.* (D.C. Cir. filed Jan. 19, 2021), Doc. No 1882897 (in pending challenge to 2020 rule, setting forth APM's opposition to re-allocation).

[8] CAA § 211(*o*)(3)(C)(i). Moreover, as AFPM explains in its comments on EPA's proposed blanket denial of outstanding SREs, each SRE petition must be examined on a case-by-case basis. *See* American Fuel & Petrochemical Manufacturers, Comment Letter on Proposed Notice of Opportunity To Comment on Proposed Denial of Petitions for Small Refinery Exemptions (*to be filed* Feb. 7, 2022).

[9] AFPM, Petition for Administrative Reconsideration (Mar. 24, 2020), EPA-HQ-OAR-2021-0324-0020. *See also* 86 Fed. Reg. at 72,444/3-72,445/1 n.54 (noting AFPM's and API's petitions for reconsideration) ("We are not at this time determining whether these petitions met the standards for reconsideration . . . .").

RIN Bank Impacts - EPA rightly notes that, unless it provides relief from the 2020 standards, compliance with those standards will cause the RIN bank to shrink by approximately 1.2 billion RINs.[10] EPA further notes that the 630 million RINs that would remain after this drawdown "would represent less than 4 percent of the proposed 2021 and 2022 total renewable fuel standards."[11] This is consistent with an Energy Information Administration (EIA) analysis that showed an 800-million-gallon gap between production and requirements in 2020.[12] A balance of 4 percent would be much lower than EPA has been careful to maintain in its annual rulemakings dating back to at least 2013. As EPA has repeatedly recognized,[13] the RIN bank is crucial to maintaining a functioning RIN market and controlling the RFS program's cost to consumers and obligated parties. EPA is right to consider this as a factor in deciding to reduce the 2020 standards.

Zero Impact on Biofuel Blending - Retroactively lowering the 2020 standards will not impact the blending of biofuels. EPA rightly acknowledges that, "[w]ith respect to 2020, that year has already passed, so our retroactive revision of the RFS volumes cannot affect the production or use of renewable fuels in 2020 . . . ."[14] This is common sense; it is difficult to see how any other approach would be defensible.

Legal Authority for 2020 Revision - Generally, agencies should pursue regulatory certainty, but under these circumstances EPA can and should lower its 2020 standards retroactively. "Agencies obviously have broad discretion to reconsider a regulation at any time," so long as they "comply with the Administrative Procedure Act (APA), including its requirements for notice and comment."[15] EPA anticipated "a significant and unprecedented shortfall in renewable fuel use in 2020 relative to the volumes that [the Agency] required in the 2020 final rule," due in large part to the "unforeseen and drastic fall in transportation fuel demand generally and in biofuel demand more specifically."[16] (It also had reallocated 770 million RINs from expected SREs that it now proposes to deny.) In light of these unanticipated, extreme, and impactful departures from EPA's expectations at the time it first conducted

[10] *See* 86 Fed. Reg. at 72,449/1 (projecting that compliance with unmodified 2020 standards, in the absence of SRE relief, will draw down the RIN bank from 1.85 billion to 630 million).
[11] *Id.*; *see also* Memorandum, Carryover RIN Bank Calculations for 2020-2022 Proposed Rule, EPA-HQ-OAR-2021-0324-0328, at 6-10 (Sept. 22, 2021) (technical support document in the Proposal docket, analyzing "the alternative scenario where we do not revise the 2020 RFS standards to reflect [] actual volumes" and yielding the 630 million RIN projection).
[12] EIA, This Week in Petroleum (Feb. 18, 2021), *available at* https://www.eia.gov/petroleum/weekly/archive/2021/210218/includes/analysis_print.php ("As consumption of gasoline and diesel fuel fell in 2020, the total volumetric RFS requirements fell by an estimated 1.4 billion gallons (7%), while actual biofuel RIN generation according to official EPA data fell short of this estimated adjusted level by more than 0.8 billion gallons.") (citation omitted).
[13] 86 Fed. Reg. 72,436, 72,449 (Dec. 21, 2021) ("As noted in past RFS annual rules, carryover RINs are a foundational element of the design and implementation of the RFS program. A bank of carryover RINs is extremely important in providing a liquid and well-functioning RIN market upon which success of the entire program depends, and in providing obligated parties compliance flexibility in the face of substantial uncertainties in the transportation fuel marketplace."); *see also id.* at 72,454 n.98 (citing previous rules' discussion of the carryover RIN bank).
[14] 86 Fed. Reg. at 72,456/3.
[15] *Clean Air Council v. Pruitt*, 862 F.3d 1, 8-9 (2017). AFPM does not support retroactive increases in renewable fuel obligations, which are contrary to the Clean Air Act and Administrative Procedure Act.
[16] 86 Fed. Reg. at 72,448/2-3.

the 2020 rulemaking, it is justifiable and reasonable for EPA to reopen and downwardly adjust these standards.

B. AFPM supports EPA's setting proposed 2021 volumes at actual consumption.

AFPM supports EPA's proposal to set 2021 volume percentage requirements for all four categories of renewable fuel at a level equivalent to the actual volumes of biofuels used in the United States in 2021.[17] EPA is right to acknowledge two major factors that overwhelmingly favor this approach: the ongoing impacts on transportation fuel markets from the COVID-19 pandemic, which persisted through 2021 and are still evident today, and EPA's failure to promulgate 2021 standards by the time that compliance year was complete, or by the statutory deadline of November 2020. These factors make setting the standard in line with the actual consumption of transportation fuel the only logical course of action.[18]

EPA's proposal to set the 2021 standards at the level of actual volumes is both within its statutory authority and the only equitable way to approach this retroactive rulemaking.[19]

EPA has limited discretion when it establishes standards after the beginning of the actual compliance year. In these circumstances, if EPA were to set standards above actual levels for a time period in the past, it would be acting in an arbitrary and capricious manner, because such a departure from already-established reality could not be the product of reasoned decision-making and would run counter to the most relevant evidence before the agency, not to mention the RIN bank implications discussed throughout.[20]

As with EPA's retroactively lowering the 2020 standards, EPA's setting of 2021 volume requirements will not impact biofuel blending in 2021, because that year is now in the past. Use of EIA actual consumption data for 2021 provides the most accurate picture of what levels of biofuel blending occurred against fuel demand still recovering from the impact of the pandemic. AFPM engaged Turner Mason & Company (TM&C) to evaluate the Renewable Fuel Standard (RFS) carryforward RIN volumes, based on EPA's RIN data and EIA's fuel production and consumption data. According to their analysis, when EPA looks at the October 2021 STEO instead of the May 2021 Short Term Energy Outlook (STEO) (as EPA did in the proposal), EPA's requirements for 2020 and 2021 (combined) should "decline [by] 128M, 436M, and 95M energy equivalent gallons for cellulosic biofuel, advanced biofuel, and total renewable fuel, respectively."[21] To set levels higher than this would impose unacceptable negative

[17] *See* 86 Fed. Reg. at 72,450/1.

[18] AFPM supports EPA's stated intention to adjust the final volumes to reflect updated actual 2021 consumption. *See* 86 Fed. Reg. 72,540/3 ("In the final rule, we intend to consider additional data*, including more recent data on renewable fuel production and use*, and public comments, and update our projections accordingly.") (emphasis added).

[19] *See* 86 Fed. Reg. at 72,444/2 (acknowledging that binding D.C. Circuit caselaw requires EPA, when issuing retroactive RFS rules, to "consider and mitigate the burdens on obligated parties associated with a delayed rulemaking"); *Americans for Clean Energy v. EPA*, 864 F.3d 691, 718-19 (D.C. Cir. 2017) (upholding setting standards at actual levels in retroactive RFS rulemakings as "reasonable in light of EPA's duty to mitigate any effects of its delay on obligated parties").

[20] *See generally Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

[21] "RFS Carryforward RIN Volume Analysis," January 2022, Turner Mason (hereinafter "TM&C Report"). *See* pp. 22-23 for October 2021 vs May 2021 analysis. This report is included as Appendix 1.

impacts on the RIN bank, threatening further disruption of the fuel industry, with adverse effects on employment, consumer prices, and the nation's energy security.

C. AFPM opposes EPA's proposed 2022 volumes.

i. EPA's delay in issuing the 2022 standards requires EPA to use actual year-to-date volumes at the time of finalization.

EPA must take into account that it is proposing the 2022 standards so late that by the time finalized, they will be largely retroactive. Due to this delay, EPA must use actual year-to-date volume data for the final rule. EPA did not publish the Proposal in the *Federal Register* until December 21, three weeks after the statutory deadline to *finalize* the rule. Notably, EPA recently told the D.C. Circuit, in a challenge to its 2020 rule as originally finalized, that it cannot sign a rule finalizing the instant Proposal "earlier than June 3, 2022" – while admitting that this "is an ambitious timeframe because this rulemaking is significantly more complicated than [certain] prior rules."[22] Indeed, past precedent suggests that this rulemaking is likely to take even longer. The omnibus rulemaking covering the 2014-2016 compliance years, the closest parallel to the instant multiyear Proposal, took 140 days from the close of the comment period to publication of the final rule in the *Federal Register*,[23] suggesting here a final publication date of June 24, 2022. As such, a good portion, if not the majority of the standards' effects, will have retroactive consequences unless they account for actual volumes at the time of finalization.

Retroactive rulemakings, under D.C. Circuit case law, must consider the special burden that they place on obligated parties. Because the 2022 standards are highly likely to be retroactive for *at least* half of 2022, they should reflect actual, and not prospective, biofuel blending. To address the retroactive portion of the 2022 rulemaking, EPA should set volumes for 2022 in accordance with the most recent *actual* volumes recorded in EPA Moderated Transaction System at the time of promulgation. That is the only way EPA can ensure that the final volumes promulgated take neutral aim at accuracy. Building from this baseline, EPA must apply the statutory reset criteria in CAA sec. 211(o)(2)(B)(ii) for the portion of the year that remains prospective at the time of publication in the *Federal Register.* This approach is consistent with the multi-year rulemaking conducted in 2015, when in the final rule EPA set standards and precedent based on "updated production and consumption data available as of [the] issuance of this final rule."[24]

EPA acknowledges that it is *proposing* the requirements for 2022 after the Congressionally imposed deadline to *finalize* them, just as it is for 2021.[25] And EPA further acknowledges, as it must, that binding precedent requires it, when promulgating a late RFS rule, to "consider and mitigate the burdens on obligated parties associated with a delayed rulemaking."[26] But while EPA acknowledges as a general matter this constraint on its authority when acting after the deadline, its actual analysis of its proposed

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[22] EPA's Opposition to Motion for Remand Without Vacatur Until April 7, 2022, at 13, *RFS Power Coalition v. EPA,* No. 20-1046 et al. (D.C. Cir. filed Jan. 20, 2022), Doc. No. 1931535.
[23] *See* 80 Fed. Reg. 33,100 (June 10, 2015) (proposal, with comment period closing July 27, 2015); *id.* 77,420 (Dec. 14, 2015).
[24] 80 Fed. Reg. at 77,424/2.
[25] 86 Fed. Reg. at 72,444/2 ("We are also promulgating the 2020 and 2021 standards after their statutory deadlines of November 30, 2019 and 2020 respectively.").
[26] *Id.* (citing *Americans for Clean Energy v. EPA*, 864 F.3d 691, 718 (D.C. Cir. 2017)).

standards for 2022—as opposed to its analysis for 2020 and 2021—fails to adequately observe that constraint. If EPA does not adjust its analysis and lower the proposed requirements to account for its delayed rulemaking, its final action will be arbitrary and capricious and legally infirm.

EPA's failure to properly consider the retroactivity of its 2022 proposed volumes appears to stem in part from repeated mischaracterization of the status of that proposal. EPA repeatedly suggests a stark dichotomy between its Proposal with respect to 2020 and 2021 on the one hand, where the rule will operate retroactively (and, for 2020, is a reopening of an already finalized rule), and with respect to 2022 on the other hand, where, EPA repeatedly states, the rule will operate prospectively. The problem is that the Proposal will not be finalized until well into 2022, quite likely in the second half of the year, and market participants' reaction to the final rule will not be instantaneous. Negotiating and executing agreements to implement responses to the rule at all points in the fuel supply chain will take additional time, and further minimize the prospective aspect of the 2022 final rule.

Additionally, it is unrealistic for EPA to expect the market to instantly react to aspirational goals set in the middle of the compliance year. It is particularly inappropriate in this context, where EPA is exercising its reset authority for the first time. Moreover, EPA is likely to make revisions to the proposed volumes based on these and other comments it receives. EPA may not treat the Proposal as a *fait accompli*.

EPA acknowledges in at least one portion of the Proposal that the final rule for 2022 "will [be] issued after November 30, 2021, thus rendering the 2022 and supplemental standards late and retroactive."[27] "Nonetheless, we are issuing this proposal in advance of 2022, and we anticipate that the final rule will apply *mostly, if not entirely, prospectively* to 2022. Thus, we believe the rule will be able to incent increased renewable fuel demand in that year *consistent with the analysis in this proposal*."[28]

But the "analysis in this proposal" is based on repeated statements that the 2022 rule will apply prospectively *throughout* 2022, which is facially not the case. This suggests that EPA's analysis underpinning its proposed 2022 volumes does not reflect reasoned decision making based on the actual state of facts before the agency at the time of proposal. That is, the 2022 rule will not be prospective and will not impact market behavior in much of 2022, as EPA predicts. It is especially contradictory for EPA to note, in its discussion of the appropriate volumes for 2020 and 2021, that setting volumes for an already-concluded year cannot affect blending incentives or the other statutory factors, while ignoring that this reality applies to the 2022 compliance year as well.

EPA's final action may be delayed even beyond the mid-year point that past practice suggests, as recent D.C. Circuit opinions have found fault with the Agency's handling of the required Endangered Species Act (ESA) analyses in prior RFS rulemakings.[29] EPA states that it intends to initiate consultation with the Fish and Wildlife Service and the National Marine Fisheries Service regarding the Proposal, and that it is currently analyzing whether this rulemaking could adversely affect any endangered or threatened species.[30] Prior ESA consultations on rulemakings with nationwide effect have often dragged on for years. This suggests that the rulemaking may well take considerably longer than prior ones.

[27] 86 Fed. Reg. at 72,444/3.
[28] *Id.* (emphases added).
[29] *See* 86 Fed. Reg. at 72,442/1.
[30] *Id.*

Conversely, if EPA proceeds to finalize the 2022 proposal *without* completing its consultation obligations under the ESA, it will incur both policy and legal risk. As a matter of policy, finalizing a large increase in biofuels requirements without having conducted the required ESA analysis, and without having engaged in whatever steps that analysis indicates as necessary to mitigate the requirements' potential effects on endangered species, obviously increases the likelihood that such effects will ensue and will be more serious than they would have been had EPA either fulfilled its ESA obligations or, at a minimum, refrained from materially increasing volume requirements beyond those of the last annual rule that the D.C. Circuit did not hold to be deficient with respect to the ESA until it fulfilled its ESA obligations. As a matter of law, in July 2021 the D.C. Circuit remanded the 2019 RFS rule to EPA without vacatur, for the Agency to reassess its "[species] effects determination and severe environmental harm waiver decision."[31] For EPA to propose this significant increase before it has complied with the court's order to reassess its species analysis for a previous year's rule raises serious questions as to its authority to proceed in this manner before fully coming to grips with the implications of the court's ruling for the 2019 rule, its successive annual rulemakings such as this one, and for the RFS program as a whole.

Although it is clear that the final 2022 rule will have only a small window of prospective effect, EPA's Proposal refers to the 2022 rule as prospective at least 10 times.[32] EPA should adjust its analysis based on its severely reduced ability to influence blending volumes for 2022. EPA should take account of the substantially retroactive nature of its 2022 standards by setting volumes in line with the actual year-to-date volumes, to ensure that the standards are not unduly burdensome on obligated parties in light of their substantial retroactivity. If EPA does not adjust its analysis and lower the proposed requirements to account for this material change in circumstances, its final action will be arbitrary and capricious and highly vulnerable on that basis.

ii. EPA's overall proposed volumes are unprecedented and unrealistic

AFPM strongly opposes EPA's proposed unachievable 2022 volumes. EPA proposed 770 million RINs for Cellulosic, 2.76 billion gallons for bio-mass based Diesel (BBD), 5.77 billion RINs for Advanced, and 20.77 billion gallons total (21.02 b.g. including the supplemental obligation resulting from the 2016 Remand).

	2019	2020 (v.1)	2020 (proposed)	2021 (proposed)	2022 (proposed)
Cellulosic	0.418	0.59	0.51	0.62	0.77
BBD	2.1	2.43	2.43	2.43	2.76
Advanced	4.92	5.09	4.63	5.2	5.77
(Implied Conventional)	15	15	12.5	13.32	15
Total	19.92	20.09	17.13	18.52	21.02[33]

The proposed 2022 volumes are significantly higher than any previous year, including the last pre-COVID year of 2019. These high volumes would be promulgated at a time when the RIN bank is

[31] *Growth Energy v. EPA*, 5 F.4th 1, 24 (D.C. Cir. 2021).

[32] *See* 86 Fed. Reg. at 72,443/1, 72,44/1 (twice), 72,448/2, 72,450/1-2 (particularly egregious: "[I]ncreases in volume requirements are more appropriate in 2022. *That is when this rule applies prospectively* and has the potential to affect actual biofuel use.") (emphasis added), 72,454/2 (twice), 72,456/3 (twice), 72,457/3.

[33] 20.77 b.g. plus 250 m.g. in EPA's proposed supplemental obligation in response to the 2016 remand.

roughly 40 percent lower than the 2016-2017 time period. This will increase biofuel imports. EPA's analysis does not support the proposed volumes, conflicts with its approach elsewhere in the Proposal with respect to the 2020 and 2021 requirements, and will impose an unwarranted burden on obligated parties, U.S. fuel consumers, and the economy as a whole.

EPA proposed a total renewable fuel requirement for 2022 that is more than *2.2 billion* gallons higher than its proposed total requirement for 2021, and 850 million gallons more than in 2019 (a year unaffected by COVID).[34] EPA, in other words, envisions a massive (and unsupported) increase in renewables, while overall fuel demand is still recovering.

Overall transportation fuel demand has not yet recovered from the impact of the pandemic, is still lower than it was in 2019, and is at best expected to barely reach that level again at some point in 2022, with any meaningful growth beyond that level not coming until 2023.[35] This is not a secure base on which to project *any* material increase in renewable fuels, let alone one of this magnitude.

Year	Gasoline Consumption (bg)
2019	142.7
2020	123.4
2021	134.8
2022	138.9

January 2022 STEO, EIA

Moreover, the Proposal fails to adequately consider current economic conditions, fuel demand, and supply issues that are aggravated by the pandemic and affect both the achievability of the Proposal and its economic consequences. EPA correctly notes that the country is still experiencing a pandemic-driven economic crisis, but its approach to setting standards for 2022 does not properly reflect this context. This crisis has disrupted supply chains and affected virtually every U.S. industry. Even more recently, serious and now record inflation levels have been reached, and the Biden Administration has expressed particular concern over high fuel prices. Moreover, the Administration has initiated sales from the National Petroleum Reserve, in both 2021 and 2022, and made statements that their intent is to lower domestic gasoline prices. EPA's Proposal ignores and contradicts these stated objectives of the Biden Administration that confirm the statutory factor of cost is a bigger and more important consideration than EPA reasons in their Proposal. The Proposal would only aggravate these conditions.

[34] *See* 86 Fed. Reg. at 72,438, Table I-1 (reflecting proposed total of 18.52 billion gallons in 2021, and 20.77 billion gallons in 2022).

[35] *See id.* at 72,447/3 ("[T]otal demand for gasoline was lower in 2020 and is expected to remain lower in 2021 and 2022 relative to the volume of gasoline consumed in 2017–2019 according to EIA's May 2021 Short Term Energy Outlook (STEO), which will limit the volume of ethanol used as E10."); *see also* Short-Term Energy Outlook, U.S. Energy Information Administration (Jan. 2022) (STEO), at 1, *available at* https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf ("The STEO continues to reflect heightened levels of uncertainty as a result of the ongoing COVID-19 pandemic."), *id.* at 9 ("We forecast that petroleum and liquid fuels consumption in the United States will average 20.6 million barrels per day (b/d) in 2022, which would slightly surpass consumption from 2019. In 2023, we forecast that consumption will surpass 2019 levels and reach 20.9 million b/d.").

EPA's Proposal also contradicts Congress's directive to consider "the impact of the use of renewable fuels on the cost to consumers of transportation fuel and on the cost to transport goods,"[36] particularly in light of the above noted conditions. The terms "inflation" and "supply chain" do not even appear in EPA's Proposal. The *sole* reference in the preamble to this statutory reset factor in EPA's discussion of the statutory factors as applied to 2022 is as follows: "[W]hile some of the statutory factors (such as the cost to consumers of transportation fuel) may suggest that a volume of cellulosic biofuel lower than the volume projected to be produced in 2022 would be appropriate, we have determined that these factors are outweighed by other factors (such as climate change)."[37] EPA fails to adequately explain how it weighted these factors and does not appear to have considered "the cost to transport goods" in the preamble *at all*,[38] even though Congress explicitly directed EPA to consider this.

Finally, EPA does not consider the demand destruction for liquid fuels in light of federal and state initiatives to artificially stimulate electric vehicles, including but not limited to EPA's recently-finalized Light Duty Vehicle Greenhouse Gas Emissions Standards.[39]

The Proposal's approach to the 2022 standards fails to properly apply the six statutory factors that Congress enacted to guide the Agency's exercise of its reset authority, and its consequent failure to explain to the public in a transparent way how it is balancing these factors to derive its proposed volume requirements for 2022. Those factors direct EPA to consider: (1) environmental impacts; (2) energy security; (3) expected annual rate of future biofuels production; (4) infrastructure impacts; (5) consumer fuel costs and the cost to transport goods; and (6) "other factors," including a sub-list of four factors, all of which are economic in nature. EPA's analysis and application of these factors are inadequate and conflict with Congress's direction in two major ways.

First, EPA treats each of these factors as aspirational. However, their context demonstrates that Congress intended for the factors to help evaluate real consequences and benefits for the coming compliance year. This is aligned with Congress's intent: Congress set aspirational volume increases as starting points in the tables set forth in the statute. But it designed the factors in § 211(o)(2)(b)(ii) so that after 15 years of program development and market creation, the program would operate in a more clear-eyed, less aspirational manner based on the actual market conditions advanced by the program. Indeed, the factors come into play only after the expiration of the aspirational standards for previous years set by Congress or the issuance of significant waivers by EPA. Moreover, when EPA is setting volumes, it must meet the 14-month statutory lead time requirement so that companies have time to plan and execute a compliance strategy.

Second, given that this is the first time in which it is exercising its reset authority, and given the precedent this may set for how EPA intends to exercise its authority under the factors for the years after 2022, EPA spends insufficient time in the preamble to the proposed rule discussing the factors for 2022. The entire discussion covers just over 1 page out of 65 total *Federal Register* pages for the Proposal and

[36] CAA § 211(*o*)(2)(B)(ii)(V).
[37] 86 Fed. Reg. at 72,451/1.
[38] EPA's only discussion of this criterion appears in the Draft Regulatory Impact Analysis (DRIA) at 266-67 (providing less than a page of analysis, including a chart indicating $761 million in "Gasoline and Diesel Fuel Costs" from the 2022 volume requirements). "These impacts on the cost of transportation fuel do not include any RIN price impacts, since RIN price impacts are generally transfers within the transportation fuel pool."
[39] 86 Fed. Reg. 74,434 (Dec. 30, 2021).

is unclear and casual in how it does so. Much of EPA's "discussion" is nothing more than a recitation of the text of the factor, without in-depth analysis.

Of the paltry explanation that the preamble does provide, one aspect stands out as facially irrational. As explained above, on the crucial interplay between two key factors, cost and environmental impact, it states it is privileging one over the other without an adequate explanation, and without acknowledging the tension between this analysis and the reasons for its proposed actions with respect to 2020 and 2021. Specifically, EPA says that consumer cost and (unspecified) other factors are "outweighed" by climate change and (unspecified) other factors.[40]

EPA does not explain what it means by "outweighed." If it means this in the sense of a quantitative comparison, its own record contradicts the point: It projects additional fuel costs from the 2022 proposed volumes at over $2.15 billion dollars—and over $2.3 billion including the supplemental volume proposed in response to the 2016 Remand.[41] But in its Draft Regulatory Impact Analysis (DRIA), EPA associates the 2022 volumes with annual "social cost of greenhouse gas" benefits of between $104 million and $1.139 billion.[42] Setting aside the uncertainty evident in a range of more than *ten times* from low to high, even at the high end, its climate benefit figure is at best *half* that of its fuel cost figure.

Elsewhere, EPA disclaims these numbers, referring to them as an "illustrative scenario" and saying that the scenario "is not EPA's assessment of the likely greenhouse gas impact of this proposed rule."[43] But EPA cannot have it both ways. Either it is presenting *absolutely no* explanation of why cost is "outweighed" by climate, in which case it is acting arbitrarily and capriciously, or else its own monetized estimates on their face show that this is flatly not the case—in which case, also, it is acting arbitrarily and capriciously. The utter lack of foundation for EPA's explanation for *why* it dials up some statutory factors and dials down others to reach its proposed volumes is a fatal flaw.

Unfortunately, the defects of EPA's analysis are not limited to this issue. Overall, the DRIA provides much heat but little light. The DRIA, as does the preamble, rightly notes that the retroactive nature of the proposed actions with respect to 2020 and 2021 mean that those actions will not affect activity in those years. But for 2022 (which, as discussed in more detail below, will *also* be largely or mostly a retroactive action), over and over again the DRIA simply says that data is lacking, sometimes assuring the public that by the time of finalization EPA expects to have certain information that it does not currently have, or even that it intends to supply missing analysis *in future, separate rulemakings*, and often claiming that alleged time constraints prevent EPA from conducting needed analysis.[44] (This,

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[40] 86 Fed. Reg. at 72,451/1.

[41] *See* 86 Fed. Reg. at 72,453, Table III.G-1 ("Fuel Costs of the Proposed Volumes") ($2.158 billion excluding supplemental volumes and $2.302 billion including them).

[42] DRIA at 87, Table 3.2.2.2.2-2.

[43] *Id.* at 68.

[44] *See, e.g.*, DRIA at 56, 60 ("As volumes used domestically could be sourced from exports, it is unclear what overall impacts would be on domestic production and therefore emissions."), 61, 62 ("[N]o air quality modeling was done"), 68 ("Extensive modeling would be necessary to accurately address the uncertainties discussed above and the complexities associated with setting standards for multiple biofuels concurrently. At this time, we are unable to perform such extensive modeling of the GHG effects of the proposed volumes. . . . EPA recognizes . . . that new and relevant data is now available that can help inform future assessments. EPA will engage with various stakeholders, outside of this specific rulemaking action, to improve future assessments."), 88 ("[A]t this time we cannot quantify the amount of land with increased intensity of cultivation nor confidently estimate the portion of

despite EPA acknowledging that reset was triggered for one category of renewable fuel as early as the *2010* rule, and for *all* categories in the 2019 rule.[45] EPA nowhere explains why this timeframe did not give it adequate time to fill these data and analytical gaps.) Taken together, the virtually nonexistent discussion in the preamble, the massive gaps in the DRIA, and the total failure to anywhere explain *why and how* it is balancing the factors to derive the proposed 2022 volumes mean that this Proposal simply does not provide an adequate explanation to the public of how EPA's consideration of the statutory factors justify the Agency's proposed volume requirements for 2022. The failure to present this issue of central relevance to the rulemaking precludes the public's ability to provide informed comment and renders this Proposal arbitrary and capricious.

Moreover, we note that under the reset criteria, when EPA misses its statutory lead time requirements – and especially when a rule is retroactive – it must rely heavily on the amount of renewable fuel that will be produced in the year for which it is establishing the standard. The ability to influence production in the short-term (i.e., the remainder of 2022) is limited. Because the 2022 rule will operate at least partially retroactively, the reset factor analysis as applied to that year must place heightened weight on the factors of cost and annual rate of production. This is both for equitable

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crop land expansion that is due to the market for biofuels."), 91 ("More information is needed to assess the degree to which the RFS volume requirements impact land use and management decisions in order to estimate the magnitude of their impacts on wetland loss. However, such analysis would be expansive and could not be performed on the timeline of this rulemaking."), 92, 96, 98-99, 112, 114, 128 ("While we could not quantify these effects [on water availability], as described in Chapter 3.4, the potential for negative effects is an area of ongoing concern and research."), 140 ("While this proposed RFS annual rule is projected to reduce U.S. oil imports modestly in the 2021-2022 time frame, it also results in some increase in U.S. renewable fuel imports. We do not have a methodology to estimate the energy security impacts of an increased use of imported renewable fuels."), 143 ("[I]n the limited time frame to complete this analysis, we have not factored in how increases in U.S. tight oil might influence U.S. oil security values, other than how U.S. tight oil significantly reduces net oil imports."), 146 ("EIA has not yet provided EPA with a projection of cellulosic biofuel production for 2022, but we anticipate this projection will also inform our projection of cellulosic biofuel production for 2022 in the final rule."), 166 ("To the degree that the COVID-19 pandemic may continue to impact the production of cellulosic biofuel, we believe that the projection methodologies in this proposed rule, when combined with updated data at the time of the final rule, will adequately account for these impacts."), 177 ("At this time it is difficult to project whether renewable diesel exports will continue to increase in future years or alternatively return to the low levels observed through 2017."), 205 ("While additional revenue may be generated from the biogas CNG credit market, the ownership and revenue structures of waste digesters may involve third party investors, and we lack the necessary data to estimate impacts on farm and rural income at this time."), 206 ("We are also projecting modest growth in ethanol production, though this is measured from a 2020 baseline so much of this volume is getting back to consumption levels before the economic contraction associated with the COVID-19 pandemic. We lack the necessary data to quantify these impacts at this time."), 221 ("As described in Chapter 3.3, the proposed renewable fuel volumes *may* help mitigate the impacts of climate change by *potentially* reducing GHG emissions. Future impacts of climate change are still expected and *will likely be* unevenly distributed in ways that uniquely impact communities with EJ concerns.") (emphases added) (this is the *entirety* of the environmental justice analysis on climate impacts), 222, 223 ("For this proposed action, EPA has not quantitatively assessed the demographic characteristics of populations living near biorefineries, but is evaluating the extent to which this type of analysis could be done for future rulemakings."), 223 ("We do not have the information needed to understand the magnitude and location of facility-specific responses to the biofuel volumes in this proposed rule, and therefore we are unable to evaluate impacts on air quality in EJ communities near these facilities."), 223-24.

[45] *See generally* 86 Fed. Reg. at 72,442/3-72,444/2.

reasons and because a retroactive rule cannot incentivize blending for the period to which it applies. EPA recognizes this in its approach to 2020 and 2021, but departs from it for 2022.

Below, AFPM provides specific concerns and objections regarding the biofuel volumes EPA proposes for each renewable fuel category. AFPM then discusses the significance of the fact that this rulemaking is coming well after the statutory deadline (and is likely to be delayed still further, due in part to EPA's pending Endangered Species Act (ESA) consultation). AFPM explains why this lateness and likely continued delay is all the more reason why the proposed volumes are inappropriately high.

iii. Observations for each specific renewable fuel category.

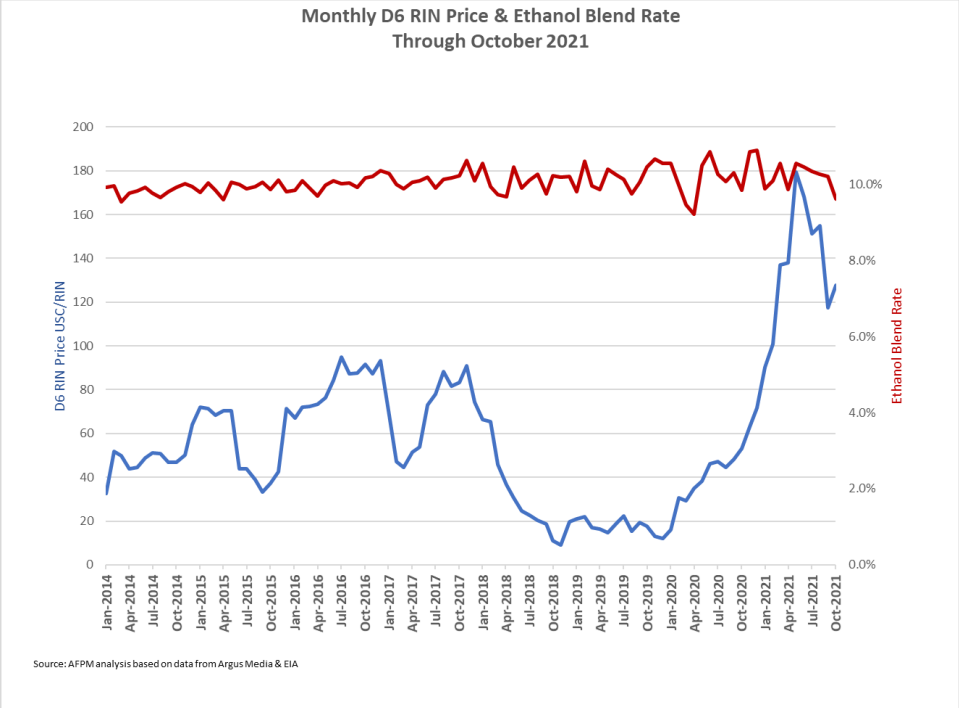
a. **Conventional biofuel mandates**.

First, EPA's proposed conventional biofuel volume of 15.25 billion RINs for 2022[46] is significantly higher than EPA's own projections of approximately 13.8 billion gallons of ethanol being blended in 2022.[47,48] EPA admits that it is setting an implied conventional mandate for 2022 that does not accord with its market projections for that year and projects that the shortfall will be made up by drawing down the RIN bank and the blending of advanced biofuels, which EPA believes will be available in excess of that volume standard.[49] If advanced biofuel availability does not meet these projections, the drawdown of the RIN bank will be significant.

Second, the blendwall will limit any potential increase in mid-level ethanol, notwithstanding EPA's stated belief that its approach "may incentivize the continued expansion of the infrastructure necessary to use higher level blends of ethanol, which remains the dominant form of conventional renewable fuel."[50] Presumably the incentive in view for EPA is higher RIN prices, but even very high RIN prices do not appreciably increase ethanol blending overall or mid-level ethanol blend sales or solve the infrastructure issues with higher level blends (see chart below). As EPA recognized in the preamble to the Proposal:

> [T]he RFS program has had limited success in helping to increase the use of higher ethanol blends, and growth in the nationwide average gasoline ethanol concentration has virtually stagnated as the market reached the E10 blendwall. . . . We do not anticipate that growth in the use of higher ethanol blends through 2022 will increase rapidly enough to result in significantly greater volumes of ethanol consumption in the U.S., even with the incentives created by the RFS program standards and other governmental efforts such as Department of Agriculture's (USDA's) Blender Infrastructure Program and Higher Blends Infrastructure Incentive Program.[51]

[46] 15 b.g. plus 250 m.g. for the 2016 Remand.
[47] *See* DRIA at 51, Table 2.1-1 (assessing 2020 ethanol at 13.788 billion gallons).
[48] *See* 86 Fed. Reg. at 72,437-72,438, Table I-1 (20.77 billion total minus 5.77 billion advanced equals 15 billion, plus 250 m.g. from 2016 Remand – 15.25 b.g.).
[49] *Id.* at 72,451/2 ("We acknowledge that the implied conventional renewable fuel volume is higher than the volume of these fuels projected to be consumed in the U.S. in 2022.").
[50] *Id.*
[51] 86 Fed. Reg. at 72,477/3.



Iowa provides periodic data on E0, E10, and mid-level ethanol blends. Even with significant incentives in place to sell mid-level blends, the average ethanol content of gasoline remains below 10 percent there.[52] As EPA acknowledges, the pool of gasoline used in the United States has consistently remained near 10 percent ethanol, and the Agency itself does not expect this to change.[53] Instead, E10 will continue to overwhelmingly dominate the market. Interestingly, EPA observes that E10 would likely be used with no mandate at all given ethanol is a cost-effective source of octane that is compatible with existing infrastructure at that concentration. In other words, the RFS cannot really incent more ethanol, nor is the RFS program necessary for ethanol's continued use. Setting a conventional implied volume at 15.25 billion gallons will serve only to deplete the RIN bank and increase the cost of compliance, not increase ethanol use. Indeed, as EPA acknowledges, the U.S. fuel market has *never* achieved a yearly ethanol consumption of 15 billion gallons (let alone 15.25 b.g. as EPA proposes).[54] It strains credulity to think that this will happen in 2022, when, as EPA rightly notes elsewhere in the Proposal, the U.S. fuel market is still recovering from unprecedented disruption.

Overall blending requirements above the 10 percent blendwall do not significantly incentivize increased use of higher blends such as E15 or E85. This is due in part to persistent infrastructure

[52] AFPM analysis of data from the State of Iowa. *See* Iowa Department of Revenue, Retailers Annual Gallons *available at* https://tax.iowa.gov/report-category/retailers-annual-gallons.

[53] *See* 86 Fed. Reg. at 72,477/3 ("The RFS program has had limited success in helping to increase the use of higher ethanol blends, and growth in the nationwide average gasoline ethanol concentration has virtually stagnated as the market reached the E10 blendwall. . . . We do not anticipate that growth in the use of higher ethanol blends through 2022 will increase rapidly enough to result in significantly greater volumes of ethanol consumption in the U.S., even with the incentives created by the RFS program standards and other governmental efforts such as Department of Agriculture's (USDA's) Blender Infrastructure Program and Higher Blends Infrastructure Incentive Program.").

[54] *See* 86 Fed. Reg. at 72,447/2-3 ("The market has not achieved 15 billion gallons of actual use of conventional renewable fuel in any year in which the RFS standards were based on it.").

challenges, as EPA itself appreciates.[55] When it enacted the RFS statute, Congress did not expect the implied conventional biofuel mandate to go above 10 percent of gasoline consumption. At that time, EIA projected overall gasoline demand to exceed 170 billion gallons in 2022,[56] which would have allowed E10 to easily satisfy the RFS requirement and its implied conventional biofuel mandate of 15 billion gallons, with room to spare for E0 demanded by consumers.

Further, the impacts on RIN prices will far and away exceed any impacts on increased E15 and E85 market penetration. To be sure, the RFS program successfully oversaw the transition of nationwide blending of 10% ethanol into the gasoline pool. Before EPA's requirements reached the blendwall and triggered the blendwall's role as a binding, behavior-driving, price-determinative market factor, D-6 RINs traded below 2 cents.[57] EPA's general, aspirational statements regarding its intent to keep increasing requirements, together with other signals EPA sends that its requirements will not just approach but far exceed the blendwall, as discussed above, are closely correlated to RIN price movements. However, experience shows RIN prices have little correlation to E15 and E85 market penetration, meaning that high RIN prices simply inflict more burdens on obligated parties and consumers and encourage more biofuel imports without furthering the statute's purposes.

Third, if EPA sets an implied conventional biofuel mandate for 2022 significantly above the total amount of ethanol that will be blended in that year, as its own discussion and projections indicate will be the case, it will gravely distort the RIN market. If insufficient D-6 RINs are generated to meet the implied conventional biofuel mandate, the price of D-6 RINs (generated from blending ethanol and only valid for compliance with the total mandate) approach that of typically more expensive D-4 RINs (generated from blending BBD and valid for compliance with either the advanced or total mandate). That would increase the cost of D-6 RINs with no appreciable impact on ethanol blending.

b. **Advanced biofuel mandate**.

EPA has proposed to set advanced biofuel requirements for 2022 at a level higher than 2019 and far higher than its projected domestic production for 2022. That can only mean substantial volumes of biofuel imports. In fact, EPA projects that this will require over a billion RINs of imported biofuels for compliance.[58] According to EPA's RIN Supply Report, this number has grown more than 40 percent since 2018.[59] At the same time, EPA also acknowledges that setting requirements this high will cost consumers

[55] *See id.*
[56] U.S. Energy Information Administration, Annual Energy Outlook 2007: With Projections to 2030 (Feb. 2007), *available at* https://www.eia.gov/outlooks/archive/aeo07/pdf/0383(2007).pdf.
[57] U.S. EPA, RIN Trades and Price Information (last updated Jan. 10, 2022), *available at* https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rin-trades-and-price-information
[58] *See* DRIA at 175-82 & Table 5.2.5-1 (for 2022, projecting biodiesel imports of 240 million gallons/360 million RINs and renewable diesel imports of 380 million gallons/650 million RINs). *See also id.* at 51, Table 2.1-1 (projecting for 2022 161 million RINs of imported sugarcane ethanol, 308 million RINs of imported renewable diesel, and 250 million RINs of "Imported Renewable Diesel to address the Supplemental Standard", for a total of 719 million RINs); "For the purposes of this analysis, [the volume representing the proposed 2022 supplemental standard] is assumed to be supplied as imported conventional renewable diesel.").
[59] Biofuel Supply By Fuel Type (Domestic Production and Imports) 2012-2020. EPA-HQ-OAR-2021-0324–0221, (Mar. 22, 2021). In 2018 the imported compliance figure was just under 700 million RINs.

more than $2 billion.[60] This is because BBD is significantly more expensive than the types of fuel that would be employed in the absence of EPA's proposed requirements for 2022.[61]

Imports of renewable fuel from overseas do not benefit America's rural communities or enhance energy independence, and actually cause increased emissions compared to the alternative of consuming those renewable fuels in the countries where they are produced, three of the six factors that Congress directed EPA to consider when exercising its reset authority.[62] In its preamble analysis of the proposed volumes for 2022, EPA does not address the interplay between its projection of imported advanced renewable fuel volumes and these statutory reset factors. This failure to properly address the statutory factors undermines the rationality of this rulemaking.

EPA appropriately focuses on the status of the RIN bank, but only in the aggregate. Obligated parties, however, must have adequate RINs available for compliance in *each and every* category for each gallon of transportation fuel. TM&C's analysis of the RIN Bank indicates that the D-3, D-4, and D-5 categories are extremely low or already negative – meaning obligated parties (as a group) are short. Setting mandates that are higher than the domestic production of advanced biofuel and relying on a generic RIN Bank to address shortfalls will not help when the RIN bank is overwhelmingly D-6 RINs that cannot be used for compliance with advanced biofuels mandates. Using EPA's biofuel blending projections, the TM&C Report indicates negative RIN balances for the D-3 (2021, 2022), D-5 (2021, 2022), and Total Advanced[63] (2021). The situation is considerably worse if feedstock for biodiesel becomes limiting, as explained in Section III.C.iv.

Million RINs	D3 RINs	D5 RINs	TOTAL Advanced
2021	(95.8)	(676.7)	(388.3)
2022	(100.8)	(1,109.7)	---

c. Cellulosic biofuel mandate.

Historically, cellulosic RINs have been derived overwhelmingly from biogas. EPA overestimates the potential for its 2022 standards to incentivize biogas. EPA's cellulosic mandate exceeds its CAA authority because it fails to take a neutral aim at accuracy, as required by the D.C. Circuit.[64] EPA's

[60] *See* 86 Fed. Reg. at 72,453, Table III.G-1 ("Fuel Costs of the Proposed Volumes") ($2.158 billion excluding supplemental volumes and $2.302 billion including them). *See also* DRIA at 265-66 & Tables 9.4.2-4, 9.4.2-5.
[61] *See* 86 Fed. Reg. at 82,447/1 ("[S]ome of the factors assessed would support lower volumes of advanced biofuel. For instance, as described in Chapter 9 of the DRIA, *the cost of biodiesel and renewable diesel is significantly higher than petroleum-based diesel fuel and is expected to remain so* over the next several years. Even if biodiesel and renewable diesel blends are priced similarly to petroleum diesel at the pump after accounting for the relevant Federal and state incentives (including the RIN value), *society as a whole nevertheless bears their full costs*.") (emphases added).
[62] *See* CAA § 211(*o*)(2)(B)(ii)(I), (II), (VI) (listing factors); *id.* § 211(*o*)(7)(F) (reset rules "shall comply with the processes, criteria, and standards set forth in paragraph (2)(B)(ii)").
[63] D-3, D-4, and D-5 combined.
[64] *See API v. EPA*, 706 F.3d 474, 476 (D.C. Cir. 2013) ("[B]ecause EPA's methodology for making its cellulosic biofuel projection did not take neutral aim at accuracy, it was an unreasonable exercise of agency discretion."); *id.* at 479 ("We do not think the text of § 7545(o)(7)(D)(i) or the general structure of the RFS program supports EPA's

misguided application of its methodology to predict the amount of available cellulosic biofuel leads to a proposed mandate that will require obligated parties to purchase cellulosic waiver credits.

EPA explicitly states that it is proposing to set the 2022 cellulosic volume higher than would be suggested by other statutory factors because it thinks the "potential for GHG benefits," arising from its belief that a higher volume requirement will incentivize increased cellulosic biofuel production, outweighs other statutory factors, including, crucially, "the cost to consumers of transportation fuel."[65] But, as EPA acknowledges, U.S. landfills already typically capture their gas.[66] And in EPA's supporting technical analysis, the Agency tellingly states that it expects little or no new employment in connection with landfill biogas increases. Instead, it expects that, "[s]ince *collection of landfill gas has been required for decades*," these increases "will come from existing biogas already captured and put into natural gas pipeline systems, or from operators upgrading the quality of the biogas they are already capturing for onsite electrical generation or flaring and installing the necessary pipeline interconnect and metering equipment to begin earning credits under the RFS program."[67] EPA's own acknowledgment that biogas capture has long been required under other regulatory authority means that the "potential" additional GHG benefits that will flow from an artificially inflated cellulosic volume mandate are specious. This approach would instead function only as a wealth transfer.

Additionally, EPA should amend its regulations to treat cellulosic waiver credits in the same manner as RINs: cellulosic waiver credits should count towards compliance with the nested obligations (i.e., advanced biofuel and total renewable fuel). EPA has broad authority to issue regulations governing the cellulosic waiver credit program.[68] EPA should amend 40 CFR 80.1456(c)(4) as follows (additions underlined, deletion in strikethrough):

> (4) Cellulosic biofuel waiver credits may ~~only~~ be used to meet an obligated party's cellulosic biofuel RVO, advanced biofuel RVO, and total renewable fuel RVO.

d. **EPA can use reset and the cellulosic waiver.**

AFPM agrees with EPA that its proposed use of its reset authority "does not preclude [its] legal authority to waive volumes under the other waiver authorities . . . . such as the cellulosic waiver authority."[69] Indeed, the statutory triggers for both of these non-discretionary duties have been met in this case. EPA properly acknowledges that the mandatory statutory criteria for reset were met years ago. The reset provision is mandatory: when the reset conditions are met, "the Administrator *shall* promulgate a [reset] rule."[70] The cellulosic waiver provision is likewise mandatory: when the conditions

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decision to adopt a methodology in which the risk of overestimation is set deliberately to outweigh the risk of underestimation."); *id.* at 480 ("Further, the Act's requirement that EPA's projection be 'based on' EIA's estimate similarly implicates an outcome-neutral methodology over an aspirational one. Though we above rejected API's advocacy of apparently near carbon-copy reliance on EIA, EPA's effort to kickstart cellulosic biofuel production does not look like the sort of 'supplemental analysis' in pursuit of the same regulatory objective that we found permissible in *Sierra Club*, 356 F.3d at 306 n. 7, but rather like the adoption of an entirely new goal.").

[65] 86 Fed. Reg. at 72,451/1.

[66] *Id.* at 72,480/1.

[67] DRIA at 202 (emphasis added).

[68] *See* CAA § 211(*o*)(7)(D)(iii).

[69] 86 Fed. Reg. at 72,443/3.

[70] CAA § 211(*o*)(7)(F) (emphasis added). *But see id.* ("[N]o such modification in applicable volumes shall be made for any year before 2016.").

of the cellulosic waiver are met, "the Administrator *shall* reduce the applicable volume of cellulosic biofuel . . . ."[71] EPA thus has a mandatory duty to exercise both its reset authority and its cellulosic waiver authority. As set forth below, this plain statutory language is confirmed by the structure, context, and purpose of the statute, and is further supported by sound policy considerations.

Congress provided two complementary mechanisms for EPA to respond when the volumetric cellulosic tables prove unachievable: the cellulosic waiver and reset. When the predicate for either of these mechanisms is met, this is the evidence that the cellulosic biofuel market has not developed as Congress envisioned. This is precisely why Congress embedded these "safety valve" mechanisms into the RFS statute—and this is the current market reality. These mechanisms were intended in part to protect consumers from negative outcomes if the technology for cellulosic fuel did not materialize. The cellulosic waiver provision in particular contains explicit price protection for consumers, as Congress itself determined that, when EPA's cellulosic waiver authority is triggered, the ensuing cellulosic waiver credits should sell at the higher of $.25 per gallon or the amount by which $3.00 per gallon exceeds the average wholesale price of a gallon of U.S. gasoline, adjusted for inflation.[72] As set forth below, the plain text, structure, and purpose of the reset and cellulosic-waiver provisions, as well as of the RFS statute as a whole, confirm that EPA is correct: The statute's waiver mechanisms, including the cellulosic waiver, are not rendered superfluous or obsolete by EPA's exercise of its reset authority.

First, consider the plain text and structural relationships between the different provisions of the statute. The cellulosic waiver provision on its face applies to "*any* calendar year" for which projected cellulosic production falls under the volume established under paragraph (2)(B). Had Congress wanted to limit the availability of the cellulosic waiver only to circumstances in which EPA does not exercise its reset authority, or only to those years contained on the Congressionally enacted tables, Congress would have done so expressly. 2022 is a calendar year, so EPA must use its cellulosic waiver authority in 2022 under the plain text of the CAA.

This conclusion is not altered by the fact that a separate provision, CAA § 211(*o*)(2)(B)(iv) ("Clause iv"), states that, when "making the determinations in clause [211(*o*)(2)(B)](ii)" ("Clause ii"), EPA shall establish cellulosic volumes "based on the assumption that the Administrator will not need to issue a waiver for such years under" the cellulosic waiver authority. Clause (ii) is *not* the EPA's reset authority. The reset authority is a structurally distinct section of the statute from Clauses (ii) and (iv); it is at CAA § 211(*o*)(7)(F), within paragraph (7), titled "Waivers." The language in Clause iv regarding the proper "assumption" for exercising Clause ii authority therefore has no bearing on the relationship between *reset* and the cellulosic waiver.

Congress used precise and careful language in the reset provision. That provision very specifically directs EPA, in conducting the reset rulemaking, to "comply with the processes, criteria, and standards set forth in paragraph (2)(B)(ii)." Congress did *not* direct EPA to consider Clause (iv) when conducting the reset rulemaking, and EPA cannot infer that Clause (iv) is applicable to its reset rulemaking. Congress could have chosen to incorporate the "assumption" language in Clause iv into the reset provision, as it chose to incorporate the substance of Clause ii. But Congress chose to do

[71] *Id.* § 211(*o*)(7)(D)(i) (emphasis added).
[72] *See* CAA § 211(*o*)(7)(D)(ii).

otherwise, and its choice means that the Clause iv language has no bearing on the interaction between the exercise of reset authority and the continued availability of the cellulosic waiver.

Even if Clause iv did somehow apply, the "assumption" language is just that—an assumption. It is *not* a prohibition on the Administrator determining, based on the record in a particular rulemaking, that the cellulosic waiver is in fact needed. Congress could have flatly said "no cellulosic waiver after reset." It did not. It merely specified the starting *assumption* for the Administrator's analysis under Clause (ii).

Second, the purpose of the cellulosic waiver provision specifically, its relationship to the purpose of the reset authority, and the relationships of the purpose of both provisions to that of the RFS program as a whole, confirm what the plain text and structure already demonstrate: using the reset authority does not preclude using the cellulosic waiver authority. Both authorities are triggered, in essence, by a failure of market reality to accord with the initial table volumes that Congress established when enacting the program.[73] These are complementary tools, not contradictory ones, which Congress deliberately built into the statute to ensure that its own specification of volumes would be calibrated by the EPA's continued attention to evolving market realities.

Congress's careful choice of language in the cellulosic waiver provision confirms this understanding of that provision's role in the statute as a whole and in its interaction with EPA's reset authority. Congress provided that EPA *shall* make cellulosic waiver credits available "[w]henever" the Agency exercises its cellulosic waiver authority.[74] Congress also gave EPA a general and discretionary authority, when the Agency issues regulations to govern its implementation of the cellulosic waiver provision, to include provisions "for such other purposes as the Administrator determines will help achieve the goals of this subsection."[75,76] Congress thus showed special concern both for the mandatory details of the operation of the cellulosic waiver/cellulosic waiver credit mechanism, *and* for EPA's ability to administer that mechanism in a way that furthers the overall functioning of the RFS program as a whole. Because, as discussed above, EPA's exercise of its reset authority is, by Congressional design and plain text, predicated on a drastic shortfall in biofuel availability below Congress's own projections as reflected in the yearly tables, it is especially appropriate that, after exercising its reset authority, EPA continue to have the authority to issue price relief in the form of the cellulosic waiver credit—

[73] *See* CAA § 211(*o*)(7)(D)(i) (Administrator shall exercise cellulosic waiver authority in any year where projects cellulosic volumes less than the volumes established under paragraph (2)(B), which contains the tables), CAA § 211(*o*)(7)(F) (reset authority triggered once the Administrator waives a sufficient percent of the requirements contained in the tables).
[74] *Id.* § 211(*o*)(7)(D)(i).
[75] *Id.* § 211(*o*)(7)(D)(iii).
[76] The cellulosic biofuel market has not matured the way Congress envisioned, with only a tiny proportion of the 16-billion gallon liquid cellulosic biofuel mandate commercially available. In a thin market with few market participants and a guaranteed government mandate, the cellulosic waiver credit provides an important consumer protection mechanism, serving as a price cap on the maximum amount cellulosic producers can effectively charge. In the absence of the cellulosic waiver credit, EPA must set the cellulosic biofuel mandate well below actual production to ensure that cellulosic producers compete for the mandated gallons. If EPA sets the mandate equal to expected production without making the cellulosic waiver credit available, then the marginal price of the highest cost cellulosic biofuel will drive the market.]

particularly in light of the fact that the RIN market is a thinly-traded market subject to an aggressive government mandate.[77]

iv. EPA should ensure the RIN bank balance is healthy.

EPA is right to acknowledge that its proposed 2022 volume requirements have implications for the carryover RIN bank.[78] If the balance of the RIN bank drops too low, it could become difficult or impossible for some obligated parties to comply. This could destabilize the entire RFS program, with grave effects on the fuel industry and the broader economy. While EPA itself rightly acknowledges the crucial role of the RIN bank and the importance of maintaining a healthy RIN bank balance,[79] the 2022 proposed volumes are contrary to these principles. EPA also acknowledges that "were market disruptions to occur with an insufficient carryover RIN bank, it could force the need for a new waiver of the standards, undermining the market certainty so critical to the RFS program." However, it then proposes aspirational volume requirements that create an unacceptable risk of just that scenario coming to pass.

EPA's 2022 proposed volumes will in all likelihood negatively affect RIN liquidity and compliance costs, by depleting the RIN bank below levels that EPA in previous years has been careful to avoid, without an explanation.

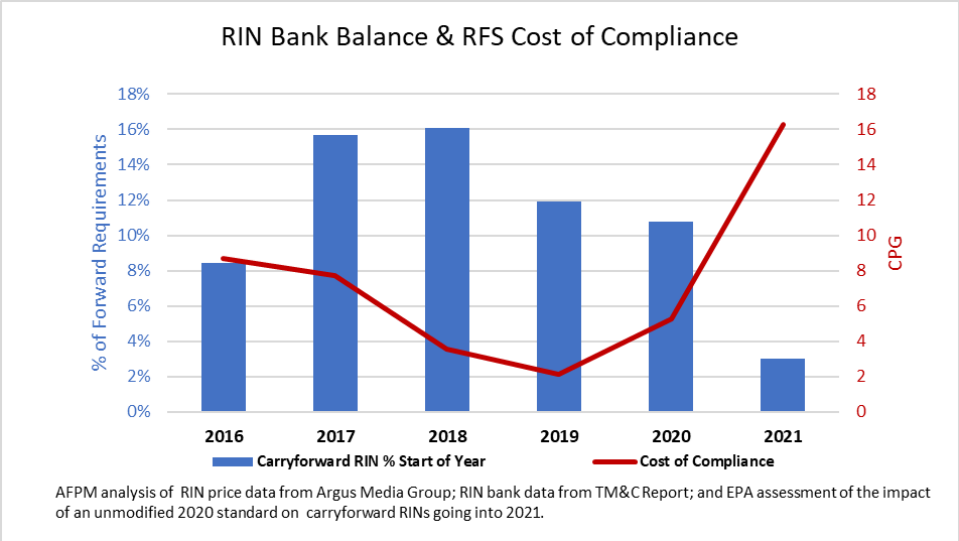
To achieve EPA's stated goal to keep the RIN bank healthy, the Agency should consider the number of RINs in the bank, expressed as a percentage of the volume requirements that it finalizes. EPA's goal should be to maintain this percentage at a level that ensures adequate liquidity. Historical data demonstrates that a RIN Bank balance of approximately 16 percent has provided necessary liquidity in a thinly-traded RIN market. The graph below, which reflects EPA's assessment that an unmodified 2020 standard would reduce the total number of carryover RINs to less than 4% of forward

[77] *Cf. HollyFrontier Cheyenne Refining, LLC v. Renewable Fuels Ass'n*, 141 S. Ct. 2172, 2182 (2021) (discussing general design of RFS program and noting position of small refiners, who prevailed in the case, that "Each year more credits are required. And the price for those credits reflect the famously volatile nature of the fuel market—in one recent year, prices shot up by as much as 100%. Aware of these market realities, the small refineries say, a rational Congress could have created (and did create) a means for small refineries to seek a hardship exemption 'at any time' rather than be forced to exit the market.") (citation omitted). By the same token, it would not be reasonable to interpret the statute to preclude EPA from continuing to use its cellulosic waiver and cellulosic waiver credit authorities to account for market reality even after EPA has exercised its reset authority.

[78] *See* 86 Fed. Reg. at 72,451/3.

[79] *See, e.g.*, 72,454/3 ("Just as the economy as a whole is able to function efficiently when individuals and businesses prudently plan for unforeseen events by maintaining inventories and reserve money accounts, we believe that the RFS program is able to function when sufficient carryover RINs are held in reserve for potential use by the RIN holders themselves, or for possible sale to others that may not have established their own carryover RIN reserves. Were there to be too few RINs in reserve, then even minor disruptions causing shortfalls in renewable fuel production or distribution, or higher than expected transportation fuel demand (requiring greater volumes of renewable fuel to comply with the percentage standards that apply to all volumes of transportation fuel, including the unexpected volumes) could result in deficits and/or noncompliance by parties without RIN reserves. Because carryover RINs are individually and unequally held by market participants, a small RIN bank may negatively impact the RIN market, even where the market overall could satisfy the standards."); *id.* at 72,453/3-72,455/1 ("[The collective carryover RIN bank provides a necessary programmatic buffer that both facilitates individual compliance, provides for smooth overall functioning of the program to the benefit of all market participants, and is consistent with the statutory provision allowing for the generation and use of credits.").

requirements, shows that RIN prices began spiking upwards as the actual and anticipated supply of carryforward RINs decreased.[80]



When viewed in this light, the RIN bank is near an all-time low going into the 2022 compliance cycle. (This supports why AFPM believes that EPA, when finalizing the 2021 and 2022 standards, must do so based on its best estimate at the time of finalization of *actual* production levels in 2021 and 2022 year-to-date.)

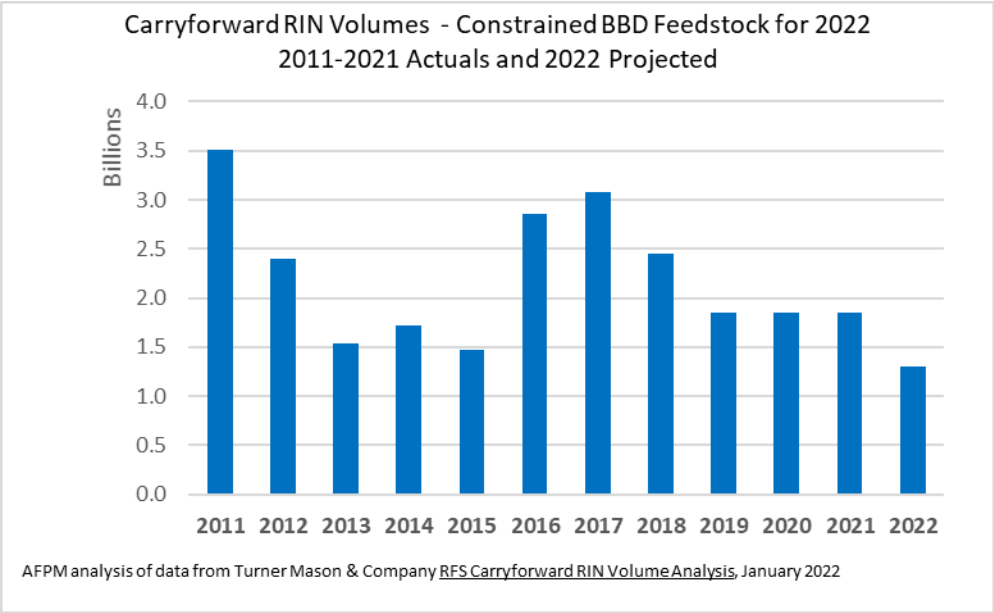
If EPA is wrong about its projected increases in BBD volumes, the RIN bank will be significantly depleted. EPA is projecting that domestic renewable diesel (RD) production will more than double in one year while biodiesel production remains flat.[81] TM&C undertook a sensitivity analysis that estimated potential feedstock effects from this massive, one-year increase. Building on comments by Dr. Scott Irwin, a prominent biofuel analyst,[82] TM&C ran a scenario where 50% of the additional feedstock required to produce RD would be diverted from biodiesel feedstocks, reducing biodiesel production commensurately. Under this scenario, carryforward RINs would be reduced by 540 million, a 31% reduction in total renewable fuel carryforward RIN volume, and a 57% reduction in the advanced

[80] See 86 Fed. Reg. at 72,449 (EPA's assessment of the impact of an unmodified 2020 standard on carryforward RINs going into 2021.)

[81] Renewable diesel imports also increased from 176 m.g. (2018) to 330 m.g. (2021) to 380 m.g. (2022). *See* DRIA at 178, Table 5.2.5-1. EPA shows an increase from 282 m.g. (2018) to 770 m.g. (2021) to 1,590 m.g. (2022) while biodiesel stays the same from 2021 to 2022 at 1,780 m.g..

[82] See TM&C Report, Section 4.2. for discussion of Dr. Irwin's comments at a recent Chicago Federal Reserve Bank Agricultural Conference on November 30, 2021.

category, from 948.7 million RINs to 409.2 million RINs.[83] This would mean the RIN carryforward balance on an absolute basis and as a percentage of forward requirements would be the lowest ever.[84]



In the absence of an adequate RIN bank, RIN prices are subject to increased volatility based on news events, EPA staff comments, and other market events.

v. Cellulosic carryforward RINs are not production.

EPA requests comments on its longstanding interpretation of CAA § 211(o)(7)(D)(i).[85] Under that interpretation, EPA does not consider cellulosic carryover RINs when determining the "projected volume available during [the] calendar year."[86] Projected volume can only be properly understood as the volume of qualifying cellulosic biofuel projected to be produced or imported and available for use as transportation fuel in the United States in the calendar year in question. EPA now purports to identify ambiguity in this term because it does not "directly address the topic of carryover RINs" or the statutory basis for the RIN program in CAA § 211(o)(5). EPA provides no rationale for treating cellulosic carryforward RINs differently than other categories of biofuel. Drawing the cellulosic RIN bank down to zero serves no purpose and will increase programmatic costs.

The text of the RIN program provision, read in conjunction with the text of the cellulosic waiver provision, precludes any purported ambiguity. The cellulosic waiver is triggered "[f]or any calendar year for which the projected volume of cellulosic biofuel *production* is less than the minimum applicable volume established under paragraph (2)(B) as determined by the Administrator based on the estimate

[83] TM&C Report, pp. 24-25. Reduction from 1,845.8 million RINs to 1,306.2 million RINs
[84] *Id.* This is compared with a base case that reflects EPA's currently proposed renewable fuel standards for years 2020, 2021, and 2022 and updated for fossil fuel consumption and renewable fuel production/use based on data from the EIA.
[85] *See* 72,455/3 (soliciting comment on this issue).
[86] *Id.*

provided under paragraph (3)(A)."[87] Carryover RINs from previous years are neither "production," nor are they "for" the calendar year for which the waiver is triggered.[88] Carryover RINs from a *previous* year are therefore irrelevant to the Administrator's determination of what will be *produced* for the subsequent year under analysis for purposes of the cellulosic waiver based on "the estimate provided under paragraph (3)(A)," which is an estimate from EIA *with respect to the following calendar year*"[89] (*i.e.*, the "any calendar year" whose cellulosic production the Administrator determines for purposes of the cellulosic waiver), of fuel volumes projected to be sold or introduced into commerce in the United States.

vi. Recommended 2022 approach.

When EPA finalizes the 2022 volume requirements, for the considerable portion of 2022 for which those requirements will operate in a purely retroactive fashion, EPA should finalize volume requirements for all categories of renewable fuel at its best estimate of actual production levels for the year-to-date and the 30 days following the publication of the final rule in the *Federal Register*. This represents the minimum period in which the rule's effects will begin to take hold prospectively. Markets take time to react. Business decisionmakers will need to read the published final rule, survey their position, and execute contracts.

For the remaining months of the 2022 EPA compliance year, EPA should finalize volumes for the various categories of renewable fuel as follows:

For *the implied conventional biofuel* requirement, EPA should finalize it at 10 percent of its estimate of the total gasoline supply for the applicable portion of 2022. This will align with Congress's intent that the implied-conventional requirement not exceed 10 percent of the total gasoline supply, and will ensure that the blendwall is not exceeded, as discussed above. Avoiding an exceedance of the blendwall will also appropriately take account of the statutory reset factor directing consideration of the program's impact on the cost to consumers of consumer fuel and on the cost to transport goods.

For the *cellulosic biofuel* requirement, EPA must exercise its cellulosic waiver and reset authorities and make the cellulosic waiver credit available. It should waive the cellulosic volume from the statutory level to the level that will be achieved by actual production in 2022. And it should use its

[87] CAA § 211(*o*)(7)(D)(i) (emphasis added).

[88] Those who would advocate that EPA should, or even can, include carryover credits within the "projected volume available" misconstrue the statute. They conflate the term "volume" with "credit," but these are structurally and functionally distinct aspects of the statutory scheme. The RIN provision contemplates that "credits" are generated by the refining, blending, or importing of "gasoline that contains a *quantity* of renewable fuel that is greater than the quantity required under paragraph (2)." (Emphasis added.) As designed by Congress and implemented by EPA, the RFS program has always distinguished between *volumes and quantities* of renewable fuel produced, and the cellulosic biofuel *credits* that are generated thereby. In the original version of the statute, as enacted in the Energy Policy Act of 2005, Congress directed credit generation at a 2.5 multiplier from produced levels of cellulosic biofuel. This original statutory direction was phased out, and EPA subsequently established a 1.7 multiplier in its implementing regulations. *See, e.g.*, 72 Fed. Reg. 23,900, 23,917/1 (May 1, 2007) (RFS 1 final rule) (discussing 2.5 multiplier); 75 Fed. Reg. 14,670, 14,709, 14,740/3 (Mar. 26, 2010) (RFS2 final rule) (discussing history of credit multiplier, new 1.7 multiplier). The amount of fuel produced and the credits connected to that amount are simply not fungible, and for EPA to abandon its longstanding position and attempt to treat them as such by lumping carryover credits in with the projection of the quantity to be produced would violate the text, structure, and purpose of the statute.

[89] CAA § 211(*o*)(3)(A) (emphasis added).

reset authority to set the cellulosic standard at a level just below its estimate of 2022 production. Doing so will ensure that producers compete for market share among the guaranteed volume and ensure that consumers are not burdened by cellulosic biofuel that is only available at exorbitant prices. This approach is the only way to give full life to the fifth statutory factor that Congress established to govern EPA's reset authority, which requires EPA to consider "the cost to consumers of transportation fuel."[90] While the issuance of the cellulosic waiver credit is a non-discretionary duty, in its absence the Agency would be forced to use its reset authority to set cellulosic biofuel requirements at a level well below actual production to ensure that the marginal price of cellulosic biofuel does not unacceptably impact consumer cost, which would be uncapped.

EPA should set *the BBD* requirement at 1 billion gallons for all of 2022, in line with Congress's statutory direction that this is the appropriate minimum level of this requirement in the years after the Congressional tables for BBD expire.[91] This will allow the domestic BBD industry to compete for market share, in line with Congress's intent in reinstating the biodiesel tax credit.[92] EPA should not incentivize foreign-produced BBD, which would not further Congress's intent in enacting the RFS program generally or the biodiesel tax credit in particular, and will increase GHG emissions relative to consuming these fuels where they are produced.

For the *advanced biofuels* requirement, EPA should set this equal to the sum of the cellulosic biofuel requirement, the BBD requirement, and such other cost-effective, domestically produced advanced biofuels as EPA projects will be produced and available in the *domestic* market.

D. Supplemental mandate (2016 Remand).

AFPM opposes EPA's proposal to add 250 million gallons as a "supplemental volume" to its 2022 proposed volume, as well as its stated intent to do the same for 2023 in a subsequent action, in response to the remand of the 2016 rule resulting from the D.C. Circuit's opinion in *Americans for Clean Energy v. EPA*, 864 F.3d 691 (2017).[93] The D.C. Circuit did not compel this response, which will harm consumers and obligated parties.

EPA projects these additional mandated volumes will be met entirely with BBD imports.[94] This does not align with EPA's intent in the 2016 rule, nor with Congress's overarching intent that the RFS program be implemented to promote American energy security. EPA elsewhere suggests that, even if it's wrong that enough fuel (albeit imported) will be available to satisfy the supplemental mandate, further drawdown of the RIN bank will fill the gap.[95] Neither of these are appropriate paths in

[90] CAA § 211(*o*)(2)(B)(ii)(V).
[91] *See* CAA § 211(*o*)(2)(B)(v).
[92] *See generally* EIA, Today in Energy: U.S. biomass-based diesel tax credit renewed through 2022 in government spending bill (Jan. 28, 2022), *available at* https://www.eia.gov/todayinenergy/detail.php?id=42616#:~:text=January%2028%2C%202020-,U.S.%20biomass%2Dbased%20diesel%20tax%20credit%20renewed,2022%20in%20government%20spending%20bill&text=In%20its%20current%20form%2C%20qualified,in%20a%20trade%20or%20business.
[93] *See* 86 Fed. Reg. at 72,439/2; *id.* at 72,457/3-72,460/2.
[94] DRIA at 51 & Table 2.1-1.
[95] In addition to EPA's import analysis, as cited in the preceding footnotes, *see also* 86 Fed. Reg. at 72,459/2 ("If [the 2022 supplemental volume] cannot be fully met through the supply of additional renewable fuel volumes in 2022, it could be met through a drawdown of the carryover RIN bank.").

responding to the 2016 Remand, for reasons discussed in these comments, and as EPA noted in the 2020 RFS rulemaking,[96] and EPA at other times in its Proposal professes to understand.

Adding a supplemental mandate of 500 million gallons is not required by the court's remand.[97] The court held that EPA erred in its interpretation and application of the general waiver, in its "inadequate domestic supply" prong. It did *not* direct EPA to add 500 million gallons to its standards for 2016, let alone for any subsequent year; nor does the CAA provide EPA with the authority to add "supplemental" volumes to 2022 and 2023. To comply with the court's remand, EPA should recognize that there is no action that it could take to incentive more production in 2016 since the year is over and clarify that it will not issue demand-based waiver determination based on a finding of inadequate domestic supply going forward. Alternatively, as discussed in more detail below, it should exercise the full extent of its cellulosic waiver authority for 2016 and reduce the advance and total obligations as originally intended in 2016.

EPA's proposed supplemental volume is in direct opposition to EPA's original intent to waive the volumes based on the prevailing conditions in 2016 and puts unnecessary pressure on the RIN bank and therefore RIN prices.

The "supplemental volume" approach does not further the purposes of the RFS program. Most obviously, it cannot incentivize more biofuel blending in 2016, as that year ended more than 5 years ago. Adding this supplemental volume to the already high volumes in 2022 may cause more harm than it would have in 2016. EPA's analysis of the supplemental fails to grapple with this aspect of the problem.[98]

EPA admits the supplemental volume would be met with imported biofuel or the RIN bank. The supplemental volume will therefore impose upward pressure on RIN prices with no concomitant benefit to domestic producers. To the extent EPA believes compliance with the supplemental obligation would draw down the carryover RIN bank, we refer EPA to footnote 79. We also note that this result would be inconsistent with Agency's rationale supporting the proposed modifications to the 2020 standards, which are designed to preserve an adequate carryover RIN bank.[99]

EPA elsewhere in this Proposal acknowledges that actions taken after a compliance year has ended cannot incentivize more blending in that year, as discussed above. But it does *not* discuss this aspect of the problem in its analysis of how to respond to the remand. This inconsistency undermines the rationality of its proposed response to the remand.

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[96] *See* 84 Fed. Reg. at 36,788.

[97] *See DHS v. Regents of Univ. of Calif.*, 140 S. Ct. 1891, 1908 (2020) (an agency on remand can deal with the problem afresh by taking new agency action. An agency taking this route is not limited to its prior reasons but must comply with the procedural requirements for new agency action.") (internal quotation marks and citations omitted); *Heartland Regional Medical Center v. Leavitt,* 415 F.3d 24, 29-30 (D.C. Cir. 2005) ("[T]he usual rule is that, with or without vacatur, an agency that cures a problem identified by a court is free to reinstate the original result on remand.").

[98] If EPA moves forward with implementation of the supplemental obligation, it should use its reset authority to ensure that the total RVO for conventional biofuel be no greater than the amount of actual and projected ethanol usage in 2022, *including the supplemental obligation*.

[99] EPA views the prospect of the RIN bank being drawn down to 630 million RINs by compliance with the 2020 volumes in the absence of further relief as a "drastic reduction" that would unacceptably impair RIN liquidity and injure obligated parties. *See* 86 Fed. Reg. at 72, 449/2, 72,457/1-2.

EPA's failure to address the impossibility of a supplemental standard now to affect behavior in 2016 highlights another flaw in its proposed approach: It is not compatible with the design of the RFS statute. Under the statute, EPA is supposed to set annual volume requirements and percentage standards based on careful consideration of existing market and other factors at the time of rulemaking, and on its projection of the state of the world in the year to which the standard will apply. The rulemaking addressed in *Americans for Clean Energy* conducted this analysis with respect to factors during the rulemaking conducted in 2015, featuring projections for 2016.[100] For EPA merely to take the entire volume at issue in the remand, break it into two halves, and add the first half as "supplemental" to the proposed volumes in *this* rulemaking, is arbitrary and capricious agency action. It rewrites EPA's intentions for 2016 and has inequitable impacts that could deprive current obligated parties of due process, which—given background market changes and the exit and entry of parties from the industry—is not identical to the set of obligated parties originally subject to the 2016 rule, and which in any event cannot justly be burdened now for EPA's errors in the 2016 rulemaking. These parties were never on notice that Agency errors in a given year could result in new regulatory burdens years later with no basis in the statutory text.

In essence, EPA seems to view the situation as akin to an order of specific performance: Joe stole Sue's cow, and so Joe is now ordered to return Sue's cow to her. But this framework is completely inapposite to the actual statutory framework and policy problem that EPA faces. The RFS program in its overall architecture and specific features proceeds annually, based on a consideration of current and projected market conditions for a particular year, and an overall goal of careful stepwise increases in volume requirements. This scheme simply has no place for a capricious insertion of hundreds of millions of gallons in volume requirements, burdening current obligated parties and consumers, based on *EPA's* error in rationalizing its approach in the 2016 rulemaking.

Fortunately, there are better options available to EPA to address the court's remand. *First*, EPA should use its statutory authority to lower the total renewable fuel standard for 2016 by the full amount of the cellulosic waiver authority that it exercised in the 2016 rule.[101] This would account for 380 million of the total 500 million gallons at issue in the 2016 Remand, [102] or 190 million of each of EPA's planned 250-million-gallon supplemental mandates in 2022 and 2023. This approach would also allow EPA to address the 2016 Remand consistent with its original determination and intent in the 2016 rulemaking, based on its determination of what volumes were achievable at that time.[103] For EPA instead to propose a supplemental standard of hundreds of millions of gallons for 2022 (and another promised for 2023) ignores EPA's contemporaneous decisions based on the state of the market going into 2016,[104]

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[100] 80 Fed. Reg. at 33,101-33,102.

[101] CAA § 211(*o*)(7)(D)(i) ("For any calendar year in which the Administrator makes such a reduction [using the cellulosic waiver authority], the Administrator may also reduce the applicable volume of renewable fuel and advanced biofuels requirement established under paragraph (2)(B) by the same or a lesser volume.").

[102] *See* 84 Fed. Reg. at 36, 762, 36,788 (July 29, 2019) (2020 RFS rule proposal) (EPA exercised cellulosic waiver authority in 2016 rulemaking to lower cellulosic volume requirement by 4.02 billion gallons, but only reduced advanced and total biofuel volume requirements by 3.64 billion gallons, leaving 380 million gallons available for further reductions under EPA's statutory authority).

[103] *See, e.g.*, 80 Fed. Reg. 77,420, 77,422/3-77,423/1 (Dec. 14, 2015) (final omnibus rulemaking including 2016 rule) ("[W]e have considered the ability of the market to respond to the standards we set when we assessed the amount of renewable fuel that can be supplied.").

[104] *See, e.g.*, CAA § 211(*o*)(3)(A), (B)(i) (EPA to base annual volume requirements on EIA projections for the year in question).

arbitrarily imposing a new obligation for a compliance year 6 years after that for which it originally conducted the proper inquiry under the statute.

Second, EPA could also exercise its general-waiver authority under CAA § 211(*o*)(7)(A). The predicate for that authority of inadequate domestic supply obtains here. EPA may exercise the general waiver authority after providing public notice and opportunity for comment if, among other scenarios, "there is an inadequate domestic supply."[105] Here, there is *no* supply of 2016-produced biofuel, or RINs associated with that years' biofuel production, available for compliance with the 2016 rule. EPA could therefore invoke its general waiver authority to respond to the 2016 Remand, instead of or in conjunction with exercising the full extent of its cellulosic waiver authority, as suggested above.

IV. Proposed Non-Volume Comments.

A. Percentage Standards for BBD.

AFPM supports EPA's proposal to amend the percentage standard formula for BBD by replacing the factor of 1.5 with a factor of 1.55.[106] This revised factor better aligns with the growing percentage of renewable diesel within the BBD category.

B. Small Refinery Exemption (SRE) petitions.

In parallel to these comments on the Proposal, AFPM is submitting comments on EPA's separate proposal to deny all pending SRE petitions.[107] Here, AFPM summarizes its position with respect to that proposed blanket denial and discusses the interplay between the SRE program and the broader program and this Proposal.

EPA's conclusion in the proposed blanket denial of all pending SRE applications—that *all* RIN costs are recovered by *all* obligated parties at *all* of the 1,500 petroleum racks—rests on unfounded assumptions of complete transparency and perfect competition at all of these locations between all market participants. This is not the case. Data based on the average wholesale prices posted at selected petroleum racks is not an adequate substitute for understanding the actual prices negotiated between individual parties, and may not reflect discounts required based on market power or other factors at individual racks where a small refiner may conduct business.

EPA must analyze each SRE petition on its merits and should not prejudge whether small refineries can demonstrate disproportionate economic harm based on theories that are contradicted in the real world. Congress clearly designed the SRE program, at this stage of its implementation, to be conducted by EPA considering individual small refineries' situations in their applications for an extension of an exemption. EPA's proposed approach conflicts with Congressional intent.

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[105] *Id.* § 211(*o*)(7)(A)(ii).

[106] 86 Fed. Reg. at 72,475/2 ("we believe that the average Equivalence Value for BBD is likely to be at least 1.55.").

[107] *See* 86 Fed. Reg. 70,999 (Dec. 14, 2021). *See also* American Fuel & Petrochemical Manufacturers, Comment Letter on Proposed Notice of Opportunity To Comment on Proposed Denial of Petitions for Small Refinery Exemptions (Feb. 7, 2022); American Fuel & Petrochemical Manufacturers, Comment Letter on Proposed Notice of Opportunity To Comment on Proposed Denial of Petitions for Small Refinery Exemptions; Notice Regarding Remand of 2018 RFS Small Refinery Exemption Decision (Feb. 7, 2022).

EPA is right to note that reallocation is particularly infeasible for 2020,[108] and the same is true for 2021. Compliance with a standard artificially swollen by reallocation could only come from the RIN bank, which, as discussed elsewhere in these comments, is crucial to the functioning of the program and the stability of the fuel industry.

C. e-RINs.

AFPM agrees with EPA's decision to further study the e-RIN concept.

AFPM does not believe there is a feasible way to ensure RIN validity in the e-RIN pathway within the RFS program. Electricity generation from biogas involves several parties along the various stages of the process. It is a much more complex procedure than other renewable fuel pathways currently within the scope of the RFS program. There is great controversy and confusion over which party should initially generate the e-RIN: an electric utility burning biogas, the landfill or digester that produces the biogas, the original equipment manufacturer that makes EVs, the charging station, or the EV owner? The variety of potential RIN generators and others in the supply chain accentuates the risk of double-counting, which is antithetical to the RFS program that depends on clear allocation. EPA must also resolve whether and how energy losses should be accounted for in the RIN volumes. Capturing, cleaning, compressing and converting biogas to electrical energy, and transmitting electricity, all incur losses. In addition, EPA must consider that in the real world, EVs consume more electricity than EPA's test methods reflect, meaning that electricity generated by biogas should generate fewer RINs. E-RINs should be held to the same validity requirements as other RIN types, and any fuel economy tests should be performed on equal footing with internal combustion engines.

D. Biointermediates.

AFPM supports EPA's proposed treatment of biointermediates. We incorporate by reference and refer EPA to comments AFPM filed jointly with API on February 16, 2017 on the REGS proposal, docketed as EPA-HQ-OAR-2016-0041-0244. We have attached these comments (with a discussion of biointermediates on pages 1-2) in Appendix 2.

AFPM offers the following additional comments with respect to the discussion of biointermediates in this Proposal.

First, AFPM is concerned with EPA's re-proposal of Method B as the sole testing method to be allowed for determining RIN volume (Vrin) for co-processed fuels produced from biointermediates. This method may be impossible or impractically expensive due to laboratory limitations. Method A should therefore also be an allowable test method.

Second, AFPM supports EPA's proposal for an independent third-party QAP for the bio intermediate producers and renewable fuel producers.

E. Public Access to Information.

EPA should continue to treat as Confidential Business Information (CBI) the highly sensitive information that it proposes to release to the public. Even assuming that the Supreme Court's *Argus Leader* test calls into question the confidential treatment of business records without assurance that the

[108] *See* 86 Fed. Reg. at 72,449/1.

government will maintain confidentiality,[109] general statements of intent to divulge information cannot provide specific notice to particular parties that their confidential information is at risk of being publicly divulged, particularly where doing so would disturb settled expectations and depart from longstanding agency practice. If EPA insists on finalizing this aspect of the Proposal, it should at the very least adopt a policy under which it will only release this information to the public after it takes final action on an individual party's case—for instance, when it rules on an individual SRE petition or when a court rules that EPA proved a violation.

V. Conclusion.

AFPM commends EPA for re-opening its 2020 RFS requirements. EPA is right to address the severe disruption in fuel markets caused by the global COVID-19 pandemic. The Proposal's approach regarding 2020 is an appropriate exercise of EPA's statutory authority and policy judgment to take account of these unprecedented circumstances by providing relief. The Proposal for 2021 appropriately sets volumes at actual levels as well; since 2021 is now over, this is the only equitable approach.

Unfortunately, EPA's proposed volume mandates for 2022, the highest ever, are unrealistic. They will increase compliance costs, harm obligated parties, harm the fuel industry's highly unionized workforce, and harm consumers. Because the 2022 standards will not be finalized until well into 2022, and quite likely not until the second half of that year, EPA should set final 2022 levels in accordance with actual year-to-date levels through the finalization date. For the remainder of the year, EPA should set volumes at requirements that can be achieved under the ethanol blendwall and advanced biofuels at expected domestic production.

AFPM strongly opposes EPA's proposed supplemental mandate of 250 million gallons, and its intent to match this for 2023, in response to the D.C. Circuit's 2017 remand of the 2016 RFS rule. EPA has better alternatives available to it, including using its cellulosic waiver authority—or its general waiver authority, since there is no supply of 2016 biofuel remaining, nor are 2016 RINs available for compliance.

Lastly, AFPM strongly opposes EPA's declared intent to eviscerate the Congressionally instituted and Supreme Court-affirmed SRE program for reasons explained in these comments and in docket EPA-HQ-OAR-2021–0566.

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[109] *But see* 86 Fed. Reg. at 72,477 (acknowledging that the Court "did not address" this question).

Appendix 1

RFS Carryforward RIN Volume Analysis

January 2022

Acknowledgements

This study was conducted by Turner, Mason & Company, an energy consulting firm which provides technical, commercial, and strategic consulting services to clients globally in the crude oil, midstream, refining, refined products, and biofuel industries.

This study was conducted for the American Fuel & Petrochemical Manufacturers (AFPM) association. A special thank you to Tim Hogan of AFPM for providing very valuable comments and advice in the preparation of this work.

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Disclaimer

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Contents

1.0 Executive Summary

With the COVID-19 pandemic impacting energy and the uncertainty around the small refinery exemption reallocation policy, complying with the 2020 RFS requirements, was more difficult than projected. The pandemic carried forward into 2021 and obligated parties were again forced to operate without understanding the compliance requirements since the renewable fuel volume standards were not proposed until December 2021.

In anticipation of a late proposed rule updating the 2020 standards and setting 2021 and 2022 standards, Turner Mason & Company (TM&C) was engaged by the American Fuel & Petrochemical Manufacturers (AFPM) to develop a model to evaluate the Renewable Fuel Standard (RFS) carryforward RIN volumes for past, current, and future years. The model was validated by comparing against the United States Environmental Protection Agency (EPA) RIN analyses from 2018 through 2022, as provided by the Agency within the rulemaking dockets and was found to be in good agreement. TM&C's model uses the current publicly available data for both fossil fuel consumption and renewable fuel production and use.

In the December 2021 Notice of Proposed Rulemaking (NPRM), the Agency proposed to revise the volumes for 2020 to actuals. In addition, the 2021 volumes were proposed at projected actuals by year's end. For 2022, the Agency's intent was to propose volumes which would revert to historical norms with growth, yet not facilitate a draw down in the volume of 2022 carryforward RINs. In addition, half of the court-ordered remand from 2016 was incorporated in 2022's volumes with the remaining intended for 2023's rulemaking.

In this study, TM&C uses the EPA's currently proposed renewable fuel standards for years 2020, 2021, and 2022 as its Base Case along with up-to-date fossil fuel consumption and renewable fuel production and use data for 2020 and 2021 based on data from the U.S. Energy Information Administration (EIA). TM&C has based all model calculations on the EIA's October Short Term Energy Outlook (STEO) dataset whereas EPA in the NPRM used the May STEO data. EPA has indicated it will also update its calculations using the most current dataset.

With the more current dataset, the model calculates the actual RINs generated and available for compliance through October 2021 to be less than the volume of RINs projected by the Agency in the NPRM. This shortfall is masked by the 2021 total renewable fuel carryforward RIN volume which remains essentially flat at 1.87 B gallons as intended by the Agency, because of abundance of D6 RINs. However, examination of the individual cellulosic and advanced biofuel obligations show a deficit in both categories. The actual volume of cellulosic biofuel produced resulted in a volume of RINs less than the obligation proposed by 128 M gallons. Therefore, obligated parties, as a whole, will be expected to purchase cellulosic waiver credits and additional advanced biofuel RINs for 2021 to satisfy part of the proposed obligation. A similar observation is noted in the advanced biofuel (AB) category where the volume of available advanced biofuel RINs is less than the obligation by 436 M gallons. Due to the nesting of RIN obligations, obligated parties can purchase

additional biomass-based diesel D4 RINs to satisfy the advanced biofuel category; however, even with the carryforward of 2020 RINs, there will not be adequate advanced biofuel RINs to cover the advanced biofuel obligation. The total deficit of advanced biofuel RINs is calculated to be 388 M gallons.

After identifying the significant difference between the EPA's estimated and actual renewable fuel use for 2021, Case 1 models the necessary adjustments to the renewable fuel volumes and percentage standards to achieve the objectives stated by EPA in the NPRM: 1) actualize the renewable fuel production for 2020 and 2021, and 2) hold the carryforward RIN volumes constant from 2019 into 2020, 2021, and 2022 for cellulosic, biomass-based diesel, advanced biofuel and total renewable fuel. After actualizing the data for 2020 and 2021 renewable fuel production volumes, the renewable fuel standards were recalculated resulting in a decline of 128M, 436M, and 95M energy equivalent gallons for cellulosic biofuel, advanced biofuel, and total renewable fuel, respectively. This reduction resolves the cellulosic and advanced biofuel deficit which was identified in the Base Case. For 2022, the RFS volume standards were adjusted to hold the 2019 total renewable fuel carryforward RIN volume (1.85 B gallons) through 2022, which was stated as the intent of the Agency in the NPRM.

Using this updated case, an additional sensitivity was assessed where the carryforward RIN volume response if feedstock is constrained in production of biodiesel because of increased production of renewable diesel (RD). The outcomes from the analyses are summarized in Section 4 of the report as Case 2.

Case 2 considers the impact on the carryforward RIN volume if biodiesel feedstock supplies are constrained upon the anticipated fast-paced growth of RD production. To model this, the RD volume has been allowed to grow at the EPA-projected trajectory while the biodiesel production is reduced by 50% of the RD growth. This would result in an overall reduction of 2022 advanced biofuel and total renewable fuel carryforward RINs of approximately 540M, a reduction of 29% from Case 1.

This study has revealed the need for EPA to make small adjustments in the 2021 RFS Standards to align with their intended goal of reflecting actual usage. Without these adjustments, there will be an unintended drawdown of cellulosic and advanced biofuel carryover RINs, and obligated parties as a whole will be in a deficit situation with both the cellulosic and advance biofuel mandates. This will have the negative effect of decreasing the 2022 carryforward RIN volume. EPA has recognized the critical nature of the carryforward RIN volume in maintaining a stabilized RFS program. As described above, these realistic stress cases illustrate how changes in the standard setting process and inaccurate projections can significantly change the carryforward RIN volumes.

2.0 TM&C Carryforward RIN Volume Model Summary

For purposes of this report, the terminology "carryforward" will be used versus carryover or RIN bank. The carryforward RIN volume (i.e. 2019) refers to the volume of RINs remaining, after compliance is satisfied for the respective compliance year (i.e. 2019), which will be carried forward to the next compliance year (i.e. 2020).

2.1 Model Basis

2.1.1 Methodology

Over the years, TM&C has used an internal model to assess the available carryforward RIN volume and compare the calculation versus the volume stated by EPA. In September 2021, TM&C was engaged by AFPM to assist in assessing the state of the current RFS carryforward RIN volumes. As part of this project, TM&C's prior model was modified to provide for the capability to assess the volume of carryforward RINs from 2019 through 2022.

The model was restructured off EPA's memorandum, "Carryover RIN Bank Calculations for 2019 NPRM" [1], available in the 2018 docket, to allow one to easily compare model outputs against historical and future rulemakings. In addition, the model now provides for multivariable inputs allowing the user the flexibility to perform sensitivity analysis of various key variables and potential regulatory actions by EPA.

The key inputs to the model are as follows: 1) petroleum consumption volumes (gasoline and diesel fuel), 2) renewable fuel blended into transportation fuel (primarily ethanol and biomass-based diesel), and 3) renewable fuel production (RINs generated from approved EPA fuel pathways including imports / excluding exports). Each key input has the ability for the user to use historical data or provide projections for future years.

The petroleum consumption volumes come from the Energy Information Administration's (EIA's) Short-Term Energy Outlook (STEO) for actual volumes through the current year plus 12 months forward, the EIA's Annual Energy Outlook (AEO) for future projections, and EIA's State Energy Data System (SEDS) for actual consumption in Alaska. The EIA October 2021 STEO[2] data file was used within the most recent update to the model, and the EIA SEDS data file for Alaska consumption was from June 25, 2021[3]. According to EPA's recent NPRM, the Agency intends to use the latest EIA dataset when updating for the final rule.

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[1] EPA. (2018). Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020. Retrieved from Docket EPA-HQ-OAR-2018-0167: https://www.regulations.gov/docket/EPA-HQ-OAR-2018-0167

[2] EIA. (2021, STEO, October). EIA Short-term Energy Outlook. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/outlooks/steo/

[3] EIA. (2021, SEDS, June 25). State Energy Data System, Alaska. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=AK

The actual renewable fuel production volumes used within the model were obtained from the EPA public data website[4]. The data sets were incorporated into the model in such a manner which provides for ease with updating routinely. This provides a user insight into the current projected carryforward RIN volume at any point in time. The most recent model update was based off EPA's October 2021 data files with volume projections made for the remainder of the year (November and December). TM&C continues to compare the actual 2021 data reported on the EPA public data website against the October 2021 data file, confirming the decision to hold with the October data file for this analysis. Again, EPA intends to actualize the data and renewable standards for 2021.

The model was also structured to provide a historical understanding of the renewable fuel volume produced per fuel pathway category with the capability to adjust projections depending upon the user's point of view.

The key output of the model is the carryforward RINs for each compliance year as well as the carryforward RIN percentage broken out by cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel.

A team of individuals spent multiple weeks vetting the model and evaluating the key assumptions. Once EPA's memorandum, "Carryover RIN Bank Calculations for 2020-2022 Proposed Rule" [5] was made available in the docket, the model's key assumptions were fine tuned to match those made by the Agency. As stated previously, the model data sets for the petroleum consumption and renewable fuel blended are from EIA's October STEO datafile, while the EPA's calculations referenced the May 2021 data set. We anticipate when EPA updates their dataset with the October information, the TM&C model output and EPA's output will be aligned.

2.2 Key Assumptions

2.2.1 Petroleum Fuel Consumption – Gasoline and Diesel

EIA STEO data from October 2021 was used in the model calculations for both gasoline (STEO.MGTCPUSX.M)[6] and diesel fuel (STEO.DSTCPUS.M)[7]. The data files have actual consumption through

[4] EPA. (2021, October). Public Data for the Renewable Fuel Standard. Retrieved from U.S. EPA Fuels Registration, Reporting, and Compliance Help: https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard

[5] EPA. (2021, EPA-HQ-OAR-2021-0324-0328). Carryover RIN Bank Calculations for 2020-2022 Proposed Rule. Retrieved from Docket EPA-HQ-OAR-2021-0324: https://www.regulations.gov/document/EPA-HQ-OAR-2021-0324-0328

[6] EIA. (2021, STEO.MGTCPUSX.M, October). Motor Gasoline Product Supplied, Monthly. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/opendata/qb.php?sdid=STEO.MGTCPUSX.M

[7] EIA. (2021, STEO.DSTCPUS.M, October). Diesel Fuel Consumption, Monthly. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/opendata/qb.php?sdid=STEO.DSTCPUS.M

October 2021, and projections through December 2022. The model has the capability to assess years beyond 2022 using either the EIA AEO data or user-defined inputs. As stated above, the STEO data set used in the model differs from that used by the Agency; however, the Agency intends to use the latest EIA dataset for the final rule.

The volume of diesel fuel to ocean-going vessels, which is deducted in the calculations, is provided directly to EPA from EIA. For 2020, 2021 and 2022, EIA provided the following 3,101[8], 2,867[9], and 2,867[10] M gallons respectively. These volumes were incorporated in the model for the case analysis discussed later.

In the beginning of the RFS program, Alaska opted out of the program; and, therefore, the volume of petroleum consumption and renewable fuel blended within Alaska must be excluded from the analysis. The information for Alaska was obtained from EIA's June 25, 2021 SEDS data file[11] which represented data through 2019; however, the data set referenced in EPA's memorandum documents was from June 26, 2020, representing data through 2018.

The model provides the user with the functionality to input projections of petroleum consumption to assess the directional impacts of the renewable obligations.

2.2.2 Renewable Fuel Blended

The volume of renewable fuel blended into petroleum fuel was obtained from EIA's October 2021 data file. According to the data file, the volume of fuel ethanol (STEO.EOTCPUS.M) blended[12], averaged 12.6 and 13.7 B gallons for 2020 and 2021, respectively.

The volume of biomass-based diesel fuel (STEO.BDTCBUS.M) was also obtained from EIA's October 2021 data file[13]; however, historically, EIA has not accurately accounted for the volume of RD fuel blended into transportation fuel. Therefore, the volume of petroleum distillate fuel consumed is inflated in the calculations.

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[8] EPA. (2021, EPA-HQ-OAR-2021-0324-0330). Calculation of Proposed Percentage Standards for 2020. Retrieved from Docket EPA-HQ-OAR-2021-0324: https://www.regulations.gov/document/EPA-HQ-OAR-2021-0324-0330

[9] EPA. (2021, EPA-HQ-OAR-2021-0324-0324). Calculation of Proposed Percentage Standards for 2021. Retrieved from Docket EPA-HQ-OAR-2021-0324: https://www.regulations.gov/document/EPA-HQ-OAR-2021-0324-0324

[10] EPA. (2021, EPA-HQ-OAR-2021-0324-0320). Calculation of Proposed Percentage Standards for 2022. Retrieved from EPA-HQ-OAR-2021-0324: https://www.regulations.gov/document/EPA-HQ-OAR-2021-0324-0320

[11] EIA. (2021, SEDS, June 25). State Energy Data System, Alaska. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=AK

[12] EIA. (2021, STEO.EOTCPUS.M, October). Fuel Ethanol Consumption, Monthly. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/opendata/qb.php?sdid=STEO.EOTCPUS.M

13 EIA. (2021, STEO.BDTCBUS.M, October). Consumption of Energy from Biomass-based Diesel by All Sectors, Monthly. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/opendata/qb.php?sdid=STEO.BDTCBUS

2.2.2 Renewable Fuel Produced

The volume of renewable fuel supplied to the United States (U.S.) was determined using RIN generation data from the EPA public database. The time lag between the RIN generation and separation for use by obligated parties was assumed to be insignificant. This data was used to determine the volume of RIN gallons available for compliance by the obligated parties. The data sets used for the analysis included data through October 2021[14].

RIN generation data from approved EPA pathways for domestic and foreign generators is aggregated into the RIN generation data provided by the Agency. Per the regulation, RIN generation must be completed within five days of production. Therefore, this data set was assumed to be up to date through October 2021. The renewable fuel produced was then assessed one layer deeper by looking at the feedstock summary reports, which allows the data to be aggregated by fuel category and feedstocks [15].

Allowing the user to input the volume of renewable fuel projected for the various fuel categories and feedstock types, gives one the capability to assess various scenarios for future renewable fuel growth. The model allows the user to input the projected volume categorized by both the feedstock type and the equivalence value (EV) of the fuel. Feedstocks can generate different EVs depending upon the pathway which the producer is registered and approved which makes this function valuable to the accuracy of the calculations.

3.0 Carryforward RIN Volume Analysis of EPA's NPRM RFS Annual Rules: 2020, 2021, and 2022.

3.1 2019 Carryforward RIN Volume Analysis

3.1.1 2019 Carryforward RIN Volume Analysis versus EPA NPRM

With the publication of the NPRM and the supporting memoranda [16], which provide insight to the above differences, the model was updated and calculates the 2019 carryforward RIN volume within 0.32%. This comparison is shown in Table 3.1 below.

[14] EPA. (2021, October). Spreadsheet of RIN Generation Data for the Renewable Fuel Standard. Retrieved from Fuels Registration, Reporting, and Compliance Help: https://www.epa.gov/fuels-registration-reporting-and-compliance-help/spreadsheet-rin-generation-data-renewable-fuel

[15] EPA. (2021, October). RINs Generated Transactions. Retrieved from Fuels Registration, Reporting, and Compliance Help: https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rins-generated-transactions

[16] EPA. (2021). Renewable Fuel Standard Program: RFS Annual Rules. Retrieved from Docket EPA-HQ-OAR-2021-0324: https://www.regulations.gov/docket/EPA-HQ-OAR-2021-0324

Table 3.1 –2019 Carryforward RIN Volume

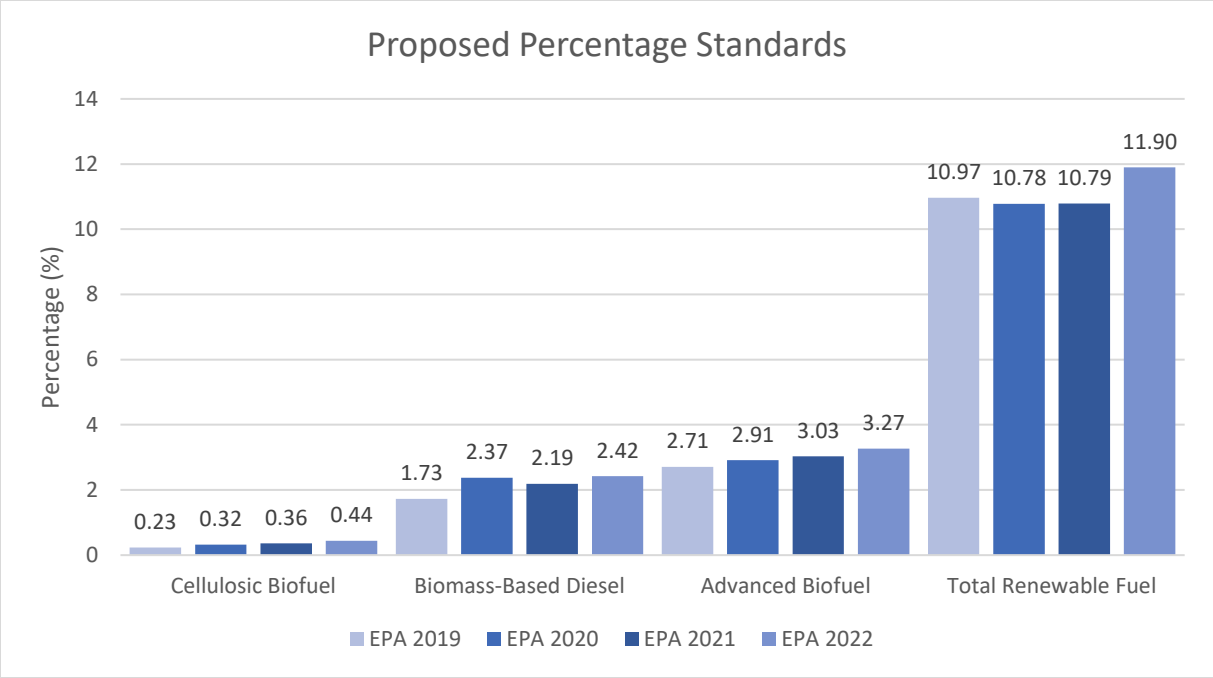
	EPA - Memorandum			Model Output[a]	
	Net 2019 Carryforward RINs (Table IV-1) (Million gallons)	Proposed 2020 Volume Requirements (Million gallons)	2019 Carryforward RINs as % of Volume Requirement (Table V-1)	Net 2019 Carryforward RINs (Million gallons)	2019 Carryforward RINs as % of Volume Requirement
Cellulosic Biofuel	38	510.0	7.5%	38	7.5%
Biomass-Based Diesel	87	3,766.5	2.4%	84	2.2%
Advanced Biofuel	55	4,630.0	1.2%	49	1.1%
Total Renewable Fuel	1,852	17,130.0	10.8%	1,846	10.8%

(a) Unreported 2019 small refinery RVO's or deficits carried forward have been accounted for in the model based on EPA's volume reported in the Memorandum. The resulting difference between EPA's carryforward estimate and the Model Output is 0.32%.

3.2 2020 and 2021 Carryforward RIN Volume Analysis

In the NPRM, the Agency proposed to revise the volumes for 2020 to actuals. In addition, the 2021 volumes are proposed at projected actuals by year's end. For 2022, the Agency's intent was to propose volumes which would get the RFS program back on track with historical growth projections yet not facilitate a draw down in the 2022 carryforward RIN volume. In addition, half of the court-ordered remand from 2016 would be incorporated in 2022's volumes with the remaining intended for 2023's rulemaking. The proposed standards for 2020-2022 are displayed in Graph 3.1 below.

Graph 3.1 – Renewable Fuel Percentage Standards
2019 (Final), 2020-2022 (EPA NPRM Proposed)



3.2.1 2020 and 2021 Carryforward RIN Volume Analysis versus EPA NPRM

For 2020 and 2021, the Agency is proposing to use their reset authority and adjust the volumes to actual fuel consumption levels. A quantitative analysis of the number of 2020 and 2021 carryforward RINs was not provided in the docket; however, summary tables were provided confirming the intent to establish the renewable volume obligation (RVO) equal to the volume of RINs generated from both domestic and foreign renewable fuel production.

Although the details for 2020 and 2021 were not publicly presented, the calculations can be derived from both the EIA and the EPA public databases. Calculations were completed for both the proposed adjusted 2020 and the proposed 2021 RFS volume standards.

The available carryforward RINs from 2020 and 2021 were calculated using EIA's actual petroleum consumption and renewable fuel blending data through October 2021. Slight variances in the actual data are observed between the model and the values stated by EPA as shown in Table 3.2 below.

Table 3.2 – 2020 and 2021 EIA Annual Petroleum Consumption and Renewable Fuel Blended

		EPA - Memorandum	Model Output	
		2020 Volume (billion gallons)	2020 Volume (billion gallons)	Difference
Gasoline Volume Use, projected	**G**	123.25	123.11	(0.14)
Renewable Fuel Blended, Gasoline	**R_G**	12.63	12.64	0.01
Diesel Volume Use, projected	**D**	50.49	50.48	(0.01)
Renewable Fuel Blended, Diesel	**R_D**	2.15	2.17	0.02
Denominator	**$G + D - R_G - R_D$**	158.96	158.78	(0.18)

		EPA - Memorandum	Model Output	
		2021 Volume (billion gallons)	2021 Volume (billion gallons)	Difference
Gasoline Volume Use, projected	**G**	133.06	134.32	1.26
Renewable Fuel Blended, Gasoline	**R_G**	13.64	13.70	0.06
Diesel Volume Use, projected	**D**	54.52	53.65	(0.87)
Renewable Fuel Blended, Diesel	**R_D**	2.23	2.09	(0.14)
Denominator	**$G + D - R_G - R_D$**	171.71	172.18	0.47

According to the preamble of the NPRM, the 2021 volumes were derived from EIA's May 2021 STEO data file which included actual volumes through May and renewable fuel projections for the remainder of the year. For the model, the 2021 volumes were derived from EIA's October STEO data file, with renewable fuel projections for only two months. As mentioned in Section 2.2.1, the variances in the data files for Alaska also contribute to the variances below. The differences provide for a slight impact to the calculated Annual Percentage Standards as shown in Table 3.3.

Table 3.3 – 2020 and 2021 RFS Percentage Standards Calculated

	EPA - NPRM		Model Output	
	2020	2021	2020	2021
Cellulosic Biofuel	0.32	0.36	0.32	0.36
Biomass-Based Diesel	2.37	2.19	2.37	2.19
Advanced Biofuel	2.91	3.03	2.92	3.02
Total Renewable Fuel	10.78	10.79	10.79	10.76
Supplemental	n/a	n/a	n/a	n/a
Combined	10.78	10.79	10.79	10.76
	EPA's Percent Standards NPRM, May 2021 STEO		*Model calculated Percent Standards using* October 2021 STEO	

Regarding the number of RINs generated for 2020, the EPA public database reports the total number of RINs generated as 18.32 B gallons. This matches the value which was reported in Table VI-3 of the memorandum (18.32 B gallons). The total net RINs available for compliance in 2020 were calculated to be 17.154 B gallons. This too is equivalent to the volume stated in Table VI-3 (17.159 B gallons) with only a slight variance in the total volume of renewable fuel (0.004 B gallons).

Table 3.4 – 2020 Net RINs Available

	EPA - Memorandum	Model Output	
	2020 Net RIN Available (Million gallons) (Table VI-3)	2020 Net RIN Available (Million gallons)	Difference
Cellulosic Biofuel	505	505	(0)
Biomass-Based Diesel	3,793	3,790	(3)
Advanced Biofuel	4,632	4,629	(3)
Total Renewable Fuel	17,159	17,154	(4)

When comparing the Net RINs available for 2020 to the volume of RINs required to satisfy the obligation, you see the total renewable fuel RINs available is slightly larger than the required obligated volume of RINs. This was the intent of the Agency when proposing to revise the RVOs for 2020; however, when one looks at the volumes by category, a shortfall begins to appear in the cellulosic biofuel and the advanced biofuel categories. The shortfall will draw from the 2019 carryforward RIN volume for both the cellulosic biofuel and the advanced biofuel categories. The total renewable fuel volume grows slightly by 0.024 B gallons. Reference Table 3.5 and Table 3.6 below for a summary in carryforward RIN volumes for 2020.

Table 3.5 – 2020 RINs Required (demand) versus RINs Available (supply)

	EPA - Memorandum			Model Output			
	2020 RIN Supply (Million gallons) (Table VI-3)	2020 RIN Demand (Million gallons)	Change in Carryforward RINs (Million gallons)	2020 RIN Supply (Million gallons)	2020 RIN Demand (Million gallons)	Change in Carryforward RINs (Million gallons)	Difference (Million gallons)
Cellulosic Biofuel	505	510	(5)	505	510	(5)	(0)
Biomass-Based Diesel	3,793	3,767	27	3,790	3,767	24	(3)
Advanced Biofuel	4,632	4,630	2	4,629	4,630	(1)	(3)
Total Renewable Fuel	17,159	17,130	29	17,154	17,130	24	(4)

Table 3.6 – 2020 Carryforward RIN Volume

	Model Output			
	Net 2019 Carryforward RINs (Million gallons)	2020 RIN Supply (Million gallons)	2020 RIN Demand (Million gallons)	Net 2020 Carryforward RINs (Million gallons)
Cellulosic Biofuel	38	505	510	33
Biomass-Based Diesel	84	3,790	3,767	108
Advanced Biofuel	49	4,629	4,630	48
Total Renewable Fuel	1,846	17,154	17,130	1,870
Change				*24*

For 2021, the same intent was stated - to establish the RVO's equal to the volume of RINs generated from both domestic and foreign renewable fuel production with RD and advanced biofuel expected to increase significantly throughout 2021 and ethanol consumption increasing toward 13.8 B gallons.

Although it is uncertain (i.e., not specified) what data set was used by EPA for projecting the volume of RINs generated in 2021, the actual RINs generated and available for compliance through October 2021 does not appear as large as the volume of RINs projected by the Agency. The actual RIN volume accounts for the foreign production of renewable fuel imported as well as the retirement of RINs for renewable fuel exports. Based on the model calculations displayed in Table 3.7, the actual volume of cellulosic biofuel produced resulted in a volume of RINs less than the obligation proposed by 128 M gallons. Therefore, obligated parties, as a whole, will be expected to purchase cellulosic waiver credits for 2021 to satisfy part of the proposed obligation. This is also observed in the advanced biofuel category where the volume of available advanced biofuel RINs is less than the obligation by 436 M gallons. Due to the nesting of RIN obligations, obligated parties can purchase additional biomass-based diesel RINs to satisfy the advanced biofuel category; however, even with the carryforward of 2020 RINs, there will not be adequate advanced biofuel RINs to cover the obligation. The total deficit of advanced biofuel RINs is calculated to be 388 M gallons as displayed in Table 3.8. This shortfall is masked by the 2021 total renewable fuel carryforward RIN volume remaining essentially flat at 1.87 B gallons as intended by the Agency.

Table 3.7 – 2021 RINs Required (demand) versus RINs Available (supply)

	EPA - Memorandum			Model Output			
	2021 RIN Supply (Million gallons) (Table VI-3)	2021 RIN Demand (Million gallons)	Change in Carryforward RINs (Million gallons)	2021 RIN Supply (Million gallons)	2021 RIN Demand (Million gallons)	Change in Carryforward RINs (Million gallons)	Difference (Million gallons)
Cellulosic Biofuel	*not provided*	620		492	620	(128)	
Biomass-Based Diesel		3,767		4,043	3,767	277	
Advanced Biofuel		5,200		4,764	5,200	(436)	
Total Renewable Fuel		18,520		18,425	18,520	(95)	

Table 3.8 – 2021 Carryforward RIN Volume

	Model Output			
	Net 2020 Carryforward RINs (Million gallons)	2021 RIN Supply (Milion gallons)	2021 RIN Demand (Million gallons)	Net 2021 Carryforward RINs (Million gallons)
Cellulosic Biofuel	33	492	620	(96)
Biomass-Based Diesel	108	4,043	3,767	384
Advanced Biofuel	48	4,764	5,200	(388)
Total Renewable Fuel	1,870	18,425	18,520	1,775
Change				*(95)*

3.2.2 2020 and 2021 Variances

Key variances highlighted in the above Section 3.2.1 were the following:

1. SEDS data files used for Alaska petroleum consumption.
2. EIA STEO data files used for U.S. petroleum consumption and renewable fuel blended (May versus October STEO), and
3. EPA public data set files used for 2021 actual RIN generation and 2021 available RIN volume, as of October 2021 with straight-line projection through end of 2021.

3.3 2022 Carryforward RIN Volume Analysis

EPA's proposed 2022 cellulosic biofuel, advanced biofuel, and total renewable fuel volumes represent growth compared to historical volumes. Cellulosic biofuel growth is proposed to increase to 0.77 B gallons with advanced biofuel to 5.77 B gallons and biomass-based diesel volume growing along with it. In addition, the total renewable fuel volume would increase to 20.77 B gallons with a return to the implied statutory volume of 15 B gallons for conventional biofuel. The proposed volumes are expected to drive increased domestic production and importation of renewable fuels and provide incentives for continued expansion of renewable fuel infrastructure in the market.

For 2022, EPA projected renewable fuel volumes as shown within Table 3.9, as derived from Table 2.1-1 provided within EPA's Draft Regulatory Impact Analysis[17] (DRIA). The model incorporates these volumes and resulting RINs for 2022. In addition, the model incorporates the biodiesel and renewable diesel production, imports and exports through 2022 (Table 3.10 DRIA Table 5.2.5-1) and the petroleum fuel and

[17] EPA. (2021, DRIA, EPA-HQ-OAR-2021-0324-0270). Draft Regulatory Impact Analysis - RFS Annual Rules. Retrieved from Docket EPA-HQ-OAR-2021-0324: https://www.regulations.gov/document/EPA-HQ-OAR-2021-0324-0270

renewable fuel consumption projections for 2022 from the EIA's October 2021 STEO data file[18], as shown Table 3.11.

[18] EIA. (2021, STEO, October). EIA Short-term Energy Outlook. Retrieved from U.S. Energy Information Administration: https://www.eia.gov/outlooks/steo/

Table 3.9 - DRIA Table 2.1-1: Volumes Assessed for 2020, 2021, and 2022 (M RINs)

Table 2.1-1: Volumes Assessed for 2020, 2021, and 2022 (million RINs)

	2020 Volume	2021 Volume	2022 Volume[a]
Cellulosic Biofuel	505	621	765
CNG/LNG derived from biogas	503	619	762
Liquid Cellulosic Biofuel	2	2	3
Total Biomass-Based Diesel	3,791	4,265	5,615
Biodiesel	2,885	2,870	2,880
Renewable Diesel	900	1,390	2,730
Other	6	5	5
Other Advanced Biofuels	334	289	289
Renewable Diesel	86	64	64
Imported Sugarcane Ethanol	185	161	161
Domestic Ethanol	23	24	24
Other	40	40	40
Total Advanced Biofuel	4,630	5,175	6,669[a]
Conventional Renewable Fuel	12,500	13,453	14,096
Ethanol	12,500	13,453	13,788
Imported Renewable Diesel	0	0	308
Imported Renewable Diesel to address the Supplemental Standard	0	0	250
Other	0	0	0
Total Renewable Fuel	17,129	18,628	20,765

[a] Includes the volume representing the proposed 2022 supplemental standard. For the purposes of this analysis, this volume is assumed to be supplied as imported conventional renewable diesel.
[b] Includes 904 million advanced biofuel RINs in excess of the proposed advanced biofuel volume requirement of 5,765 million RINs.

Table 3.10 - DRIA Table 5.2.5-1: BBD (D4) Biodiesel and Renewable Diesel Production, Imports, and Exports through 2022 (M Gallons)

Table 5.2.5-1: BBD (D4) Biodiesel and Renewable Diesel Production, Imports, and Exports through 2022 (Million Gallons)

	2018	2019	2020	2021	2022
Domestic Biodiesel Production (million RINs)	1,841 (2,762)	1,706 (2,559)	1,802 (2,702)	1,780 (2,670)	1,780 (2,670)
Domestic Renewable Diesel Production (million RINs)	282 (479)	454 (772)	472 (802)	770 (1,320)	1,590 (2,710)
Biodiesel Imports (million RINs)	175 (263)	185 (277)	209 (314)	230 (350)	240 (360)
Renewable Diesel Imports (million RINs)	176 (300)	267 (454)	280 (477)	330 (560)	380 (650)
Biodiesel Exports (million RINs)	74 (111)	76 (115)	88 (132)	100 (150)	100 (150)
Renewable Diesel Exports (million RINs)	80 (136)	145 (247)	223 (379)	290 (490)	370 (630)
Total BBD Available (million RINs)	2,320 (3,577)	2,391 (3,700)	2,452 (3,814)	2,720 (4,260)	3,520 (5,610)

In establishing the 2022 RFS volume standards, EPA proposes the total RVO to be equivalent to the projected quantity of available renewable fuel. Therefore, the Agency expects the RIN "supply" to be equal to the RIN "demand" and 2022 carryforward RIN volumes to remain flat at the 2021 levels of 1.85 B gallons.

3.3.1 2022 Carryforward RIN Volume Analysis versus EPA NPRM

When looking at the calculations in detail, one will start to see variances in the projections used by the Agency versus the current model input data files. At the time the Agency established the 2022 proposed volumes, EIA's May 2021 STEO had a lower projection for 2022 volumes than the October 2021 STEO used in the model. Table 3.11 highlights these differences. EIA continues to update the projections for the forward-looking months regularly. According to the preamble, the 2022 gasoline and diesel projections will be provided by EIA directly to the EPA. As a result, the calculated percentage standards would result in an increase versus the proposed as displayed in Table 3.12 if EPA maintains the renewable fuel volume at the same levels as proposed.

Table 3.11– Annual Petroleum Consumption and Renewable Fuel Blended for 2022

		EPA - NPRM	**Model Output**	
		2022 Volume (billion gallons)	2022 Volume (billion gallons)	Difference
Gasoline Volume Use, projected	**G**	136.49	137.01	0.52
Renewable Fuel Blended, Gasoline	**R_G**	13.98	14.03	0.05
Diesel Volume Use, projected	**D**	56.81	54.89	(1.92)
Renewable Fuel Blended, Diesel	**R_D**	2.66	2.53	(0.13)
Denominator	**$G + D - R_G - R_D$**	176.66	175.34	(1.32)

Table 3.12 – 2022 Renewable Fuel Percentage Standards Calculated

	EPA - NPRM	Model Output
	2022	2022
Cellulosic Biofuel	0.44	0.44
Biomass-Based Diesel	2.42	2.44
Advanced Biofuel	3.27	3.29
Total Renewable Fuel	11.76	11.85
Supplemental	0.14	0.14
Combined	11.90	11.99

Since the 2022 overall supply of RINs and demand for RINs are set to be equivalent, the model calculates essentially no impact on the total renewable fuel carryforward RIN volume; however, in doing so, EPA has projected a significant increase in the biomass-based diesel production, which is expected to increase the biomass-based diesel carryforward RIN volume substantially as shown below in Tables 3.13 and 3.14. This significant increase in the biomass-based diesel carryforward RIN volume also appears to provide a potential resolution to the negative balance within the advanced biofuel carryforward RIN volume, as shown in Table 3.14. However, these projections for 2022 do not resolve the requirement for obligated parties to carryforward an advanced biofuel deficit from 2021 into 2022.

Table 3.13 – 2022 RINs Required (demand) versus RINs Available (supply)

	EPA - Memorandum			Model Output			
	2022 RIN Supply (Million gallons)	2022 RIN Demand (Million gallons)	Change in Carryforward RINs (Million gallons)	2022 RIN Supply (Million gallons) [1]	2022 RIN Demand (Million gallons)	Change in Carryforward RINs (Million gallons)	Difference
Cellulosic Biofuel	*not provided*	770		765	770	(5)	
Biomass-Based Diesel		4,278		5,615	4,278	1,337	
Advanced Biofuel		5,770		6,669	5,770	899	
Total Renewable Fuel		21,020		21,015	21,020	(5)	

(1) - 2022 RIN Supply Based on Volumes provided in the NPRM.

Table 3.14 – 2022 Projected RIN Generation

	Model Output			
	Net 2021 Carryforward RINs	2022 RIN Supply (Million gallons)	2022 RIN Demand (Million gallons)	Net 2022 Carryforward RINs (Million gallons)
Cellulosic Biofuel	(96)	765	770	(101)
Biomass-Based Diesel	384	5,615	4,278	1,721
Advanced Biofuel	(388)	6,669	5,770	511
Total Renewable Fuel	1,775	21,015	21,020	1,770
Change				*(5)*

4.0 Carryforward RIN Volume Case Sensitivities

Based on discussions with AFPM staff two case sensitivities were developed, as follows:

- Case 1 – EPA objective to actualize 2020 and 2021 volumes and hold the carryforward RIN volume at 1.85 B RINs.
- Case 2 – Case 1 sensitivity whereby 2022 biodiesel production constrained by renewable diesel growth.

4.1. Case 1 – EPA Objectives: Actualize 2020 and 2021, and hold 2019 Carryforward RIN Volume through 2022

Case 1 models the necessary adjustments to the renewable fuel volumes and percentage standards to achieve the objectives stated by EPA in the NPRM: 1) actualize the renewable fuel production for 2020 and 2021, and 2) hold the carryforward RIN volumes constant from 2019 into 2020, 2021, and 2022 for cellulosic, biomass-based diesel, advanced biofuel, and total renewable fuel.

The actual volumes of renewable fuel produced for 2020 align fairly well with the proposed volumes; however, the volume of renewable fuel actually produced in 2021 is lower than what was projected and proposed in the NPRM. As pointed out in Section 3.2, leaving the volumes as proposed will result in a deficit of cellulosic and advanced biofuel RINs for 2021 forcing obligated parties to purchase cellulosic waiver credits and carryforward a compliance deficit in the advanced biofuel category. In Section IV of the "Carryover RIN Bank Calculations for 2020-2022 Proposed Rule", the Agency states they, "are proposing to set the 2021 volume requirements at the actual volume of renewable fuel produced in 2021." Case 1 models this objective.

For this analysis, renewable fuel production was actualized through October 2021 and projected through 2021 year's end. The data files used were the same as referenced in Section 3.2. The renewable fuel standards for 2020 and 2021 were then recalculated on this basis.

The proposed renewable fuel volumes for 2020 compared well with the actualized data resulting in only a slight change in the 2020 total renewable fuel standard. The proposed renewable fuel volumes of 2021, however, were higher and overestimated most likely due to inaccuracies in projections made from EPA's data set. Table 4.1 shows what the RFS volume standards would be when actualized for 2020 and 2021 renewable fuel production volumes. A decline of 128M, 436M, and 95M energy equivalent gallons was calculated for cellulosic biofuel, advanced biofuel, and total renewable fuel respectively. This reduction resolves the cellulosic and advanced biofuel deficit which was discussed prior in Section 3.2. For 2022, the RFS volume standards were adjusted slightly for the individual categories to hold the 2019 carryforward RIN volume (1.85 B gallons) through 2022 which was stated as the intent of the Agency.

Table 4.1 – Case 1 Calculated RFS Volume Standards

	EPA - Proposed			Case 1		
	2020	2021	2022	2020	2021	2022
Cellulosic Biofuel	510.0	620.0	770.0	504.5	491.5	765.0
Biomass-Based Diesel	3,766.5	3,766.5	4,278.0	3,766.5	3,766.5	4,278.0
Advanced Biofuel	4,630.0	5,200.0	5,770.0	4,628.5	4,763.7	5,770.0
Total Renewable Fuel	17,130.0	18,520.0	21,020.0	17,154.3	18,425.0	21,015.2

Table 4.2 shows the calculated RFS percentage standards with the modified renewable fuel volumes under Case 1.

Table 4.2 – Case 1 Calculated RFS Percentage Standards

	EPA - Proposed			Case 1		
	2020	2021	2022	2020	2021	2022
Cellulosic Biofuel	0.32	0.36	0.44	0.32	0.29	0.44
Biomass-Based Diesel	2.37	2.19	2.44	2.37	2.19	2.44
Advanced Biofuel	2.92	3.02	3.29	2.92	2.77	3.29
Total Renewable Fuel	10.79	10.76	11.99	10.80	10.70	11.99

4.2. Case 2 – Feedstock Supply Constrained for Biodiesel and Renewable Diesel Growth

Case 2 considers the impact on the carryforward RIN volume if biodiesel feedstock supplies are constrained upon the anticipated fast-paced growth of RD production. At the recent Chicago Federal Reserve Bank Agricultural Conference on November 30, 2021, keynote speaker Scott Irwin presented his outlook for the expansion of the RD production capacity in the U.S. He estimated the RD capacity would have grown to 1.5 B by the start of 2022. This would continue through 2022 to an estimated 3.0 B gallons by year's end. EPA projects a total of approximately 2.8 B gallons of RD in 2022. When asked about the cannibalization of the biodiesel production due to the growth in RD production capacity, he responded with the following,

> "The RD plants will be able to outbid the traditional FAME plants for the same feedstocks [because of the value of LCFS credits] and what it basically means is that potentially the RD plants could drive out FAME biodiesel production by outbidding them for feedstock. That's already beginning to happen, and I expect that trend to pick up. Right now, the economics are such that it's really difficult for me to see how most FAME biodiesel plants are staying in business right now. So probably a reasonable projection is that for every gallon of increased renewable diesel in the future we'll see at least a half-gallon cannibalization of FAME biodiesel production…So I do expect substantial cannibalization of FAME …maybe even drive it almost entirely out of business …won't surprise me in 5 yrs." [19] (Irwin, November 30, 2021)

In Case 2, the RD volume is allowed to grow at the EPA-projected trajectory and biodiesel production is reduced by 50% of the RD growth. To model this case, the RFS volume standards were maintained from Case 1 as shown in Table 4.3.

Table 4.3 – Case 2 Calculated RFS Volume Standards

	Case 1			Case 2		
	2020	2021	2022	2020	2021	2022
Cellulosic Biofuel	504.5	491.5	765.0	504.5	491.5	765.0
Biomass-Based Diesel	3,766.5	3,766.5	4,278.0	3,766.5	3,766.5	4,278.0
Advanced Biofuel	4,628.5	4,763.7	5,770.0	4,628.5	4,763.7	5,770.0
Total Renewable Fuel	17,154.3	18,425.0	21,015.2	17,154.3	18,425.0	21,015.2

For 2022, RD was allowed to grow to the levels referenced in Chapter 5 of the DRIA. See Table 3.10 above for volume inputs. The biodiesel volume was reduced by 360M gallons due to feedstock supply constraints resulting in an overall reduction of 2022 carryforward RINs of approximately 540M as shown in Table 4.4. This equates to a significant reduction of 29% in the 2022 total renewable fuel carryforward RIN volume.

[19] Irwin, Scott. (2021, November 30). Biofuels in the Midwest: Today and Tomorrow. Federal Reserve Bank of Chicago Agriculture Conference. Chicago.

Table 4.4 – Case 2 Carryforward RIN Volumes

	Case 1			Case 2		
	2020	2021	2022	2020	2021	2022
Cellulosic Biofuel	38.2	38.2	38.2	38.2	38.2	38.2
Biomass-Based Diesel	107.6	384.2	1,721.4	107.6	384.2	1,181.9
Advanced Biofuel	49.5	49.5	948.7	49.5	49.5	409.2
Total Renewable Fuel	1,845.8	1,845.8	1,845.8	1,845.8	1,845.8	1,306.2

5.0 Conclusion

This study has revealed the need for EPA to make small adjustments in the 2021 RFS Standards to align with their intended goal of reflecting actual usage. Without these adjustments, there will be an unintended drawdown of cellulosic and advanced biofuel carryover RINs, and obligated parties as a whole will be in a deficit situation with both the cellulosic and advance biofuel mandates. This will have the negative effect of decreasing the 2022 carryforward RIN volume. EPA has recognized the critical nature of the carryforward RIN volume in maintaining a stabilized RFS program. As described above, these realistic stress cases illustrate how changes in the standard setting process and inaccurate projections can significantly change the carryforward RIN volumes.

Appendix 2

February 16, 2017

Air and Radiation Docket
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Renewables Enhancement and Growth Support Rule
Docket ID No. EPA-HQ-OAR-2016-0041

Submitted via www.regulations.gov

The American Petroleum Institute (API)[1] and American Fuel & Petrochemical Manufacturers[2] appreciate the opportunity to provide comments to EPA's Proposed Rulemaking entitled Renewables Enhancement and Growth Support Rule. AFPM and API support EPA's intent to apply the environmental controls on fuels in a uniform, balanced, and equitable manner.

A. BIOINTERMEDIATES

1. General

AFPM and API support EPA's proposal to maintain the current regulatory framework that ensures, with very few exceptions, that only the renewable fuel producer is permitted to generate RINs.[3] This provision of the regulations helps minimize RIN double-counting and provides more confidence in the integrity of these RINs.

We support the multi-facility approach to biointermediates and end-products. Biointermediates may be easier to transport than whole or even pre-processed biomass. This allows for more feedstock flexibility and product flexibility and may allow for easier deployment of second-generation biofuels (however, it does not intend to limit production of first generation biofuels any more stringently).

[1] The American Petroleum Institute (API) is the only national trade association that representsall aspects of America's oil and natural gas industry. Our more than 625 corporate members, from the largest major oil company to the smallest of independents, come from all segments of the industry. They are producers, refiners, suppliers, marketers, pipeline operators and marine transporters, as well as service and supply companies that support all segments of theindustry.

[2] AFPM is a national trade association representing nearly 400 companies that encompassvirtually all U.S. refining and petrochemical manufacturing capacity.

[3] 81 Fed. Reg. 80836

AFPM and API agree with EPA's proposal to require biointermediate producers to undergo annual attest engagements similar to current annual attest engagement requirements for renewable fuel producers.[4] This is necessary to assure that biointermediate producers are treated the same way as renewable fuel producers and that the finished renewable fuel fully complies with regulatory requirements.

EPA proposes that for a renewable fuel producer to generate a Q-RIN, both the biointermediate producer and the renewable fuel producer must have in place an EPA-approved pathway-specific QAP.[5] AFPM and API agree. This requirement is critically important to ensuring RIN integrity at a time when fraud may be continuing in the renewablefuel producer industry.

EPA proposes that during the interim implementation period, biointermediate producers and renewable fuel producers using biointermediates must have EPA-approved pathway-specific QAPs. During the proposed interim period, this proposed QAP restriction should not apply to foreign ethanol producers who are currently covered under RFS regulations.

2. Biointermediates Lifecycle Assessment

The application of sound science requires EPA's GHG Life Cycle Assessment (LCA) to include the entire carbon footprint of the biofuel produced under the RFS, including emissions associated with the transportation of biointermediates. EPA's assumption that transportation of biointermediates would not need a revised LCA should be tested, as transportation distance could impact GHG emissions significantly. Options to address this issue include:

- A limit on transport distance could be set to ensure a robust LCA for multiple facilities; greater transportation distances could require the establishment of a more precise LCA.
- LCA could be conducted to quantify the highest emissions potentially associated with transport of a biointermediate from one coast to another. If this "highest emissions scenario" is not significantly different than the registered pathway, then this assumption can stand.
- The energy density of the biointermediate can also affect GHG emissions. For example, if biomass is processed into a dilute sugar intermediate and then transported across the country where it is then fermented, the emissions associated with transporting a high water-content biointermediate would be significantly higher (per unit energy) than transporting undenatured ethanol, for example. This issue is especially relevant for cellulosic sugars, where the biointermediate produced between pretreatment and upgrading can be quite dilute.

B. <u>ETHANOL FLEX-FUEL</u>

a) Definition

[4] 81 Fed. Reg. 80839

[5] 81 Fed. Reg. 80840

AFPM and API support EPA's intent to apply the environmental controls on fuels in a uniform, balanced, and equitable manner (i.e. equally to gasoline and EFF). EPA must decide whether to keep the current classification of E16-50 as gasoline or to re-classify it as Ethanol Flex Fuel (EFF) in the same category as E51-83. EPA proposes to categorize E16-50 blends as EFF for FFVs only. This regulatory determination would have significant consequences for fuel manufacturers and the environment. EFF currently is not subject to the same level of environmental controls as gasoline. AFPM and API agree with EPA "*…it is important that clear quality standards apply to any fuel used in an FFV, including sulfur, benzene, RVP, and composing only of carbon, hydrogen, oxygen, nitrogen, and sulfur, or 'CHONS.'*"[6] These parameters are regulated based on health and environmental considerations and must apply equally to all motor fuels.

API and AFPM support the proposed sulfur, benzene and elemental composition requirements for EFF mirroring those for gasoline.

EPA proposes RVP standards for EFF upstream of blender pumps that parallel those for gasoline without the 1 psi waiver for E10, but does not propose an RVP standard for blender pumps. The RVP standards placed for blender pump EFF are insufficient when E0 is a parent blend.

API and AFPM support equal treatment for EFF and gasoline with regard to the Registration and Health Testing in Part 79. The Testing Requirements for Registration in Subpart F of 40 CFR Part 79 also apply to fuels other than gasoline. The definitions in section 79.50 are general, not specific to only gasoline. Therefore, the regulations in Part 79 require testing forall fuels, including E16-50 and E51-83. Characterizing E16-50 as an EFF does not exempt E16-50 from these testing regulations. This testing is required, since the same kinds of emissions and exposure-related issues those regulations address could also exist for E16-50.

The Agency proposes that E16-50 is EFF and not gasoline, but does not propose to modify §79.56(e)(1)(i) to exclude E16-50 as part of the Gasoline Family. In addition, EPA could createa new family for E16-50 in Part 79. E16-50 does not meet §79.56(e)(1)(iv):

"(iv) The Ethanol Family includes fuels composed of at least 50 percent ethanol byvolume and their associated fuel additives. The base fuel for this family is E85 as specified in §79.55(e)."

b) EFF and 3 Proposed Options

We support the classification of E16+ as EFF as EPA proposed in the NPRM. In addition, we support EPA's proposed framework that would require EFF to meet sulfur, benzene, RVP and CHONS requirements the same as gasoline. We oppose suggestions that EPA deviate from their proposed approach for blender pumps (i.e, sulfur, benzene). Compliance testing at retailis done at the pump so it is uncertain how EPA would verify compliance with that suggested approach. Deviation is not necessary. The refiner/bulk blender options provide an option where the natural gasoline can be at any sulfur levels. The point of the expedited blender pump approach is that one can only rely on the product transfer documents (PTDs) to ensure

[6] 81 Fed. Reg. 80831

compliance if the components are compliant. We would like to provide the following comments on the three compliance mechanisms that were identified to produce EFF: the EFF Full-refiner option, the EFF Bulk blender-refiner option, and the EFF Blender pump-refiner option.

EFF full-refiner option:

We agree that the full-refiner option allows for the most flexibility to produce EFF since it allows refiners to utilize uncertified natural gasoline, certified natural gasoline EFF blendstock, certified gasoline, BOBs, denatured fuel ethanol (DFE) and undenatured ethanol as EFF blendstocks. We support the batch testing requirements that EPA proposed as requirement to select this option. It seems reasonable that the use of uncertified natural gasoline as a blendstock would require additional testing and certification requirements to assure product quality. We find the ethanol producer comments that the proposed per-batch testing requirements are not consistent with the current practice of in-line blending unpersuasive. Facilities that utilize in-line blending to produce EFF would need to follow the provisions of the EFF bulk blender-refiner option. Another alternative would be to blend up EFF in a tank and certify it before sales. This would allow the facility to utilize any of the approved blending components listed above.

Additionally, we offer the following:

- We support a summer 9 psi RVP standard in conventional gasoline (CG) with the 1-psi vapor pressure waiver granted by the Clean Air Act and implemented by the EPA. We also support a 7.8 psi RVP standard where gasoline is subject to 7.8 psi RVP standard, and a 7.0 psi RVP standard in RFG areas.
- We support consistent registration, record keeping, annual reporting and PTD requirements for EFF producers similar to those for gasoline.
- We support EPA's proposal that once EFF has been certified, no additional blendstocks could be added downstream; no commingling batches of EFF downstream of the production facility except at EFF blender pump-refiner facilities and retail/WPC facilities that dispense EFF from dedicated dispensers.

Consistent with other fuel programs and in order to enhance compliance flexibility, we recommend allowing for averaging EFF compliance by refiners, and not EPA's proposal of refinery-by refinery basis. We also support benzene and sulfur trading provisions vs. EPA's proposal not to allow trading.

EFF bulk blender-refiner option:

The EFF bulk blender-refiner option allows parties to avoid per-batch testing and rely upon PTD documentation to prove that the EFF was only produced using certified EFF blendstocks, participate in the proposed EFF quality survey and utilize the RVP compliance tool depending upon which components were used at outlined in Table IV.B.2-1 Methods Available to EFF Bulk Blender-Refiners To Demonstrate Compliance With the Proposed EFF Requirements. Weagree that use of the certified blendstocks to avoid per-batch testing is a reasonable tradeoff. Enhanced PTD language will be the key to enforcement of E16-50 produced at a Bulk Blender

facility. Relying on compliant blendstocks is not as rigorous as requiring E16-50 to be certified via sampling and testing and could represent a greater risk to the environment.

We support the proposed use of certified natural gasoline for EFF, including reporting, sampling and testing requirements. EPA seeks comments on whether the RVP compliance tool should be allowed instead of measurement. We believe the compliance tool needs validation. EPA should continue to require compliance through testing, either by per batch certification or through refinery hand blends as is currently done for E10 and E15 blends. Thecompliance tool is based on blends of only 13 test fuels, none of which represents natural gasoline, and only two of which represent "E85" parent blends. This tool needs to be verifiedwith a much wider set of test fuels before it could be used for compliance.

Specifically we support the proposed specifications and limitations for the certified natural gasoline EFF blendstock of:

- 10 ppm per gallon sulfur cap
- 0.62 volume percent benzene cap
- 275 degree F T90 distillation cap
- 375 degree F final boiling point cap
- 15 psi RVP cap
- 30 volume percent cap on natural gasoline in the product

EFF blender pump-refiner option:

The final option is the use of blender pumps at the retail station to make EFF only from compliant gasoline (E0, E10 with or without the 1 psi waiver, and E15) and EFF. The retailer demonstrates compliance through the use of PTD's showing the blends were produced from compliant components.

Relying on compliant blendstocks is not as rigorous as requiring E16-50 to be certified via sampling and testing and could represent a greater risk to the environment. Given the different permutations for EFFs at the blender pumps, EPA must set an RVP standard produced at blender pumps to prevent higher emissions. EPA proposes they "*would monitor the RVP of EFF produced at blender pumps, and if the results of this evaluation indicate that additional controls of EFF at blender pumps are warranted, such controls may be proposed in alater actions.*"[7] To ensure level playing field and avoid negative environmental impacts, EPA should first implement RVP controls and monitor/enforce compliance. We support EPA's proposal requiring that E51-83 be the EFF parent blend used at blender pumps to provide additional quality control.

Our biggest concern with this option is the potential for misfueling if the product was dispensed from pumps that utilize a single hose. Since the hose traps EFF, a customer fuelinga vehicle not certified to operate on EFF, a motorcycle, or a fuel can for small engines could put the wrong fuel in their equipment. EPA must rework the E15 misfueling mitigation program to address this real world concern. Alternatively, the EPA could require that EFF be dispensed from a separate hose than gasoline.

[9]81 Fed. Reg. 80852

Natural gasoline as blendstock for EFF

EPA proposes that full refiners and EFF-blender refiners can use natural gasoline in the blend, subject to certain requirements, including a maximum RVP of 15 psi. We question the technical basis for this 15 psi max RVP requirement. We support provisions requiring refiners and importers of certified natural gasoline to register with EPA, and submit batch reports annually and issue PTDs.

c) EFF and Octane Number

AFPM and API oppose EPA setting an octane number specification for EFF and support the Agency's decision to omit an octane specification for EFF from the Proposed Rule. Congress has not explicitly granted EPA the authority to regulate octane and AFPM and API question EPA's authority to establish an octane standard under the CAA. Octane number is only mentioned once in 42 USC 7545 and that is in connection with the definition of "baseline gasoline" under the reformulated gasoline (RFG) program. Regulating octane would require EPA to first address numerous procedural requirements and would require several determinations and findings. AFPM and API believe that the Agency cannot meet the heavy burden imposed on it to justify regulating octane in this rulemaking. In addition, ASTM test methods for octane, D2699 and D2700, cannot be applied to all EFF because they include an upper limit – maximum 25 vol% ethanol.

d) EFF Benzene Standards

AFPM and API support the stipulation that compliance with the proposed 0.62 volume percent annual average benzene standard would be evaluated annually on an EFF refinery-by-refinery basis.[8]

e) EFF Summer RVP

AFPM and API support applying the same summer RVP standard to EFF as the summer RVP standard for gasoline. This would benefit air quality and level the playing field. EFF should not have a summer RVP standard that is independent of the local RVP standard that is applicable to gasoline. FFVs have a greater capability to control evaporative emissions compared to conventional gasoline vehicles, and we support EPA's proposal to limit the RVP of EFF to 8.8 psi in CG areas where gasoline is subject to a 7.8 psi RVP standard and to 8.0 psi in RFG areas to provide a comparable level of evaporative emissions for FFVs operated on EFF compared to conventional gasoline vehicles operated on gasoline.[9]

f) EFF Samples at Blender Pumps

[8] 81 Fed. Reg. 80842. *See also* 40 CFR 80.1520(b)(2)

[9] 81 Fed. Reg. 80852

API and AFPM support sampling the final blended fuel (EFF or E15) not the individual components of the product. The National Institute for Standards and Technology (NIST) developed a recommended sampling procedure titled, "Taking an E15 Sample from a Multiple Product Dispenser (MPD),"[10] after weights and measures officials discovered that the E15 gasoline they sampled experienced erratic ethanol content between samples (15% on first sample, 33% on second sample).[11] The background for the sampling procedure explains the importance of the issue:

"[i]f the [E15] flow is interrupted prior to collecting at least 7.5 L (2– gal) the productmust **not** be used in a fuel sample. By following the recommended procedures to collect samples for fuel quality determinations, an official should obtain an accuraterepresentation of the fuel that the dispenser has delivered." [emphasis added]

From that statement one can infer that you must test the blended product, not simply test the individual fuel components to determine if the RVP of E15 or EFF is meeting specifications. Testing the individual components would not prove that the fuel meets the requirements.

Additional clarification is found in the following excerpt found in the background to the NIST Handbook 158 recommended sampling procedure:

"It is important to recognize that the fuel blend is also affected by both the flow rate of the dispenser and system pressure, which vary depending on the number of dispensers on the system drawing from the different fuel storage tanks. The blend ratios will be different when using a MPD to produce E15 and mid-level ethanol blends (Exx). Because the normal fuel sampling process involves taking a small quantity of fuel at a slow flow rate (and that may involve re-starts), it is likely that the fuel blend in these samples are not representative of the fuel delivered in a typical customer transaction. The Environmental Protection Agency (EPA) has recognized thatthis operational characteristic of MPDs for blending E15 may result in the inadvertent mis-fueling of E15 in vehicles, engines, and equipment not covered under the EPA's E15 waiver to the Clean Air Act. To help ensure that customers do not inadvertently mis-fuel vehicles, engines, and equipment not covered underE15 waiver, the EPA requires retailers to dispense E15 at a MPD only through EPA-approved MPD configurations." "For these reasons, it is recommended that a fuel quality sample (e.g., 1 L) be taken from a larger sample of between 7.5 L (2-Gal) and 9.4 L (2.5- Gal) ormore. The sample should be collected in a clean container (e.g., a 9.4 L (2.5- Gal) or 19L (5-Gal) safety can under a continuous flow delivered at or near the fullflow rate of the device because this allows the dispenser adequate time to account for system variations in making its adjustments to the blend ratio. If the flow is interrupted prior

[10] "Field Sampling Procedures for Fuel and Motor Oil Quality Testing A Handbook for Use by Fuel and Oil Quality Regulatory Officials," NIST Handbook 158, http://nvlpubs.nist.gov/nistpubs/hb/2016/NIST.HB.158.pdf

[11] Email Feb 8, 2016, at 2:35 PM, Benjamin, Steve, CPM, Director, Standards Division, NCDA&CS

to collecting at least 7.5 L (2– gal) the product must not be used in a fuel sample. Byfollowing the recommended procedures to collect samples for fuel quality determinations, an official should obtain an accurate representation of the fuel thatthe dispenser has delivered."

g) Controls and Prohibitions on Ethanol Flex Fuel Volatility

EPA should review the proposed language used in 80.1531 detailing the state-by-state volatility requirements for the Commonwealth of Massachusetts copied below:

(19) Massachusetts. No person may sell, offer for sale, dispense, supply, or offer for supply ethanol flex fuel that has an RVP that exceeds a 9.0 psi standard except that no person may sell, offer for sale, dispense, supply, or offer for supply ethanol flex fuel that has an RVP that exceeds a 7.0 psi standard in Barnstable, Berkshire, Bristol, Dukes, Essex, Franklin, Hampden,Hampshire, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester Counties.

The proposed language suggests that part of Massachusetts is RFG and part is CG at summer maximum 9.0 psi RVP. However, RFG is state-wide in Massachusetts. This proposed regulatory text should be replaced by the same text as other states with state-wide RFG, i.e., Connecticut, Delaware, the District of Columbia, New Jersey and Rhode Island.

h) EFF Deposit Control

EPA proposes to remove the deposit control requirement for E51-83 and not to adopt deposit control requirements for E16-83. EPA's decision was made on the basis of insufficient data. SAE 2007-01-4071 showed that for E85, the 15% gasoline portion with an LAC treat rate of DCA might not be sufficient to prevent IVD in FFVs. While midlevel ethanol blends were not tested, this work suggests that an LAC treat of the gasoline may not be sufficient to mitigate IVD in those blends.

i) EFF Quality Survey Program:

We support the notion of an EFF Quality Survey, but believe that the survey should be voluntary for full refiners. Full refiners test and certify each batch of fuel, so the quality survey has less importance for them as regulated parties. We believe that if a refiner participates in the EFF Quality Survey, it should be given an affirmative defense for any compliance violations related to fuel produced during the period of time during its participation.

j) EFF Pump Label

EPA made the appropriate decision not to propose labeling requirements for EFF pumps. FTC promulgated rules for labeling EFF and we would not support duplicative labeling requirements.

k) Third Parties

API and AFPM support proposed requirements for third party professional engineers and electronic submission of engineering reviews to EPA. In addition, we support the proposed requirement for third-party auditors to minimize RIN fraud. Third-party professional engineers must comply with the requirements for QAP providers, must register with the EPA and must submit the reports directly to EPA instead of the renewable fuel producer. Third- party professional engineers are prohibited from failing to identify incorrect information in a renewable fuel producer's registration, failing to properly conduct an engineering review, failing to disclose to EPA any financial, professional business or other interests with parties for whom the third- party professional engineer provides services under the RFS. To avoid conflicts of interest, we support EPA's proposal to preclude third- party auditors from providing initial and triennial engineering reviews for the same renewable fuel producer.

C. RENEWABLE FUEL STANDARD

1. RVO for EFF

API and AFPM do not support, and question EPA's authority, to defer imposition of an RVO on parties making EFF with natural gasoline blendstocks. These non-renewable hydrocarbon blendstocks should have the same RVO obligation as BOBs. The finished EFF is used in transportation, similar to EFF, E10, and E15 fuels formulated with BOBs.

2. eRINs

EPA expresses a concern shared by API and AFPM with the validity of RINs generated for electricity produced from biomass and used as transportation fuel. EPA emphasizes that two requirements must be met: 1) the electricity must be produced from biomass, and 2) the electricity must be used as a transportation fuel. As a means of addressing this concern, EPA provides potential structures for assuring valid RIN generation and electric vehicle consumption. However, these potential structures fail to meet both requirements.

There is a fundamental disconnect between biogas production and certainty that the electricity produced from the biogas is used as vehicle fuel in transportation to support valid RIN generation. Several parties are involved along the way: biogas producers, pipelines, IPP's, utilities (who both produce and distribute), distributors, fleet stations, public EV charging stations, and individual EV customers (who charge at home). The processes established through the Renewable Energy Certificate (REC) market is an already established alternative for measuring the renewable power feeding into the grid that puts additional renewable sources (power, solar, hydro) on a level playing field to generate eRINs. Though under any measuring process, the complex system has a high risk for fraudulent RIN generation if proper regulatory controls are not implemented. The biogas producer, similar to a biointermediate producer, captures the biogas, but it isn't ready for use in a vehicle until it is compressed, liquefied, or used in power generation. Efficient transport is likely in fungible pipelines, which would require some material tracking / management to the biofuel producer at the facility that generates CNG/LNG/electricity/other, where the RIN would be generated. If the fuel/electricity is not used in vehicle fuel, the RIN would need to be retired. The

responsibilities for RIN separation, and accountability for sale to vehicle fuel would need to be clearly defined, but have parallels with the rules regarding traditional biofuels sales into US domestic transportation/heating oil/jet fuels for domestic use.

EPA must propose for public comment through the rulemaking process a regulatory structure meeting both requirements to move forward with an eRIN provision. In addition, EPA must take public comment on the number of RINs to be generated per unit of electricity consumed as transportation fuel (i.e. energy equivalency value) accounting for energy losses during vehicle charging and vehicle use, and the appropriate reductions for vehicle electricity consumption that is used for non-transportation purposes, to reflect the actual electricity used to propel a transportation vehicle.

API and AFPM submitted joint comments on renewable electricity pathways in response to EPA's Proposed Rulemaking "RFS Pathways II and Technical Amendments to the RFS2 Standards" (Docket ID EPA-HQ-OAR-2012-0401 on July 13, 2013). They are re- inserted below as they continue to be relevant:

"As EPA states, "Landfills can generate electricity by combustion of the methane intheir biogas…once generated, the electricity enters the electric grid." Net GHG environmental benefits from this electricity generation process would be assessed andtracked by EPA's tailoring rule. We agree with OMB, who pointed out this issue in its comments to the EPA during the interagency review of this proposed rule.

The scheme proposed by EPA is particularly troubling, as it could potentially result in proliferation of invalid RINs. EPA's recently proposed rulemaking "RFS Renewable Identification Number (RIN) Quality Assurance Program" (Federal Register, vol. 78, pages 12158-12217) does not address the issue of RIN validity for biogas and renewable electricity produced and used for transportation.

How does one know that the renewable electricity is not displacing other renewable or low carbon electricity in the grid (solar, wind, hydro, natural gas, nuclear)? Further,how does one account for down time at the landfill generating station? Even in the case when 100% of the electricity generated by the landfill facility is used to charge electric vehicles directly at the plant, how are these RINs separated, validated, and transferred to the obligated parties for compliance? This proposal, if finalized, has thepotential to result in invalid RINs similar to the issue with fraudulent biodiesel RINs in 2011-2012, as a result of biodiesel producers' ability to separate RINs provided they are introduced in the transportation sector as neat fuel.

Notwithstanding the discussion in the previous section regarding the high GHG emissions that should be included in landfill gas for not recycling paper, if the landfillgas displaces other renewable electricity, such as from wind or solar, there should beno RINs available.

Finally, Table 3 below shows two possible pathways for electricity generated fromlandfill gas and the use of electricity in electric vehicles; the Table uses EPA's data.
Pathway 1 supplies electricity from the plant directly to electric vehicles, as would bethe case with a contract. Pathway 2 supplies electricity into the grid, where it

displaces grid electricity used for non-transportation purposes. At some other point, auser uses grid electricity to power electric vehicles. Note that in both cases the GHG emissions are equivalent. There is no change in GHG emissions because of the existence of a contract between the two parties, and so no RINs should be generated.Consider the case of a landfill that is already generating renewable electricity from landfill gas. With the increasing availability of PHEVs and EVs, it is likely that at least some of this electricity is going to charge these vehicles. However, if the landfill now signs contracts with these users, although there is no change in GHG emissions, RINs would be allocated to the landfill."

Table 3. Renewable electricity pathway comparison.

	Data from Table V.B.-2		Pathway 1: Renewable Electricity to EV	Pathway 2: (a)Renewable Electricity to Grid (b)Grid to EV
	kg CO2eq/ mmBtu electricity	kg CO2eq/ mmBtu fuel equivalent*	kg CO2eq/ mmBtu fuel equivalent*	kg CO2eq/ mmBtu fuel equivalent*
Renewable Electricity	12	4	4	4
U.S. Average Grid Electricity	220	73		73
2005 Baseline Gasoline	N/A	98		
TOTAL Emissions			**4**	**77**
Base Emissions				
Electricity			N/A	73
Gasoline			98	98
Total Base GHG Emissions			**98**	**171**
Renewable Electricity / EV Emissions			**4**	**77**
GHG Emissions Change			**-94**	**-94**

3. Reporting

EPA proposes that obligated parties would now report the constituent products described in 40 CFR 80.1407(c) and (e) separately, instead of in total, beginning with the 2017 compliance year, stating that it would "enable the EPA to more easily track the production of gasoline and diesel by obligated parties and verify that the reported volumes are accurate."[12] This reference to 40 CFR 80.1407(c) and (e) is not clear. We support reporting of constituent products (gasoline, diesel), but need an exact definition of volumes to report by category instead of referencing 80.1407(c).

A refinery can report Total Diesel Volume and Heating Oil Volume. However, a refinery will not know the volume of renewable fuel blended into diesel outside of the refinery, such as a terminal. Renewable Fuel Blended into Diesel should not be required.

The new requirement in section 80.1451 (1)(vii), as currently proposed, requires reporting under the RFS program for heating oil "beginning with the 2017 calendar year and every year thereafter, the production volume and import volume for heating oil, as defined in §

[12] 81 Fed. Reg. 80900

80.2(ccc)." That section also states that "volumes of renewable heating oil for which RINs were generated under § 80.1426 shall not be included."

Even though the production and import volumes of heating oil can be obtained from existing records, companies do not have the capabilities to track the amount of renewable fuel in HO imports, distillate blendstocks used to produce HO, and previously designated HO and ULSD designated at the refinery as HO. The new proposed reporting obligation for heating oil will require companies to exclude these renewable volumes. This can be complex within a refinery system and with imports, and that capability will require time to develop.

The proposed 2017 compliance year is implemented too soon. This should be applicable the year after promulgation. For example, if this requirement is promulgated in 2017, then it should be effective beginning with the 2018 compliance year.

4. Revising the Requirements for the Generation of RINs for Fuel Made From VegetableOils

Viscous Renewable Diesel

EPA proposes to allow the generation of RINs by blenders of straight vegetable oil (defined as viscous renewable diesel (VRD)) and petroleum diesel. To generate RINs, EPA would require VRD Blenders to produce a fuel that meets the specifications of ASTM D975 Grade No. 1-D or No. 2-D. We believe that this provision could be misinterpreted to be limited to only the list of specifications within ASTM D975 and not the entire standard. EPA should clarify that this meet the entire ASTM standard- the totality-not just the numerical specifications.

Furthermore, a review of the entire standard appears to prohibit the use of VRD to produce a fuel that meets ASTM D975. Regardless, we believe that petroleum diesel/VRD blends would cause motor fuel quality issues related to oxidation stability and filter plugging and should not be allowed. ASTM D02 Subcommittee E has determined that raw vegetable oil or "viscous non-ester renewable diesel" is not fit for use in diesel engines or heating oil burners. The subcommittee balloted an update to D396, the heating oil specification, to explicitly exclude any blending of raw vegetable oil as it was found to cause rapid and severe fouling of heating oil burners even when present at a low level.

Non-viscous renewable diesel

The definition of "non-viscous renewable fuel", as currently proposed, requires diesel produced from co-processing to meet ASTM D975 without subsequent blending at the production facility. Typically, both gasoline and diesel fuel are produced at petroleum refineries by the blending of hydrocarbon components to meet applicable ASTM specificationsand EPA and state requirements. It is fairly typical that the hydrocarbon components by themselves do not meet ASTM specifications, but the final product does so after the blending process. EPA's proposed definition of "non-viscous renewable fuel" would treat that renewable feedstock differently than hydrocarbon feedstocks thereby unnecessarily restricting the use of that component. API/AFPM suggest a revision to the definition of that

term which we believe preserves the integrity of the RIN generation process, levels the playing field for renewable fuels, and would increase the availability of renewable diesel.

API and AFPM suggest the following changes to the proposed definitions of "viscous renewable diesel" and "non-viscous renewable diesel" (page 80928 of the proposal):

Non-ester renewable diesel, also known as renewable diesel, is either viscous or non-viscous renewable diesel:

(1) **Non-viscous renewable** diesel satisfies all of the following conditions:

(i) Is not a mono-alkyl ester.

(ii) Is produced by processing renewable biomass, or co-processing renewable biomass and non-renewable feedstocks, through a hydrotreating process. ~~Meets the ASTM D975–13a (incorporated by reference, see § 80.1468) Grade No. 1–D or No. 2–D specifications prior to blending with any other product.~~

(iii) Either in its neat form or combined with other blendstocks prior to shipment from its production facility, (a) meets the ASTM D975-13a (incorporated by reference, see §80.1468) Grade No. 1-D or No. 2-D specifications, or (b) meets all specifications incorporated in a non-viscous renewable diesel's registration under 40 CFR part 79.

(iv) In its neat or combined form, can be used in an engine designed to operate on conventional diesel fuel.

~~(iv) Is produced through a hydrotreating process.~~

(2) **Viscous renewable diesel (VRD)** satisfies all of the following:

(i) Is not a mono-alkyl ester.

(ii) Is a straight vegetable oil

(iii) Is intended for use as ~~one of the following:~~

~~(A) A blend in an engine designed to operate on conventional diesel fuel (referred to as VRD for blending or VRD–B).~~

~~(B) A~~ a neat fuel for use either: In a vehicle or engine that has been converted to use such fuel under an EPA-approved Clean Alternative Fuel Conversion under 40 CFR part 85, subpart F; as heating oil; or as jet fuel (collectively referred to as VRD for neat use or VRD–N).

~~***Viscous renewable diesel blender or VRD blender*** means a party that blends VRD–B with petroleum diesel to produce fuel that meets the specifications of ASTM D975 Grade No. 1–D or No. 2–D (incorporated by reference, see § 80.1468).~~

5. Confidential Business Information (CBI)/RFS: Public Access to Information

EPA is proposing regulations that would streamline the processing of claims that RFS-related information should be withheld from public disclosure under the Freedom of Information Act (FOIA), 5 U.S.C. § 552(b)(4), as CBI. If finalized, the rules would identify the RFS information that would receive confidential treatment and the information that would be available for disclosure in response to a FOIA request without the need for the often time-consuming

notice and substantiation procedural requirements that would otherwise be required under 40 CFR Part 2, subpart B.[13]

We support specifying what RIN transactional information and RFS compliance information that is submitted through EMTS is entitled to treatment of CBI. With respect to the buy, sell, separate, and retire transactions, there are a number of fields identified that are system files that appear to be generated by EMTS, typically identified as system 1 through system 9 or 10. Consistent with the March 27, 2015 FOIA findings, we understand that those fields contain no data identifying the company or its personnel. While the field relating to Data Preparer is not currently identified as CBI, if that field or the other system generated fields do, in fact, contain information that could lead to the identification of the submitting company or its personnel, we request that those fields be treated as Confidential Business Information.

6. RIN Retirement

We support EPA's proposal for collecting information and placing it in one place within the regulation. EPA should ensure all required RIN retirement scenarios are included in the proposed new section of the regulation. We support the provisions for redesignation of renewable fuel on a PTD for non-qualifying uses, except that the proposed language in RIN Retirement Section 80.1434(a)(3) needs further clarification and is inconsistent with the language proposed in 80.1433. The requirement for RIN retirement should apply regardless of whether the renewable fuel was received with RINs. 80.1434(a)(3) states that only RINs received with the fuel need to be retired, in contradiction with proposed language in 80.1433.

7. Employment

EPA proposes the following at 80.1471:[14]

> *(12) The independent third-party auditor and its contractors and subcontractors shall ensure that all personnel involved in the third-party audit (including the verification activities) under this section do not accept future employment with the owner or operator of the renewable fuel producer, foreign ethanol producer, or biointermediate producer for a period of at least three years. For purposes of this requirement, employment does not include performing or participating in the third-party audit (including the verification activities) pursuant to §80.1472.*

The intent of this restriction is understandable, but the proposed regulatory language is unclear and unworkable. There is no way for an auditing company to control or even know what a former employee does after he/she resigns. Perhaps, the requirement should be placed on the biofuel producer, who could be prohibited from hiring an individual that auditedthe company for a period of three years following the audit.

Also note that both AFPM and API oppose the requirement to use 3rd party auditors in the RMP rule.

[13] 81 Fed. Reg. 80909

[14] 81 FR 80952

8. EPA Must Close the Biodiesel Loophole for RIN Separation

RIN fraud remains pervasive. AFPM and API continue to support regulatory changessuggested in 2013 comments on EPA's QAP proposal (pp 12-13 of comments):

One of the primary reasons that fraud occurred was that only one party (i.e.,the biodiesel producer) was involved in the generation, separation, and sale of RINs. Including independent third parties in the transaction creates a powerful deterrent to fraud.

AFPM and API support an RFS regulatory amendment that prohibits biodiesel producers from separating RINs. As part of a Final Rule, EPA should revise 40 CFR § 80.1429 to make clear that a biodiesel producer may not separate RINs unless that biodiesel producer also is an obligated party and then only to the extent that the quantity of RINs separated is less than or equal to its RVO under the RFS. Currently, RFS allows RIN separation in the isolated cases where neat biodiesel is used in transportation. In the marketplace, this scenario is extremely rare, yet the separation provision is widely exercised and has been abused. AFPM and API opposed allowing biofuel producers to separate RINs in the RFS1 and RFS2 regulatory proposals. In the known cases of invalid RINs, biodiesel producers generatedRINs on biodiesel that was not produced, separated those RINs, and sold them into the marketplace. Preventing biodiesel producers from separating RINs would have prevented the 140 million fraudulent biodiesel RINs and willeliminate this avenue for invalid RINs in the future.

In the RFS2 regulations, 40 CFR 80.1429(b)(4) allows a biomass-based dieselproducer to separate RINs for neat fuels that are designated and used as transportation fuel, heating oil, or jet fuel. Allowing biodiesel producers to separate RINs removes a significant protection against the creation of RINs that have no corresponding link to "wet gallons" of biodiesel. In the known cases of invalid RINs, biodiesel producers generated RINs without actually producing any physical biodiesel and sold the RINs into the marketplace.
The RIN purchasers did not suspect the fraudulent generation of the RINs due to the fact that biodiesel producers are allowed to separate RINs and sell them apart from the physical volume of biodiesel and because the RINs were generated by an EPA-registered biofuel producer. Preventing biodieselproducers from separating RINs will eliminate this avenue for fraud.

In the Preamble to the RFS 1 regulation, EPA stated: "Our program basicallyrequires RINs to be transferred with renewable fuel until the point at which the renewable fuel is purchased by an obligated party or is blended into gasoline or diesel fuel by a blender." EPA needs to return to this principle inthe case of biomass-based diesel RINs.

There is no harm from requiring the biodiesel RIN to remain attached to the biodiesel gallon until the biodiesel is acquired by an obligated party, blendedat a 20% or lower ratio with diesel fuel or consumed in an approved manner.

In the extremely rare case where biodiesel is actually used as a neat fuel, theRIN should only be separated by an independent party downstream from theoriginal producer. By requiring all biodiesel RINs to remain attached when sold by the producer, EPA can provide the RIN marketplace with additional confidence that the biodiesel associated with the RIN was actually produced,distributed and used.

To implement this significant risk reduction measure, we suggest thefollowing modifications to 40 CFR § 80.1429(b)(4):

> *(4) Any party that produces, imports, owns, sells, or uses a volume of neat renewable fuel, or a blend of renewable fuel and diesel fuel, must separate any RINs that have been assigned to that volume of neat renewable fuel or that blend if:*
> *(i) The party designates the neat renewable fuel or blend was designated by the producer or any party downstream of the producer as transportation fuel, heating oil, or jet fuel; and*
> *(ii) The neat renewable fuel or blend is used without further blending, in the designated form, as transportation fuel, heating oil, or jet fuel.*

9. Other Compliance Issues

a) E15 Misfueling Mitigation Harmonization:

Proposed changes to E15 PTDs should be harmonized with PTD provisions in Tier 3 gasoline sulfur program and incorporate new language to help EFF blender pump-refiners comply with EFF requirements.

b) Flexibilities for Renewable Fuel Blending for Military Use

We agree with the proposal to allow delegation of RFS related responsibilities to upstream parties for military applications, as this is consistent with other existing provisions (i.e. delegation allowances for small renewable fuel blenders).

c) Heating Oil Used for Cooling

We believe that amending the definition of heating oil to include cooling applications is appropriate and consistent with CAA section 211(o) requirements.

d) CCS Implementation Under the RFS

Based on the data provided in EPA's memorandum EPA-HQ-OAR-2016-0041, the LCA for sorghum ethanol did not include the carbon footprint of chemicals used at the biorefinery. We suggest that EPA publish these data on the chemicals used (type and amounts) at the sorghum ethanol biorefinery and include their individual carbon footprints in the LCA calculation. Then they can compare the LCA footprint of "sorghum ethanol coupled with CCS"to that of gasoline, in order to determine if sorghum ethanol with CCS meets the "advanced biofuel" threshold or not.

In the proposal, EPA notes that if a renewable fuel producer fails to notify EPA of a surface leak and fails to comply with the potentially invalid RIN administrative procedures, the renewable fuel producer will be deemed to have failed to take corrective action and "all RINs generated under the CCS pathway **during the five years preceding the leak** could be considered invalid." (p. 80883 of the *Federal Register*, emphasis added.) Invalidating five years of RINs is a severe consequence and places obligated parties at risk of having used invalid RINs for compliance purposes. This seems particularly unfair to obligated parties who would have no access to knowing or monitoring whether surface leaks were occurring. If such is the consequence, renewable fuel producers using CCS should be required to either verify all RINs as Q-RINs under the QAP or establish escrows or similar accounts for replacing RINs found to be invalid so as to protect the due process rights of obligated parties.

e) Renewable Fuels Produced From Short-Rotation Trees

- For poplar, EPA cites a yield range of 2.0 – 5.8 dry tons/acre/yr, but claims that their estimate of 4.57 is "on the lower end of the range". EPA should use a median value.
- For willow, the dry content estimate of 66.7% is at odds with the 55% cited. If the lower figure was used in combination with the EPA wet yield estimate, the dry matter yield would be only 5.47 x 55% = 3.00 dry tons/acre/yr instead of 3.65. EPA is underestimating the GHG emissions and should use consistent estimates.
- Diesel fuel use for poplar cited as 6 – 10 lbs/acre. This appears to be a typo and should be 6 – 10 gals/acre. For willow, the range is 5 – 17 gal/acre. EPA's estimates are below or at the low end of the cited ranges at 4.8 and 7.7 gal/acre for poplar and willow respectively. EPA should use a median value.
- Nitrogen fertilizer requirements for poplar seems to be based on data for willow; EPA should ensure the appropriate inputs are used.
- There are significant differences with the GREET paper regarding feedstock production in the docket. In general, GREET has lower energy requirements and higher crop yields than does the rulemaking, and we recommend using the GREET value.

f) Oxygenate Added Downstream in Tier 3

API and AFPM support the clarification of expectations for downstream oxygenate blending with respect to sulfur compliance.

EPA included clarifications related to sulfur compliance when including oxygenate blended downstream of the refinery. EPA also asked for comments on whether it should adopt similar provisions for the gasoline benzene program. EPA should adopt similar provisions – specifically, establishing a default value for the benzene content of DFE. Sampling the ethanol at the terminals is burdensome, so having a reasonable default value for DFE benzene contentwould be more practical when including downstream oxygenate into the refinery's compliance calculations.

10. Test method Revisions and Comments

a) EPA proposes ASTM D2622 to be the designated method for sulfur in EFF and is proposing to allow D1266, D3120, D5453, D6920, D7220, and D7039 as alternative test methods provided that their test results are correlated to D2622.

API and AFPM have concerns about the suitability of ASTM D2622 for measuring the sulfur content of EFF. We also note that ASTM D1266 and ASTM D3120 are relatively outdated methods. If D2622 is the designated method, then users should ensure that their analytical method has accounted for the interference from the high ethanol (oxygen) content in the fuel.

b) EPA seeks comment about whether to designate ASTM D5769 as a test method for measuring the benzene content of EFF.

API and AFPM support EPA's proposal to designate ASTM D5769 for measuring the benzene content of EFF. ASTM D3606 should not be included as an additional designatedmethod for measuring EFF, nor should ASTM D3606 be allowed as an alternative test method because of interference issues. In addition, we support including ASTM D5580 asa co-designated method with ASTM D5769. ASTM D580 is a simpler method to maintain and run, and many laboratories may already be using ASTM D5580. Co-designating ASTMD5580 is also consistent with EPA efforts to avoid imposing an undue burden on the industry. We also support the use of ASTM D6730 as an alternative method.

c) EPA proposes to designate ASTM D5599 as the test method for measuring oxygenates in EFF and proposes to allow ASTM D4815 as an alternative method provided its results are correlated to ASTM D5599. API and AFPM oppose EPA's proposal to (a) establish ASTM D5599 as the designated primary test method for measuring the oxygenate content of EFF, and (b) allow ASTM D4815 as an alternative test method in this regard. The maximum range of the scope for the D4815 test method is 12% by volume ethanol and it does not allow for dilution. The maximum range of the scope for ASTM D5599 is 10% by volume ethanol. Therefore, neither of these methods are applicable for measuring the oxygenate content of EFF.

d) EPA seeks comment on whether PBMS should be applied to the test methods for EFF. The Agency also mentions wanting accuracy and precision criteria being developedfor the EFF test methods.

"The EPA is also taking comment on whether we should establish Performance-Based Analytical Test Method Approach (PBATMA) requirements for the parameters of sulfur, benzene, distillation point, oxygenate content, and RVP in EFF and natural gasoline EFF blendstock. The EPA envisions that sulfur would fall under the absolute fuel parameter category for PBATMA where the precision criteria157 and accuracy criteria158 would be the same as for sulfur in gasoline.159 The EPA envisions the fuel parameters of benzene, T90 distillation point, oxygenate content, and RVP would fall under the method defined fuel parameter category for PBATMA.160 Under the method defined fuel parameter PBATMA requirements, the EPA envisions that the precision criteria would be the same as for each of these respective fuel parameters in gasoline.161 The EPA envisions that the accuracy criteria would be addressed by ASTM

D6708 assessments to determine the need for a correction equation.162 The EPA envisions following the same approval process for EFF as for gasoline; that is, voluntary consensus standard body (VCSB) test methods self-qualify to regulatory criteria and non-VCSB test methods submit required information to the EPA for approval.163 Finally the EPA envisions that the EFF and natural gasoline EFF blendstock statistical quality control (SQC) PBATMA requirements for accuracy and precision would mirror what was finalized for PBAMTA for motor vehicle gasoline anddiesel fuel.164 The EPA is interested in comments on whether the test methods discussed here sufficiently address EFF and natural gasoline EFF blendstock in their precision statement in order to establish PBATMA accuracy and precision criteria as discussed above for the fuel parameters of sulfur, benzene, distillation point, oxygenate content, and RVP."

API and AFPM believe that PBMS requirements should not be developed for EFF test methods. Data for materials with high ethanol concentrations do not exist to develop D6708 assessments for alternative test methods. In particular, there are no existing dataavailable to develop accuracy and precision criteria for the applicable test methods.

In Section IX of the proposal, EPA proposes to remove the October 28, 2013 sunset date for exempting designated primary test methods from meeting the accuracy and precision requirements of 4 CFR 8.47. API and AFPM support EPA's proposal to remove the sunset date for the designated test methods.

e) EPA proposes to add accuracy and precision criteria for sulfur in pentane in 40 CFR 80.47(b) that are identical to sulfur in gasoline

We note that there is no relevant ASTM method for analyzing sulfur in pentane. Hence, there is insufficient information to support EPA's statement that the gasoline method "may be adaptable" to pentane. Additional data and analyses are needed. Consequently,API and AFPM oppose EPA's proposal to add accuracy and precision criteria for sulfur in pentane in 40 CFR 80.47(b) that are identical to sulfur in gasoline

f) EPA proposes to include ASTM D5769 as a designated method for benzene in gasoline, in addition to the current designated ASTM D3606 test method codified at 40 CFR 80.46(e).

API and AFPM agree that ASTM D5769 and D3606 should both be established as designated methods for benzene in gasoline.

g) Other Technical Comments to EPA's Proposed Test Method Revisions in 40 CFR 80.46 and 40 CFR 80.47

1. The proposed regulatory text for 80.46(f) (at 81 FR 80922) contains a typographical error. "Olefin" should be replaced with "Aromatic."

2. The new language at 80.47(b)(2)(i) & (ii) and 80.47(c)(2)(i) & (ii) is confusing. For example, proposed 80.47(b)(2)(i) & (ii) reads:

(i) The arithmetic average of a continuous series of at least 10 tests performed using *good laboratory practices on a commercially available gravimetric sulfur standard in the range of 1–10 ppm shall not differ from the accepted reference value (ARV) of the standard by more than 0.47 ppm sulfur, where the accuracy criteria is 0.75*(1.5*r/2.77), where ''r'' is the repeatability (Example: 0.75*(1.5*1.15ppm/2.77) = 0.47 ppm);*

(ii) *The arithmetic average of a continuous series of at least 10 tests performed using good laboratory practices on a commercially available gravimetric sulfur standard in the range of 10–20 ppm shall not differ from the ARV of the standard by more than 0.94 ppm sulfur, where the accuracy criteria is 0.75*(1.5*r/2.77), where ''r'' is the repeatability (Example: 0.75*(1.5*2.30ppm/2.77) = 0.94 ppm); and*

Please clarify whether labs should use the discrete value or the calculation basedoff the repeatability for ARV of the reference standard?

3. In 80.47(n)(1)(i), EPA states that the facility must construct "MR" and "I" charts with control lines as described in section 8.4 of ASTM D6299. Per section 8.4, 20 points are needed to set up I and MR charts. This is difficult if using the round robin for accuracy, and may not be necessary if the accuracy is bound by 0.75R and expanded uncertainty.

4. With respect to 80.47(n)(1)(ii) and 80.47(o)(1)(ii), EPA has not provided instruction on how expanded uncertainty is to be used. What is the significance of calculating this value?

5. Proposed 80.47(o)(1)(i) states:

Accuracy SQC. Every facility shall conduct tests of every instrument with a commercially available check standard as defined in ASTM D6299 at least three times a year using good laboratory practices. The check standard must be an ordinary fuel with levels of the fuel parameter of interest close to either the applicable regulatory standard or the average level of use for the facility. For facilities using a VCSB designated method defined test method, the ARV of the check standard must be determined by the respective designated test method for the fuel parameter following the guidelines of ASTM D6299. Facilities using a VCSB alternative method defined test method must use the ARV of the check standard as determined in a VCSB Inter Laboratory Crosscheck Program (ILCP) or acommercially available ILCP following the guidelines of ASTM D6299. If the ARV is not provided in the ILCP, accuracy must be assessed based upon the respective EPA-designated test method using appropriate production samples. The facility must construct ''MR'' and ''I'' charts with control lines as described in section 8.4 and appropriate Annex sections of this standard practice. In circumstances where the absolute difference between test results and the ARV of the check standard

based on the designated primary test method is greater than 0.75 times the published reproducibility of the designated primary test method, the cause of such difference must be investigated by the facility. Participation in a VCSB ILCP or a commercially available ILCP meeting the ASTM D6299 requirements for ILCP check standards, based on the designated primary test method, at least three times a year, and, meeting the requirements in this section for absolute differences between the test results and the ARV of the check standard based on the designated primary test method of less than 0.75 times the published reproducibility of the designated primary test method obtained through participation in the ILCP satisfies this Accuracy SQC requirement (Examples of VCSBILCPs: ASTM Reformulated Gasoline ILCP or ASTM motor gasoline ILCP).

The above paragraph gives conflicting instruction. The ARV is to be established bythe ILCP of the alternative test method, if available, but users must determine compliance using control charts with ARVs from the designated method. Please clarify.

6. Accuracy requirements for sections on sulfur accuracy (n)(1)(i) and non-VCSB accuracy (p)(1)(i) and (p)(2)(i), require the "mean of back-to-back tests" to be within 0.75R, but this section has changed to be the "absolute difference" of 0.75R. This is inconsistent, and the additional restriction is not necessary.

11. RVP

a. RVP Waiver for E15

API and AFPM do not support EPA extending the 1 psi RVP waiver for E15. This was not proposed by EPA, but it was raised at the Public Hearing in Chicago on December 6, 2016. It is not lawful to provide a 1 psi waiver for summer E15. We also oppose the suggestion by autos that EPA increase stringency of all gasoline to offset ethanol RVP.

We support the compliance requirements proposed by EPA:

- Sept – May: PTDs that the parent blends used to make E15 (E0, E10, EFF) were certified for sale upstream of the blender pump-refiner.
- June -Sept. 15: PTDs of certified parent blends; for conventional areas where 1 psi waiver for E10 applies, E15 cannot be made from E10 at the blender pump and cannot be made from E0 with EFF
- participate in an EPA-approved EFF quality assurance survey

b. Pump Label

Retail gasoline stations may be confused regarding E15 pump labeling and summer RVP requirements. EPA promulgated pump label regulations in 2011 when E15 is sold at retail. EPA's required pump label applies all year and is not seasonal (e.g., one for the winter and a different label for the summer) and cannot be altered without prior EPA's permission.

We strongly support EPA's reminder in this proposal. The Agency stated that summer RVP cannot be circumvented by relabeling; "intended use" on a pump label does not exempt E15 from fuel quality requirements (see 81 FR 80863):

All gasoline, including E15, is subject to all of the requirements applicable to gasoline because of its formulation, not because of its enduse. These requirements cannot be circumvented by relabeling.
Allowing a fuel to be exempted from fuel quality requirements simplybased on a statement of its intended use would undermine the EPA's ability to assure compliance with fuel quality requirements.

Thank you for the opportunity to comment on this proposal. If you haveany questions regarding these comments, please call Patrick Kelly, API at (202) 682-8192 or Tim Hogan, AFPM at (202) 552-8462.