RENEWABLE FUELS ASSOCIATION

April 29, 2019

U.S. Environmental Protection Agency
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1200 Pennsylvania Avenue NW
Washington, DC 20460

Comments of Renewable Fuels Association to "Modifications to Fuel Regulations To Provide Flexibility for E15; Modifications to RFS RIN Market Regulations," Docket ID No. EPA–HQ–OAR–2018–0775

Dear Docket Clerk:

The Renewable Fuels Association ("RFA"), appreciates the opportunity to provide the enclosed comments to the Environmental Protection Agency ("EPA") on its proposed rule "Modifications to Fuel Regulations To Provide Flexibility for E15; Modifications to RFS RIN Market Regulations," published at 84 Fed. Reg. 10,584 (Mar. 21, 2019) (the "Proposed Rule"). RFA has advocated for parity in the regulatory treatment of E15 and E10 since the E15 fuel waiver petition was originally filed in 2009.

As discussed more fully in our attached comments, RFA strongly agrees with the Proposed Rule's conclusion that EPA has the authority to extend the 1.0 pound per square inch ("psi") Reid Vapor Pressure ("RVP") allowance that currently applies to blends of gasoline and 10 percent ethanol ("E10") to blends of gasoline and 15 percent ethanol ("E15"). RFA further agrees with EPA that it has the authority to do so either through its interpretation of § 211(f)(4) of the Clean Air Act as excluding oxygenate blenders, or through its determination that E15 is substantially similar, or "sub sim," to the E10 fuel used to certify Tier 3 motor vehicles. RFA believes there is ample legal support for both of these approaches. RFA opposes any condition to a sub sim determination that would restrict use of E15 to a narrower range of vehicles than those specified in the §211(f)(4) E15 waiver or the MMR.

In addition, while RFA is generally supportive of enhancing transparency in the RFS program, we believe EPA should not finalize the four RIN reform concepts proposed in this rulemaking. Further study and evaluation are needed before EPA can adequately determine the potential adverse impacts of these proposals on participants in the RFS program.

We thank you for your consideration of our comments.

Sincerely,

Geoff Cooper

Geoff Cooper
President and CEO

COMMENTS OF THE RENEWABLE FUELS ASSOCIATION

Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations, 84 Fed. Reg. 10,584 (Mar. 21, 2019)

Docket ID No. EPA–HQ–OAR–2018–0775

I. INTRODUCTION

The Renewable Fuels Association ("RFA") submits these comments to the Environmental Protection Agency ("EPA") for its proposed rule entitled "Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations" (the "Proposed Rule").

First organized in 1981, RFA serves as the prominent voice of advocacy for the ethanol industry. Its mission is to advance the development, production, and use of fuel ethanol by strengthening America's ethanol industry and raising awareness about the benefits of renewable fuels. RFA's 300-plus members produce billions of gallons of renewable fuel each year and are working to help America become cleaner, safer, more energy secure, and more economically vibrant.

RFA has advocated regulatory parity for blends of gasoline and fifteen percent ethanol ("E15") and blends of gasoline and ten percent ethanol ("E10") for years. RFA therefore was pleased that EPA in the Proposed Rule agreed that it has the legal authority to extend the 1-psi Reid Vapor Pressure ("RVP") waiver to E15. RFA appreciates EPA's efforts on the Proposed Rule and its commitment to finalize the distinct RVP provisions prior to June 1, 2019.

RFA's comments are divided into two separate parts, mirroring the bifurcated structure of the Proposed Rule: I) the extension of the 1-psi RVP waiver to E15 and II) renewable identification number ("RIN") market reform.

RFA's comments can be summarized as follows:

Extension of 1-psi RVP Waiver

- RFA strongly supports EPA's proposal allowing E15 to take advantage of the 1-psi RVP waiver that currently applies to E10 during the summer months. RFA agrees with EPA's interpretation of Clean Air Act § 211(h)(4). Our nation's fuel market has experienced "changed circumstances" since the RVP waiver was initially adopted in 1990 and the conditions that led EPA to provide the original 1-psi waiver for E10 in 1990 apply equally to E15 today.

- EPA should finalize the "substantially similar" (or "sub sim") approach described in the Proposed Rule under § 211(f)(1) of the Clean Air Act ("Act"). In conjunction with the "sub sim" approach, EPA should also finalize its proposed interpretation of § 211(f)(4) of the Act as applying only to fuel manufacturers.

- Although either approach is sound from a technical, legal, and policy perspective, RFA believes EPA's "sub sim" approach under § 211(f)(1) is preferable to its proposed interpretation of § 211(f)(4). A "sub sim" determination would apply equally to fuel manufacturers (including refiners and importers) and oxygenate blenders, such that both groups could lawfully blend E15 from the same gasoline blendstock that is used to make E10 during the summer. In contrast, EPA's interpretation of 211(f)(4) would limit that ability to only oxygenate blenders and would complicate the use of blender pumps to make E15 from E85 flex fuel containing natural gasoline.

- Rather than effectively eliminate the use of natural gasoline as the hydrocarbon component of flex fuels, RFA recommends that EPA adopt the approach to E15 made at blender pumps first proposed in the Renewables Enhancement and Growth Support ("REGS") rule. This proposal would allow entities who manufacture E15 at blender pumps to use product transfer documents ("PTDs") to demonstrate compliance with applicable sulfur, benzene, and volatility requirements as well as CHONS (carbon, hydrogen, oxygen, nitrogen, and sulfur) specifications in lieu of performing batch testing. EPA should not presuppose all E15 made from E85 flex fuels containing natural gas liquids is incapable of meeting the applicable RVP standards after applying the 1-psi waiver.

- RFA agrees that data pertaining to E15 exhaust and evaporative emissions in the Proposed Rule support a sub sim determination, and RFA provides additional validating data in Section II.F.

- RFA opposes any new conditions to the sub sim determination not already addressed by the §211(f)(4) waiver conditions or the Misfueling Mitigation Rule ("MMR") issued under § 211(c).

- RFA particularly opposes any condition to a sub sim determination that would restrict use of E15 to a narrower range of vehicles than those specified in the §211(f)(4) E15 waiver or the MMR. EPA lacks a legal and practical basis for concluding that E15 sub sim to Tier 3 E10 certification fuel can only be used in Tier 3 vehicles, just as it would be inappropriate for EPA reflexively to conclude that fuels like ethanol-free gasoline ("E0") that are sub sim to the Tier 2 certification fuel, indolene, cannot be used in Tier 3 vehicles, even though Tier 3 vehicles were not certified on indolene.

- EPA has already determined in its previous E15 partial waivers under § 211(f)(4) that use of E15 in MY2001 and newer light-duty motor vehicles, light-duty trucks, and medium duty passenger vehicles would not cause those vehicles to exceed their emissions standards or cause driveability or materials compatibility issues. As a result, EPA has considered the impact of E15 not merely on Tier 3 vehicles but on the entire vehicle fleet. Due to the unique factual circumstances here, where the §211(f)(4) waiver preceded the certification fuel change and this sub sim determination, EPA need not decide in this interpretative rule whether a sub sim determination necessarily means that the fuel can be used in all vehicles in the fleet.

- RFA and allies in the ethanol industry remain committed to continuing voluntary consumer and retailer outreach to address potential E15 misfueling concerns.

RIN Market Reform

- RFA opposes any changes to the Renewable Fuel Standard's ("RFS") RIN market mechanism that would reduce compliance flexibility, diminish liquidity in the RIN market, give certain parties in the marketplace unfairly advantaged positions, add unnecessary complexity, increase administrative burdens, or impugn the RIN market's ability to incentivize expansion of renewable fuel consumption.

- While RFA is supportive of enhancing transparency in the RIN marketplace, RFA does not believe any of the four primary RIN reform options in the Proposed Rule would accomplish that objective. In fact, RFA is concerned that some of the major changes proposed by EPA may be counterproductive, undermine the efficient operation of the RIN market mechanism, and greatly expand administrative burdens for all parties affected by the RFS.

- These RIN reform proposals should not be finalized until EPA has additional time to fully evaluate the potential market and programmatic impacts of such changes.

- To truly enhance transparency and minimize risk of manipulation in the RIN market, we encourage EPA to finalize its proposal to disclose information related to small refinery exemptions, consider providing additional RIN holdings data, and finalize certain proposals related to enhancing EPA's market monitoring capabilities.

II. THE TEXT, HISTORY, STRUCTURE, AND PURPOSE OF THE CLEAN AIR ACT SUPPORT EXTENDING 1-PSI RVP WAIVER TO E15

A. Reinterpretation of CAA § 211(h)(4)

RFA firmly endorses EPA's proposal to interpret § 211(h)(4) of the Clean Air Act as being applicable to ethanol blends containing at least 10 percent ethanol, including E15. Extending the 1-psi RVP waiver to E15 during the summer volatility control season will help foster competition and open the marketplace to a fuel that provides consumers higher octane, lower cost, and reduced tailpipe emissions. RFA believes EPA's justification for this interpretation is well supported by the Clean Air Act's text, history, structure and purpose.

i. Text

Section 211(h)(4) provides: "For fuel blends containing gasoline and 10 percent denatured anhydrous ethanol, the [RVP] limitation under this subsection shall be one [psi] greater than the applicable [RVP] limitations established under paragraph (1)." A blend of gasoline and at least ten percent ethanol "contain[s] gasoline and 10 percent … ethanol," just as the statute requires. That is because E15, for example, contains 10 percent ethanol, as well as an additional five percent ethanol. EPA's interpretation in the Proposed Rule of "containing" to mean "containing at least" is reasonable and well supported.[1]

ii. Legislative History

Although the maximum ethanol concentration at the time Congress enacted § 211(h)(4) was 10 percent, Congress indicated that it did not intend for 10 percent ethanol to serve as a permanent maximum concentration. Rather, Congress wanted the RVP waiver to "allow ethanol blending to continue to be a viable alternative fuel, with its beneficial environmental, economic, agricultural, energy security and foreign policy implications."[2] Consistent with this objective, and as noted by EPA, Congress used the phrase "at least" 10 percent ethanol when discussing the 1-psi waiver.[3]

As did EPA in promulgating the Phase I and II regulations prior to the Clean Air Act Amendments of 1990, Congress in 1990 also "recognized that to require ethanol to meet a 9-pound RVP would require the creation of a production and distribution network for sub-nine-pound gasoline. The cost of producing and distributing this kind of fuel would be prohibitive to the petroleum industry and would likely result in the termination of the availability of ethanol in the marketplace."[4] Nothing in the legislative history suggests any reason this rationale would apply only to E10 and not also to blends with higher ethanol concentrations subsequently shown to be compatible with motor vehicle emissions regulations and therefore granted waivers pursuant to § 211(f)(4). On the contrary, the reasons the Senate Report gave for extending the 1-psi waiver to gasoline ethanol blends up to 10 percent ethanol in 1990 equally weigh in favor of interpreting the 1-psi waiver to apply to E15 in 2019.

iii. Structure

Moreover, EPA correctly recognizes that the "deemed to comply" language of § 211(h)(4) confirms that Congress intended the RVP allowance under that provision to extend to all blends containing 10 percent ethanol.[5] The "deemed to comply" defense in the second clause of § 211(h)(4) does not use the words "10 percent" from the first clause; rather, it applies if, among other things, "the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4)." As EPA notes, the logical explanation for the different language in the two clauses of § 211(h)(4) is that the first clause establishes a *floor* of 10 percent, and the second

[1] *See* 84 Fed. Reg. 10,584, 10,591 (Mar. 21, 2019).

[2] *See id.* at 10,592 (citing S. Rep. No. 101-228, at 3,495 (1989)).

[3] *Id.* at 10,591-92.

[4] *Id.* at 10,592 (quoting S. Rep. No. 101-228 (1989)).

[5] *Id*. at 10,592.

clause establishes that any applicable waiver condition under § 211(f)(4) imposes a *ceiling* on the ethanol concentrations eligible for the compliance defense. Accordingly, by referencing the separate potential ceiling in § 211(f)(4), Congress was indicating that 10 percent ethanol is to be the minimum, not the maximum, volumetric requirement.

iv. Purpose

As noted above, in enacting § 211(h)(4), Congress wanted the RVP waiver to promote ethanol blending while avoiding unnecessary costs in producing and distributing lower RVP blendstocks.[6] EPA's proposed interpretation of § 211(h)(4) as setting the minimum level of ethanol content, rather than the maximum, achieves those objectives. Moreover, EPA's prior interpretation of § 211(h)(4) over the past decades is largely inconsequential because the only waiver that came into effect for an ethanol blend under § 211(h) was for E10. The facts on the ground have changed significantly, however, since EPA allowed E15 for sale. As EPA correctly recognizes, E15's use in the marketplace has grown significantly and is now sold at over 1,300 retail stations.[7] In addition, E10 accounts for about 98% of gasoline in the market,[8] and in 2014 EPA changed certification fuel used for emissions testing of new vehicles to E10. From a policy and factual perspective, there is no reason to retain regulatory requirements on RVP that prevent E15 from competing equally with E10 by requiring E15 to utilize a different gasoline blendstock in the summer than is required for E10. The existing interpretation that precludes regulatory parity for E15 compared to E10 is particularly inappropriate given that E15 produces lower tailpipe emissions than E10 and, as EPA acknowledges, has lower evaporative emissions as well.[9]

In sum, EPA's proposed interpretation of § 211(h)(4) would align with the best reading of the statute and with Congressional intent to protect the environment, increase U.S. energy independence, lower costs, and remove regulatory barriers to economic growth.

B. Regulatory Amendments

RFA agrees with EPA's reasoning to extend the 1-psi waiver to ethanol gasoline blends of up to 15 percent. However, RFA believes that in light of the existing partial waivers that allow up to 15 percent ethanol in gasoline, a more accurate interpretation would extend the 1-psi waiver to blends of 9.5 to 15 percent ethanol, rather than 9 to 15 percent, as stated in the Proposed Rule.[10] EPA's original reasoning for proposing in the 9 to 10 percent range might have been because the § 211(f)(4) waiver at the time limited ethanol content in gasoline to no more than 10 percent, and it is almost impossible to ensure exactly 10 percent ethanol via splash blending. At the time, a one percent margin was sufficient to facilitate splash blending without jeopardizing a violation of the § 211(f)(4) waiver condition. Now, however, the maximum ethanol concentration in gasoline is 15 percent, so if splash blending were to result in 10.5 percent ethanol, doing so would no longer exceed the waiver condition. Additionally, since EPA

[6] *Id.*

[7] *Id.* at 10,590.

[8] S*ee* U.S. Dep't of Energy, Alternative Fuels Data Center, https://afdc.energy.gov/fuels/ethanol_blends.html.

[9] 84 Fed. Reg at 10,592.

[10] *See id.* at 10,593.

is correctly interpreting "contains 10 percent" to mean "at least 10 percent," it should also select a percentage that can round up to 10 percent.

RFA also supports EPA's proposed revisions to the Misfueling Mitigation Rule ("MMR"), which placed prohibitions on the commingling of E10 and E15 and Product Transfer Document ("PTD") requirements related to 1-psi waiver on E15. As EPA correctly concludes, neither is necessary in light of the Proposed Rule's interpretation of § 211(h).[11]

C. Effects on Regulated Parties from Fuel and Fuel Additive Manufacturer Approach

Although EPA's interpretation of § 211(f)(4) provides a separate and independent basis for the proposed action, fuel and fuel additive manufacturers would be impacted differently than oxygenate blenders from the implementation of this approach. For this reason, RFA favors EPA's proposed "sub sim" approach under § 211(f)(1), which would apply equally to such manufacturers and blenders. If EPA elects to finalize both approaches, however, RFA encourages EPA to clarify that, because the fuel manufacturer interpretation is an alternative basis for the action, the sub sim provisions final rule would allow E15 to be lawfully blended by both fuel manufacturers and oxygenate blenders from the same gasoline blendstock that is used to make E10 during the summer. EPA acknowledged this in footnote 76, but RFA believes the final rule should also state this clearly and directly.

D. E15 Made at Blender Pumps

RFA requests that EPA reconsider its proposed approach to regulation of E15 made at blender pumps from E85 flex fuel containing natural gasoline. A majority of the retail dispensers selling E15 today are, in fact, blender pumps that mix E85 and E10 together to make the finished fuel. This is due in part to the U.S. Department of Agriculture matching tens of millions of dollars of private investment for the deployment of ethanol blender pumps.[12] Much of the E85 that is used to make E15 via blender pumps today contains natural gasoline hydrocarbon. Natural gasoline used as the hydrocarbon portion of E85 flex fuel is a cost-effective blendstock that meets Tier 3 sulfur standards. Under the Proposed Rule, however, E15 made from E85 containing natural gasoline would not qualify for the 1-psi RVP waiver, even if the finished fuel met applicable sulfur and benzene standards and had volatility of 10.0 psi or less. So long as the finished fuel would otherwise meet blend specifications, this seems unreasonable, especially because E15 made from E85 and E10 via a blender pump typically contains only about one percent natural gasoline.[13]

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[11] *See id*. at 10,593.

[12] *See* 81 Fed. Reg. 80,831 (Nov. 16, 2016).

[13] Blender pumps typically make one gallon of E15 by combining 0.94 gallons of E10 (containing 9.8% ethanol, 0.2% natural gasoline denaturant, and 90.0% gasoline BOB) with 0.06 gallons of E85 (containing 83% ethanol and 17% natural gasoline). Thus, the finished E15 fuel contains 14.2% ethanol, 1.2% natural gasoline, and 84.6% gasoline BOB.

Rather than effectively eliminate the use of natural gasoline as a hydrocarbon blendstock for E85 used at blender pumps to make E15, RFA recommends that EPA adopt the more flexible approach to E15 made at blender pumps first proposed in the Renewables Enhancement and Growth Support ("REGS") rule in 2016.[14] Under that approach, which EPA acknowledged in the Proposed Rule,[15] EPA proposed to allow entities who manufacture E15 at blender pumps to use PTDs to demonstrate compliance with applicable sulfur, benzene, and volatility requirements in lieu of performing batch testing. EPA correctly recognized that the existing regulatory regime for a "fuel manufacturer," which was promulgated before the rise in blender pumps, is unwieldy and outdated as applied to blender pumps. RFA believes the method proposed in the REGS package is a reasonable approach that preserves flexibility for blenders. RFA therefore encourages the Agency to adopt the REGS approach for E15 produced at blender pumps, and to allow such blenders the opportunity to demonstrate compliance, rather than eliminate the possibility that they can.[16]

E. Substantially Similar Interpretation

RFA strongly supports EPA's proposal to recognize E15 at either 9 psi or 10 psi as "substantially similar" to Tier 3 E10 certification fuel for purposes of § 211(f)(1). RFA believes EPA's reasoning for this proposed interpretation is supported by legal precedent and available scientific data concerning the three key considerations of emissions, materials compatibility, and drivability.[17]

RFA concurs with the statutory framework and history of sub sim interpretations outlined in the Proposed Rule. Section 211(f)(1) of the Clean Air Act prohibits manufacturers from "first introduc[ing]" a new fuel into commerce for general use in light duty motor vehicles unless it is "substantially similar to *any fuel*…utilized in the certification of *any model* year 1975, or subsequent model year, vehicle or engine." (emphasis added). Under § 211(f)(4), EPA may waive that prohibition upon the manufacturer establishing that the fuel will not cause or contribute to a failure of any emissions control device to comply with the emission standards to which a vehicle was certified. Fuels that qualify as "sub sim" do not need a waiver, although they remain subject to regulation under Section 211(c)—such as the Misfueling Mitigation Rule in the case of E15.

Because Congress did not define what it means for a fuel to be "substantially similar" to certification fuel or otherwise direct EPA to issue implementing regulations, EPA retains significant discretion to define what constitutes sub sim to certification fuel.[18] Here, because the term "substantially similar" is both inherently broad and undefined in the statute, EPA has significant discretion to adopt a "reasonable" interpretation as long as "doing so is reasonable,

[14] *See* 81 Fed. Reg. 80,828, 80,862-80,870 (Nov. 16, 2016) ("EFF Blender Pump-Refiner Certification Option").
[15] *See* 84 Fed. Reg. at 10,595.
[16] *See id.*
[17] *See, e.g.*, 56 Fed. Reg. 5,352, 5,353-54 (Feb. 11, 1991) (discussing consideration factors); 46 Fed. Reg. 38,582, 38,583-84 (July 28, 1981) (same).
[18] *See NationsBank of N.C. v. Variable Annuity Life Ins. Co.*, 513 U.S. 251, 257 (1995) ("If the administrator's reading fills a gap or defines a term in a way that is reasonable in light of the legislature's revealed design, [a court will] give the administrator's judgment controlling weight.") (internal quotations omitted).

within the scope of the statutory delegation, and the departure from past precedent is sensibly explained."[19]

As EPA accurately explains in the Proposed Rule, the Agency uses two fuels in certification: [1] a standardized testing fuel which must have properties that meet specifications promulgated under the Act and [2] a mileage-accumulation fuel which must be representative of commercially available fuels."[20] The current "sub sim" definition resulted from a series of interpretative rules that EPA issued from 1980 to 2008 defining the physical and chemical characteristics of a fuel or fuel additive that is "substantially similar" to indolene ("E0"). As EPA explains in the Proposed Rule,[21] indolene was the gasoline formulation historically specified for light duty vehicle certification emissions testing until 2014, when EPA, recognizing the widespread use of E10 in the marketplace, updated the certification fuel from 9-psi E0 to 9-psi E10 in the Tier 3 rulemaking.[22] Even though fuel used for emissions certification during this timeframe contained no ethanol, EPA's definition of "substantially similar" gasoline included an oxygen content criterion of up to 2.0 percent oxygen by weight, which was later increased to 2.7 percent oxygen by weight.[23] Under prior sub sim interpretative rules, this meant that gasoline-ethanol blends containing approximately 7.5 percent ethanol by volume (which equates to about 2.7 percent oxygen by weight) are sub sim to E0.[24]

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[19] *FedEx Home Delivery v. Nat'l Labor Relations Bd*., 849 F.3d 1123, 1127 (D.C. Cir. 2017).

[20] 46 Fed. Reg. at 38,583.

[21] 84 Fed. Reg. at 10,597.

[22] *See* 79 Fed. Reg. 23,414, 23,450 (Apr. 28, 2014).

[23] 84 Fed. Reg. at 10,597.

[24] Under the current definition of "substantially similar," a fuel or fuel additive will be treated as "substantially similar" to indolene if four criteria are met:

1. The fuel must contain carbon, hydrogen, and oxygen, nitrogen, and/or sulfur, exclusively, in the form of some combination of the following:
   a. Hydrocarbons;
   b. Aliphatic ethers;
   c. Aliphatic alcohols other than methanol;
   d. (i) Up to 0.3 percent methanol by volume; (ii) Up to 2.75 percent methanol by volume with an equal volume of butanol, or higher molecular weight alcohol;
   e. A fuel additive at a concentration of no more than 0.25 percent by weight which contributes no more than 15 ppm sulfur by weight to the fuel.
2. The fuel must contain no more than 2.0 percent oxygen by weight, except fuels containing aliphatic ethers and/or alcohols (excluding methanol) must contain no more than 2.7 percent oxygen by weight.
3. The fuel must possess, at the time of manufacture, all of the physical and chemical characteristics of an unleaded gasoline as specified in ASTM Standard D 4814–88 for at least one of the Seasonal and Geographical Volatility Classes specified in the standard, with the exception of fuel introduced into commerce in the state of Alaska. For fuel introduced into commerce in the state of Alaska, all of the requirements of this section (3) apply, with the exception of the test temperature for a maximum Vapor/Liquid Ratio (V/L) of 20, which shall be a minimum of 35 °C (95 °F) for the period from September 16 through May 31.
4. The fuel additive must contain only carbon, hydrogen, and any one or all of the following elements: Oxygen, nitrogen, and/or sulfur.

73 Fed. Reg. 22,277, 22,281 (Apr. 25, 2008).

After EPA changed the standardized test gasoline used in vehicle certification from indolene to E10, certification fuel used in emission testing from that point forward has contained ten percent ethanol by volume (3.5 percent oxygen by weight). EPA never updated its sub sim interpretative rule, however, to increase the oxygen content by weight to reflect the change from 2.7 to 3.5 percent oxygen by weight. As a result, under the most recent sub sim interpretation from 2008, the current E10 gasoline utilized in light duty certification, which has 3.5 percent oxygen by weight, would not qualify as "sub sim" because it exceeds the current regulatory limit of 2.7 percent oxygen by weight. This absurd result underscores the need to revise EPA's latest regulatory interpretation of which fuels qualify as "sub sim."[25]

As EPA acknowledges in the Proposed Rule,[26] there is a second fuel used in certification: service or mileage accumulation fuel that verifies the durability of a vehicle's evaporative emissions control systems. Mileage accumulation fuel—which since 2004 must be representative of gasoline containing ethanol in the highest commercially available concentration of ethanol permissible—has effectively been E15 (5.5 percent oxygen by weight) since 2011, following EPA's partial E15 waivers.[27]

Although certification fuel historically has had an RVP of 9 psi, RFA agrees with EPA's recognition in the Proposed Rule that prior sub sim interpretations specified that a fuel need only to "meet ASTM standards in general, that is, not necessarily for every geographic location and time of year."[28] In other words, so long as the fuel "possess[ed], at time of manufacture, all the physical and chemical characteristics of an unleaded gasoline as specified in ASTM D4814-88 for at least one of the Seasonal and Geographical Volatility Classes specified in the standard," the fuel was "sub sim."[29]

Lastly, given the express reference in § 211(f)(1) to *any* fuel utilized in certification of any motor vehicle since 1975, RFA agrees with EPA that the "sub sim" determination under § 211(f)(1) has a narrower scope than the "sub sim" waiver review under § 211(f)(4), and EPA need not demonstrate that E15 is sub sim to all certification fuels required and used historically.[30]

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[25] EPA correctly recognized in the Proposed Rule that it has not addressed what should be considered sub sim for Tier 3 certification fuel. 84 Fed. Reg. at 10,597.

[26] 84 Fed. Reg. at 10,597.

[27] *Id*. EPA clearly stated in the Tier 3 rulemaking that it expected E15 would become the fuel used for mileage accumulation certification:

> For evaporative emissions, durability fuel requirements are the same as for exhaust emissions (as outlined above), plus an additional requirement in the provisions of § 86.1824-08(f), that the service accumulation fuel 'contains ethanol in, at least, the highest concentration permissible in gasoline under federal law and that is commercially available in any state in the United States.' . . . *Thus, we expect that E15 service accumulation fuel will be used for whole vehicle evaporative durability programs*."
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> 79 Fed. Reg. at 23,527 (emphasis added). Consequently, although EPA uses E10 certification fuel for purposes of its sub sim analysis, EPA could have used E15 as well – a comparison between identical fuels that would have simplified EPA's analysis.

[28] *See* 84 Fed. Reg. at 10,597 (quoting 46 Fed. Reg. at 38,585 (July 28, 1981)).

[29] *Id*. (quoting 73 Fed. Reg. at 22,281 (April 25, 2008)).

[30] *See* 84 Fed. Reg. at 10,598.

EPA only must address what is sub sim to gasoline *currently* used in the vehicle certification process.

F. Technical Rationale for Sub Sim Interpretation

RFA concurs with EPA's proposed determination that E15 has "similar effects on emissions (exhaust and evaporative), materials compatibility, and driveability" as Tier 3 E10 certification fuel.[31] Although EPA correctly concludes that E15 produced from the same gasoline blendstock for oxygenate blending ("BOB") as E10 would likely have "slightly less" evaporative emissions than E10,[32] EPA's review of studies focused on E15 exhaust emissions does not include several important analyses that properly consider the impact of fuel blending practices and test fuel parameters on tailpipe emissions. As discussed below, RFA believes the technical rationale for a sub sim determination is even more robust than as described in the Proposed Rule. We encourage EPA to broaden and strengthen its review of available studies and data pertaining to E15 exhaust and evaporative emissions in the final rule.

i. Exhaust Emissions of E15 Are Sub Sim to E10 Certification Fuel.

RFA agrees with EPA's conclusion that exhaust emissions of E15 are substantially similar compared to E10 certification fuel.[33] Recent scientific studies and analyses demonstrate that the inclusion of ethanol in gasoline provides net reductions in the emissions of key pollutants that endanger human health and contribute to ground-level ozone formation.[34]

EPA Already Has Determined E15 Will Not Cause Emission Exceedances

The Proposed Rule correctly notes that, as part of the partial waiver EPA granted in 2010 under § 211(f)(4) for E15, EPA conclusively determined that for MY 2001 and newer vehicles E15 will not cause exhaust emissions exceedances (either long-term or immediate).[35] EPA relied on the Department of Energy's Catalyst Study, other relevant test programs and studies, and

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[31] *See id.* at 10,596.

[32] *Id*. at 10,592.

[33] *See id.* at 10,599.

[34] *See* Renewable Fuels Ass'n & Growth Energy, *California Multimedia Evaluation of Gasoline-Ethanol Blends between E10 and E30 Tier I Report*, Comments to California Air Resources Board, at 45 (Feb. 14, 2019) ("None of the E15 studies, whether done on California fuels or other US fuels found a statistically significant increase in any criteria pollutant. NOx, CO, PM mass emissions, or organic emissions (NMOG, THC, or NMHC depending on the study) were measured. Statistically significant decreases were found for NMHC, CO and potency weighted toxics, and a marginally significant decrease in NOx emissions due to changes in ethanol content in the fuel."); *see also* James Anderson et al., *Issues with T50 and T90 as Match Criteria for Ethanol-Gasoline Blends*, 7 SAE Int. J. Fuels Lubr. 1027, 1031 (Nov. 2014) ("Numerous studies in which ethanol was splash-blended with a fixed gasoline blendstock have demonstrated reductions of vehicle exhaust emissions, particularly particulate matter (PM), non-methane hydrocarbons (NMHC), and the air toxics 1,3-butadiene and benzene. Particularly noteworthy is the reduction of PM emissions with the addition of ethanol, which has been demonstrated in many studies and is supported by fundamental combustion chemistry considerations.") (citing eleven studies).

[35] *See* 84 Fed. Reg. at 10,598.

EPA's engineering assessment to conclude that E15 "will not cause or contribute to violations of the [durability and immediate] exhaust emissions standards."[36]

Recent Data Confirms No Comparative Adverse Exhaust Emissions from E15

EPA cites the 2018 University of California, Riverside study, which is a more reliable indicator than the EPAct study or the MOVES model that was derived from the EPAct study. With aromatic content matched, the UC Riverside study showed the additional five volume percent ethanol in E15 (approximately an additional 2 weight percent oxygen) compared to E10 would cause no statistically significant difference in NO_X, non-methane hydrocarbons (NMHC), or PM.[37] Other studies, some of which were discussed in the Proposed Rule, demonstrate that E15, when compared to E10, results in lower exhaust emissions of carbon monoxide (CO), and has comparable emissions with respect to other pollutants (NOx, NMOG).[38]

[36] 76 Fed. Reg. at 4,663; *see also* 75 Fed. Reg. at 68,104-09 (discussing studies and data supporting conclusion that E15 does not result in adverse durability exhaust emissions impacts).

[37] *See* 84 Fed. Reg. at 10,599; *see* Georgios Karavalakis et al., *Impacts of Aromatics and Ethanol Content on Exhaust Emissions from Gasoline Direct Injection (GDI) Vehicles* (2018) (unpublished, University of California CE-CERT) (Chapter 3 discusses Emission Testing Results).

[38] Stefan Unnasch & Ashley Henderson, *Change in Air Quality Impacts Associated with the Use of E15 Blends Instead of E10*, Life Cycle Assocs. Rep. (2014) (literature review examining emissions of NOx; CO; PM; nonmethane HC; ozone potential; and cancer risk from air toxics); *id.* at 6 ("The most significant changes from a change from E10 to E15 include a reduction in cancer risk from vehicle exhaust and evaporative emissions, a reduction in the potential to form ozone or photochemical smog, and a reduction in greenhouse gas (GHG) emissions."); Matthew A. Ratcliff et al., *Impact of Higher Alcohols Blended in Gasoline on Light-Duty Vehicle Exhaust Emissions*, 47 Envtl. Sci. & Tech. 13,865, 13,868 (2013) (finding "alcohol blended fuels generally did not significantly affect NOx, CO, or non-methane organic gases (NMOG) emissions. The largest effect was that E16 produced a statistically significant . . . 29% reduction in CO emission."); Robert L. McCormick et al., *Review and Evaluation of Studies on the Use of E15 in Light-Duty Vehicles*, Nat'l Renewable Energy Lab 32-34, 39-41 (Oct. 2013); Georgios Karavalakis et al., *The Impact of Ethanol and Iso-butanol Blends on Gaseous and Particulate Emissions from Two Passenger Cars Equipped with Spray-Guided and Wall-Guided Direct Injection SI (Spark Ignition) Engines*, 82 Energy 168 (2015); Georgios Karavalakis et al., *Impacts of Ethanol Fuel Level on Emissions of Regulated and Unregulated Pollutants from a Fleet of Gasoline Light-Duty Vehicles*, 93 Fuel 549 (2012).

RFA and Growth Energy recently developed comments for the California Air Resources Board comparing recent studies on the emissions impact of E15 compared to E10. The range of studies, which included vehicle model years from 2001-2017, showed decreases or no significant differences in NO_x, organic emissions, CO, PM, and potency weighted toxics, as shown in the table below.

TAILPIPE EMISSIONS STUDIES ON E15 VERSUS EITHER E10 OR E0 AS BASE FUEL

Study Name	Test Cycle	No. of Vehicles	Vehicle Model Years	Base Fuel and Blending Strategy	NO_x	Organic Emissions	CO	PM mass emissions	Potency Weighted Toxics
DOE Intermediate Fuel Blends	LA-92	13	2001-2007	E10 splash blend	No significant difference	No significant difference	No significant difference	Not tested	Not tested
DOE Catalyst Study	FTP	24	2003-2009	E0 splash blend	No significant difference	No significant difference	↓	Not tested	Not tested
UC Riverside -1	UC and FTP	7	2007-2012	E10 match blend	No significant difference	No significant difference	No significant difference	No significant difference	No significant difference
UC Riverside -3	LA-92	5	2016-2017	E10 low aromatics splash blend	▨	↓	No significant difference	No significant difference	↓
UC Riverside -3	LA-92	5	2016-2017	E10 low aromatics match blend	No significant difference	No significant difference[104]	No significant difference	No significant difference	No significant difference
UC- Riverside-3	LA-92	5	2016-2017	E10 high aromatics match blend	No significant difference	No significant difference[104]	No significant difference	No significant difference	No significant difference
All Data (no. of datapoints for each pollutant in parentheses)	Various		2001-2017	Various	No significant difference (66)	NMHC: No significant difference (42) THC: No significant difference (29) NMOG: No significant difference (24)	↓	No significant difference (24)	No significant difference (22)

Table 1. Tailpipe Emissions studies on E15 versus either E10 or E0 as base fuel[39]

Moreover, approximately 90% of Tier 3 vehicles are warrantied by the manufacturer for use of E15, which indicates that the vast majority of auto manufacturers do not believe that E15 will compromise the vehicle's critical emissions controls systems or result in exceedances of emissions standards.[40]

[39] Solid arrows represent p values <.05, textured arrows represent p values between 0.05 and 0.1, for paired, two-tailed t-test. Studies listed are Keith Knoll et al., *Effects of Intermediate Ethanol Blends on Legacy Vehicles and Small Non-Road Engines*, Report 1 – Updated Feb. 2009, NREL/TP-540-43543 (DOE Intermediate Fuel Blends); Brian West et al., *Intermediate Ethanol Blends Catalyst Durability Program*, Feb. 2012, ORNL/TM-2011/234 (DOE Catalyst Study); Georgios Karavalakis et al., *Evaluating the regulated emissions, air toxics, ultrafine particles, and black carbon from SI-PFI and si-di vehicles operating on different ethanol and iso-butanol blends*, 128 Fuel 410-421 (2014) (UC Riverside-1 and UC Riverside-2); Georgios Karavalakis et al., *Impacts of Aromatics and Ethanol Content on Exhaust Emissions from Gasoline Direct Injection (GDI) Vehicles*, Apr. 2018 (UC Riverside-3).

[40] *See* RFA Analysis: Automakers Approve E15 in Nearly 90% of New 2018 Vehicles, Renewable Fuels Ass'n (Nov. 2017), https://ethanolrfa.org/2017/11/rfa-analysis-automakers-approve-e15-in-nearly-90-of-new-2018-vehicles/; RFA Analysis: Automakers Explicitly Approve E15 for More than 93% of New 2019 Vehicles, Renewable Fuels Ass'n (Oct. 2018), https://ethanolrfa.org/2018/10/rfa-analysis-automakers-explicitlyapprove-e15-for-more-than-93-of-new-2019-vehicles/.

EPAct Study Conclusions Unreliable

RFA cautions EPA from reading too much into the results of the EPAct/V2/E–89 study[41] or the MOVES simulator, which was based on the EPAct study's data. The experimental design of the EPAct study included 27 different fuels, blended for 5 specific properties in such a way that the full reasonable range of each property was explored, but not all the possible different combinations (which would have required 240 different fuels). The study created unique match-blended fuels by adjusting the gasoline blendstock to hold constant select parameters, namely the distillation temperatures (T50 and T90, the temperatures at which fifty percent and ninety percent, respectively, of the fuel are vaporized). Because the addition of ethanol to gasoline blendstock reduces the blended gasoline's T50 and T90, the study added high distillate aromatic and saturated hydrocarbons to account for and reverse ethanol's effect on T50 and T90.

As a result, the match-blended fuels in the EPAct/V2/E-89 study did not resemble actual ethanol-gasoline blends found in commerce. While the distillation temperatures between the test fuels were controlled, the addition of additional aromatics caused other inadvertent effects. For example, some fuels in the model contained unrealistic octane ratings—higher than would be available in the marketplace—due to the addition of high-distillate hydrocarbons. And because ethanol affects gasoline distillation in a non-linear fashion, increasing the T50 of blends containing more than 10 percent ethanol to match the T50 of E0 and E10 blends elevated T60-80 distillation temperatures. Higher upper distillation temperatures in the ethanol blends above E10 mean that more heat is needed to vaporize fuel components adequately, which generally results in incomplete combustion and greater pollution.

EPA's analysis of the results of the EPAct study's emissions data suggest that the emissions of total hydrocarbon (THC), NMOG, NMHC, CH4, NOx, PM would increase, and CO would decrease with increasing ethanol content (between E0 and E20) should aromatic content, T50, T90 and vapor pressure be held constant. However, T50 is inversely correlated with ethanol content, as is aromatic content by simple dilution. Increasing aromatic content and T50 are also correlated with increasing THC, NMOG, NMHC, NOx, PM emissions, potentially confounding any increase in emissions due to ethanol alone.

E15 Has Lower Ozone Forming Potential Compared to E10

EPA in the Proposed Rule omits studies showing that the organics emitted from a tailpipe will have a lower ozone-forming potential with E15 in comparison to E10. Researchers at the University of California, Riverside (UC Riverside) team evaluated emissions from two 2012 model year vehicles and found that the ozone reactivity for emissions from E15 was in fact *less* than those for E10 as shown in the figure below.

[41] EPA, Assessing the Effect of Five Gasoline properties on Exhaust Emissions from Light-Duty Vehicles Certified to Tier 2 Standards: Analysis of Data from EPAct Phase 3 (EPAct/V2/E-89), Final Report (Apr. 26, 2013), https://www.epa.gov/moves/epactv2e-89-tier-2-gasoline-fuel-effects-study.

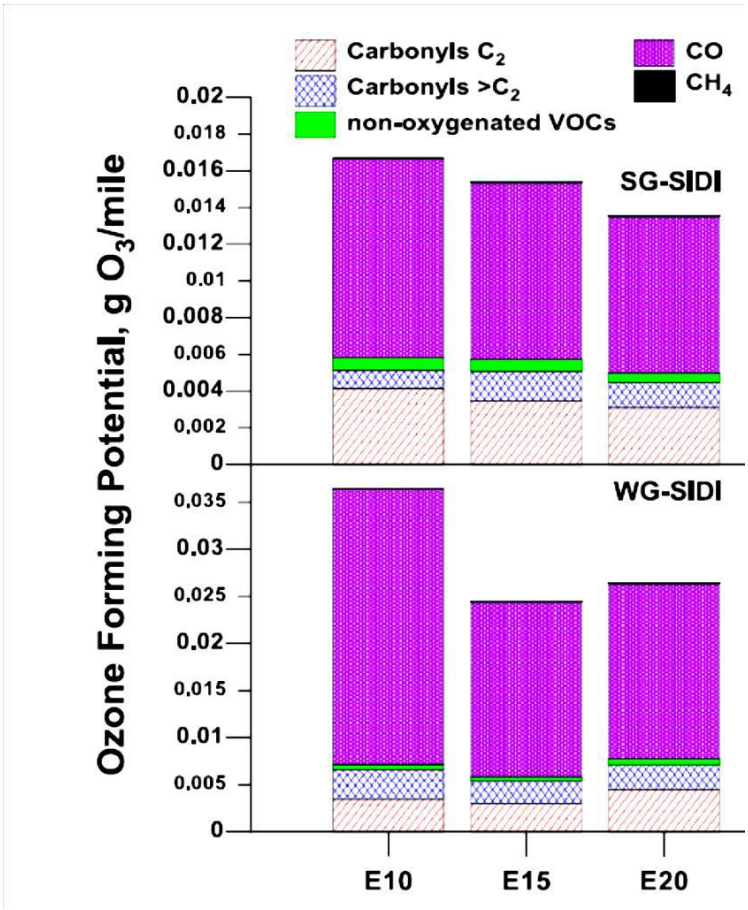

Figure 1. Ozone-forming potential of tailpipe emissions from vehicles using E10, E15, and E20.[42]

In its extensive study of flex fuel vehicle emissions from E6, E32, E59 and E85 fuels, the Coordinating Research Council found that the average ozone-forming potential decreased with increasing ethanol content of the fuels on the cold start test procedure, though the results were mixed on the US06 and Unified Cycle tests.[43] Other researchers found a slight improvement in ozone-forming potential calculated from Maximum Incremental Reactivity values when E10 was compared to E0 in a Euro 4 vehicle.[44] Taken together, these results suggest that there will be no increase in ozone-forming potential with higher ethanol content fuel.

[42] Georgios Karavalakis et al., *The impact of ethanol and iso-butanol blends on gaseous and particulate emissions from two passenger cars equipped with spray-guided and wall-guided direct injection SI (spark ignition) engines*, 82 Energy 168 (2015).

[43] *See* CRC E-80, Exhaust and Evaporative Emissions Testing of Flexible-Fuel Vehicles, Final Report (Aug. 2011).

[44] Xin Wang et al., *Estimating Ozone Potential of Pipe-out Emissions from euro-3 to euro-5 Passenger cars Fueled with gasoline, Alcohol-Gasoline, Methanol and Compressed Natural Gas*, April 2016, SAE 2010-01-1009.

In sum, EPA has a substantial scientific basis for determining that, with respect to tailpipe emissions, gasoline containing 5.5 weight percent oxygen is "substantially similar" to current E10 certification fuel with 3.5 weight percent oxygen.

ii. Evaporative Emissions of E15 Are Substantially Similar to E10 Certification Fuel

EPA's historical precedent over almost 40 years has been that "sub sim" fuels need only comply with general ASTM specifications (i.e., any volatility class in ASTM D 4814–88) for volatility.[45] EPA reconfirmed this position in its most recent sub sim determination in 2008, and EPA should continue this approach in the final rule.[46] As a result, all restrictions on RVP derive from EPA's summertime gasoline volatility regulations and not the sub sim definition.[47] RFA agrees that EPA's existing regulations promulgated under CAA §§ 211(c) and 211(h) are a sufficient mechanism to control the RVP of gasoline.[48]

It is well established that when using the same base gasoline, E15 results in slightly lower evaporative emissions than E10.[49]

But to the extent that EPA offers an alternative sub sim position that E15 at 9-psi is sub sim to E10 at 9-psi and the 1-psi tolerance under § 211(h) otherwise overrides any RVP limitation under § 211(f), RFA agrees that E15 at 9.0 psi RVP would have nearly identical evaporative emissions to E10 at 9.0 psi RVP from refueling, diurnal, and running loss emissions sources. Under either approach, E15 (at 10 psi or 9 psi) is sub sim to E10 certification fuel.

iii. EPA Has Previously Resolved Materials Compatibility and Driveability Concerns

RFA supports EPA's analysis in the Proposed Rule that the partial waivers for E15 granted under § 211(f)(4) conclusively determined that E15 will not result in materials compatibility issues that lead to exhaust or evaporative emission exceedances or in driveability issues.[50]

It is implausible that components in modern vehicles—many of which are warrantied[51] for use of E15 and entered the market after EPA's approval of E15—are less compatible with

[45] *See* 84 Fed. Reg. at 10,600.

[46] *See id.*

[47] *See* 56 Fed. Reg. at 5,354; 84 Fed. Reg. at 10,600.

[48] 84 Fed. Reg. at 10,600.

[49] *See, e.g.*, 75 Fed. Reg. at 68,117; 76 Fed. Reg. at 4,680 n. 37 (noting that E15 "will reduce actual in-use evaporative emissions compared to E10, the fuel it is expected to replace").

[50] *See* 75 Fed. Reg. at 68,097; *see also* 76 Fed. Reg. at 4,681-82 ("[T]he Study did not uncover any emissions deterioration problems with E15 in comparison to E0 that would result in materials compatibility issues….The Agency's review of the data and information from the different test programs finds no specific reports of driveability, operability of [On-board Diagnostic] issues across many different vehicles and duty cycles including lab testing and in use operation.").

[51] *See supra*, note 27.

ethanol blended gasoline than the MY2001 and newer vehicles that EPA already concluded in 2010 and 2011 do not have such issues.

G. Continued Use of "Deemed to Comply" Provision

EPA solicited comment on whether the "deemed to comply" provision of § 211(h)(4)(B) would maintain any relevance if EPA were to determine that E15 is sub sim to E10 certification fuel for purposes of § 211(f)(1). RFA believes that even in such a circumstance the deemed to comply provision retains importance. Arguably, even if the sub sim determination supersedes the § 211(f)(4) waiver, the sub sim determination does not explicitly revise or rescind the §211(f)(4) waiver.[52] But in any event, the deemed to comply provision certainly would "ease the demonstration burdens" for entities selling E15.[53] More testing would significantly increase the cost of compliance without affecting fuel quality. Lastly, and importantly, the deemed to comply provision should be given continued effect because of the potential implications for higher ethanol blends in the future. For example, if EPA were to grant a § 211(f)(4) waiver for blends of gasoline and 20 percent ethanol at a later date based on new information, use of the deemed to comply provision would greatly reduce compliance risk and facilitate growth of the market.

H. Potential Conditions to § 211(f)(1) Interpretative Rulemaking

RFA opposes conditions in a "sub sim" interpretative rule unrelated to fuel quality characteristics or that are more restrictive than any conditions currently applied to E15 as a consequence of the 211(f)(4) partial waivers or the MMR under § 211(c).[54] As EPA admits in the Proposed Rule, "the language of CAA sec. 211(f)(1) does not address whether and how EPA can restrict its determination that a particular fuel is 'substantially similar' to a certification fuel."[55] RFA believes that emissions, driveability, and materials compatibility data show that additional restrictions to the sub sim determination beyond those in the E15 waiver or MMR are not warranted. To the extent that EPA seeks to impose additional conditions beyond those in the partial waivers or the MMR, § 211(c) provides the proper authority to regulate, control or prohibit the "introduction into commerce"—and not this interpretative rule under §§ 211(f) and (h).

i. ASTM Standard D4806

RFA acknowledges that an allowable underlying assumption of EPA's sub sim determination could be that the ethanol in the blend complies with ASTM Standard D4806. This addresses a key aspect of the sub sim determination: the characteristics of the fuel being compared to certification fuel.

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[52] *See* 84 Fed. Reg. at 10,588 ("EPA is not proposing to revise the E15 partial waivers under CAA sec. 211(f)(4)….").

[53] *Id.* at 10,601.

[54] *See id.* at 10,603.

[55] *Id.* at 10,602.

ii. Misfueling Mitigation Conditions

Other conditions on which EPA invited comment are unrelated to fuel quality or are duplicative of existing regulations. As EPA acknowledged in the Proposed Rule, EPA has already put into place largely parallel restrictions in the Misfueling Mitigation Rule pursuant to its § 211(c) authority.[56] The individual elements of a Misfueling Mitigation Plan (labeling, surveys, and documentation of ethanol content on product transfer documents) are already codified in EPA's regulations and would not be impacted by the proposed action. Incorporating those labeling, survey, and product transfer documentation conditions in this interpretative rule might be duplicative, but RFA does not oppose such an action—so long as EPA does not add new conditions not already in the E15 waiver or the MMR.[57]

Regarding the need for additional E15 misfueling measures, RFA agrees with EPA's conclusion in the Proposed Rule that "additional misfueling measures are unnecessary at this time and outside the scope of this proposed action."[58] The emissions data discussed above in Section II.F., some of which included Tier 2 vehicles, shows that E15 does not pose an emission or compatibility concern to MY2001 and newer light duty vehicles. Because retailers, many of whom are small businesses, have already invested in new infrastructure to facilitate higher ethanol blends, EPA correctly acknowledged that additional misfueling mitigation measures would impose "a significant burden" on these retailers to upgrade fuel dispensers to implement physical barriers to E15 use.[59]

The E15 partial waivers encouraged "public outreach and consumer education."[60] Though such efforts were "not a formal condition of this [E15] waiver decision," and are voluntary,[61] RFA and allied stakeholders remain committed to continuing consumer and retailer outreach to address potential misfueling concerns. For example, in May 2018, RFA launched an 18-month $1 million consumer-focused educational campaign called "Fuel Your Knowledge." The campaign aims to inform owners of boats, motorcycles, lawn and garden equipment and other off-road engines on what fuels they can legally and safely use. RFA also continues to update and distribute its E15 Retailer Handbook, which contains industry guidelines, to blenders and retailers. RFA also is a leader of the E15 Education and Outreach Coalition, which maintains

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[56] *See* 40 C.F.R. part 80, subpart N.

[57] RFA is not challenging the prohibition on E15 in pre-MY2001 light duty vehicles, nonroad vehicles, engines, and equipment. However, RFA seeks to clarify that the prohibition is not because the data available at the time of the § 211(f)(4) waiver conclusively showed that E15 would result in emissions failures, as the Proposed Rule implies. *See* 84 Fed. Reg. at 10,602. While significant research efforts were made as of 2010 in studies sponsored by the U.S. Department of Energy and other government and industry bodies evaluating the potential impact of E15 on MY2001 and newer vehicles, minimal engineering analysis had previously been focused on pre-MY2001 vehicles. It was this insufficiency of actual vehicle durability testing data for pre-MY2001 vehicles, engines, and equipment that provided the basis of EPA's decision. In fact, a study conducted by Ricardo for RFA in September 2010 concluded that raising the blend ceiling to E15 likely would have a negligible impact on vehicles manufactured between 1994 and 2000.

[58] 84 Fed. Reg. at 10,593.

[59] *Id*. at 10,603.

[60] 75 Fed. Reg. at 68,148.

[61] *Id.* at 68,149.

the informational website www.e15fuel.org. Just as RFA worked with EPA to develop an approved model Misfueling Mitigation Plan, RFA plans to remain engaged with EPA to continue outreach to boat, motorcycle, and nonroad engine owners, as well as any needed adjustments to current guidelines.

iii. Tier 3 Vehicles

It would be inappropriate in this interpretative rule for EPA to conclude that E15 sub sim to Tier 3 E10 certification fuel can only be used in vehicles certified using Tier 3 E10 certification fuel.[62] There is no precedent on the issue, and RFA strongly discourages EPA from limiting the sub sim determination only to those vehicles certified on E10. Aside from the absence of any legal basis for such a limitation, doing so would create a host of practical complications. Under EPA's current rule, various fuels are allowed into commerce for general use as sub sim to indolene (E0). But EPA's Tier 3 rule phases out indolene for use in vehicles certification. Reflexively limiting a sub sim fuel's general use[63] only in the vehicles on which they were certified could invite additional complicated labeling and use restrictions for Tier 3 vehicles in addition to those required under the MMR. And EPA has never indicated that a MY2019 Tier 3 vehicle certified on E10 cannot use a fuel that is sub sim to indolene, such as E0 or E5 (which has under 2.7 weight percent oxygen, consistent with the current, though outdated, sub sim interpretative rule). Nor should EPA make such a limiting determination here.

In this unique case, EPA has already determined in its previous E15 partial waivers under § 211(f)(4) that use of E15 in MY2001 and newer light-duty motor vehicles, light-duty trucks, and medium duty passenger vehicles would not cause those vehicles to exceed their emissions standards or cause driveability or materials compatibility issues. As a result, EPA has considered the impact of E15 not merely on Tier 3 vehicles but on the entire vehicle fleet. Limiting the sub sim determination to Tier 3 vehicles would contradict what EPA already determined in the E15 partial waiver. Due to the unique factual circumstances here, where the §211(f)(4) waiver analysis preceded the certification fuel change and sub sim determination, EPA need not decide in this interpretative rule whether a sub sim determination necessarily means that the fuel can be used in all vehicles in the fleet.

I. Criteria Pollutants and Air Toxics

RFA concurs with EPA's general conclusions that E15 will have favorable impacts to criteria pollutants and air toxics compared to E10. EPA's own fuel trends data strongly suggest a

[62] *See* 84 Fed. Reg. at 10,602. Such an interpretation also ignores the statutory language basing a sub sim comparison to "*any* fuel or fuel additive utilized in the certification of any model year 1975, or subsequent model year, vehicle or engine…." 42 U.S.C. § 7545(f)(1)(A) (emphasis added). EPA acknowledges that E15 is used for purposes of certifying materials compatibility. *See supra* at 8-9; 46 Fed. Reg. at 38,583; 84 Fed. Reg. at 10,597. "Any fuel" arguably could include fuel used for materials compatibility certification.

[63] Because § 211(f)(1) allows the introduction into commerce "for general use" of any fuel or fuel additive that is sub sim to a fuel or fuel additive utilized in certification, restricting the sub sim determination in the final rule only to vehicles certified on Tier 3 E10 certification fuel in the would—in the absence of a conclusion regarding the incompatibility of the proposed sub sim fuel with the vehicle—improperly contravene Congress's explicit allowance of the sub sim fuel for "general use."

correlation between increased ethanol blending and lower aromatic content in gasoline.[64] Average aromatic content dropped from 28.5% to 21.76% between 2000 and 2016.[65] In other words, as E10 use became more widespread, refiners reduced average aromatic content significantly.[66] Indeed, EPA has recognized that "[e]thanol's high octane value has also allowed refiners to significantly reduce the aromatic content of the gasoline, a trend borne out in the data."[67] And as EPA acknowledged in the Proposed Rule, "During the rapid expansion of E10 blending between 2007–2012, aromatics levels were observed to decline by a few volume percent while pump octane levels stayed constant."[68] This is a critical factor because even a small reduction in aromatics results in beneficial impacts to air emissions.[69]

J. Economic Benefits of E15

RFA has touted the economic benefits of E15 for years. Extending the 1-psi RVP waiver to E15 during the summer volatility control season will open the marketplace to a fuel that provides consumers higher octane, lower cost, and reduced tailpipe emissions. Allowing year-round E15 at 10 psi can increase the amount of renewable fuel blended into the nation's transportation fuel supply and thus improve U.S. energy security and independence by diversifying transportation fuel sources. This diversification of fuel sources strengthens the agriculture economy and creates new jobs and investment in renewable fuels. Consumers benefit too: because the cost of ethanol is currently less than the cost of gasoline, E15 saves drivers between $0.03 and $0.10 per gallon at the pump.[70]

K. Federalism

Although the Proposed Rule does not directly address preemption apart from a footnote,[71] RFA requests that EPA provide notice of the preemptive effect of its actions in the Final Rule. Section 211(c)(4)(A) preempts state laws regulating a characteristic or component of gasoline when the following two criteria are satisfied: (1) EPA has promulgated regulations controlling the characteristic or component in question under § 211(c)(1), and (2) the state law must be for purposes of motor vehicle emissions control.[72] In this case, EPA has promulgated regulations on several occasions controlling gasoline volatility and ethanol content under section 211(c)(1), and

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[64] *See* EPA Fuel Trends Report: Gasoline 2006 – 2016, 26 (Oct. 2017).

[65] *Id.*

[66] *Id.*

[67] *Id.*

[68] 84 Fed. Reg. at 10,604.

[69] *See* James Anderson, *supra* note 34 at 1031 ("Numerous studies in which ethanol was splash-blended with a fixed gasoline blendstock have demonstrated reductions of vehicle exhaust emissions, particularly…the air toxics 1,3-butadiene and benzene.").

[70] *See* Nebraska Energy Office, http://www.neo.ne.gov/statshtml/66.html; E85Prices.com, https://e85prices.com/.

[71] 84 Fed. Reg. at 10,595.

[72] *See* 42 U.S.C. § 7545(c)(4)(A).

state volatility regulations serve the purposes of motor vehicle emissions control. Such a pronouncement by EPA would provide needed clarity to states.

L. Severability

Section II (extension of 1-psi RVP waiver) and Section III (RIN market reforms) of the Proposed Rule are severable from one another because they are based on separate legal authorities,[73] serve different purposes, and operate entirely independently of each other.[74] The more time sensitive portion of the rule, Section II, can be finalized without affecting the RIN market reform section.

The severability of the Proposed Rule has important implications for the timing of the Final Rule and any legal challenges that might be brought against the Rule. First, to the extent it becomes apparent to EPA that the entire rule cannot be finalized by that date, the more time-sensitive portion of the rule—Section II's RVP waiver provisions—should be finalized without affecting the RIN market reform section. Second, the extent a successful challenge is mounted only against the RIN reform provisions in Section III of the Proposed Rule, the RVP waiver provisions in Section II should remain in effect.

III. THE PROPOSED RIN MARKET REFORMS SHOULD NOT BE FINALIZED, AS EPA HAS NOT "SEE[N] DATA-BASED EVIDENCE OF RIN MARKET MANIPULATION" AND THE PROPOSED REFORMS DO NOT ENHANCE TRANSPARENCY.

As a general matter, RFA continues to oppose any changes to the RIN market mechanism that would reduce compliance flexibility, diminish liquidity in the RIN market, give certain parties in the marketplace unfairly advantaged positions, add unnecessary complexity, increase administrative burdens, or impugn the RIN market's ability to incentivize expansion of renewable fuel consumption. We are concerned that some of the reforms proposed by EPA may result in one or more of these unintended consequences, which would undermine the efficient operation of the RIN market for all parties affected by the RFS.

EPA has previously solicited and responded to public comment multiple times on whether it should consider changing certain fundamental elements of the RIN program to improve transparency and reduce the potential for manipulation.[75] After receiving stakeholder comments and examining its own RIN market data, EPA in each of these cases ultimately determined that no changes were necessary to the RIN market mechanisms. The circumstances

[73] EPA's authority for Section II derives from CAA § 211(c) and (f); by contrast, EPA's authority to establish and regulate the credit market for renewable fuels is § 211(o).

[74] *See Davis Cty. v. EPA*, 108 F.3d 1454, 1459 (D.C. Cir. 1997).

[75] *See* 72 Fed. Reg. 23,900 (May 1, 2007); Denial of Petitions for Rulemaking to Change the RFS Point of Obligation (November 2017); 82 Fed. Reg. 34,206 (July 21, 2017); 83 Fed. Reg. 32,024 (July 10, 2018).

that led EPA to previously reject proposed changes to the RIN market remain unchanged, and the market today is operating effectively with very little risk of manipulation.

In the proposal currently under consideration, EPA states twice that "we have yet to see data-based evidence of RIN market manipulation."[76] This is a clear acknowledgement by EPA that the RIN market reforms under consideration are solutions in search of a problem that doesn't exist. But even if manipulation was occurring in the RIN market, the proposed reforms would appear to do little or nothing to prevent such behavior.

In fact, some of the proposals—if finalized—might actually *increase* the potential for manipulative practices in the RIN market. Thus, for the reasons described more fully below, RFA does not believe any of the four RIN market reform options proposed by EPA should be finalized at this time.[77] Rather, to truly enhance transparency in the RIN market and further minimize the risk of manipulation, we encourage EPA to finalize its proposal to disclose information related to extensions of small refinery exemptions, consider more frequent publication of RIN holdings data, and finalize certain proposals related to enhancing EPA's market monitoring capabilities.

A. Requiring Public Disclosure of RIN Holdings if Certain Thresholds Are Met May Enhance Transparency, but Likely Offers Little or No Benefit in further Minimizing the Potential for Manipulation.

Under the proposal's "Reform One" ("Public Disclosure if RIN Holdings Exceed Certain Threshold"), EPA would require public disclosure of an obligated party's RIN holdings if they exceed certain thresholds. The public disclosure requirement for non-obligated parties would be triggered if their D6 RIN holdings exceeded 3 percent of the total implied conventional renewable fuel requirement. The public disclosure requirement would be triggered for obligated parties if their D6 RIN holdings exceeded 3 percent of the total implied conventional renewable fuel requirement *and* if their D6 RIN holdings exceeded 130 percent of their individual RVO.

While these proposed public disclosure requirements might provide greater transparency by allowing the public to better understand which parties are holding substantial volumes of RINs, we do not see how such a provision would necessarily reduce the potential for manipulation. In fact, it may have the unintended effect of driving parties that hold large volumes of RINs to take creative steps to avoid triggering the public disclosure requirement.

Further, EPA's screening analysis suggests these requirements (at the suggested thresholds) would result in only a very small number of obligated and non-obligated parties being required to publicly disclose their RIN holdings, raising the question of whether this provision would truly provide any real value or new insight. RFA also questions the logic of

[76] 84 Fed. Reg. at 10,607.

[77] But even if these RIN market reform measures are finalized and challenged by obligated parties, blenders, or other stakeholders, such litigation would not impact the applicability of the RVP waiver for E15, which is based on separate legal authorities, serves different purposes, and operates entirely independently of EPA's RIN market reform measures.

applying these public disclosure requirements only to D6 RINs. If EPA finalizes this provision, it should apply to all D-codes.

RFA is not necessarily opposed to "Reform One" as it conceivably enhances transparency. However, we believe more discussion and analysis is warranted regarding the appropriate threshold levels that would trigger the requirements, as well as potential unintended consequences of this action.

B. Requiring Obligated Parties to Demonstrate Compliance by Retiring RINs Quarterly Would Add Unnecessary Complexity and Administrative Burden without Reducing the Potential for Manipulation.

EPA's proposal for "Reform Two" ("Increase RFS Compliance Frequency") would require obligated parties to demonstrate compliance with a substantial portion of their Renewable Volume Obligation (RVO) on a quarterly basis. EPA purports that such a requirement could "potentially help minimize opportunities for hoarding,"[78] but elsewhere EPA has found that existing regulatory provisions (e.g., the two-year "limited life" of RINs and the 20 percent limitation on the amount of an obligated party's RVO that may be satisfied with previous-year RINs) already eliminate the risk of RIN hoarding.[79]

In the RFS1 final rule, EPA correctly concluded that an annual compliance demonstration was more reasonable than semi-annual or quarterly demonstrations because the obligated party's total volume of gasoline and diesel that is obligated for renewable fuel blending "will not be known until the year has ended."[80] EPA further noted that "unforeseen circumstances (e.g., hurricane, unit failure, etc.)" can affect an obligated party's compliance obligation throughout the course of the year, making an annual demonstration most reasonable.[81]

Moreover, the proposed requirement of quarterly RIN retirements would add substantial administrative complexity and burden for both obligated parties and EPA without returning any clear benefit to the RIN market program. Performing compliance demonstrations four times per year as opposed to once annually would greatly increase the time and cost associated with reporting and recordkeeping, increasing the potential for reporting errors.

For these reasons, RFA opposes finalization of "Reform Two."

C. Prohibiting Non-Obligated Parties from Purchasing RINs Would Decrease Liquidity and Undermine the Free Market Nature of the RIN Program.

"Reform Three" ("Limiting Who Can Purchase Separated RINs") would prevent most non-obligated parties from purchasing RINs and would only allow them to separate and sell RINs. If finalized, this provision would substantially reduce the universe of market participants

[78] 84 Fed. Reg. at 10,615.
[79] 72 Fed. Reg. at 23,944 ("[W]e do not believe that a given party will hold a RIN indefinitely simply to increase profit because RINs have a limited life and new RINs will be generated and will enter the market continuously.")
[80] *Id*. at 23,944.
[81] *Id*.

that can freely buy and sell RINs, resulting in diminished liquidity and greater price volatility. EPA recognized the advantages of "more open trading" in the 2007 final rule for RFS1, noting that "by expanding the number of parties that can hold RINs, we minimize the potential for any one party to exercise market power."[82]

Allowing only obligated parties to purchase RINs would increase—not decrease—the potential for market manipulation because all of the RIN pricing power would be concentrated in a relatively small group of obligated parties. EPA solicited and received comment on this specific reform in the 2019 RVO proposal and "received multiple comments in opposition."[83] EPA agreed with those comments and rejected this specific reform option. It should do so here as well.

For these reasons, RFA opposes finalization of "Reform Three."

D. Requiring Non-Obligated Parties to Sell or Retire an Amount of RINs Equal to the Number of RINs They Acquire Every Quarter Would Diminish Liquidity, Worsen Volatility, and Increase the Potential for Manipulation.

EPA's proposed "Reform Four" ("Limiting Duration of RIN Holdings by Non-Obligated Parties") could significantly decrease liquidity in the RIN market and increase RIN price volatility. By requiring non-obligated parties like blenders and retailers to sell as many RINs as they acquire each quarter, EPA would be disrupting the market in a way that distorts RIN pricing and creates unfair advantages for RIN buyers. This provision would pass all market and pricing power to the buyer (i.e., obligated party) because while non-obligated parties are required to sell RINs every quarter, there is no commensurate requirement that obligated parties buy RINs every quarter.

This provision would effectively force certain parties to sell RINs without regard to whether the price offered by potential buyers is fair or agreeable to the seller. As the quarterly deadline for selling RINs approaches, RIN buyers (e.g., obligated parties) could essentially "name their price" for RINs, giving them a distinct and unfair advantage in the marketplace. Rather than allowing supply-demand fundamentals to drive RIN pricing, as is currently the case, this proposed reform would create a market dynamic in which arbitrary quarterly deadlines for dispossessing RINs would heavily influence RIN pricing.

Further, because this provision would require non-obligated parties to sell RINs every quarter without a corresponding requirement that obligated parties buy RINs every quarter, it is unclear how a non-obligated party would comply with this requirement in the event the party is unable to find a willing buyer.

Finally, this proposed reform would require non-obligated parties to sell RINs by the end of the quarter, but "Reform Two" ("Increase RFS Compliance Frequency") would give obligated parties a 60-day window following the end of the quarter to turn in RINs to demonstrate quarterly compliance with their RVO. Moreover, "Reform Two" would require obligated parties

[82] 72 Fed. Reg. at 23,944.

[83] 84 Fed. Reg. at 10,619.

to demonstrate compliance with only 80 percent of their quarterly obligation, whereas "Reform Four" would require non-obligated parties to sell 100 percent of their RINs every quarter. If "Reform Four" and "Reform Two" are finalized together, EPA would be creating an asymmetrical market dynamic that clearly favors RIN buyers (i.e., obligated parties) over other parties.

For these reasons, RFA opposes finalization of "Reform Four."

E. To Enhance Transparency EPA Should Enhance Certain Market Monitoring Capabilities, Provide the "RIN Holdings Summary" in More Frequent Intervals, and Finalize the Proposals in the "REGS Rule" Regarding Disclosure of Certain Information Related to Small Refinery Exemptions.

In addition to the four main RIN market reforms discussed in the proposal, EPA solicits comment on other potential actions it could take to enhance transparency and reduce the risk of manipulation. Specifically, EPA raises "Enhanced Market Monitoring Capabilities" as a potential step toward improving oversight over the RIN market.

RFA generally supports EPA's proposal to amend the regulations governing how parties report prices of RIN transactions. We also support the proposal to update business rules in EMTS to ensure consistent entry of RIN prices by counterparties, and we agree with the proposal to update the "transaction type" options at 40 CFR 80.1452(c)(6).

To provide RFS participants and the public with more transparency and information about the RIN market, we encourage EPA to provide its "RIN Sales/Holding Summary"[84] more frequently. Indeed, EPA states that it has "received positive feedback from the regulated industry that the publication of RFS data helps inform compliance planning."[85]

The summary provides information on the types of parties that are holding and selling RINs. The data are aggregated into the primary categories of exporters, RIN generators, importers, refiners, and RIN owners. If provided on more of a "real-time" basis, this data (with a few minor additions[86]) could provide valuable insight to the public and RFS participants. RFA encourages EPA to update this data monthly showing what types of parties are holding and selling RINs.

In addition, we believe EPA should finalize the proposals included in the REGS proposed rule regarding disclosure of certain information related to extensions of small refinery exemptions (SREs), as this would help RFS stakeholders and the public better understand what

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[84] *See* EPA, Fuels Registration, Reporting, and Compliance Help, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/available-rins.

[85] *See* EPA, January 19, 2017 Snapshot, https://19january2017snapshot.epa.gov/fuels-registration-reporting-and-compliance-help/annual-rin-salesholdings-summary_.html.

[86] We believe EPA should further subdivide the "RIN Owner" parties into parties directly involved in the fuel supply chain (e.g., blenders, marketers, retailers, etc.) and parties with no direct involvement in the supply chain (e.g., so-called "speculators" and those parties trading RINs as financial instruments).

parties are being exempted from their obligations to obtain and surrender RINs to demonstrate compliance with RFS obligations.

RFA was pleased to see EPA publish a request for further comment on the REGS proposal's provisions codifying a determination that basic information related to extensions of SREs may not be claimed as confidential business information and is thus subject to public disclosure.[87] We will be submitting separate comments in response to EPA's request for further comment on this matter, but due to the obvious implications for RIN market transparency, we believe it is appropriate in the context of this rulemaking to express our support for disclosure of SRE extension information.

[87] *See* EPA, Renewables Enhancement and Growth Support Rule, https://www.epa.gov/sites/production/files/2019-04/documents/sre-cbi-deter-notice-2019-04-11.pdf.