

Comments of

Urban Air Initiative; Energy Future Coalition; Clean Fuels Development Coalition; Glacial Lakes Energy, LLC; Siouxland Ethanol, LLC; ICM, Inc.; Nebraska Ethanol Board; National Farmers Union; South Dakota Farmers Union; Minnesota Farmers Union; Montana Farmers Union; North Dakota Farmers Union; and Wisconsin Farmers Union

On the Environmental Protection Agency's

Renewables Enhancement and Growth Support Rule,

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INTRODUCTION

EPA seeks comment on whether it should classify E16–E83 as “ethanol flex fuel” (EFF) on the assumption that such fuel “may only be used in flex-fuel vehicles (FFVs).”¹ Commenters Urban Air Initiative; Energy Future Coalition; Clean Fuels Development Coalition; Glacial Lakes Energy, LLC; Siouxland Ethanol, LLC; ICM, Inc.; Nebraska Ethanol Board; National Farmers Union; South Dakota Farmers Union; Minnesota Farmers Union; Montana Farmers Union; North Dakota Farmers Union; and Wisconsin Farmers Union commend EPA on its stated objective of “facilitat[ing] further expansion of ethanol blended fuels.”² But the commenters respectfully disagree with EPA’s assumption that the Clean Air Act confines the sale of gasoline-ethanol blends with more than 15% ethanol (E16–E83) to vehicles that have been certified on E85 (FFVs).

EPA’s mistaken premise is built on a misinterpretation of the “sub-sim” statute, section 211(f) of the Clean Air Act, which prohibits the sale or increased concentration of any fuel or fuel additive that is “*not* substantially similar” to “any fuel or fuel additive” used in the certification of new vehicles.³ Contrary to the statute’s plain meaning, EPA interprets it to limit gasoline’s concentration of ethanol, a fuel additive that is *identical* to the same fuel additive used in gasoline certification fuel. The Proposed Rule would codify this erroneous interpretation, by prohibiting “the sale or introduction of gasoline containing greater than 15 volume percent ethanol . . . into any model year 2001 or newer . . . motor vehicle.”⁴

EPA’s interpretation of the sub-sim law subverts the structure of the Clean Air Act, which requires EPA to demonstrate that a fuel additive causes harm to public health or emissions control devices before the Agency may control it. By misinterpreting the sub-sim

¹ *Renewables Enhancement and Growth Support Rule*, 81 Fed. Reg. 80828, 80830 (Nov. 16, 2016) (hereinafter Proposed Rule); *id.* at 80843 (stating that the Proposed Rule is consistent with the “current limitation that E16–E83 may only be used in FVVs”); *id.* (stating that E16–E50 “cannot legally be used in a conventional gasoline vehicle”).

² *Id.* at 80831.

³ 42 U.S.C. § 7545(f)(1)(B).

⁴ Proposed Rule, *supra* note 1, 81 Fed. Reg. at 80975 (to be codified at 40 C.F.R. § 80.1564(a)(3)).

law, EPA shifts its burden to fuel producers who, to obtain a waiver of the sub-sim law as EPA understand it, would be required to show that a given concentration of the additive will *not* cause an emissions control system to fail.⁵

EPA should correct its misinterpretation of the sub-sim law, withdraw the regulations and guidance it has promulgated based on that interpretation, and affirm that midlevel ethanol blends may be used in non-FFVs, subject to the auto manufacturers' judicious enforcement of their own warranty provisions and any appropriate regulatory controls. Such controls must be promulgated under EPA's statutory authority to control pollution from fuel, and the controls must be supported by a finding (which EPA has not made) of endangerment to human health or damage to emissions control devices.⁶

In the alternative, if EPA does finalize a rule that limits E16–E83 to FFVs, the Agency should correct or eliminate several unnecessary features of the Proposed Rule that frustrate its stated objectives. These include the Proposed Rule's unnecessary restriction on the use of E10 parent fuels to produce E15 at blender pumps, its irrational exclusion of E15 from year-round use in FFVs, its prohibition on the use of denatured fuel ethanol in blender pumps, and its prohibitively stringent sulfur standard for natural gasoline. In addition, EPA should include safeguards to protect the ethanol supply against possible contamination from natural gasoline.

Expanding the use of midlevel ethanol blends would reduce air pollution and increase vehicle efficiency as a result of ethanol's high octane value. These benefits would be realized immediately in the legacy vehicle fleet, but they could be even greater if EPA were to approve a high-octane, midlevel ethanol certification fuel for use in optimized vehicles.

I. COMMENTERS' INTEREST IN THE PROPOSED RULE.

Urban Air Initiative is a nonprofit social welfare organization dedicated to improving fuel quality in order to reduce the public health risks posed by vehicular emissions, especially in urban areas where citizens are exposed to the highest levels of mobile source pollution.

⁵ 42 U.S.C. § 7545(f)(4).

⁶ *Id.* § 7545(c)(1).

The Energy Future Coalition is a nonprofit bipartisan public policy initiative that brings together business, labor, and environmental leaders to address challenges and opportunities in the transition to cleaner energy technologies. The Coalition seeks to identify and advance innovative policy options that appeal to a diverse array of competing interests and attract broad political support.

The Clean Fuels Development Coalition was established in 1988 and works with auto, agriculture, and biofuels interests in support of a broad range of energy and environmental programs.

Glacial Lakes Energy, LLC, was formed by the Glacial Lakes Corn Processors. Glacial Lakes Corn Processors is a South Dakota cooperative with 4,100 shareholder/investors who reside primarily in eastern South Dakota. Glacial Lakes is the sole owner of two large ethanol production facilities that annually produce over 240 million gallons of high-octane, clean-burning ethanol. Glacial Lakes' purpose is to create value for South Dakota's rural economy by returning dollars to the local economy and by providing good, quality jobs for its citizens.

Siouxland Ethanol, LLC, is a renewable fuel producer currently engaged in the production of ethanol for fuel.

ICM, Inc., is a designer and builder of ethanol plants, and a supplier of proprietary equipment and process technology to ethanol plants and other biofuels facilities.

The Nebraska Ethanol Board is a state agency supporting ethanol programs throughout the state, and assisting the industry with a range of technical marketing and regulatory issues.

National Farmers Union is a nonprofit organization that works to protect and enhance the economic well-being and quality of life for family farmers, fishers, ranchers, and rural communities, including those who grow corn for its use in ethanol fuel blends.

South Dakota Farmers Union, Minnesota Farmers Union, Montana Farmers Union, North Dakota Farmers Union, and Wisconsin Farmers Union are nonprofit organizations that work to promote the interests of farmers, ranchers, and their families, including those who grow corn for its use in ethanol fuel blends.

Commenters support the Proposed Rule’s goal of “facilitat[ing] further expansion of ethanol blended fuels,”⁷ but they believe that such an expansion would be best achieved by allowing the use of midlevel ethanol-gasoline blends in non-FFVs.

II. THE CLEAN AIR ACT DOES NOT PROHIBIT THE USE OF MIDLEVEL ETHANOL BLENDS IN GASOLINE VEHICLES.

In proposing to classify E16–E83 as “ethanol flex fuel” (EFF), EPA asserts that under the sub-sim law, section 211(f) of the Clean Air Act, such fuel “may only be used in” FFVs.⁸ Based on this misinterpretation, EPA proposes to prohibit “the sale or introduction of gasoline containing greater than 15 volume percent ethanol . . . into any model year 2001 or newer . . . motor vehicle,”⁹ with the exception of FFVs.¹⁰ It follows that EPA “would need to approve a new [sub-sim] waiver request for E16 or other higher-level ethanol blends to be used in [non-FFV] gasoline vehicles.”¹¹

The Proposed Rule is based on a misinterpretation of the sub-sim law. Properly interpreted, that provision does not prevent the use of higher levels of ethanol in any class of vehicles. Instead of defining E16–E83 as EFF for use only in FFVs, EPA should permit the use of higher levels of ethanol in gasoline vehicles, subject to any appropriate measures to control harmful air pollutants under section 211(c) of the Act. This approach would “facilitate further expansion of ethanol blended fuels” while protecting the environment and human health, consistent with the goals of the Proposed Rule,¹² and the plain meaning of the Act.

⁷ Proposed Rule, *supra* note 1, 81 Fed. Reg. at 80831.

⁸ *Id.* at 80830; *see supra* note 1.

⁹ *Id.* at 80975 (to be codified at 40 C.F.R. § 80.1564(a)(3)).

¹⁰ *Id.* (to be codified at 40 C.F.R. § 80.1564(a)(4)).

¹¹ *Id.* at 80831.

¹² *Id.*

A. Regulatory Background

In Title II of the Clean Air Act, Congress adopted a comprehensive scheme of fuel regulation.¹³ Congress authorized EPA to set emissions standards for vehicles,¹⁴ to require new vehicles to be certified through testing for conformity to the emissions standards,¹⁵ to set the characteristics of the test fuel on which new vehicles are tested,¹⁶ to require fuel and vehicle manufacturers to test the emissions effects of their products,¹⁷ to require the registration of market fuels and fuel additives,¹⁸ and to control market fuels and additives that cause harmful emissions.¹⁹

In subsection 211(f), known as the sub-sim law, Congress also made it unlawful “to first introduce into commerce, or to increase the concentration in use of, any fuel or fuel additive for use by any person in motor vehicles . . . which is not substantially similar to any fuel or fuel additive utilized” in the certification of new motor vehicles.²⁰

EPA has historically controlled ethanol levels in gasoline by interpreting the sub-sim law to “regulate the . . . *total concentration* of fuel and fuel additives.”²¹ In 1991, EPA defined the term “substantially similar” for gasoline to limit the oxygen content of the fuel to no more than “2.7 percent oxygen by weight,” which would have limited concentration of ethanol in gasoline to approximately 7.5%.²² However, EPA had allowed the sale of

¹³ See 42 U.S.C. §§ 7521, 7525, 7545.

¹⁴ *Id.* § 7521(a)(1).

¹⁵ *Id.* § 7525(a)(3)(B).

¹⁶ *Id.* § 7525(a)(4)(A).

¹⁷ *Id.* § 7545(b)(2)(A), (c)(3)(A).

¹⁸ *Id.* § 7545(a), (b)(1).

¹⁹ *Id.* § 7545(c)(1).

²⁰ *Id.* § 7545(f)(1)(B).

²¹ Proposed Rule, *supra* note 1, at 80877–78 (emphasis added).

²² *Regulation of Fuels and Fuel Additives; Definition of Substantially Similar*, 56 Fed. Reg. 5352, 5354 (Feb. 11, 1991); Kelsi Bracmort, Cong. Research Serv., R40445, Intermediate-Level Blends of Ethanol in Gasoline, and the Ethanol ‘Blend Wall’ 7 (2011) (“EPA has defined gasoline content (by weight), effectively limiting the concentration to roughly 7.5%

gasoline with 10% ethanol since 1979, by virtue of a waiver of the sub-sim law.²³ Thus, in 2008, EPA declared that under CAA § 211(f), “it is illegal for owners or operators of retail gasoline stations to sell gasoline blended with more than 10% ethanol for use in gasoline-only vehicles and engines.”²⁴

In 2011, EPA granted another sub-sim waiver allowing the use of gasoline with 15% ethanol in model year 2001 and newer vehicles.²⁵ This waiver reaffirmed EPA’s view that the sub-sim law limited the allowable concentration of ethanol in gasoline. As a condition of the waiver, for example, EPA required fuel manufacturers to adopt “[r]easonable measures . . . ensuring that consumers do not misfuel” by using gasoline with more than 15% ethanol in “vehicles or engines not covered by the waiver.”²⁶ These measures include a consumer warning that “[f]ederal law prohibits the use of the fuel in other vehicles and engines.”²⁷ Despite its general reliance on the sub-sim law, subsection 211(f), EPA also used its

(by volume).”).

²³ See *Fuels and Fuel Additives: Gasohol Marketability*, 44 Fed. Reg. 20777 (Apr. 6, 1979) (noting that EPA’s inaction had caused a sub-sim waiver petition to be granted for “Gasohol,” now known as E10, “a fuel consisting of 90% unleaded gasoline and 10% ethyl alcohol”). Today, under subsection 211(f)(4), EPA may waive the “prohibitions established under” the sub-sim law only after finding that a nonconforming “fuel or fuel additive or specified concentration thereof, will not cause or contribute to a failure of any . . . system . . . to achieve compliance by the vehicle or engine with the emission standards with respect to which it has been certified.” 42 U.S.C. § 7545(f)(4).

²⁴ Letter from Adam M. Kushner, Air Enforcement Div., EPA, to Bob Greco, Dir. Downstream and Industrial Operations, API, at 1 (July 31, 2008); see also Letter from Margo T. Oge, Dir., Office of Transp. & Air Quality, EPA, to Dawna Leitzke, Exec. Dir., S. Dakota Petroleum and Propane Marketers Ass’n, at 1 (Nov. 28, 2006) (“Most vehicles are certified to emission standards for gasoline only, and thus are limited to no more than E10.”).

²⁵ *Partial Grant of Clean Air Act Waiver Application Submitted by Growth Energy To Increase the Allowable Ethanol Content of Gasoline to 15 Percent*, 76 Fed. Reg. 4662, 4682 (Jan. 26, 2011).

²⁶ *Id.*

²⁷ *Id.*

subsection 211(c) authority to prohibit gasoline blends with more than 10% ethanol in pre-2001 vehicles other than FFVs.²⁸

Beginning this year (2017), automakers are required to certify light-duty vehicles using a test fuel that contains 10% ethanol—in excess of the 2.7% percent oxygen cap in EPA’s obsolete definition of “substantially similar.”²⁹ EPA nevertheless holds to its view that the sub-sim law limits the ethanol content of market fuel: According to the Proposed Rule, E16–E83 blends “cannot legally be used in a conventional gasoline vehicle” without a waiver of the sub-sim law.³⁰ The Proposed Rule would codify this erroneous interpretation, amending EPA’s regulations to prohibit the “sale or introduction of gasoline containing greater than 15 volume percent ethanol . . . into any model year 2001 or newer [non-FFV].”³¹

As explained below, the sub-sim law does not limit the ethanol content of market fuels, so it does not prohibit the sale of gasoline with more than 15% ethanol for use in non-FFVs. By correcting its interpretation of the sub-sim law, EPA could serve the Proposed Rule’s purpose of “facilitat[ing] further expansion of ethanol blended fuels” without sacrificing the Agency’s prerogative to control fuel content in the interest of human health or welfare.³²

²⁸ *Regulation To Mitigate the Misfueling of Vehicles and Engines With Gasoline Containing Greater Than Ten Volume Percent Ethanol and Modifications to the Reformulated and Conventional Gasoline Programs*, 76 Fed. Reg. 44406, 44409 (July 25, 2011) (hereinafter *Misfueling Rule*) (“These misfueling mitigation regulations are issues under CAA section 211(c).”); *id.* at 44442 (“[W]e are finalizing the misfueling mitigation measures pursuant to our authority under CAA section 211(c)(1).”); *see also* 40 C.F.R. § 80.1504(a)(1) (prohibiting the use of fuels with more than 10% ethanol in any “model year 2000 or older” vehicle or engine).

²⁹ 40 C.F.R. § 1065.710(b)(2).

³⁰ Proposed Rule, *supra* note 1, at 80843.

³¹ *Id.* at 80975 (to be codified at 40 C.F.R. § 80.1564(a)(3)). EPA does not purport to rely on section 211(c) as a basis for this rule. *See infra* p. 13.

³² *Id.*

B. The Sub-Sim Law Does Not Limit the Concentrations of Ethanol in Gasoline.

The sub-sim law prohibits increasing the concentration of fuel additives that are *not* substantially similar to a certification fuel,³³ but it does not limit ethanol content. To be sure, ethanol is a “fuel additive.”³⁴ But ethanol is substantially similar to a fuel additive used in the certification of new vehicles. Indeed, ethanol itself *is* a fuel additive used in certification: the new gasoline test fuel, for example, contains 9.6% to 10% ethanol.³⁵

EPA’s reliance on the sub-sim law to regulate the concentration of ethanol in fuel is inconsistent with the law’s plain meaning. Any ambiguity in the term “substantially similar” allows EPA to *expand* the circle of allowable fuel additives beyond those that are themselves used in certification. But the ambiguity does not work in the opposite direction. Whatever else it may allow, the term “substantially similar” cannot reasonably be interpreted to *exclude* fuel additives that are *identical* to those used in certification.³⁶ Yet that is exactly what EPA’s interpretation does by suppressing the blending of ethanol despite its use in certification fuel. A statute like the sub-sim law “simply cannot be read” to support an agency interpretation that “goes beyond the scope of whatever ambiguity [the statute] contains.”³⁷

³³ 42 U.S.C. § 7545(f)(1)(B).

³⁴ 40 C.F.R. § 79.2(e) (defining additive as “any substance, other than one composed solely of carbon and/or hydrogen, that is intentionally added to a fuel . . . and that is not intentionally removed prior to sale or use”). Ethanol is an alcohol composed of carbon, hydrogen *and* oxygen. *See* 40 C.F.R. § 80.2(vv) (“Denatured Fuel Ethanol means an alcohol of the chemical formula C₂H₆O”).

³⁵ 40 C.F.R. § 1065.710(b)(2).

³⁶ *See United States v. Home Concrete & Supply, LLC*, 132 S. Ct. 1836, 1846 n.1 (2012) (Scalia, J., concurring in part and concurring in the judgment) (“It does not matter whether the word ‘yellow’ is ambiguous when the agency has interpreted it to mean ‘purple’”) (citation omitted).

³⁷ *City of Chicago v. Envtl. Def. Fund*, 511 U.S. 328, 339 (1994) (rejecting EPA’s attempt to interpret a regulatory exemption for waste received by incineration facilities as an exemption for waste generated by those facilities as beyond the scope of any gaps created by Congress).

Moreover, “[w]here Congress wanted” to authorize EPA to regulate the *concentration* of fuel additives, “it did so explicitly.”³⁸ In the waiver authority of paragraph 211(f)(4)—within the very same subsection of the Act—Congress authorized EPA to lift the 211(f)(1) prohibition if a manufacturer establishes that a non-sub-sim “fuel or additive *or specified concentration* thereof” will not harm vehicle emission controls.³⁹ And once EPA has used its waiver authority to allow some concentration of a non-sub-sim fuel additive, the statute prohibits a fuel manufacturer from “increas[ing] the concentration in use” of that additive.⁴⁰ By including express authority to *allow* “specified concentrations” of additives otherwise prohibited by the sub-sim law, and by expressly forbidding increases in the concentration of non-sub-sim additives, Congress showed that the sub-sim law’s general prohibition (which omits any mention of concentration) should not be interpreted along those lines.⁴¹

EPA’s interpretation of the sub-sim law also renders the term “any . . . fuel additive” a virtual nullity. Under EPA’s interpretation, Congress’ express decision to permit “any . . . fuel additive utilized in the certification of any . . . vehicle” has no effect. The only thing that matters, in EPA’s view, is whether a market *fuel*, considered as the sum of its component parts, is substantially similar to a certification *fuel*. It is a “cardinal principle of statutory construction” that “a statute ought . . . to be so construed that . . . no clause, sentence, or word shall be superfluous, void, or insignificant.”⁴² EPA’s interpretation violates that cardinal principle, “render[ing] insignificant, if not wholly superfluous” Congress’ “express exemption” for fuel additives used in certification fuel.⁴³

³⁸ *Barnhart v. Sigmon Coal Co.*, 534 U.S. 438, 452 (2002).

³⁹ 42 U.S.C. § 7545(f)(4).

⁴⁰ *Id.* § 7545(f)(1)(B).

⁴¹ *See Russello v. United States*, 464 U.S. 16, 23 (1983) (“[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.”).

⁴² *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001) (quoting *Duncan v. Walker*, 533 U.S. 167, 174 (2001)).

⁴³ *Id.*

C. The Act's Structure Conflicts With EPA's Interpretation of "Substantially Similar."

EPA's interpretation of the sub-sim law is also "inconsistent with the administrative structure that Congress enacted into law."⁴⁴

A "telling indication that [EPA] has misconstrued the meaning of" the sub-sim law "is the plain language of a nearby provision, section 211(c)(1)."⁴⁵ That provision of the Act sets out the criteria that EPA is required to consider before "controlling or prohibiting the sale of fuel additives."⁴⁶

Before controlling existing fuel additives, EPA must find that a fuel or additive (1) "causes, or contribute to, air pollution which may reasonably be anticipated to endanger the public health or welfare" or (2) causes "emissions products" that "impair to a significant degree the performance of any emission control device or system which is [or would soon be] in general use[.]"⁴⁷

Recognizing that regulatory controls on existing fuel additives can be disruptive, Congress limited EPA's discretion in subsection 211(c)(2)(A) to the control of fuels and additives that "may reasonably be anticipated to endanger the public health," and required the Agency to consider all relevant "medical and scientific evidence . . . including . . . other feasible means of achieving the emission standards" required by the Act.⁴⁸ As the D.C. Circuit has explained, this provision requires EPA to consider whether the evidence shows that a fuel or fuel additive would "significantly increase the total human exposure" to

⁴⁴ *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 125 (2001).

⁴⁵ *Ethyl Corp. v. EPA*, 51 F.3d 1053, 1061 (D.C. Cir. 1995) (citing 42 U.S.C. 7545(c)).

⁴⁶ *Id.*

⁴⁷ 42 U.S.C. § 7545(c)(1).

⁴⁸ *Id.* § 7545(c)(2)(A).

pollution “so as to cause a significant risk of harm to human health.”⁴⁹ EPA has no “power to act on hunches and wild guesses.”⁵⁰

In an adjacent provision, subparagraph 211(c)(2)(B), Congress similarly limited EPA’s discretion to prevent damage to vehicle emissions controls by requiring the Agency to consider “scientific and economic data, including a cost benefit analysis comparing” feasible regulatory alternatives, and to hold “public hearing[s] and publish findings” upon request.⁵¹ These requirements “establish[] a rebuttable presumption that the Agency should maintain a laissez faire posture with regard to fuel regulation.”⁵² EPA must show “why regulation, as opposed to no regulation, is necessary or otherwise advisable.”⁵³

Considered together, the detailed provisions of section 211(c) “demonstrate[] that Congress crafted a very definite scheme in which [EPA] was to consider certain criteria before prohibiting or controlling the manufacture or sale of fuel additives[.]”⁵⁴In addition, as part of the Energy Independence and Security Act of 2007, Congress specified that before EPA could promulgate fuel regulations to mitigate “any adverse impacts on air quality, as the result of the renewable volumes required by” the renewable fuel standard,⁵⁵

⁴⁹ *Ethyl Corp. v. EPA*, 541 F.2d 1, 32 (1976); *see also id.* at 13 (“EPA interprets ‘will endanger’ to mean ‘presents a significant risk of harm.’ We agree with the Administrator’s interpretation.”). An interpretation that allowed EPA to regulate insignificant risks is disfavored because it would “make such a sweeping delegation of legislative power that it might be unconstitutional.” *Indus. Union Dep’t, AFL-CIO v. API*, 448 U.S. 607, 646 (1980) (quotations omitted).

⁵⁰ *Ethyl Corp.*, 541 F.2d at 28. A determination of significant risk requires an examination of the “probability and severity” of the risk being regulated. *Id.* at 18.

⁵¹ 42 U.S.C. § 7545(c)(2)(B).

⁵² *Amoco Oil Co. v. EPA*, 501 F.2d 722, 736 (D.C. Cir. 1974).

⁵³ *Id.*

⁵⁴ *Ethyl Corp.*, 51 F.3d at 1061.

⁵⁵ 42 U.S.C. § 7545(v)(2).

EPA must first conduct an air quality study.⁵⁶ To date, EPA has not undertaken such a study,⁵⁷ and the existing scientific literature demonstrates that ethanol reduces emissions.⁵⁸

By interpreting the sub-sim law to impose controls on the concentration of fuel additives used in certification, EPA construes the Act “in a way that completely nullifies textually applicable provisions meant to limit its discretion.”⁵⁹ Under EPA’s interpretation, the sub-sim law permits it to limit the content of ethanol in fuel without ever: (1) finding that any given concentration of ethanol “causes, or contributes, to air pollution”; (2) finding that any resulting pollution “endanger[s] the public health or welfare” or “impair[s] . . . any emissions control device”; (3) “examin[ing] the relevant medical and scientific evidence”; (4) considering other feasible ways of achieving the emission standards required by Title II; (5) conducting a cost-benefit analysis; (6) holding public hearings; or (7) conducting an air quality study. EPA’s misinterpretation of the sub-sim law allows the Agency to bypass the “very definite scheme” crafted by Congress to control existing fuels.⁶⁰

The U.S. Court of Appeals for the D.C. Circuit has rejected EPA’s prior attempt to circumvent this “very definite scheme.”⁶¹ In *Ethyl Corp. v. EPA*, the Court rejected EPA’s attempt to deny a sub-sim waiver for a fuel additive under 211(f)(4) because of “concern about the effects on public health that could result if EPA were to” grant such a waiver.⁶² In rejecting EPA’s claim that it could use section 211(f) to regulate fuels “in the public interest,” the Court observed that the detailed scheme of regulation established by section

⁵⁶ *Id.* § 7545(v)(1).

⁵⁷ Patrick Gilbride et al., EPA Office of Inspector General, No. 16-P-0275, EPA Has Not Met Certain Statutory Requirements to Identify Environmental Impacts of Renewable Fuel Standard 6 (2016).

⁵⁸ *See infra* p. 24.

⁵⁹ *Whitman v. Am. Trucking Ass’ns*, 531 U.S. 457, 485 (2001).

⁶⁰ *Ethyl Corp.*, 51 F.3d at 1061; *see also Christensen v. Harris Cnty.*, 529 U.S. 576, 583 (2000) (noting the longstanding principle of statutory construction that “[w]hen a statute limits a thing to be done in a particular mode, it includes a negative of any other mode”) (alteration in original).

⁶¹ *Ethyl Corp.*, 51 F.3d at 1061.

⁶² *Id.* at 1057.

211(c) demonstrated that “Congress did not delegate to the Agency the authority to consider other factors ‘in the public interest’ such as public health when acting under section 211(f)(4).”⁶³

As in *Ethyl*, the Proposed Rule’s reliance on section 211(f) to regulate the concentration of ethanol in gasoline under a standard of its own making “operates in complete defiance of the plain terms of the statutory criterion and with no explanation whatsoever for the application of a different standard.”⁶⁴

If EPA wishes to control the concentration of ethanol in gasoline, it “may initiate proceedings under section 211(c)(1).”⁶⁵ In fact, EPA has purported to use its section 211(c) authority to regulate ethanol content in the past, prohibiting the use of gasoline with more than 10% ethanol in pre-2001 vehicles.⁶⁶ The Proposed Rule, however, would prohibit the “sale or introduction: of fuels with greater than 15% ethanol in all “model year 2001 or newer” vehicles without even purporting to rely on section 211(c),⁶⁷ much less fulfilling its requirements. EPA’s past reliance on section 211(c) for this purpose confirms that the Agency “plainly oversteps [its] authority” when it seeks to control fuel properties under the sub-sim law that Congress intended to be addressed under section 211(c).⁶⁸

The implications of EPA’s subversion of the Clean Air Act’s fuel regulation scheme are significant. Under section 211(c), it is EPA who bears the burden of finding that a fuel additive will “cause[], or contribute[], to air pollution” that will either “impair . . . any emission control device” or “endanger the public health or welfare.”⁶⁹ By misconstruing section 211(f) to control fuel additive concentration, EPA unlawfully shifts its burden to fuel

⁶³ *Id.* at 1061.

⁶⁴ *Id.* at 1063.

⁶⁵ *Id.* at 1064.

⁶⁶ Misfueling Rule, *supra* note 28, at 44442 (codified at 40 C.F.R. § 80.1504(a)(1)).

⁶⁷ See Proposed Rule, *supra* note 1, at 80875–77 (explaining the legal basis for EPA’s action).

⁶⁸ *Ethyl Corp.*, 51 F.3d at 1054.

⁶⁹ 42 U.S.C. § 7545(c)(1).

manufacturers who, to get a sub-sim waiver, must “establish” that the requested concentration “will not cause or contribute to a failure of any emission control device.”⁷⁰

EPA’s current interpretation of the sub-sim law is inconsistent with its plain meaning and subverts the statutory scheme. EPA should correct its interpretation and recognize that the sub-sim law does not limit the concentration of ethanol in gasoline. This would “facilitate further expansion of ethanol blended fuels” by removing an important barrier to the penetration of higher ethanol blends,⁷¹ and it would preserve EPA’s authority to promulgate any appropriate fuel controls under section 211(c).

* * *

If EPA does finalize a rule that defines E16–E83 as EFF, it should correct several features of the rule that would otherwise frustrate the objectives of the Proposed Rule, as explained below.

III. THE PROPOSED RULE’S LIMITATIONS ON THE PRODUCTION AND USE OF E15 AT RETAIL ARE UNNECESSARY AND UNDERMINE THE RULE’S OBJECTIVES.

A. The Proposed Rule’s Restriction on the Use of E10 Parent Fuels to Produce E15 at Blender Pumps Is Unnecessary and Discourages Retailers From Marketing E15.

The Proposed Rule, if finalized, would include prohibitive restrictions on the use of E10 parent blends (the base fuels combined in blender pumps) to make E15.⁷² These restrictions are unnecessary and contrary to the Proposed Rule’s purpose of “facilitat[ing] further expansion of ethanol blended fuels.”⁷³

⁷⁰ *Id.* § 7545(f)(4).

⁷¹ Proposed Rule, *supra* note 1, at 80831. As EPA acknowledges, flex-fuel vehicles represent only about 6% of the vehicle fleet and “8% of light-duty vehicle miles travelled.” *Id.* at 80830.

⁷² Blender pumps produce a fuel with particular ethanol content from two ‘parent blends’ in different tanks at specified ratios.” Proposed Rule, *supra* note 1, at 80861.

⁷³ *Id.* at 80831.

To control evaporative emissions from FFVs, the Proposed Rule would control the Reid Vapor Pressure (RVP) of the EFF used in those vehicles.⁷⁴ EPA believes that “in-use EFF should not exceed [a] 10 psi [RVP] to control the evaporative emissions from FFVs.”⁷⁵

The Proposed Rule would not directly control the RVP of EFF produced using blender pumps.⁷⁶ Instead, the Rule would control the RVP of these fuels indirectly, by limiting the RVP of the parent blends. The Rule proposes controls for EFF parent blends that “would generally track those of gasoline, with a maximum RVP of 9.0 or 7.8 psi for” conventional gasoline areas.⁷⁷ EPA believes that by causing “the RVP of EFF produced at blender pumps . . . [to] be below 10 psi,” these “parent blend requirements for EFF . . . would provide sufficient control” of FFV evaporative emissions.⁷⁸ Retail blenders could comply with the Rule by simply keeping records (Product-Transfer Documents, or “PTDs”) that prove the parent blends they purchase meet EPA’s parent blend requirements.⁷⁹ This streamlined compliance process alleviates the otherwise unbearable burden of testing “each batch . . . (*i.e.* each vehicle fill-up) to demonstrate compliance with the applicable . . . RVP requirements.”⁸⁰

⁷⁴ Reid Vapor Pressure, or RVP, “is a standard measure of fuel volatility at 100°F.” Proposed Rule, *supra* note 1, at 80851. “Volatility is a measure of the propensity of a liquid to evaporate.” *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.* at 80852 (“[W]e do not believe that an RVP standard for EFF produced at blender pumps is need at this time.”).

⁷⁷ *Id.* at 80852.

⁷⁸ *Id.* at 80851–52.

⁷⁹ Proposed Rule, *supra* note 1, at 80862–63. Under the Proposed Rule, retail outlets can qualify as “blender pump-refiners” to streamline their compliance requirements. *Id.* A blender pump-refiner “means a retail outlet or wholesale-purchaser-consumer facility where, in the process of fueling a vehicle, engine, or portable fuel container, certified E0, E10, or E15 is blended with certified ethanol flex fuel to produce fuel pursuant to” EPA’s requirements. *Id.* at 80956 (to be codified at 40 C.F.R. 80.1500(b)).

⁸⁰ *Id.* at 80862; *see also* 80861 (“These requirements represent a substantial reduction in the burden of compliance for blender pump operators compared to the current per-batch testing and reporting requirements.”).

Retailers that wish to make “E15 at blender pumps,” by contrast, are subject to drastically more stringent controls.⁸¹ In particular, from “June 1 through September 15” (the high-ozone season) in areas “where the 1 psi waiver” for E10 applies, the Proposed Rule would not allow E15 retail blenders “that use E10 as a parent blend to meet their [RVP] requirements using PTDs for the parent blends.”⁸² The Proposed Rule would also prohibit retail blenders from blending E0 with EFF to make E15.⁸³

Together, these controls amount to a seasonal prohibition on the sale of E15 produced at blender pumps in areas of the country where the 1 psi waiver for E10 applies. As EPA recognizes, “it is infeasible for fuel retailers . . . to conduct laboratory tests on each batch of E15 produced . . . to demonstrate compliance with the applicable . . . RVP requirements.”⁸⁴ By making it either infeasible or illegal to use gasoline parent blends, the Proposed Rule effectively bans E15 produced at blender pumps during the summer in areas where the 1 psi waiver applies.

The Proposed Rule’s restriction on the use of E10 parent fuels to produce E15 at blender pumps is unnecessary and contrary to the Rule’s purpose of promoting ethanol. The restriction is unnecessary because, as EPA admits, “the addition of ethanol to gasoline increases the volatility of the blend until a concentration of approximately 10 volume percent, after which increasing ethanol concentration slowly decreases blend volatility.”⁸⁵ Consequently, using an E10 parent fuel to blend E15 would result in a blend with a lower RVP than that of the parent E10 fuel, reducing evaporative emissions.

EPA should remove its unnecessary restriction on the use of E10 parent fuels to produce E15 at blender pumps, by allowing blenders to demonstrate compliance using PTDs, even where the 1 psi waiver applies.

⁸¹ *Id.* at 80862.

⁸² *Id.* at 80863.

⁸³ *Id.* (prohibiting this because “E15 produced at blender pumps using E0 and EFF meeting the applicable RVP requirements would not be in compliance with the applicable RVP requirements for E15”).

⁸⁴ Proposed Rule, *supra* note 1, at 80862.

⁸⁵ *Id.* at 80851.

B. The Proposed Rule Irrationally Prohibits Retailers From Relabeling E15 for Use in FFVs Only.

EPA acknowledges that its current RVP controls for E15 make it virtually impossible to sell E15 for use in non-FFVs in the summer.⁸⁶ The Proposed Rule compounds that injury by irrationally preventing retailers from relabeling E15 for use in FFVs only.⁸⁷

This prohibition is arbitrary and capricious. EPA argues that if blenders were allowed to relabel E15 as EFF in the summer, blenders could circumvent “fuel quality requirements.”⁸⁸ EPA fails to explain why that is so, and no reason is apparent.⁸⁹ The fuel would be no different from other EFF: E15 would have an RVP of 10 psi or less and comply with all other fuel quality requirements for EFF.⁹⁰ EPA also suggests that retailers could “adjust the ethanol blend ratio to produce an EFF blend such as E20 from June 1 through September 15.”⁹¹ But EPA does not explain why retailers should be forced to bear the costs of recalibrating their pumps and switching pump labels every summer. Because no reason can be discerned for it, and because it is unmoored “from the purposes and concerns” of the Clean Air Act, the proposed ban on relabeling E15 for use in FFVs would be unlawful.⁹²

⁸⁶ *Id.* at 80862 (“Blenders of E15 in conventional gasoline areas (both at blender pumps and at terminals) have typically not been able to make E15 that is compliant with summertime RVP requirements due to the unavailability of sub-RVP blendstocks.”).

⁸⁷ *Id.* at 80863.

⁸⁸ *Id.* (“Allowing a fuel to be exempted from fuel quality requirements simply based on a statement of its intended use would undermine the EPA’s ability to assure compliance with fuel quality requirements.”).

⁸⁹ Perhaps EPA is arguing in a circle, simply pointing out that allowing the sale of E15 with an RVP higher than 9 psi for use in FFVs would allow the sale of E15 with an RVP higher than 9 psi.

⁹⁰ Even if the Proposed Rule permitted retail blenders to use an E10 parent fuel with a 10 psi RVP to blend E15, the resulting E15 blend would be below 10 psi, because the additional ethanol would reduce RVP. *See supra* p. 16.

⁹¹ Proposed Rule, *supra* note 1, at 80863.

⁹² *Judulang v. Holder*, 565 U.S. 42, 64 (2011) (“We must reverse an agency policy when we cannot discern a reason for it. That is the trouble in this case. The BIAs comparable-grounds rule is unmoored from the purposes and concerns of the immigration laws.”).

C. The Proposed Rule’s Costly Controls on the Production and Use of E15 at Retail Could Be Entirely Avoided If EPA Extended a 1 psi RVP Waiver to E15 Blends.

The Proposed Rule could easily avoid its costly scheme to control E15 retailers by simply extending a 1 pound waiver to gasoline blends with more than 10% ethanol.⁹³ The Proposed Rule, however, persists in the erroneous view that “a 1 psi RVP waiver was granted by Congress in 1990 to gasoline-ethanol blends of a least 9 volume percent *and no greater than* 10 volume percent ethanol[.]”⁹⁴ It is hard to imagine why Congress would enact a waiver scheme that favors fuels with exactly 10% ethanol and no more. (Adding more ethanol to an E10 blendstock *lowers* RVP and the evaporative emissions that RVP controls.) And indeed, Congress adopted no such scheme. Congress granted the 1 psi RVP waiver to “fuels containing 10 percent . . . ethanol.”⁹⁵ It is perfectly permissible—and much more sensible—to interpret this provision to require a 1 psi waiver for all fuels containing *at least* 10 percent ethanol.

EPA should reinterpret the 1 psi RVP waiver to cover gasoline blends with 10% ethanol *or more*.

IV. THE PROPOSED RULE’S PROHIBITION ON THE USE OF DENATURED FUEL ETHANOL AS A PARENT FUEL AT BLENDER PUMPS IS UNNECESSARY AND UNDERMINES THE RULE’S OBJECTIVES.

The Proposed Rule requests comment on whether to allow blenders to use denatured fuel ethanol “as a parent blend at blender pumps.”⁹⁶ The Rule notes that “[a]llowing the use” of denatured fuel ethanol “would provide additional flexibility to industry while meeting the EPA’s environmental goals.”⁹⁷

⁹³ EPA currently restricts that exemption to fuels with an ethanol content of “at least 9% and no more than 10% (by volume) of the gasoline.” 40 C.F.R. § 80.27(d)(2).

⁹⁴ Proposed Rule, *supra* note 1, at 80851 n.95 (emphasis added).

⁹⁵ 42 U.S.C. § 7545(h)(4).

⁹⁶ Proposed Rule, *supra* note 1, at 80861.

⁹⁷ *Id.*

Nevertheless, the Proposed Rule would prohibit the use of denatured fuel ethanol at blender pumps because EPA believes it “could result in increased fire safety concerns.”⁹⁸ The Proposed Rule noncommittally suggests that “EPA may reconsider” its position “when appropriate [fire] safety codes” have been developed to deal with the risk.⁹⁹

EPA is not the nation’s chief fire marshal. The Agency has no legal authority to regulate fire hazards.¹⁰⁰ EPA also lacks the relevant expertise to pass judgment on the appropriateness of existing fire codes. Moreover, finalizing the proposed nationwide prohibition on the use of denatured fuel ethanol at blender pumps would perversely eliminate any incentive to develop improved fire codes.

Instead of imposing paternalistic prohibitions in areas outside of its expertise and jurisdiction, EPA should allow the use of denatured fuel ethanol at blender pumps and permit states, local governments, and private industry to take the lead in regulating the fire hazards associated with the use of denatured fuel ethanol use. As demonstrated in the attached exhibit, insurers are already willing to insure blenders using denatured fuel ethanol against the risk of fire hazards at no additional cost.¹⁰¹ This shows that industry experts believe that any fire risks from the use of denatured fuel ethanol are manageable and no greater than the risks of using EFF.¹⁰²

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ Section 211(c) allows EPA to regulate vehicle “emission product[s],” not fire risks. *See* 42 U.S.C. § 7545(c)(1).

¹⁰¹ Exhibit, Letter from Jay Beckel, Certified Safety Professional, Certified Hazardous Materials Manager, Certified Storage Tank Inspector, ERI Solutions, Inc., to Steve Vander Griend, Urban Air Initiative (Feb. 16, 2017).

¹⁰² *See id.* (“I do not believe that the storage of denatured fuel ethanol (E98) poses any greater risk of fire or explosion than the storage of E85 or gasoline.”).

V. THE PROPOSED SULFUR STANDARD FOR NATURAL GASOLINE IS TOO STRINGENT.

The Proposed Rule would impose expensive controls on the sulfur content of natural gasoline used in EFF that raise its cost, with no appreciable benefit to human health.¹⁰³

Under EPA's proposal, "there would be two classes of natural gasoline that could be used to produce EFF: Certified natural gasoline and uncertified natural gasoline."¹⁰⁴

Uncertified natural gasoline could only be used by upstream EFF refiners that meet the stringent testing and compliance requirements applicable to gasoline refiners.¹⁰⁵ Uncertified natural gasoline would be subject to no per-gallon sulfur limits. Instead, EFF refiners using uncertified natural gasoline would only be limited by the "10 ppm annual average sulfur standard" that applies to all the EFF they produce in a year and "an 80 ppm refinery gate per-gallon sulfur cap for the EFF they produce."¹⁰⁶

In practice, most EFF producers, including "bulk blenders at petroleum terminals and ethanol plants where the per-batch testing requirement . . . [would] not be practicable," could only use certified natural gasoline.¹⁰⁷ Certified natural gasoline used in EFF would be subject to a "more protective 10 ppm *per-gallon* sulfur cap standard."¹⁰⁸ This cap would ensure that EFF produced using certified denatured fuel ethanol and natural gasoline would have no more than 12.9 ppm of sulfur per gallon.¹⁰⁹ By comparison, gasoline refiners, like

¹⁰³ See Proposed Rule, *supra* note 1, at 80844–46.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 80845 ("Under the first option for producing EFF (the 'EFF full-refiner option'), uncertified natural gasoline EFF blendstock could be used to produce EFF provided that each batch is sampled and tested to demonstrate compliance.").

¹⁰⁶ *Id.* Uncertified natural gasoline would still be subject to per batch RVP, boiling point, and source controls. *See id.* at 80857.

¹⁰⁷ *Id.* at 80846 ("EFF bulk blender-refiners could use only certified natural gasoline EFF blendstock."). As EPA recognizes, "the majority of EFF would continue to be made by bulk blenders at petroleum terminals and ethanol plans." *Id.* These parties would use "the EFF bulk-blender refiner option," and would therefore be required to rely exclusively on certified natural gasoline. *Id.*

¹⁰⁸ Proposed Rule, *supra* note 1, at 80849 (emphasis added).

¹⁰⁹ Assuming that denatured fuel ethanol containing the maximum allowable content of denaturant (3%) with the maximum allowable concentration of sulfur (330 ppm), is

EFF refiners, are subject to a much less stringent 80 ppm sulfur cap for the gasoline they produce.¹¹⁰

The Proposed Rule's stringent sulfur standard is rooted in EPA's speculation about the sulfur levels present in the natural gasoline used to denature ethanol. In the Tier 3 Rule, EPA "set a 330 ppm per-gallon sulfur cap on ethanol denaturant, effective January 1, 2017."¹¹¹ The Proposed Rule notes that if EFF producers used the maximum amount of natural gasoline permitted by the Tier 3 Rule, the resulting EFF would "consistently be close to 100 ppm."¹¹² EPA notes that "such consistently high sulfur levels in EFF would result in significant FFV emission controls catalyst performance degradation and a substantial increase in FFV emissions."¹¹³ EPA admits, however, that it has "insufficient data on the sulfur . . . content of natural gasoline used to denature ethanol to characterize the extent of this concern."¹¹⁴

To protect catalysts against this speculative concern, the proposed 10 ppm per-gallon sulfur standard would eliminate the price advantage of using natural gasoline as an EFF blendstock, discouraging EFF production. Even according to EPA's own analysis, which assumes "no additional natural gasoline or treatment costs" and an increase of just "3 cents per gallon" due to higher distribution costs, the average price advantage from using natural gasoline to blend E70 would fall as a result of the rule from 11.2% (or 21.3 cents per gallon)

blended with the maximum allowable amount of natural gasoline (30%) containing the proposed maximum allowable concentration of sulfur (10 ppm), the resulting EFF would contain 12.9 ppm sulfur: $(10 \text{ ppm} * 0.3) + (330 \text{ ppm} * 0.03) = 12.9 \text{ ppm}$. Neat ethanol's sulfur content can be ignored because it is "negligible." *Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards*, 79 Fed. Reg. 23414, 23554 (Apr. 28, 2014) (hereinafter Tier 3 Rule).

¹¹⁰ 40 C.F.R. § 80.1603.

¹¹¹ Proposed Rule, *supra* note 1, at 80855; 40 C.F.R. § 80.1611(a)(1). EPA also limited the allowable concentration of denaturant to "a maximum of 3.0 volume percent", *id.* § 80.1610(a)(4), and required denatured fuel ethanol to have a sulfur content no "greater than 10 ppm." *Id.* § 80.1610(a)(1).

¹¹² Proposed Rule, *supra* note 1, at 80855.

¹¹³ *Id.*

¹¹⁴ *Id.*

to a mere 1.5% (or 2.9 cents per gallon) on an energy adjusted basis.¹¹⁵ This scenario is too optimistic, because the proposed sulfur standard would also likely require expensive processing and prohibitive capital investments in desulfurization units in many parts of the country. According to EPA’s analysis, that could further raise natural gasoline costs by five cents per gallon.¹¹⁶ This increase in costs would eliminate the price advantage of using natural gasoline: on an energy adjusted basis, using natural gasoline instead of gasoline to blend E70 would have a price *disadvantage* of 2.1 cents per gallon.¹¹⁷

This counterproductive result could be avoided by imposing a less stringent standard or by providing more flexibility.

A less stringent sulfur standard is justified by the available evidence. Contrary to EPA’s speculation, the natural gasoline typically used as an ethanol denaturant is unlikely to have a sulfur content as high as 330 ppm. Crude oil’s natural gasoline typically has a much lower sulfur content, and the sulfur content of natural gasoline produced by natural gas processing plants ranges from 6 to 69 ppm.¹¹⁸ Indeed, according to EPA, ethanol denaturant typically contains no more 120 ppm of sulfur.¹¹⁹ Moreover, ethanol producers

¹¹⁵ Jeff Herzog, Office of Transp. & Air Quality, EPA, Potential Impact on the Cost of E51-83 (“E85”) from the Use of Natural Gasoline as a Blendstock, EPA-HQ-OAR-2016-0041-0006, at 2–3 (Oct. 3, 2016) (hereinafter Herzog, Impact on the Cost of Natural Gasoline). Even assuming no increase in distribution costs, the proposed standard would reduce the energy-adjusted price advantage of using natural gasoline to 2% (or 3.8 cents per gallon) due to the scarcity (and high cost) of low-sulfur natural gasoline. *Id.* at 2–3.

¹¹⁶ Lester Wyborny, Office of Transp. & Air Quality, EPA, Supply and Potential Cost of Natural Gasoline Meeting the Proposed Natural Gasoline Specifications for EFF Blendstock, EPA-HQ-OAR-2016-0041-0005, at 10 (Oct. 3, 2016) (hereinafter Wyborny, Natural Gasoline Feasibility Analysis).

¹¹⁷ EPA argues that the “estimated cost of about 5 cents per gallon is far below the cost savings of using natural gasoline instead of gasoline.” *Id.* This fails to account for the lower energy content of natural gasoline. Adjusted for energy content, a five cent increase in costs would reduce EPA’s own price advantage estimate of 2.9 cents per gallon of natural gasoline to a price disadvantage of 2.1 cents per gallon. *See* Herzog, Impact on the Cost of Natural Gasoline, *supra* note 115, at 3.

¹¹⁸ Wyborny, Natural Gasoline Feasibility Analysis, *supra* note 116, at 4–5.

¹¹⁹ In the Tier 3 Rule, EPA assumed its sulfur requirements would impose no new costs on denaturant producers because “ethanol manufacturers currently require denaturant

typically limit the use of ethanol denaturant to no more than 2%, because they do not generate renewable credits (RINs) for any additional amount of denaturant.¹²⁰ This demonstrates that a substantially less stringent sulfur standard could still limit typical EFF to no more than 10 ppm sulfur, no higher than the sulfur levels found in average gasoline subject to the annual 10 ppm standard.

Alternatively, EPA could mitigate the burden imposed by its proposed natural gasoline sulfur standard by permitting ethanol producers to blend low-sulfur ethanol fuels with natural gasoline that meets a less stringent sulfur standard.¹²¹ By offsetting the higher sulfur natural gasoline with lower sulfur ethanol fuels, this approach “would allow access to a larger volume of natural gasoline for blending into EFF” without increasing the sulfur levels present in EFF.¹²²

EPA should replace its proposed sulfur standard for certified natural gasoline with a less stringent sulfur standard. EPA should also allow ethanol producers flexibility to blend a higher sulfur natural gasoline with a lower sulfur ethanol fuel.

VI. THE PROPOSED RULE SHOULD SAFEGUARD THE ETHANOL SUPPLY AGAINST POSSIBLE CONTAMINATION CAUSED BY NATURAL GASOLINE.

The Proposed Rule should safeguard EFF against contamination caused by natural gasoline. One report by the Army Corps of Engineers notes that some retail E85 fuel tanks in Fort Lewis, Washington, became contaminated with a sticky, rubbery black substance,

manufacturers to provide a product with a sulfur content of 120 ppm or less.” Tier 3 Rule, *supra* note 109, at 23557.

¹²⁰ Tier 3 Rule, *supra* note 109, at 23555 (“[T]he RFS2 program requirement that DFE contain no more than 2 volume percent denaturant for Renewable Identification Number (RIN) generation purposes already provides a strong incentive to keep denaturant concentration under 2 percent.”); *see also* 40 C.F.R. § 40.1401 (“Any volume of denaturant added to the undenatured ethanol by a producer or importer in excess of 2 volume percent shall not be included in the volume of ethanol for purposes of determining compliance with the requirements under this subpart.”).

¹²¹ *See* Proposed Rule, *supra* note 1, at 80858 (“request[ing] comment on this approach”).

¹²² *Id.*

possibly due to the presence of natural gasoline. Laboratory analyses later identified that black substance as a synthetic rubber. EPA should study this problem and safeguard the EFF supply against contamination from these substances if such a fuel control would satisfy the applicable legal standards.

VII. ALLOWING FURTHER MARKET PENETRATION OF MIDDLELEVEL ETHANOL BLENDS WOULD IMPROVE VEHICLE EFFICIENCY AND BENEFIT THE ENVIRONMENT.

A. Increasing the Use of Midlevel Ethanol Blends Would Increase the Efficiency of the Existing Vehicle Fleet.

By “facilitat[ing] further expansion of ethanol blended fuels”¹²³ in FFVs, the Proposed Rule would achieve some modest emissions reductions and vehicle efficiency improvements. The corrections suggested by the Commenters would further expand ethanol usage in FFVs, increasing these benefits. But the nationwide fleet of FFVs is relatively small, and it is not growing. The benefits of the Rule would be much greater if EPA were to correct its interpretation section 211(f), as Commenters suggest,¹²⁴ to impose no limit on the concentration of ethanol in fuel.

The vehicle efficiency benefits of expanding the use of ethanol blends would be realized immediately. As the Auto Alliance recently pointed out to EPA, the wider dissemination of high-octane fuels in the marketplace would “immediately improv[e] fuel economy across a substantial portion of the existing light-duty vehicle fleet.”¹²⁵ That is because, as automotive engineers have conclusively demonstrated, “[h]igher octane fuel improves the efficiency of today’s engines through reduced spark retard . . . at high loads.”¹²⁶ These efficiency benefits could be partially realized in legacy vehicles “without

¹²³ Proposed Rule, *supra* note 1, at 80831.

¹²⁴ *See supra* pp. 4–13.

¹²⁵ Alliance of Automobile Manufacturers, Comments on Draft Technical Assessment Report, EPA-HQ-OAR-2015-0827-0095, at 71 (Sept. 26, 2016).

¹²⁶ Thomas G. Leone et al., *The Effect of Compression Ratio, Fuel Octane Rating, and Ethanol Content on Spark-Ignition Engine Efficiency*, 49 *Envtl. Sci. & Tech.* 10778, 10779 (2015).

recalibration of the engine and controls.”¹²⁷ Moreover, ethanol also “offer[s] efficiency benefits independent of [its] octane value.”¹²⁸ Ethanol “improves part load efficiency compared to gasoline, even at light loads where knock and octane are not important.”¹²⁹ In addition, ethanol’s cooling effect significantly improves thermal efficiency in today’s direct injection vehicles.¹³⁰

Increasing the use of midlevel ethanol blends would significantly benefit the legacy fleet.

B. Increasing the Use of Midlevel Ethanol Blends Would Reduce Pollution from the Existing Vehicle Fleet.

Midlevel ethanol blends would immediately reduce particulate matter (PM) and particle number (PN) emissions from motor vehicles. “[T]he reduction of PM emissions with the addition of ethanol . . . has been demonstrated in many studies and is supported by fundamental combustion chemistry considerations.”¹³¹ Oak Ridge National Laboratory has repeatedly demonstrated that ethanol’s PM and PN reducing effects are particularly pronounced in vehicles with direct injection (GDI), which have increased as a share of the total vehicle fleet in recent years.¹³²

¹²⁷ *Id.* at 10781. Legacy vehicles could achieve even greater efficiency gains if they are re-calibrated to operate on high-octane fuel. *Id.*

¹²⁸ *Id.* at 10779.

¹²⁹ *Id.* at 10784.

¹³⁰ See Robert A. Stein et al., *Effect of Heat of Vaporization, Chemical Octane, and Sensitivity on Knock Limited for Ethanol-Gasoline Blends*, SAE Tech. Paper 2012-01-1277, at 20 (“Both the chemical octane and the effect of charge cooling due to fuel vaporization . . . are very significant for high ethanol blends with direct injection.”); Koichi Nakata et al., *The Effect of Ethanol Fuel on a Spark Ignition Engine*, SAE Tech. Paper 2006-01-3380 (concluding that ethanol’s heat of vaporization “improves engine torque and thermal efficiency” because “cooling heat loss decreases”).

¹³¹ Anderson et al., *Issues with T50 and T90 as Match Criteria for Ethanol-Gasoline Blends*, 7 SAE Int’l J. Fuels & Lubr.1027, 1031 & nn.1, 13, 14, 15, 16, 17 (citing ten “particularly well documented” studies).

¹³² See John M. Storey et al., *Exhaust Particle Characterization for Lean and Stoichiometric DI Vehicles Operating on Ethanol-Gasoline Blends*, SAE Tech. Paper 2012-01-0437 (showing

Other studies have only confirmed these findings. One study by Ford engineers found that E32 and E45 blends reduce PN by 30% and PM by 40% in GDI vehicles, relative to gasoline with no ethanol.¹³³ Another study by the University of California, testing E10, E51, and E83 blends, found “statistically significant” PM “decreases for E51 and E83 of 61% and 59%, respectively, compared to E10” in both port-fuel and direct injection vehicles.”¹³⁴ But the absolute PM emission reductions were particularly pronounced in the GDI vehicle.¹³⁵

Further penetration of midlevel ethanol blends would also reduce the national PM burden indirectly, by reducing secondary organic aerosol (SOA) precursors. As EPA has admitted, aromatics in gasoline are the greatest contributors to SOA formation.¹³⁶ Indeed, the entire SOA formation potential of gasoline can be attributed to the aromatic precursors that ethanol replaces.¹³⁷ The health impacts of this secondary form of PM pollution are

PM and PN reductions with the addition of ethanol in a GDI engine); John M. Storey et al., *Ethanol Blend Effects In Direct Injection Spark-Ignition Gasoline Vehicle Particulate Matter Emissions*, 3 SAE Int. J. Fuels Lubr. 650, 653 (2010) (E20 reduced PM by 30% relative to E0 over FTP, and 42% over more aggressive US06, in a GDI vehicle); *id.* at 656 (E20 decreased PN by 80% to 90% relative to E0, in a GDI vehicle).

¹³³ M. Matti Maricq, et al., *The Impact of Ethanol Fuel Blends on PM Emissions from a Light-Duty GDI Vehicle*, 46 Aerosol Sci. & Tech. 576, 579 (2011). Lower ethanol blends have a much smaller effect on these emissions. *See id.* at 580 (finding lower and more uncertain PM and PN reductions at lower levels of ethanol).

¹³⁴ Georgios Karavalakis et al., *Assessing the Impacts of Ethanol and Isobutanol on Gaseous and Particulate Emissions from Flexible Fuel Vehicles*, 48 Env'tl. Sci. & Tech. 14016, 14021 (2014).

¹³⁵ *Id.*, Supplemental Info., at S12 (reporting that the GDI vehicle emitted 4.85 milligrams per mile over the federal test procedure when using E10, compared with 1.68 milligrams per mile when using E85).

¹³⁶ Clean Air Fine Particle Implementation Rule, 72 Fed. Reg. 20586, 20593 (Apr. 25, 2007) (“Aromatic compounds such as toluene, xylene, and trimethyl benzene are considered to be the most significant anthropogenic SOA precursors and have been estimated to be responsible for 50 to 70 percent of total SOA in some airsheds.”).

¹³⁷ *See* J.R. Odum, et al., *The Atmospheric Aerosol-Forming Potential of Whole Gasoline Vapor*, 276 Science 96, 96 (1997) (“[T]he atmospheric organic aerosol formation potential of whole gasoline vapor can be accounted for solely in terms of the aromatic fraction of the fuel.”), available at <http://www.unc.edu/courses/2007fall/envr/416/001/>

dramatic: A study by the Harvard School of Public Health estimates that SOA carries a social cost of up to \$34.9 billion a year.¹³⁸ Moreover, while the state of the art vehicular pollution controls required by EPA's rules reduce other primary pollutants, they do not significantly reduce SOA precursors.¹³⁹ By encouraging the substitution of aromatic hydrocarbons with ethanol, the Proposed Rule would reduce SOA and the associated PM burden.

In addition, further penetration of midlevel ethanol blends would reduce polycyclic aromatic hydrocarbon (PAH) emissions. Motor vehicle emissions are estimated to account for 46% to 90% of all outdoor PAH emissions in urban areas.¹⁴⁰ Blending ethanol into gasoline has been shown to reduce these PAH emissions: One study found that E85 reduces PAH emissions by 85% relative to gasoline with no ethanol.¹⁴¹ More recent studies have confirmed these findings.¹⁴²

OdumScience97.pdf.

¹³⁸ Katherine Von Stackelberg et al., *Public Health Impacts of Secondary Particulate Formation From Aromatic Hydrocarbons in Gasoline*, 12 *Envtl. Health*, at 6 (2013).

¹³⁹ T.D. Gordon et al., *Secondary Organic Aerosol Formation Exceeds Primary Particulate Matter Emissions for Light Duty Gasoline Vehicles*, 13 *Atmos. Chem. Phys. Discuss.* 23173, 23176, 23197 (2013) (finding that even though the contribution of light duty vehicle emissions to ambient PM levels is “dominated” by secondary SOA and nitrates, “catalysts are optimized to reduce emissions of regulated pollutants (NO_x, NMOG, and CO), not SOA precursors”).

¹⁴⁰ Cathryn C. Tonne et al., *Predictors of Personal Polycyclic Aromatic Hydrocarbon Exposures Among Pregnant Minority Women in New York City*, 112 *Envtl. Health Perspect.* 754 (2004).

¹⁴¹ M.A. Costagliola et al., *Combustion Efficiency and Engine Out Emissions of a S.I. Engine Fueled With Alcohol/Gasoline Blends*, *Applied Energy* 1, 9 & fig. 17 (2012) (finding “reduction of toxic equivalents [of the carcinogenic PAH benzo(a)pyrene (B(a)p)] when moving from gasoline to alcohol blends,” including a 60% to 70% reduction for splash blended E10, E20, and E30 as compared to gasoline, with even better results for E85).

¹⁴² See Maria Muñoz et al., *Bioethanol Blending Reduces Nanoparticle, PAH, and Alkyl- and Nitro-PAH Emissions and the Genotoxic Potential of Exhaust from a Gasoline Direct Injection Flex-Fuel Vehicle*, 50 *Envtl. Sci. & Tech.* 11853, 11857, 11859 (2016) (finding that “[u]sing only 10% ethanol is sufficient to reduce PAHs and nitro-PAHs in a range of 67–96%”).

For all remaining regulated pollutants, increasing the concentration of ethanol in gasoline would either reduce or have no discernible impact on vehicle emissions: “studies . . . have demonstrated” that ethanol reduces “vehicle exhaust emissions, particularly . . . non-methane hydrocarbons (NMHC).”¹⁴³

C. Increasing the Use of Midlevel Ethanol Blends Would Enable the Next-Generation of Highly-Efficient Vehicle Engines.

The benefits of expanding ethanol use in legacy vehicles do not fully capture the potential increase in efficiency that could be realized in vehicles optimized to take advantage of ethanol’s high octane value.¹⁴⁴ By increasing the octane levels available in the market, higher ethanol blends could facilitate a transition to the next-generation of highly efficient vehicles.

An overwhelming body of evidence demonstrates that a high-octane, midlevel ethanol blend would enable significant increases in vehicle efficiency.¹⁴⁵ Ethanol’s high-octane blending value would enable vehicle manufacturers to build next-generation engines with higher compression ratios, and therefore increased thermal efficiency.¹⁴⁶ These gains in efficiency can be translated into superior automotive performance or reduced carbon dioxide emissions through engine downsizing and other proven engineering strategies.¹⁴⁷

¹⁴³ Anderson et al., *supra* note 131, at 1031; see also Carolyn Hubbard et al., *Ethanol and Air Quality: Influence of Fuel Ethanol Content on Emissions and Fuel Economy of Flexible Fuel Vehicles*, 48 *Envtl. Sci. & Tech.* 861, at 863–64 (2014) (finding THC, NMHC, and NMOG decrease significantly from E0 to E30 in PFI engine).

¹⁴⁴ Ethanol has an octane blending value of 115 to 135 RON. See David Hirshfeld et al., *Refining Economics of U.S. Gasoline: Octane Ratings and Ethanol Content*, 48 *Envtl. Sci. & Technol.* 11064, 11065 (2014).

¹⁴⁵ See Derek A. Splitter & James P. Szybist, *Experimental Investigation of Spark-Ignited Combustion with High-Octane Biofuels and EGR. 1. Engine Load Range and Downsize Downspeed Opportunity*, 28 *Energy & Fuels* 1418, 1430 (2014) (demonstrating that “midlevel alcohol blends” could engine design strategies resulting in “near-term increases in efficiency and reductions in CO₂”).

¹⁴⁶ See Leone et al., *supra* note 126, at 10785 (“Higher octane fuel is a key enabler for improved efficiency based on current engine/vehicle design trends.”).

¹⁴⁷ *Id.* (finding a CO₂ emissions decrease 6% to 9.6% with a 101 RON E30 blend in

By correcting its misinterpretation of section 211(f), EPA would enable the higher ethanol levels need to transition to the next-generation of highly-efficient engines.

CONCLUSION

EPA's proposal to limit the use of gasoline with more than 15% ethanol to FFVs is inconsistent with the plain meaning of the Clean Air Act and would unreasonably limit the potential efficiency and emissions benefits of higher ethanol fuels. EPA should reinterpret section 211(f) to clarify that the statute does not limit the concentration of ethanol in motor vehicles. If EPA wishes to control the concentration of ethanol in gasoline, it must do so under section 211(c), after making the findings required by law.

Allowing the use of mid-level ethanol blends in non-FFVs would accomplish the Proposed Rule's goal of promoting ethanol without compromising the Rule's significant economic and environmental benefits.

In the alternative, EPA should:

- (1) Remove its unnecessary restriction on the use of E10 parent fuels to produce E15 at blender pumps, by allowing blenders to demonstrate compliance using PTDs, even where the 1 psi waiver applies;
- (2) Permit retailers to relabel E15 for sale in FFVs only;
- (3) Extend the 1 psi RVP waiver to gasoline blends with more than 10% ethanol;
- (4) Allow the use of denatured fuel ethanol to produce EFF at blender pumps;
- (5) Replace its proposed sulfur standard for certified natural gasoline with a substantially less stringent sulfur standard;
- (6) Allow ethanol producers flexibility to blend a higher sulfur natural gasoline with a lower sulfur ethanol fuel; and
- (7) Safeguard the EFF supply against contamination from natural gasoline if such a fuel control would satisfy the applicable legal standards.

an engine with a 13:1 compression ratio relative to a baseline E10 fuel); Thomas G. Leone et al., *Effects of Fuel Octane Rating and Ethanol Content on Knock, Fuel Economy, and CO₂ for a Turbocharged DI Engine*, 7 SAE J. of Fuels & Lubricants 9, 22 (2014) (finding that a 101 RON blend of E30 in an engine with a 13:1 compression ratio could lower CO₂ emissions by 6% to 9% relative to a regular E10 in an engine with a 10:1 compression ratio).

EXHIBIT



February 16, 2017

Urban Air Initiative
Attn: Steve Vander Griend
310 N. First Street
Colwich, KS 67030

RE: Use of Denatured Fuel Ethanol (E98)

Mr. Vander Griend

I understand that EPA has recently proposed to prohibit the storage of denatured fuel ethanol in underground storage tanks at gasoline retailers due to concerns about flammability. ERI Solutions, Inc. ("ERI") has been a service provider to both the ethanol and petroleum products industries in the capacity of environmental compliance, industrial hygiene, safety, process safety and non-destructive testing for over 10 years. In addition to these technical risk prevention and compliance services, ERI also manages ERM SPC, Ltd., a segregated portfolio reinsurance company which re-insures risks of fuel ethanol industry assets which include the storage tanks for both denatured fuel ethanol (E98) as well as non-denatured ethanol (E100) and natural gasoline or another denaturant. I believe EPA's concerns regarding denatured fuel ethanol (E98) are unfounded.

ERM SPC, Ltd. provides property, workers' compensation and general liability insurance to over 90 operating fuel ethanol production facilities, which produce a combined 7+ billion gallons of ethanol per year and represent over \$11 billion dollars of Total Insured Value (TIV). 100% of these fuel ethanol production facilities produce denatured fuel ethanol (E98) by blending their own ethanol with natural gasoline or another denaturant, and store the denatured fuel ethanol (E98) in storage tanks on their premises.

I do not believe that the storage of denatured fuel ethanol (E98) poses any greater risk of fire or explosion than the storage of E85 or gasoline. I understand that non-conductive liquid poses a greater danger of explosion than conductive liquid, and ethanol is a conductive liquid. My colleagues at ERI and I are not aware of any explosions or other damage caused by denatured fuel ethanol (E98) storage on the property of our customers or others.

Neither ERM SPC, Ltd. nor its reinsurance partners FM Global or Liberty Mutual adjust property, workers' compensation, or general liability insurance premiums based on the level at which a fuel ethanol production facility blends or stores the fuel products. Specifically, none of the aforementioned companies charge more for fuel ethanol production facilities that produce and store denatured fuel ethanol (E98) than fuel ethanol production facilities that produce and store E85. There is nothing about underground storage as distinguished from above-ground storage that would change EPA's risk calculus.

A handwritten signature in black ink that reads "D. Jay Beckel". The signature is written in a cursive style with a large, looped initial "D".

D. Jay Beckel
Certified Safety Professional (CSP)
Certified Hazardous Materials Manager (CHMM)
API 510 (Pressure Vessel) Certified Inspector
API 570 (Process Piping) Certified Inspector
API 653 (Above Ground Storage Tank) Certified Inspector
STI-SP001 (Above Ground Storage Tank) Certified Inspector