

EPA's Administrator, Andrew Wheeler, signed the following Notice of Proposed Rulemaking on 3/12/2019, and EPA is submitting it for publication in the *Federal Register* (FR). While we have taken steps to ensure the accuracy of this Internet version of the Proposed Rule, it is not the official version. Please refer to the official version in a forthcoming FR publication, which will appear on the Government Printing Office's FDsys website ([www.gpo.gov/fdsys/search/home.action](http://www.gpo.gov/fdsys/search/home.action)) and on Regulations.gov ([www.regulations.gov](http://www.regulations.gov)) in Docket No. EPA-HQ-OAR-2018-0775. Once the official version of this document is published in the FR, this version will be removed from the Internet and replaced with a link to the official version.

**6560-50-P**

## **ENVIRONMENTAL PROTECTION AGENCY**

### **40 CFR Part 80**

**[EPA-HQ-OAR-2018-0775; FRL-XXXX-XX-OAR]**

**[RIN 2060-AU34]**

### **Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing regulatory changes to allow gasoline blended with up to 15 percent ethanol to take advantage of the 1-pound per square inch (psi) Reid Vapor Pressure (RVP) waiver that currently applies to E10 during the summer months. EPA is also proposing an interpretive rulemaking which defines gasoline blended with up to 15 percent ethanol as “substantially similar” to the fuel used to certify Tier 3 motor vehicles. Finally, EPA is proposing regulatory changes to modify certain elements of the Renewable Fuel Standard (RFS) compliance system, in order to improve functioning of the renewable identification number (RIN) market and prevent market manipulation.

**DATES:** Comments must be received on or before April 29, 2019. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your

comments on or before **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]**.

*Public Hearing.* EPA will announce the public hearing date and location for this proposal in a supplemental *Federal Register* document.

**ADDRESSES:** You may send your comments, identified by Docket ID No. EPA-HQ-OAR-2018-0775, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov> (our preferred method) Follow the online instructions for submitting comments.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Office of Air and Radiation Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery / Courier: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal Holidays).

*Instructions:* All submissions received must include the Docket ID No. for this rulemaking.

Comments received may be posted without change to <https://www.regulations.gov>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the “Public Participation” heading of the **SUPPLEMENTARY INFORMATION** section of this document.

**FOR FURTHER INFORMATION CONTACT:** Julia MacAllister, Office of Transportation and Air Quality, Assessment and Standards Division, Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; telephone number: 734-214-4131; email address: [macallister.julia@epa.gov](mailto:macallister.julia@epa.gov).

## SUPPLEMENTARY INFORMATION:

*Potentially Affected Entities.* Entities potentially affected by this proposed rule include those involved with the production, importation, distribution, marketing, and retailing of transportation fuels, including gasoline and diesel fuel or renewable fuels such as ethanol, biodiesel, renewable diesel, and biogas. Potentially affected categories include:

Category	NAICS <sup>1</sup> Codes	SIC <sup>2</sup> Codes	Examples of Potentially Affected Entities
Industry	324110	2911	Petroleum refineries
Industry	325193	2869	Ethyl alcohol manufacturing
Industry	325199	2869	Other basic organic chemical manufacturing
Industry	424690	5169	Chemical and allied products merchant wholesalers
Industry	424710	5171	Petroleum bulk stations and terminals
Industry	424720	5172	Petroleum and petroleum products merchant wholesalers
Industry	454319	5989	Gasoline service stations
Industry	447190	5541	Marine service stations

<sup>1</sup> North American Industry Classification System (NAICS).

<sup>2</sup> Standard Industrial Classification (SIC).

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed action. This table lists the types of entities that EPA is now aware could potentially be affected by this proposed action. Other types of entities not listed in the table could also be affected. To determine whether your entity would be affected by this proposed action, you should carefully examine the applicability criteria in 40 CFR part 80. If you have any questions regarding the applicability of this proposed action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

*Public Participation.* Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2018-0775, at <https://www.regulations.gov> (our preferred method), or the other methods identified in the **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit

electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

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#### **I. Executive Summary**

##### *A. Purpose of this Action*

The objectives of this action are twofold. First, this rulemaking will take steps intended to create parity in the way the RVP of both E10 and E15 fuels is treated under EPA regulations. Second, this action proposes reforms to RIN regulations intended to increase transparency and deter potential manipulative and other anti-competitive behaviors in the RIN market.

*B. Summary of the Major Provisions of this Action*

**1. E15 RVP**

We are proposing to adjust the volatility requirements for E15 during the summer season or the period of May 1 through September 15.<sup>1,2</sup> The changed volatility requirements for these blends will allow E15 to receive the benefit of the provision at CAA sec. 211(h)(4), commonly referred to as “the 1-psi waiver.” The 1-psi waiver allows gasoline-ethanol blends to have a higher RVP<sup>3</sup> than would be allowed under CAA sec. 211(h)(1) and the corresponding volatility regulations, which prohibit the RVP of gasoline from exceeding 9.0 psi during the summer.<sup>4</sup> Currently, only blends of ethanol and gasoline containing at least 9 percent and no more than 10 percent ethanol by volume (E10) are granted the 1-psi waiver.<sup>5</sup>

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<sup>1</sup> For purposes of this preamble, E15 refers to gasoline-ethanol blended fuels that contain greater than 10 volume percent and no more than 15 volume percent ethanol content.

<sup>2</sup> CAA sec. 211(h)(1) requires EPA to establish volatility requirements during the high ozone season. To implement these requirements, EPA defines “high ozone season” at 40 CFR 80.27 as the period from June 1 to September 15. The regulations at 40 CFR 80.27 also specify that all parties except for retailers must make and distribute gasoline meeting the RVP standards at §80.27 from May 1 through September 15 and calls this period the “regulatory control period.” The E15 partial waivers impose the 9.0 psi RVP limit on E15 from May 1 through September 15. In general practice by industry and for purposes of this preamble, the high ozone season and regulatory control period is referred to as the “summer” or “summer season” and gasoline produced to be used during the regulatory control period and high ozone season is called “summer gasoline.” EPA does not have any volatility requirements on gasoline outside of the summer season.

<sup>3</sup> RVP is a measure of the volatility of gasoline. Gasoline must have volatility in the proper range to prevent driveability, performance, and emissions problems. Too low and the gasoline will not ignite properly; too high and the vehicle may experience vapor lock. Importantly for this proposal, excessively high volatility also leads to increased evaporative emissions from the vehicle. Vehicle evaporative emission control systems are designed and certified on gasoline with a volatility of 9.0 psi RVP. Higher volatility gasoline may overwhelm the vehicle’s evaporative control system, leading to a condition described as “breakthrough” of the canister and mostly uncontrolled evaporative emissions.

<sup>4</sup> In a few areas, specified at 40 CFR 80.27, the RVP standard is 7.8 psi. In these areas, after application of the 1-psi waiver, gasoline-ethanol blended fuels covered by the 1-psi waiver could have an RVP of up to 8.8 psi.

<sup>5</sup> This applies only to conventional gasoline. E10 reformulated gasoline does not receive the 1-psi waiver under CAA sec. 211(h)(4), and neither would E15 reformulated gasoline as a result of this proposed action. Reformulated blendstock for oxygenate blending would continue to need to meet a lower RVP level to allow for the subsequent addition of ethanol.

EPA is proposing several steps to accomplish this change. First, we are proposing to modify our interpretation of CAA sec. 211(h)(4). Second, we are proposing a regulation that would effect two changes: (1) remove limitations in our regulations that were put in place in keeping with the prior interpretation of CAA sec. 211(h)(4) on the volatility of E15 promulgated in the E15 Misfueling Mitigation Rule (“MMR”);<sup>6</sup> and (2) modify the associated product transfer document (PTD) requirements also promulgated in the MMR. Third, we are proposing to clarify our interpretation of CAA sec. 211(f), making it clear that the conditions on the CAA sec. 211(f)(4) waivers granted to E15 in 2010 and 2011 do not restrict the application of the 1-psi waiver to downstream oxygenate blenders in most circumstances.

As a result of this action, parties would be able to make and distribute E15 made with the same conventional blendstock for oxygenate blending (CBOB)<sup>7</sup> that is used to make E10 by oxygenate blenders during the summer.<sup>8</sup> E15 would then be held to the same gasoline volatility standards that currently apply to E10, maintaining substantially the same level of emissions performance as E10 since E15 made from the same CBOB during the summer would have slightly lower RVP than E10 and would be expected to have similar emissions performance as discussed in Sections II.C and II.E.

As discussed in Section II.C, we are also proposing a “substantially similar” (sub sim) interpretative rulemaking for gasoline.<sup>9</sup> We are proposing two alternative sub sim interpretations.

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<sup>6</sup> See 76 FR 44406 (July 25, 2011).

<sup>7</sup> CBOB is the base gasoline made specifically for blending with 10 percent ethanol in conventional gasoline areas of the country.

<sup>8</sup> EPA does not have volatility limitations on gasoline outside of the summer season. Therefore, E15 can already be made from the same blendstock used for E10 outside of the summer season. The rest of the year is commonly referred to as the “winter season” or “winter.”

<sup>9</sup> EPA last issued an interpretative rulemaking for what it considers sub sim for gasoline in 2008. See 73 FR 22281 (April 25, 2008).

We are proposing that E15 with an RVP of 10.0 psi is sub sim to fuel used to certify Tier 3 light duty vehicles (i.e., E10 with an RVP of 9.0 psi). We are also proposing and seeking comment on an alternative interpretation that E15 with an RVP of 9.0 psi is sub sim to fuel used to certify Tier 3 light duty vehicles. Either of these sub sim interpretations would enable E15 to be lawfully blended from the same gasoline blendstock (i.e., CBOB) that is used to make E10 during the summer by all fuel manufacturers (in addition to oxygenate blenders who would be able to do so without a new sub sim interpretative rulemaking).

## 2. RIN Market Reform

EPA takes claims of RIN market manipulation seriously and although we have yet to see data-based evidence of such behavior, the potential for manipulation is a concern. Accordingly, we are proposing the four reforms outlined in President Trump's October 11, 2018 statement<sup>10</sup> and are requesting comments on additional steps we can take to identify and prevent RIN market manipulation. Specifically, we are proposing and seeking comment on the following RIN market reforms outlined by the President, as well as some additional items identified by EPA:

- Requiring public disclosure when RIN holdings held by an individual actor exceed specified limits.
- Requiring the retirement of RINs for the purpose of compliance be made in real time.
- Prohibiting entities other than obligated parties from purchasing separated RINs.
- Limiting the length of time a non-obligated party can hold RINs.

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<sup>10</sup> See: <https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-expanding-waivers-e15-increasing-transparency-rin-market>.



For the first reform, we are proposing to set two RIN holding thresholds that would work in tandem to prevent potential accumulation of market power. These thresholds would apply to holdings of separated D6 RINs only.<sup>11</sup> The first threshold would be triggered if a party's end-of-day separated D6 RIN holdings exceeded three percent of the total implied conventional biofuel volume requirement. An obligated party that triggered the first threshold would then apply a second threshold by comparing its end-of-day separated D6 RIN holdings with 130 percent of its individual implied conventional renewable volume obligation (RVO). We are proposing that parties make daily calculations and make a yes/no certification statement to EPA in a quarterly report and that we would publish on our website the names of any parties that reported exceeding the thresholds. We seek comment on whether exceeding the thresholds should be considered a prohibited act. We are also proposing that the RIN holdings of corporate affiliates be included in a party's calculations to determine if they trigger a threshold.

For the second reform, we are proposing to establish RIN retirement requirements for the first three quarters of the compliance year, calculated by an obligated party as its gasoline and diesel production and import volume through the end of the quarter multiplied by the current year renewable fuel standard. We propose to discount the requirement to 80 percent of the calculated volume to provide necessary flexibility. Obligated parties would submit reports to EPA 60 days after the end of the quarter to demonstrate compliance with these requirements and could use any D-code RINs to do so. This reform would not impact the current annual RVO

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<sup>11</sup>RINs specify a "D-code" corresponding to the renewable fuel category applicable to the fuel, as determined by the feedstock used, fuel type produced and GHG emissions of the fuel, among other characteristics. There are five different D-Codes for RINs in the RFS program. D3 RINs are cellulosic biofuel RINs. D4 RINs are biomass-based diesel (including both biodiesel and renewable diesel) RINs. D5 RINs are advanced biofuel RINs. D6 RINs are conventional biofuel RINs (primarily corn ethanol). D7 RINs are cellulosic diesel RINs which meet the requirements for both cellulosic biofuel and biomass-based diesel.

calculations or compliance, including the two-year RIN life, the annual deficit carryover, or the 20 percent carryover provisions. We propose that an obligated party that fell short of its quarterly RIN retirement requirement in the current year would not be able to incur a deficit in its next year annual RVO.

For the third reform, we are proposing that only obligated parties, exporters, and certain non-obligated parties be allowed to purchase separated D6 RINs. Non-obligated parties would be exempt from this proposed restriction if they were a corporate or contractual affiliate to an obligated party. This would include blenders who could demonstrate that they had contracts to deliver separated RINs to an obligated party for the purpose of compliance. Non-obligated parties that need to replace invalid RINs would also be exempt from this proposed provision.

For the fourth reform, we are proposing a limit on the duration that a non-obligated party could hold separated D6 RINs. Specifically, we are proposing that a non-obligated party would be required to sell or retire as many RINs as it obtained in a quarter. We are proposing that parties would make a yes/no certification statement to EPA about its compliance with this limit in a quarterly report and that auditors would confirm this statement in the annual attest engagement.

Lastly, we outline our consideration of taking additional steps beyond those listed in the President's directive to enhance our market monitoring capabilities. We propose that auditors would include in their attest engagements to EPA a full list of a party's affiliates, including affiliates not registered with the RFS program. To improve our abilities to analyze and publish RIN price data, we propose that parties would follow certain conventions when reporting RIN prices to EPA and that they would report whether the RIN transaction was on the spot market or as the result of a term contract. We also explain that we plan to update business rules in EMTS to

require that both parties in a RIN transaction enter the same RIN price. Finally, we discuss the possibility of employing a third-party market monitor to conduct analysis of the RIN market, including screening for potential anti-competitive behavior.

## **II. Extension of the 1-psi Waiver to E15**

In this action, we are proposing to adjust the volatility requirements for E15 during the summer season based on a revised interpretation of CAA sec. 211(h)(4). The changed volatility requirements for these blends will allow E15 to receive the benefit of the 1-psi waiver. The 1-psi waiver, at CAA sec. 211(h)(4), allows gasoline-ethanol blends to have a higher RVP than would be allowed under CAA sec. 211(h)(1) and the corresponding volatility regulations that prohibit the RVP of gasoline from exceeding 9.0 psi during the summer. Currently, EPA regulations only grant the 1-psi waiver to blends of ethanol and gasoline containing at least 9 percent and no more than 10 percent ethanol by volume. The proposed interpretation in this action is in response to the increased presence of E15 in the gasoline marketplace, and the conditions that led us to provide the original 1-psi waiver for E10 in 1990 are equally applicable to E15 today.

The volatility of E15 is also limited by CAA sec. 211(f). CAA sec. 211(f) prohibits the introduction into commerce of fuels and fuel additives unless they are substantially similar to fuels utilized in the certification of motor vehicles, or receive a waiver from the sub sim requirement in accordance with CAA sec. 211(f)(4). E15 currently has a sub sim waiver, and the waiver conditions put in place for E15 set the maximum RVP level at 9.0 psi. In order to allow E15 to receive the 1-psi waiver under CAA sec. 211(h)(4) and introduce E15 at the higher RVP level into commerce, we must address the statutory provisions under both CAA sec. 211(f) and (h).

EPA is proposing several steps to accomplish this change. First, we are proposing to modify our interpretation of CAA sec. 211(h)(4). Under this new interpretation, ethanol blends containing at least 10 percent ethanol would receive the 1-psi waiver, including E15. To effectuate this change, we are proposing the following changes to EPA's fuels regulations: (1) remove limitations in our regulations that were put in place in keeping with the prior interpretation of CAA sec. 211(h)(4) on the volatility of E15 promulgated in 40 CFR 80.27 and the MMR (i.e., 40 CFR part 80, subpart N); and (2) modify the associated PTD requirements promulgated in the MMR.

After application of the CAA sec. 211(h)(4) waiver, we must then ensure that E15 with an RVP of 10 psi can be introduced into commerce. Therefore, as a second step, in order to allow the introduction into commerce of E15 at 10.0 RVP in the summer under CAA sec. 211(f), we are co-proposing two potential mechanisms. The first mechanism clarifies our interpretation of CAA sec. 211(f), making it clear that the conditions on the CAA sec. 211(f)(4) waivers granted to E15 in 2010 and 2011 do not restrict the application of the CAA sec. 211(h)(4) 1-psi waiver to downstream oxygenate blenders, as explained in more detail later in this notice. We are co-proposing a second mechanism that would find that E15 is substantially similar to the E10 fuel utilized to certify Tier 3 light-duty vehicles, thus allowing E15 similar treatment to E10 with respect to RVP.

The following subsections provide further details on how we will accomplish this change, as well as impacts on emissions and the economy.

*A. Background*

1. Background of E10 and E15 CAA Sec. 211(f)(4) Waivers

CAA sec. 211(f)(1) makes it unlawful for any manufacturer of any fuel or fuel additive (“fuel or fuel additive manufacturer”) 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 manufactured after model year (MY) 1974, which is not substantially similar (commonly referred to as “sub sim”) to any fuel or fuel additive used in the certification of any MY1975, or subsequent model year, vehicle or engine under CAA sec. 206. Fuels that are not sub sim to a fuel used in certification cannot be introduced into commerce unless EPA has granted a waiver under CAA sec. 211(f)(4). CAA sec. 211(f)(4) provides that upon application of any fuel or fuel additive manufacturer, the Administrator may waive the prohibitions of CAA sec. 211(f)(1) if the Administrator determines that the applicant has established that such fuel or fuel additive, or a specified concentration thereof, will not cause or contribute to a failure of any emission control device or system (over the useful life of the motor vehicle, motor vehicle engine, nonroad engine or nonroad vehicle in which such device or system is used) to achieve compliance by the vehicle or engine with the emission standards to which it has been certified pursuant to CAA sec. 206 and 213(a).

In 1978, a waiver application was submitted for gasoline containing ethanol at 10 percent by volume (E10). EPA did not act to grant or deny the petition for a waiver for E10, and consequently, under the statutory scheme as it existed at that time, the waiver was deemed

granted by operation of law.<sup>12</sup> Thus, E10 was granted a waiver under CAA sec. 211(f)(4) without any conditions, in contrast to prior CAA sec. 211(f)(4) waivers, which included, for example, conditions on RVP.<sup>13</sup>

For E15, EPA granted partial waivers under CAA sec. 211(f)(4) in 2010 and 2011.<sup>14</sup> Specifically, on October 13, 2010, EPA approved a partial waiver request to allow the introduction of E15 into commerce for use in MY2007 and newer light-duty motor vehicles subject to certain waiver conditions.<sup>15</sup> Subsequently, on January 21, 2011, EPA extended this partial waiver to include MY2001-2006 light-duty motor vehicles after receiving and analyzing additional U.S. Department of Energy (“DOE”) test data and finding that E15 will not cause or contribute to a failure to achieve compliance with the emissions standards to which these vehicles were certified over their useful lives.<sup>16</sup> EPA also denied the waiver request for MY2000 and older light-duty motor vehicles, heavy-duty gasoline engines and vehicles, highway and off-highway motorcycles, and nonroad engines, vehicles, and equipment. This denial was based on EPA’s engineering judgement that E15 could adversely affect the emissions and emissions controls of vehicles, engines, and equipment not covered by the partial waivers and that the applicants had not provided sufficient data or other information to demonstrate that E15 would not cause or contribute to a failure to achieve compliance with the emissions standards to which

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<sup>12</sup> See 44 FR 20777 (April 6, 1979).

<sup>13</sup> See e.g., “Fuels and Fuel Additives; Waiver Application,” Octamix Waiver, 53 FR 3636 (February 8, 1988).

<sup>14</sup> See 75 FR 68094 (November 4, 2010) and 76 FR 4662 (January 26, 2011), respectively.

<sup>15</sup> See 75 FR 68094 (November 4, 2010).

<sup>16</sup> See 76 FR 4662 (January 26, 2011).

these vehicles, engines, and equipment were certified over their full useful lives, as required by CAA sec. 211(f)(4).

In the October 2010 waiver, for MY2007 and newer motor vehicles, EPA also concluded that the data and information show that E15 will not lead to violations of evaporative emissions standards, so long as the fuel does not exceed an RVP of 9.0 psi in the summer.<sup>17</sup> Subsequently, in the January 2011 waiver, EPA imposed identical waiver conditions for MY2001-2006 motor vehicles, including the requirement that the fuel not exceed an RVP of 9.0 psi in the summer, based on the same conclusion.<sup>18</sup>

Taken together, these partial waivers permitted E15 to be used in MY2001 and newer light-duty motor vehicles subject to particular waiver conditions, including fuel quality conditions and conditions on the sale and use of E15. These waiver conditions included the prohibition on the use of E15 in pre-MY2001 motor vehicles, in addition to heavy-duty gasoline engines or vehicles, or motorcycles, as well as any nonroad engines or nonroad vehicles. The waiver conditions also placed limitations on the ethanol that can be added (both the concentration and quality),<sup>19</sup> as well as a condition that the RVP of the final fuel not exceed 9.0 psi.<sup>20</sup> The waiver conditions also require fuel and fuel additive manufacturers to submit a misfueling mitigation plan describing all reasonable precautions for ensuring E15 is only used in MY2001 and newer motor vehicles, as described in the waiver conditions.<sup>21</sup> EPA is not

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<sup>17</sup> See 75 FR 68149-68150 (November 4, 2010).

<sup>18</sup> See 76 FR 4682-4683 (January 26, 2011).

<sup>19</sup> For example, the ethanol used to make E15 must meet ASTM D4806-10 specifications for ethanol quality. See ASTM D4806-10, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel," ASTM International, West Conshohocken, PA, 2010.

<sup>20</sup> This RVP limit is identical to the limitation under CAA sec. 211(h)(1) of 9.0 psi RVP during the high ozone season. The high ozone season was defined by the Administrator via regulation to mean the period from June 1 to September 15 of any calendar year.

<sup>21</sup> See 76 FR 4662, 4582 (January 26, 2011).

proposing to revise the E15 partial waivers under CAA sec. 211(f)(4), and is therefore not soliciting comments on the waiver itself or any of its conditions.

To help facilitate the implementation of the waiver conditions and place requirements on parties other than fuel and fuel additive manufacturers, EPA promulgated the E15 Misfueling Mitigation Rule (MMR) in 2011, under CAA sec. 211(c), subsequent to the E15 partial waiver decisions.<sup>22</sup> The E15 MMR imposed fuel dispenser labeling, PTD, and compliance survey requirements on parties that make and distribute E15. The E15 MMR also promulgated EPA's interpretation of the applicability of the 1-psi waiver in CAA sec. 211(h)(4) to E15 and certain regulations designed to effectuate that interpretation.<sup>23</sup> In this action, EPA is proposing to revise the interpretation of CAA sec. 211(h)(4) articulated in the MMR and the regulations adopted to implement that interpretation.

## 2. Background on CAA Sec. 211(h)

To properly understand this proposed action, it is important to review the history of EPA's volatility controls both leading up to and after the enactment of CAA sec. 211(h). Congress enacted CAA sec. 211(h) as part of the CAA Amendments of 1990 to address the volatility of gasoline. Congress did so in the context of EPA's prior regulatory actions, under CAA sec. 211(c), which aimed to control the RVP of gasoline. EPA has historically viewed Congress's enactment of 211(h), therefore, as a codification of EPA's regulatory actions with regard to RVP up to that point.<sup>24</sup> Accordingly, CAA sec. 211(h)(1) prohibits the sale of gasoline with an RVP in excess of 9.0 psi during the high ozone season while CAA sec. 211(h)(2) allows

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<sup>22</sup> See 76 FR 44406 (July 25, 2011).

<sup>23</sup> As discussed further in the following section, in promulgating regulations following the enactment of CAA sec. 211(h)(4), EPA interpreted 211(h)(4) to apply to gasoline ethanol blends containing about 10 percent ethanol. See 56 FR 64708 (December 12, 1991).

<sup>24</sup> See 76 FR 44433 (July 25, 2011).



EPA to promulgate more stringent RVP requirements for nonattainment areas. CAA sec.

211(h)(4) further provides a 1.0 psi RVP allowance for “fuel blends containing gasoline and 10 percent” ethanol and recognizes the existence of the CAA sec. 211(f)(4) waiver for E10—the only ethanol blend which had received such a waiver at that time—in the “deemed to comply” provisions contained in CAA sec. 211(h)(4)(A-C).

a. Pre-Enactment Volatility Regulations

In 1987, prior to the 1990 CAA amendments, EPA for the first time proposed limitations on the volatility of gasoline under CAA sec. 211(c), which provides EPA with general authority to regulate fuels and fuel additives. These limitations on gasoline volatility were put into place to address evaporative emissions from gasoline-fueled vehicles due to their contribution to ozone formation. The volatility of gasoline had begun rising significantly in the years preceding EPA’s action, due to vehicle design becoming more tolerant of higher RVP through fuel injected engines, as well as strong economic incentive to add butane<sup>25</sup> to fuel due to favorable blending economics.<sup>26</sup> This led to very high evaporative volatile organic compound (VOC) emissions from the in-use fleet of gasoline vehicles. EPA believed that matching the volatility of certification fuel to the volatility of in-use fuel would reduce evaporative emissions, and would help ensure vehicle were designed to handle in-use conditions. In particular, limiting the volatility of gasoline to 9.0 psi RVP, which is the level in the E0 gasoline on which vehicles

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<sup>25</sup> Butane, in this context, refers to a high-volatility, relatively inexpensive gasoline blendstock that gasoline refiners typically add to or remove from gasoline to control RVP.

<sup>26</sup> 52 FR 31279 (August 19, 1987).

were certified under CAA sec. 206 at that time, would reduce emissions from all gasoline-related sources, and enable additional VOC emission reductions.<sup>27</sup>

At the time of the 1987 proposal, some parties had begun the practice of adding ethanol to gasoline after the refinery process has been completed to make what was then known as “gasohol.”<sup>28</sup> This practice was known as “splash blending” ethanol into gasoline and generally took place at downstream terminals. At the time, gasohol also had a tax credit because Congress intended to encourage the use of ethanol as a means of reducing dependence on foreign oil and making use of excess agricultural production.<sup>29</sup> Adding 10 percent ethanol to gasoline, however, causes roughly a 1.0 psi RVP increase in the blend’s volatility.<sup>30</sup> At the time, due to the limited amount of ethanol blended into gasoline, almost no low-RVP gasoline was available into which 10 percent ethanol could be splash-blended without the gasoline-ethanol blended fuel exceeding the proposed RVP limit. Unlike E15, because gasohol was given a CAA sec. 211(f)(4) waiver by operation of law, no volatility controls had previously been placed on it. Thus, even though the CAA sec. 211(f)(4) waiver allowed E10 to be lawfully introduced into commerce, the lowered RVP standards had the potential to shut down the nascent ethanol blending industry.

To address this potential hurdle to continued ethanol blending, EPA proposed interim regulations for gasohol that allowed it to be 1.0 psi RVP higher than otherwise required for gasoline.<sup>31</sup> This is referred to as the 1-psi waiver.<sup>32</sup> As a result, 10 percent ethanol could be blended at downstream terminals into the gasoline that refineries had already produced. The

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<sup>27</sup> See 52 FR 31274 at 31278-31287 (August 19, 1987).

<sup>28</sup> 52 FR 31292 (August 19, 1987).

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> See 52 FR 31274, 31316 (August 19, 1987).

<sup>32</sup> See 52 FR 31316 (August 19, 1987).

agency, therefore, designed the 1-psi waiver as a means of accommodating the CAA sec. 211(f)(4) waiver that was then applicable to E10 and to address public policy concerns, such as reducing dependence on foreign oil and making use of excess agricultural production, as referenced above. The Agency proposed that the 1-psi waiver be conditioned on sampling and testing the final blend of gasoline and ethanol for RVP by all regulated parties, including downstream blenders, that elected to use the waiver.<sup>33</sup>

In 1989, EPA finalized regulations that imposed limits on the volatility of gasoline and ethanol blends as “Phase I” of a two-phase regulation under CAA sec. 211(c), which is EPA’s general authority to regulate fuels and fuel additives. EPA’s regulation established a maximum RVP limit of 10.5 psi for gasoline sold during the high ozone season.<sup>34</sup> In that action, EPA also provided a RVP allowance “for gasoline-ethanol blends commonly known as gasohol” that was 1.0 psi higher than for gasoline.<sup>35</sup> This was finalized as an interim measure with the intent to revisit the issue in “Phase II” of the volatility regulations.<sup>36</sup>

EPA’s final regulations in that action provided that in order to receive the 1-psi waiver, “gasoline must contain at least 9% ethanol (by volume),” and that “the ethanol content of gasoline shall be determined by use of one of the testing methodologies specified in Appendix F to this part.” The regulations also provided that “the maximum ethanol content of gasoline shall not exceed any applicable waiver conditions under section 211(f)(4) of the Clean Air Act.”<sup>37</sup>

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<sup>33</sup> See 52 FR 31274, proposed 40 CFR 80.27(d)(1) (August 19, 1987). See also 54 FR 11872-73 (March 22, 1989), where we declined to finalize this approach.

<sup>34</sup> See 54 FR 11879 (March 22, 1989).

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> 54 FR 11872-73 (March 22, 1989) (codified at 40 CFR 80.27(d)).

In that action, EPA did not place limits on the upper bound of the ethanol content, other than by providing, as quoted above, that the ethanol content shall not exceed any applicable waiver conditions under CAA sec. 211(f)(4) (and thereby implicitly incorporating any upper-bound limit imposed as a condition on any future applicable waiver). At the time, the highest permissible ethanol content under a CAA sec. 211(f)(4) waiver was 10 percent ethanol, and thus, this provision could only apply to blends containing 9–10 percent ethanol. In other words, EPA designed the 1-psi waiver to allow for the continued lawful introduction into commerce of E10 and, the Phase I RVP regulatory language would have automatically accommodated future increases in allowable ethanol concentration in gasoline under a CAA sec. 211(f)(4) waiver.

In June 1990, in “Phase II” of the volatility regulations, EPA established a maximum RVP limit of 9.0 psi. The regulations also established an RVP limit of 7.8 psi for gasoline sold during the high ozone season in both ozone attainment and nonattainment areas in the southern states of the country. EPA further maintained the 1 psi RVP allowance for blends of 10 percent ethanol and gasoline and did not modify the regulations at 40 CFR 80.27(d).<sup>38</sup> Thus, both the language stating that the gasoline must contain at least 9 percent ethanol, and the language stating that the maximum ethanol content of gasoline shall not exceed any applicable waiver conditions under CAA sec. 211(f)(4), remained in the regulations.<sup>39</sup> In doing so the agency reiterated that this was in recognition of the importance of ethanol to the nation’s energy security as well as the agricultural economy sector. The agency also addressed air quality impacts of allowing the 1-psi waiver given that a higher RVP limit for blends of 10 percent ethanol and

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<sup>38</sup> See 55 FR 23658, 23660 (June 11, 1990).

<sup>39</sup> *Id.*

gasoline would result in increased evaporative VOC emissions. It “reflects the moderation in EPA’s concern about negative air quality impact as well as a reluctance to threaten the motor fuel ethanol production and blending industries with collapse.”<sup>40</sup>

b. Enactment of CAA Sec. 211(h)

In November 1990, Congress enacted the CAA Amendments of 1990, including CAA sec. 211(h), which provided the first statutory provisions specifically addressing RVP. CAA sec. 211(h)(1) required EPA “to promulgate regulations making it unlawful . . . during the high ozone season to sell . . . or introduce into commerce gasoline with a Reid Vapor Pressure in excess of 9.0 pounds per square inch.” Further in CAA sec. 211(h)(4), Congress, following EPA’s lead in the 1989 and 1990 volatility regulations, also allowed fuel blends containing gasoline and 10 percent ethanol to have 1 psi higher RVP than the RVP standard otherwise established in CAA sec. 211(h)(1). CAA sec. 211(h)(4) provides the following:

(4) **Ethanol waiver.** For fuel blends containing gasoline and 10 percent denatured anhydrous ethanol, the Reid vapor pressure limitation under this subsection shall be one pound per square inch (psi) greater than the applicable Reid vapor pressure limitations established under paragraph (1).

According to legislative history, “[t]his provision was included in recognition that gasoline and ethanol are mixed after the refining process has been completed. It was recognized that to require ethanol to meet a nine pound RVP would require the creation of a production and distribution network for sub-nine pound RVP gasoline. The cost of producing and distributing type of fuel would be prohibitive to the petroleum industry and would likely result in the

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<sup>40</sup> “While some believe the industry should not exist...[o]ther agencies and Congress will continue to address related agricultural, trade and energy issues which have led to federal support for the existence of the gasohol industry.” 55 FR 23666 (June 11, 1990).

termination of the availability of ethanol in the marketplace.”<sup>41</sup> EPA has interpreted CAA sec. 211(h) as largely a codification of our prior RVP regulations.<sup>42</sup> Relevant legislative history also indicates that Congress based the 1.0 psi waiver on technical data showing that blending gasoline with 9–10 percent ethanol would result in an approximate 1 psi RVP increase for the final gasoline-ethanol blend. Hearing testimony provides that “[t]he certainty of physical chemistry provides the assurance the addition of 10 percent ethanol to the base gasoline will not exceed 1.0 psi RVP. ... [A]nd the Clean Air Act itself which prohibits addition of more than 10 percent ethanol, alleviates any concern that the addition of ethanol to gasoline will result in different volatility levels than already recognized by EPA as adding less than 1.0 psi RVP to gasoline.”<sup>43</sup>

Further, Congress also enacted a conditional defense against liability for violations of the RVP level allowed under the 1-psi waiver by stating:

[p]rovided; however, that a distributor, blender, marketer, reseller, carrier, retailer, or wholesale purchaser consumer shall be deemed to be in full compliance with the provisions of this subsection and the regulations promulgated thereunder if it can demonstrate that—(A) The gasoline portion of the blend complies with the Reid vapor pressure limitations promulgated pursuant to this subsection; (B) the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4) of this section; and (C) no additional alcohol or other additive has been added to increase the Reid Vapor Pressure of the ethanol portion of this blend. CAA sec. 211(h)(4).

This is referred to as the “deemed to comply” provision, or the alternative compliance mechanism for the 1-psi waiver. It is considered a statutorily mandated defense that allows regulated parties such as downstream oxygenate blenders to demonstrate compliance with the relaxed RVP standard instead of complying with the testing provisions in 40 CFR 80.27(d)(2)

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<sup>41</sup> S. Rep. No. 101-228, at 110 (1989) (Conf. Rep.); reprinted at 5 Leg. Hist. at 8450 (1993).

<sup>42</sup> See 76 FR 44433 (July 25, 2011).

<sup>43</sup> Clean Air Act Amendments: Hearings on H.R. 2521, H.R. 3054 and H.R. 3196 Before the Subcommittee on Health and the Environment of the Committee On Energy and Commerce, 100<sup>th</sup> Cong. 1st Sess. (1987) at 366 (statement of Eric Vaughn, President and CEO of renewable Fuels Association).

(1987). It also reflects Congressional response to EPA’s proposed compliance testing provisions for the 1-psi waiver in the 1987 proposed rulemaking, which they viewed as complicated and burdensome; “the enforcement strategy recently proposed by the Agency . . . would be totally unworkable for those motor vehicle fuels which are a blend of gasoline and ethanol and which are allowed a higher RVP limit under the reported bill.”<sup>44</sup>

c. Implementation of CAA sec. 211(h)(4)

Subsequent to Congress’s enactment of CAA sec. 211(h)(4), EPA modified these regulations to more explicitly align with the new statutory provisions, but “did not propos[e] any change to the current requirement that the blend contain between 9 and 10 percent ethanol (by volume) to obtain the one psi allowance.”<sup>45</sup> However, EPA did modify its regulations at 40 CFR 80.27 to clarify that “gasoline must contain denatured, anhydrous ethanol,” and that “[t]he concentration of the ethanol, excluding the required denaturing agent, must be at least 9% and no more than 10% (by volume) of the gasoline” (where, as quoted above, the previous version of the regulations provided that gasoline “must contain at least 9% ethanol” to qualify for the 1-psi RVP waiver). We read both the statutory 1-psi waiver provision and the “deemed to comply” provision in CAA sec. 211(h)(4) together to limit the volume concentration of ethanol to between 9 and 10 percent, as only blends of gasoline and up to 10 percent ethanol had a waiver under CAA sec. 211(f)(4) at the time EPA promulgated the RVP requirements.<sup>46</sup> We further stated that “this is consistent with Congressional intent [because] the nature of the blending

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<sup>44</sup> S. Rep. No. 100-231, 100th Cong. 1st Sess. at 149 (1987).

<sup>45</sup> See 56 FR 64708 (December 12, 1991).

<sup>46</sup> Id.

process . . . further complicates a requirement that the ethanol portion of the blend be exactly 10 percent ethanol.”<sup>47</sup> For these reasons, the 1-psi waiver reflected Congressional recognition of the existing CAA sec. 211(f)(4) waiver for E10; Congress intended that the 1-psi waiver from the 9.0 psi RVP requirement in CAA sec. 211(h)(1) would allow for E10’s continued lawful introduction into commerce.<sup>48</sup>

In issuing implementing regulations at 40 CFR 80.28(g)(8) related to the “deemed to comply” provision in CAA sec. 211(h)(4), EPA allowed parties to demonstrate a defense against liability by making the showings provided in CAA sec. 211(h)(4), stating that “EPA believes this defense is limited to ethanol blends which meet the minimum 9 percent requirement in the regulations and the maximum 10 percent requirement in the waivers under section 211(f)(4).”<sup>49</sup> In doing so, EPA explicitly specified its applicability to E10. (“The ethanol portion of the blend does not exceed 10 percent (by volume)” as compared to CAA sec. 211(h)(4), which merely references the CAA sec. 211(f)(4) waiver. (“[T]he ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4) of this section”). We also stated that the deemed to comply provision was a “new defense against liability for violation of the ethanol blend RVP requirement [and that] EPA believes that this statutorily mandated defense is in addition to and does not supersede any of the defenses currently contained in the regulations.”<sup>50</sup> We further explained that the provision would allow “a party to demonstrate the elements of the new defense by production of a certification from the facility from which the gasoline is received.”<sup>51</sup> EPA also issued regulations for additional defenses against liability at 40 CFR 80.28(g)(1-7).

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<sup>47</sup> Id.

<sup>48</sup> Id.

<sup>49</sup> Id. and 40 CFR 80.28(g).

<sup>50</sup> 56 FR 64708.

<sup>51</sup> Id.



d. Enactment of CAA sec. 211(h)(5)

As part of the Energy Policy Act of 2005 (“EPA Act”), P.L. 109-58 (2005), Congress added CAA sec. 211(h)(5), which provides:

Upon notification, accompanied by supporting documentation, from the Governor of a State that the RVP limitation established by paragraph (4) will increase emissions that contribute to air pollution in any area in the State, the Administrator shall, by regulation, apply, in lieu of the RVP limitation established by paragraph (4), the RVP limitation established by paragraph (1) to all fuel blends containing gasoline and 10 percent denatured anhydrous ethanol [sold] in the area during the high ozone season.

EPA also read this provision as consistent with the statutory scheme of CAA sec. 211(h) to apply to blends of gasoline and 9–10 percent ethanol produced by downstream oxygenate blenders. At the time CAA sec. 211(h)(4) and 211(h)(5) were enacted, the language “the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4)” could only refer to an ethanol portion of up to 10 percent, because only blends of gasoline and up to 10 percent ethanol had received a waiver under CAA sec. 211(f)(4).

B. *Proposed Interpretation of CAA Sec. 211(h)(4)*

In this action, we are proposing to interpret CAA sec. 211(h)(4) recognizing the changed gasoline marketplace since the Agency last issued implementing RVP regulations in 1990, in a manner that is consistent with the text of the provision, its context within CAA sec. 211(h), and Congressional intent. The presence of E15 in the marketplace has increased since EPA interpreted CAA sec. 211(h)(4) in the MMR from zero retail stations to over 1,300 retail stations.<sup>52</sup> In addition to granting partial waivers for E15, we have also promulgated the Tier 3

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<sup>52</sup> See “Availability of E15 Keeps Growing,” available at: <https://growthenergy.org/2018/02/28/availability-e15-keeps-growing>.

Motor Vehicle Emissions and Fuel Standards Rule, which changed the ethanol content of the vehicle certification test fuel from “indolene” (gasoline without any added ethanol at 9.0 psi RVP), to E10 at 9.0 psi RVP for the certification of all Tier 3 light-duty and chassis-certified heavy-duty gasoline vehicles.<sup>53</sup> This change reflected the near complete transition of the in-use gasoline supply to E10 in the years following the passage of EPAct and the Energy Independence and Security Act (“EISA”) and the implementation of the Renewable Fuel Standard program at CAA sec. 211(o).<sup>54</sup> E15 has now entered the marketplace, but the current limitation of the applicability of the 1-psi waiver to only E10 is one of several hurdles to the continued entry of E15 into the marketplace.<sup>55</sup> The same market limitation that prompted EPA to provide the 1-psi waiver for E10 in 1989 currently exists for E15. Namely, in much of the U.S., there is very little low-RVP CBOB being produced and made available into which 15 percent ethanol could be blended while still meeting the 9.0 psi RVP standard for gasoline during the high ozone season.<sup>56</sup> As a result, parties that might otherwise consider making and distributing E15 may choose not to, given the difficulty in obtaining CBOB that when blended to produce E15 would meet the 9.0 psi RVP during the summer. If we extend the 1-psi waiver, 15 percent ethanol could be blended using the same CBOBs currently being distributed for use with 10 percent ethanol, year-round.<sup>57</sup> Today’s proposal, therefore, is a response to changed

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<sup>53</sup> See 79 FR 23414 (April 28, 2014).

<sup>54</sup> “Energy Independence and Security Act,” P.L. 110-140 (2007).

<sup>55</sup> See, e.g., Prime the Pump: Driving Ethanol Gallons, available at: <https://growthenergy.org/wp-content/uploads/2019/01/MDEV-19022-PTP-Overview-2019-01-25.pdf>.

<sup>56</sup> Some parties have access to low RVP blendstocks created for low-RVP areas, however these blendstocks are not widely distributed in all areas. For a list of state low-RVP areas, see EPA’s “State Fuels” website available at: <https://www.epa.gov/gasoline-standards/state-fuels>.

<sup>57</sup> In reformulated gasoline areas (approximately one-third of gasoline nationwide) and certain other areas that do not provide a 1-psi waiver for E10, E15 can already be blended using the same blendstocks used for E10.

circumstances since the Agency's promulgation of RVP regulations in 1990, which pre-dates EPAct in 2005 and EISA in 2007. Further, because blending 15 volume percent ethanol into gasoline would result in an approximate 1.0 psi RVP increase, similar to E10, the resultant RVP for any gasoline-ethanol blended fuel would be no higher than the RVP standard plus the 1-psi waiver, which is currently 10.0 psi for a gasoline-ethanol blended fuel containing 10 percent ethanol.<sup>58</sup> This proposed interpretation is consistent with the plain language of CAA sec. 211(h) and with Congress' intent to promote ethanol blending into gasoline, and is not expected to cause significant increases in emissions as compared to E10 as discussed in Section II.E.

#### 1. Proposed Interpretation

In the MMR, we interpreted CAA sec. 211(h)(4) as providing a 1-psi waiver for fuel blends of gasoline and at least 9 volume percent ethanol and not more than 10 volume percent ethanol. As previously explained, this interpretation was premised on a reading of regulations and statutory provisions that reflected the highest available ethanol content in the gasoline marketplace at the time of the 1990 amendments. Due to changes in the gasoline marketplace, including the increased presence of gasoline ethanol blends of up to 15 percent ethanol, we propose to construe CAA sec. 211(h)(4) as specifying the minimum ethanol content that fuel blends containing ethanol and gasoline must contain in order to qualify for the 1-psi waiver. We are proposing a new interpretation of this statutory provision under which the 1-psi waiver would apply to gasoline containing at least 10 percent ethanol. In conjunction with CAA sec. 211(f), this would then allow the 1-psi waiver for any ethanol blend that has received a CAA sec.

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<sup>58</sup> As discussed further in Section II.B.3.b, this is true for E15 made from blends of certified gasoline or BOB and ethanol. This volatility relationship is not maintained when other products (e.g., natural gas liquids) are blended to make E15.

211(f)(4) waiver, which at present are blends up to 15 percent ethanol, based on EPA’s prior issuance of partial waivers under CAA sec. 211(f)(4) for E15.

It is well settled that EPA has inherent authority to reconsider, revise, or repeal past decisions to the extent permitted by law so long as we provide a reasoned explanation. This authority exists in part because EPA’s interpretations of the statutes we administer “are not carved in stone.”<sup>59</sup> An agency “must consider varying interpretations and the wisdom of its policy on a continuing basis.”<sup>60</sup> This is true when, as is the case here, review is undertaken “in response to changed factual circumstances or a change in administration.”<sup>61</sup> EPA must also be cognizant where we are changing a prior position that the revised position is permissible under the statute and must articulate a reasoned basis for the change.<sup>62</sup> This proposal reflects changed circumstances that have arisen since we issued the partial waivers for E15 in 2010 and 2011.

The term “containing” as used in CAA sec. 211(h)(4) in the phrase “fuel blends containing gasoline and 10 percent denatured anhydrous ethanol” is ambiguous. We interpret this language as establishing a lower limit, or floor, on the minimum ethanol content for a 1-psi waiver from the volatility requirements expressed in CAA sec. 211(h)(1), rather than an upper limit on the ethanol content. We can look to the use of the term “containing” in its ordinary sense. “Containing” is defined as “to have within: hold.”<sup>63</sup> Under this interpretation, the statute sets the minimum ethanol content, such that all fuels which contain at least 10 percent ethanol

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<sup>59</sup> *Chevron U.S.A. Inc. v. NRDC, Inc.*, 467 U.S. 837, 863 (1984).

<sup>60</sup> *Id.* at 863–64.

<sup>61</sup> *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005). See also *Nat’l Ass’n of Home Builders v. EPA*, 682 F.3d 1032, 1043 (change in administration is a “perfectly reasonable basis” for an agency’s reappraisal of its regulations and programs).

<sup>62</sup> *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515.

<sup>63</sup> Webster’s Third New International Dictionary 491 (unabridged ed. 1981).

may receive the 1-psi waiver, including blends that contain more than 10 percent ethanol.<sup>64</sup>

Therefore, E15, which has within it 10 percent denatured anhydrous ethanol, meets this definition, and should receive the 1-psi waiver specified in CAA sec. 211(h)(4).<sup>65</sup>

We also acknowledge that Congress can legislate and thus could have used terms that connote a minimum ethanol content, such as the language employed in CAA sec. 211(m)(2) (“not less than 2.7 percent”).<sup>66</sup> But Congress also used terms connoting a maximum ethanol content, such as in CAA sec. 211(k)(3) (“shall not exceed 1.0 percent”).<sup>67</sup> Even more specifically, in CAA sec. 211(h)(1) Congress instructed EPA to promulgate regulations prohibiting the introduction into commerce of “gasoline with a Reid Vapor Pressure in excess of 9.0 pounds per square inch.” Therefore, when Congress intended to impose an upper limit on the content of a particular compound or property of gasoline, it did so. In contrast, in CAA sec. 211(h)(4), Congress provided a higher RVP limit for “fuel blends containing gasoline and ten percent ethanol.” This provision lacks terms modifying the term “containing,” in contrast to the

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<sup>64</sup> We are not changing our definition of the term 10 percent, which includes as little as 9 percent, to continue to provide the necessary blending flexibility for E10 blends. In promulgating regulations implementing CAA sec. 211(h)(4), we stated that requiring exactly 10 percent ethanol “would place a next to impossible burden on ethanol blenders,” and that “[t]he nature of the blending process itself . . . further complicates a requirement that the ethanol portion of the blend be exactly 10 percent ethanol.” See 56 FR 24245 (May 29, 1991).

<sup>65</sup> CAA sec. 211(h)(5) also contains the language “fuel blends containing gasoline and ten percent denatured anhydrous ethanol.” Our changed interpretation of CAA sec. 211(h)(4) also has implications for CAA sec. 211(h)(5), which allows states to opt out of the 1-psi waiver provided by CAA sec. 211(h)(4) for particular areas upon a showing that the 1-psi waiver will increase emissions that contribute to air pollution. Because the language in CAA sec. 211(h)(5) pertaining to the 1-psi waiver is identical to the language in CAA sec. 211(h)(4), and both refer to the 1-psi waiver, we believe that both sections should be read together to apply the 1-psi waiver to E10 and E15. Accordingly, we interpret CAA sec. 211(h)(5) to allow states to opt out of the 1-psi waiver provided by CAA sec. 211(h)(4) for fuel blends containing gasoline and 9–15 percent denatured anhydrous ethanol.

<sup>66</sup> See, e.g., CAA sec. 211(m)(2) (“gasoline is to be blended to contain not less than 2.7 percent oxygen by weight” during the wintertime carbon monoxide season).

<sup>67</sup> See, e.g., CAA sec. 211(k)(3)(A)(i) and (ii) (“The benzene content of reformulated gasoline shall not exceed 1.0 per cent by volume;” “The aromatics hydrocarbon content of the reformulated gasoline shall not exceed 25 percent by volume.”)

other statutory provisions referenced above, supporting our finding that this term is ambiguous. It is therefore permissible, where Congress has used only the ambiguous term “containing” in CAA sec. 211(h)(4), to interpret “containing” to mean “containing at least.”

Implementing regulations under both CAA sec. 211(c) prior to the enactment of CAA sec. 211(h) and under CAA sec. 211(h) have reflected the highest permissible ethanol content at the time EPA’s RVP regulations were issued, which was 10 percent ethanol under a CAA sec. 211(f)(4) waiver. We stated that the 1-psi waiver is “for blends of gasoline with about 10 percent ethanol, or gasohol”<sup>68</sup> and in regulations, codified the conditions, providing that “[t]he maximum ethanol content ... in gasoline shall not exceed any applicable waiver conditions under CAA sec. 211(f)(4) waiver.”<sup>69</sup> Additionally, EPA statements on the imprecise nature of ethanol-gasoline blending also support the view that neither Congress nor EPA intended to limit ethanol content for the 1-psi waiver. “The nature of the blending process . . . complicates a requirement that the ethanol portion of the blend be exactly 10 percent ethanol.”<sup>70</sup>

We further note that in the legislative history, Congress employed the term “at least” 10 percent ethanol when discussing the 1-psi waiver, which suggests this provision is a floor for ethanol content in gasoline. For example, section 216 of the House bill provided in part that “[a] manufacturer or processor of gasoline containing at least 10 percent ethanol shall be deemed in full compliance.”<sup>71</sup>

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<sup>68</sup> 55 FR 23660 (June 11, 1990).

<sup>69</sup> 55 FR 23660 (June 11, 1990) and 40 CFR 80.27(d)(2) (1987).

<sup>70</sup> 56 FR 24245 (May 29, 1991).

<sup>71</sup> Clean Air Act Amendments, H.R. 3030 (101<sup>st</sup> Congress, 1990). See also H.R. Rep. No. 101 -490, at 71 (1990) (Conf. Rep.); reprinted at 2 Leg. Hist. at 3095 (1993).

The Senate Report published along with the enactment of the 1990 CAA Amendments and CAA sec. 211(h)(4) also describes both the purpose of including CAA sec. 211(h)(4), and general language about ethanol use in the fuel supply. The report states that the 1-psi waiver was:

included in recognition that gasoline and ethanol are mixed after the refining process has been completed. It was 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 RVP gasoline. The cost of producing and distributing this type of fuel would be prohibitive to the petroleum industry and would likely result in the termination of the availability of ethanol in the marketplace. Under this provision, the RVP limitations promulgated pursuant to this subsection for such ethanol/gasoline blends shall be one pound per square inch greater than the applicable Reid vapor pressure which apply to gasoline. Senate Report 101-228, at 3495.

Finally, the Senate report states that the 1-psi waiver would “allow ethanol blending to continue to be a viable alternative fuel, with its beneficial environmental, economic, agricultural, energy security and foreign policy implications.”<sup>72</sup> While this legislative history does not speak to the meaning of the word “containing,” it does articulate congressional intent in enacting the provision, recognizing the role for ethanol in the marketplace. This report and other relevant legislative history do not explicitly address whether CAA sec. 211(h)(4) is intended to apply to blends with greater than 10 percent ethanol, but all the reasons it gives for extending the 1-psi waiver to gasoline ethanol blends up to 10 percent ethanol now would similarly weigh in favor of interpreting the 1-psi waiver to apply to E15, given that Congressional action in CAA sec. 211(h) was largely a ratification of agency regulations for RVP that were initiated beginning in 1987, under CAA sec. 211(c).

Congress designed the 1-psi waiver “deemed to comply” language of CAA sec. 211(h)(4) to adjust to gasoline-ethanol blends with more than 10 volume percent ethanol if allowed under

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<sup>72</sup> See S. Rep. No. 101-228 at 110 (1989).

separate provisions of the CAA (i.e., in the case where EPA grants a CAA sec. 211(f)(4) waiver that allows for greater than 10 volume percent ethanol in gasoline). In other words, the blended fuel is “deemed to comply” not because it is E10, but because it is a gasoline-ethanol blended fuel that has received a CAA sec. 211(f)(4) waiver. The Senate Report described the “deemed to comply” provision as an “alternative enforcement arrangement” that had the benefit of simplifying compliance demonstrations due to the inconsistency between the production of gasoline batches, measured in millions of gallons, to ethanol blending at the terminal in batches on the order of thousands of gallons. The “deemed to comply” provision further supports the interpretation that the 1-psi waiver under CAA sec. 211(h)(4) can apply to gasoline with ethanol content greater than 10 percent. The “deemed to comply” provision lays out the compliance mechanisms for regulated parties, but also contemplates ethanol blends beyond E10, the only gasoline-ethanol blended fuel with a CAA sec. 211(f)(4) waiver at the time of enactment, because EPA’s waiver authority under that provision is not limited to gasoline containing any particular range of volume percent ethanol. CAA sec. 211(h)(4)(B) provides that the “deemed to comply provision” will apply upon a demonstration that, among other things, “the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4).” We read this phrase to apply to only the waiver condition specifying the ethanol content of the fuel. Pursuant to the E15 waivers issued in 2010 and 2011, a fuel that includes 15 percent ethanol contains an ethanol portion that does not exceed the 211(f)(4) waiver condition. As previously shown, if Congress had wanted to limit the application of the (h)(4) waiver to E10, it could have done so, but it did not. Instead, Congress contemplated that ethanol content may increase in the future, that parties would likely apply for an 211(f)(4) waiver for those higher blends, that the 211(h)(4)



waiver would apply to these fuels, and that the 211(h)(4) “deemed to comply” provision would also apply.

Therefore, CAA sec. 211(h)(4) can be read as specifying the minimum ethanol content for ethanol-gasoline blends for purposes of the 1-psi waiver while the deemed to comply provision can be construed as a defense against liability for any ethanol blend that has received a CAA sec. 211(f)(4) waiver, which at present includes E15. As previously explained, the “deemed to comply” provision that was enacted at the inception of the RVP program to address industry practices at the time, reflects the highest permissible ethanol content at that time because of the waiver under CAA sec. 211(f)(4). CAA sec. 211(h)(4)(B) (“the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4) of this section.”) It is a statutorily mandated defense that is in addition to other defenses codified at 40 CFR 80.28(g)(1) through (7). It is not and has never been the sole enforcement mechanism for the 1-psi waiver. These other equally effective provisions would be applicable to gasoline-ethanol blended fuels containing 15 percent ethanol and our extending the 1-psi waiver to such blends should have no effect on the enforcement of RVP standards. Regulated parties could also continue to avail themselves of this provision, if necessary. Moreover, considerations that animated this provision, are now largely attenuated considering changes in the refinery process. Today, ethanol blending is done almost completely through in-line blending ethanol into CBOB specially made for blending with ethanol as compared to the nascent days where it was splash blended after completion of the refining process.

Our primary consideration has been to balance the goals of limiting gasoline volatility and ensure that the addition of ethanol does not cause the exceedance of the maximum RVP standard, while also promoting the use of ethanol consistent with the purpose of CAA sec.

211(h)(4). As previously explained, blending gasoline with at least 10 percent ethanol results in an approximate 1.0 psi RVP increase. It does not result in “different volatility levels than already recognized by EPA as adding less than 1.0 psi RVP to gasoline.”<sup>73</sup> Similarly, we also expect that E15 produced from the same BOB as E10 would have a similar (if not slightly lower) RVP than E10 and thus, would not exceed the current 10.0 psi RVP limit.<sup>74</sup> Therefore, we are fairly confident that relative evaporative emissions effects for E15 would largely be similar or slightly less than those for E10, as discussed in Section II.E.

In sum, the primary consideration underlying the 1-psi waiver is to limit gasoline volatility while promoting the use of ethanol due to its importance to energy security and the agricultural sector. Today’s proposed interpretation, if finalized, will continue to further these policy concerns given that agency action will now afford similar treatment to all ethanol-gasoline blends.

## 2. Regulatory Amendments

This proposal includes technical amendments that would effectuate our proposed interpretation to allow the 1-psi waiver for E15 during the summer under CAA sec. 211(h)(4). First, we are proposing to modify or remove volatility controls associated with our prior interpretation of CAA sec. 211(h)(4). These controls, found in 40 CFR 80.27, place limitations on the RVP of gasoline-ethanol blends at specific concentrations. Given that the primary effect of our proposed interpretation of CAA sec. 211(h)(4) would expand the “special treatment for gasoline-ethanol blends” to fuel blends containing 9–15 percent ethanol, we are proposing to

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<sup>73</sup> Clean Air Act Amendments: Hearings on H.R. 2521, H.R. 3054 and H.R. 3196 Before the Subcommittee on Health and the House Committee on Environment and Committee On Energy and Commerce, 100th Cong. 1st Sess. (1987) (statement of Eric Vaughn, President and CEO of renewable Fuels Association).

<sup>74</sup> “Determination of the Potential Property Ranges of Mid-Level Ethanol Blends.” American Petroleum Institute, Washington, DC. April 2010.

modify the controls extending the 1-psi waiver from gasoline containing 9–10 percent ethanol to gasoline containing 9–15 percent ethanol at 40 CFR 80.27 and related defense provisions in 40 CFR 80.28.

Second, we are proposing to remove or modify provisions in the MMR that were imposed to effectuate the prior 1-psi waiver interpretation under CAA sec. 211(h)(4). Subsequent to the grant of the CAA sec. 211(f)(4) partial waivers for E15, we adopted regulations under CAA sec. 211(c) to ensure that E15 would not be used in certain vehicles and engines for which the waivers did not apply. To do so, in addition to the conditions on the waivers that applied to fuel manufacturers, we promulgated regulations to ensure that those same conditions were enforceable on downstream parties. No changes were made to the RVP regulations at 40 CFR 80.27 as a direct result of our interpretation under CAA sec. 211(h)(4) that the 1-psi waiver did not extend to gasoline-ethanol blends with an ethanol concentration greater than 10 percent. Additional regulations were put in place including regulations currently found in 40 CFR 80.1504(f) and (g) (placing prohibitions on the commingling of E10 and E15), and 40 CFR 80.1503 (placing PTD requirements on E15). These regulations were put in place in order to ensure that the RVP of E15 did not exceed 9.0 psi in accordance with our interpretation of CAA sec. 211(h)(4) at the time. However, since our proposed interpretation of CAA sec. 211(h)(4) increases the RVP allowance to 10.0 psi, these provisions are no longer necessary. Additionally, because the RVP of E15 will be approximately the same as E10 if produced from the same blendstock, we do not anticipate emissions impacts from this equal treatment. Given that we are proposing to interpret CAA sec. 211(h)(4) to extend to gasoline-ethanol blends of up to 15 percent ethanol, the prohibition on the commingling of E15 and E10 is no longer necessary.

Finally, we are proposing to remove the PTD requirements related to the 1-psi waiver at 40 CFR 80.1503. In 40 CFR part 80, subpart N, we included PTD language designed to help ensure that E15 that did not receive the 1-psi waiver would be segregated from E10 that did receive the 1-psi waiver. Since we are proposing to allow the 1-psi waiver for E15, we no longer need these PTD requirements. However, parties that produce and distribute gasoline-ethanol blended fuels would still be required to identify ethanol concentrations on PTDs as specified in 40 CFR 80.27 and 40 CFR 80.1503.

All other E15 misfueling mitigation provisions in 40 CFR part 80, subpart N, would remain unchanged. In the MMR, we promulgated regulations under CAA sec. 211(c)(1), which prohibit the use of E15 in MY2000 and older motor vehicles, nonroad vehicles, engines, and equipment (including motorcycles, and heavy-duty motor vehicles). CAA sec. 211(c)(1) gives EPA authority to “control or prohibit the manufacture, introduction into commerce, offering for sale, or sale” of any fuel or fuel additive (A) whose emission products, in the judgment of the Administrator, cause or contribute to air pollution “which may be reasonably anticipated to endanger public health or welfare” or (B) whose emission products “will impair to a significant degree the performance of any emission control device or system which is in general use, or which the Administrator finds has been developed to a point where in a reasonable time it would be in general use” were the fuel control or prohibition adopted. We promulgated the MMR based on our assessment that E15 would significantly impair the emission control systems used in MY2000 and older light-duty motor vehicles, heavy-duty gasoline engines and vehicles, highway and off-highway motorcycles, and all nonroad products. This led to our conclusion that under CAA sec. 211(c)(1)(A), E15 use in these particular vehicles, engines, and non-road products would likely result in increased VOC , carbon monoxide (CO), and nitrogen oxide

(NO<sub>x</sub>) emissions.<sup>75</sup> The proposed regulatory changes to 40 CFR part 80, subparts B and N in this proposed rulemaking are solely related to our proposed interpretation to allow the 1-psi waiver for E15 under CAA sec. 211(h)(4). This proposed action would not change the basis of our CAA sec. 211(c)(1)(A) and (B) finding in the MMR that prohibits E15 from use in MY2000 and older light-duty motor vehicles, heavy-duty gasoline engines and vehicles, highway and off-highway motorcycles, and all nonroad products. This action also does not propose to modify the misfueling mitigation measures promulgated in the MMR, but, as discussed in Section II.D.3, we seek comment on the need for additional E15 misfueling measures.

### 3. Effects on Regulated Parties

This section discusses distinctions between the obligations that apply to certain parties in the fuel production, blending, and retail chain, and how this proposed action would affect (or would not affect) those parties. Specifically, we discuss how the proposed CAA sec. 211(h)(4) interpretation under which the 1-psi waiver would extend to E15 would affect fuel manufacturers (e.g., refiners and importers of gasoline), downstream oxygenate blenders, and retailers that make E15 at a blender pump.

#### a. E15 Made by Refiners, Importers, and Downstream Oxygenate Blenders

In this action, we are maintaining all of the CAA sec. 211(f)(4) waiver conditions for E15 as they currently apply to fuel and fuel additive manufacturers.<sup>76</sup> CAA sec. 211(f)(1) operates as a prohibition against the introduction into commerce of fuels and fuel additives by manufacturers of fuels and fuel additives, and CAA sec. 211(f)(4) provides a mechanism to waive that prohibition if certain criteria are met. Therefore, fuel and fuel additive manufacturers are subject

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<sup>75</sup> 76 FR 44422 (July 25, 2011).

<sup>76</sup> We note, however, that under the new substantially similar interpretive rulemaking proposed in Section II.C, such that it includes E15, such waiver conditions would no longer apply to fuel and fuel additive manufacturers.

to any conditions that apply to a CAA sec. 211(f)(4) waiver. Under this approach, fuel and fuel additive manufacturers would still need to produce E15 that meets the 9.0 psi RVP requirement of the waiver condition, while downstream parties are not similarly bound. EPA's fuel and fuel additive registrations (FFARs) regulations at 40 CFR 79.2(d) define which parties are fuel manufacturers and makes clear that parties that only blend oxygenates at allowable levels under CAA sec. 211(f) are excluded from the definition of fuel manufacturers. We are, however, neither reopening 40 CFR 79.2(d), nor soliciting comments on this provision. We will therefore treat any comments we receive on this topic as beyond the scope of this rulemaking.

We are not changing our interpretation of the way the CAA controls fuels and the way our regulations regulate fuels in any way other than providing the 1-psi waiver to gasoline containing greater than 10 volume percent ethanol as a consequence of interpreting the 1-psi RVP waiver to apply to E15. The 1-psi waiver applies to all parties that blend and distribute gasoline-ethanol blends containing at least 10 percent ethanol unless specifically restricted under another portion of the CAA, in this case CAA sec. 211(f) through the 9.0 psi RVP limit on E15 from May 1 through September 15 as a condition of its CAA sec. 211(f)(4) partial waivers. The 1-psi RVP waiver under CAA sec. 211(h)(4) is thus available to downstream oxygenate blenders who produce E15 and to downstream parties who distribute and sell E15, but the 1-psi waiver is not available to fuel or fuel additive manufacturers since fuel and fuel additive manufacturers must comply with the high ozone season 9.0 psi RVP E15 waiver condition.

This is in accordance with how the fuel marketplace currently functions with regard to E10. Refiners and importers currently produce or import gasoline (or conventional blendstock for oxygenate blending (CBOB)), which can then be blended with ethanol downstream. It is not until that ethanol is blended into the gasoline or CBOB that parties are able to receive the

benefits of the 1-psi waiver (i.e., an RVP volatility limit of 10.0 psi). Therefore, a refiner's or importer's gasoline or CBOB must always meet a 9.0 psi RVP limitation prior to the addition of ethanol.<sup>77</sup> However, because the CAA sec. 211(f)(4) waiver for E10 was granted by operation of law, and thus did not contain a waiver condition limiting the RVP to 10.0 psi, in contrast to E15, refiners and importers can take advantage of the 1-psi waiver for E10. It should be noted, however, that if another part of the CAA or EPA regulation precludes the 1-psi waiver, for example, reformulated gasoline (RFG) required under CAA sec. 211(k) or a low-RVP fuel program established in a state implementation plan, parties cannot take advantage of the 1-psi waiver for E10 or E15.<sup>78</sup> In such circumstances, however, the same CBOBs already supplied for E10 blending can already be used for E15 blending, so the 1-psi waiver is not at issue.

The 1-psi waiver for E15 would function the same way, although if a refiner or importer were to choose to blend E15, including but not limited to blending at a co-located terminal or at a terminal downstream of a refinery operated by the refiner or importer, they would not be able to use the 1-psi waiver because the exclusion from the definition of a "fuel manufacturer" only includes a party "(other than a fuel refiner or importer)."<sup>79</sup> This means that refiners and importers who blend E15 would still need to comply with the waiver conditions under CAA sec. 211(f)(4).

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<sup>77</sup> In fact, as discussed above, downstream parties can only be deemed in compliance under CAA sec. 211(h)(4)(A) if the gasoline or CBOB met the applicable RVP standard prior to the addition of the ethanol.

<sup>78</sup> During the pre-proposal development process, we received a document related to whether allowing E15 the 1-psi waiver would result in states being preempted under CAA sec. 211(c)(4). Please see "RVP Preemption Memorandum" in the docket at EPA-HQ-OAR-2018-0775 for this document.

<sup>79</sup> If a separate party operated a terminal co-located with a refinery and the party was excluded from the definition of fuel manufacturers under 40 CFR 79.2(d)(2), the party that operated the co-located terminal would not be subject to the E15 waiver conditions. As previously noted, we are neither reopening this provision for comments nor soliciting comments on it and any comments on it we receive will be treated as beyond the scope of this rulemaking.

This interpretation of CAA sec. 211(f)(4) is consistent with our past treatment of CAA sec. 211(f)(1) and (f)(4)’s applicability to only fuel and fuel additive manufacturers, and is further supported by our actions in the MMR, which imposed regulatory requirements that are similar to the E15 CAA sec. 211(f)(4) waiver conditions on downstream parties, to whom the waiver conditions do not reach.<sup>80</sup> The MMR was enacted “to mitigate misfueling with E15 that lawfully has been introduced into commerce under the terms of the waiver[s]. The waiver conditions, and implementation of the waiver conditions, address a closely related but different issue—when, how and by whom E15 can be introduced into commerce under the partial waiver decisions. This rule only addresses the issue of mitigating misfueling in the event E15 is lawfully introduced into commerce under the partial waivers, and is issued under EPA’s authority under section 211(c).”<sup>81</sup>

As discussed above, CAA sec. 211(f) imposes limitations on fuel and fuel additive manufacturers. All fuel and fuel additive manufacturers must meet the statutory requirements of CAA sec. 211(f)(1) or the waiver conditions imposed under a CAA sec. 211(f)(4) waiver. As previously explained fuel manufacturers are defined in our regulations at 40 CFR 79.2. This definition explicitly excludes parties “(other than a fuel refiner or importer) who add[] an oxygenate compound to fuel in any otherwise allowable amount.” These excluded parties may also be considered “oxygenate blenders” under our regulations in 40 CFR part 80.<sup>82</sup> An

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<sup>80</sup> See 76 FR 44421 (July 25, 2011) (enacting E15 MMR provisions “to ensure that E15 being sold at retail stations was in compliance with the RVP condition of the E15 waiver and that an E10 fuel that used the 1.0 psi RVP waiver under CAA sec. 211(h) was not commingled with E15, which must have a lower RVP in the summertime”).

<sup>81</sup> See 76 FR 44440 (July 25, 2011).

<sup>82</sup> 40 CFR 80.2.



“oxygenate blender” is defined as “any person who owns, leases, operates, controls, or supervises an oxygenate blending facility, or who owns or controls the blendstock or gasoline used or the gasoline produced at an oxygenate blending facility.”<sup>83</sup> An “oxygenate blending facility” is defined as “any facility (including a truck) at which oxygenate is added to gasoline or blendstock, and at which the quality or quantity of gasoline is not altered in any other manner except for the addition of deposit control additives.”<sup>84</sup>

While our proposed interpretation of CAA sec. 211(h)(4) would allow for gasoline-ethanol blends that contain at least 10 volume percent ethanol to receive the 1-psi waiver, CAA sec. 211(f) and our 40 CFR Parts 79 and 80 fuels regulations continue to limit the amount of ethanol allowed to be blended into gasoline, and also the gasoline ethanol blends that can receive the 1-psi waiver. The definition of “fuel manufacturer” also places a limitation on the ethanol content of the fuel. Only parties who “add[] an oxygenate compound to fuel in any otherwise allowable amount” are excluded from the definition of fuel manufacturer.<sup>85</sup> This provision only allows the addition of oxygenate compounds up to the amount of any CAA sec. 211(f)(4) waiver, or any allowable oxygen content under our interpretation of the meaning of “substantially similar.” A party who unlawfully adds an oxygenate compound in a volume that exceeds the oxygen content limit in the interpretative definition of “substantially similar” or the CAA sec. 211(f)(4) waiver condition, or who adds anything other than an oxygenate compound allowed by the substantially similar interpretative rule, is a fuel manufacturer, and does not receive the 1-psi waiver for fuels containing at least 10 percent ethanol.

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<sup>83</sup> Id.

<sup>84</sup> Id.

<sup>85</sup> 40 CFR 79.2(d).

The result is that any party who is not a refiner or importer that produces E15 from only certified gasoline (including CBOB) and denatured fuel ethanol would be entitled to the 1-psi waiver just as is the case currently when such parties produce E10. This could occur at a downstream terminal where ethanol is added along with gasoline to a tank truck for delivery to a retail station. This could also occur at retail stations that blend E15 onsite using blender pumps that utilize either gasoline and denatured fuel ethanol as blendstocks onsite, or that use gasoline (either E0 or E10) and E85<sup>86</sup> as blendstocks onsite so long as that E85 had itself been produced solely from denatured fuel ethanol and certified gasoline (or CBOB).

b. E15 Made at Blender Pumps

For the reasons described in this section, a retail station that blends E15 using E85 that contains hydrocarbons not certified as gasoline or blendstock for oxygenate blending (BOB) (e.g., the natural gas liquids that are often used at ethanol plants to denature ethanol and make E85) would not be entitled to the 1-psi waiver.

First, parties that produce E15 via a blender pump using E85 made with ethanol and natural gas liquids (i.e., an uncertified gasoline blendstock) are fuel manufacturers under our existing 40 CFR Part 79 regulations (covering registration of fuels and additives), and as such are subject to the 9.0 psi RVP condition under the existing E15 CAA sec. 211(f)(4) waivers. Any party that blends an uncertified gasoline blendstock into gasoline is a fuel manufacturer under our 40 CFR Part 79 regulations because they are altering the chemical composition of a fuel. Regardless of our proposed interpretation of CAA sec. 211(h)(4), then, any such parties that produce E15 are still subject to the 9.0 psi RVP standard. E15 made at blender pumps may only

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<sup>86</sup> For purposes of this preamble, E85 means a gasoline-ethanol blended fuel that contains at least 50 volume percent ethanol but no more than 83 volume percent ethanol. We use the term E85 as the market has historically and commercially identified such fuels as E85.

receive the proposed extension of the 1-psi waiver in instances where an oxygenate blender blends certified gasoline (or CBOB) with E85 made from ethanol and certified gasoline (or CBOB).

Second, such parties are also gasoline refiners under our existing 40 CFR Part 80 regulations because they blend uncertified gasoline blendstocks into gasoline.<sup>87</sup> Under our regulations in 40 CFR Part 80 (covering implementation of our fuels control programs), any party that blends uncertified blendstocks into gasoline is a gasoline refiner and must meet all requirements applicable to gasoline refiners under 40 CFR Part 80. These requirements include, but are not limited to, sampling and testing each batch of gasoline for conformance to EPA's fuel standards, demonstrating compliance with annual average sulfur and benzene standards, registering as a gasoline refiner under 40 CFR Part 80, submitting periodic and annual compliance reports, and arranging for an annual audit by an independent auditor. These requirements were put in place to help ensure that parties downstream of gasoline refineries did not adversely affect fuel quality in ways that damaged vehicle and engine emission controls and helped ensure that the air quality benefits of our fuel quality regulations are met.

Third, under our FFARS regulations in 40 CFR Part 79, parties that blend uncertified blendstocks into gasoline are fuel manufacturers and must register their fuels and fuel additives as required under the CAA. In the case where a blender pump produces E15 by blending a certified gasoline (typically E10) with E85 that contains uncertified blendstocks (e.g., natural gas liquids), the operator of the blender pump meets the definitions of both a gasoline refiner under

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<sup>87</sup> The regulations at 40 CFR Part 80 allow for parties to blend uncertified gasoline blendstock into previously certified gasoline as long as the party complies with our sampling and testing requirements at 40 CFR 80.65, 80.101, and 80.1640.

40 CFR Part 80 and a fuel manufacturer under 40 CFR Part 79 and must comply with associated requirements.

We proposed to address this situation in the Renewables Enhancement and Growth Support (REGS) rule<sup>88</sup> by proposing provisions that would control the sulfur, benzene, and volatility of E85 used to make E15 via a blender pump, which would allow gasoline made via blender pumps to meet applicable EPA fuel quality standards and lawfully be made.<sup>89</sup> The proposed REGS rule also proposed to remove the FFARS requirements under 40 CFR Part 79 for blender pump operators that make gasoline via a blender pump. Since those proposed provisions have not been finalized, the only way for a blender pump operator to lawfully make E15 at a blender pump is to make E15 with certified gasoline and E85 made from ethanol and certified gasoline (or CBOB) or to comply with all requirement applicable to refiners and fuel manufacturers.

Finally, and perhaps most importantly, even if we finalize the proposed REGS rule and allow blender pumps to make gasoline at blender pumps and exempt blender pump operators from complying with the requirements for gasoline refiners and fuel manufacturers, based on information received during the comment period of the proposed REGS rule, it is likely that E15 made at blender pumps with E85 produced from natural gas liquids would often violate the applicable RVP standards even with the 1-psi waiver. Natural gas liquids often have RVP levels well above 10.0 psi. Adding such potentially highly volatile components to E15 (via E85) in

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<sup>88</sup> See 81 FR 80841 (November 16, 2016).

<sup>89</sup> In the proposed REGS rule, to specifically address the issue of E10, E15, and other gasoline-ethanol blended gasolines (i.e., gasoline containing between 16 and 50 volume percent ethanol or “E16-50”) produced at a blender pump, we proposed limitations on the use of fuels that a blender pump operator could use to make compliant gasoline. In general, under the proposed REGS rule, blender pump operators would need to use certified gasoline and certified E85 to assure compliance with EPA’s gasoline fuel quality standards under 40 CFR part 80. See 81 FR 80847-80848 (November 16, 2016).

significant concentrations would result in a finished E15 with a volatility in excess of 10.0 psi RVP. Therefore, in this proposal, only E15 produced using certified gasoline (or CBOB) and denatured fuel ethanol would be eligible for the 1-psi waiver.

c. Summary and Conclusion

Table II.B.4.c-1 summarizes how we believe the E15 partial waiver conditions imposed via CAA sec. 211(f)(4) and the 1-psi waiver under CAA sec. 211(h)(4) would apply to fuel manufacturers, downstream oxygenate blenders, and retailers that make E15 via a blender pump as a result of our proposed interpretation to allow E15 to receive the 1.0 psi waiver.

**Table II.B.4.c-1: Summary of E15 1-psi waiver applicability by party.**

	<b>Can take advantage of the 1-psi waiver?</b>	<b>Subject to E15 waiver conditions?</b>	<b>Could lawfully make/sell E15 at 10 psi in summer?</b>
Fuel Manufacturers	Yes	Yes	No
Oxygenate Blenders	Yes	No	Yes
Retailers that make E15 with E85 made with gasoline/BOB	Yes	No	Yes
Retailers that make E15 with E85 made with something other than gasoline/BOB	Yes	Yes	No

As mentioned above, under our proposed interpretation, all parties can take advantage of the 1-psi waiver unless they are precluded from doing so by some other requirement. We believe that the E15 waiver condition limiting the RVP of E15 to 9.0 psi during the summer would preclude fuel manufacturers (i.e., refiners and importers) from being able to introduce E15 into commerce under CAA sec. 211(f), but would not preclude downstream oxygenate blenders that were not otherwise fuel manufacturers from blending E15. For retailers that blend E15 using E85 made from denatured fuel ethanol (“DFE”) and certified gasoline (or CBOB) via a blender pump, those parties are acting analogous to downstream oxygenate blenders and could lawfully make E15. For all of the reasons described above, for retailers using E85 made with anything

other than DFE and certified gasoline (or CBOB), those parties are acting analogous to fuel manufacturers and could not lawfully make E15.

We seek comment on our proposed interpretation of CAA sec. 211(h)(4) as specifying a minimum ethanol content for fuel blends containing gasoline and ethanol as well as these implementing requirements. Under this construct, only certain regulated parties that produce and distribute E15 would be able to avail themselves of the 1-psi waiver.

*C. Proposed Interpretation of “Substantially Similar” for Gasoline*

This action proposes a new interpretation of “substantially similar” which defines which fuels are substantially similar to Tier 3 E10 certification fuel under CAA sec. 211(f)(1), as an alternative to the approach described above which would apply the CAA sec. 211(f)(4) waiver and its associated conditions.<sup>90</sup> Specifically, we are proposing that E15 with an RVP of 10.0 psi is sub sim to fuel used to certify Tier 3 light-duty vehicles (i.e., E10 with an RVP of 9.0 psi). Alternatively, we propose that E15 with an RVP of 9.0 psi is sub sim to fuel used to certify Tier 3 light-duty vehicles. Either of these new interpretations of sub sim would increase the allowable concentration of ethanol blended into gasoline to up to 15-volume-percent because we believe that E15 is sub sim to Tier 3 E10 certification fuel.

E15 would have similar effects on emissions (exhaust and evaporative), materials compatibility, and driveability for light-duty motor vehicles certified using Tier 3 E10 certification fuel.<sup>91</sup> This proposed interpretative rule would, if finalized, make it lawful for refiners and importers (e.g., fuel manufacturers as described in 40 CFR 79.2(d) discussed above)

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<sup>90</sup> Tier 3 vehicles must be certified on fuels described at 40 CFR 1065.710(b). For purposes of this preamble, we refer to certification test fuel used in certification testing for Tier 3 motor vehicles that contains 10-volume-percent ethanol as “Tier 3 E10 certification fuel”.

<sup>91</sup> Auto manufacturers certified some light-duty motor vehicles using E10 certification fuel as early as MY2017 and almost all auto manufacturers must certify their light-duty motor vehicles using E10 certification fuel by MY2020.

to make and introduce into commerce E15 at 10.0 psi RVP without the use of the E15 partial waivers since we would now interpret E15 as sub sim to Tier 3 E10 certification fuel. We are proposing two alternative interpretations of the sub sim provision for E15. First, we are proposing that E15 at 10 psi RVP is substantially similar to Tier 3 E10 certification fuel at 9 psi RVP. Alternatively, we are proposing that E15 at 9 psi is substantially similar to Tier 3 E10 certification fuel at 9 psi RVP. In conjunction with our interpretation of CAA sec. 211(h)(4) described above, this would allow all fuel manufacturers, not only downstream oxygenate blenders, the ability to lawfully introduce into commerce E15 at 10.0 psi RVP from May 1 through September 15. Prohibitions on the use of E15 in 2000 and older MY light-duty vehicles that currently apply as conditions of the CAA sec. 211(f)(4) waiver and as regulations established under CAA sec. 211(c), as well as the use of E15 in other vehicles, engines, and equipment not covered by the E15 partial waivers, would remain in place, and parties that make and distribute E15 and ethanol for use in producing E15 would still need to satisfy the MMR requirements under 40 CFR Part 80, subpart N. This section outlines the background and rationale for our proposed interpretative rulemaking.

#### 1. Statutory Framework

The Air Quality Act of 1967 and the CAA of 1970 established the basic framework for EPA fuels regulation. CAA sec. 211(a) allows EPA to designate fuels and fuel additives for registration. CAA sec. 211(b) sets forth registration requirements for fuels and fuel additives and authorizes EPA to require health and environmental effects testing for the registration of fuels and fuel additives. CAA sec. 211(c) authorizes EPA to regulate or prohibit fuels or additives for use in motor (or nonroad) vehicles or engines if: (A) “any fuel or fuel additive or any emission product of such fuel or fuel additive causes, or contributes, to air pollution . . . that may

reasonably be anticipated to endanger the public health or welfare, or (B) if emission products of such fuel or fuel additive will impair to a significant degree the performance of any emission control device or system.”

In the CAA Amendments of 1977, Congress established CAA sec. 211(f)(1), which prohibits manufacturers from first introducing into commerce any fuel or fuel additive for general use in light-duty vehicles that is not “substantially similar to any fuel or fuel additive utilized in the certification of any model year 1975, or subsequent model year, vehicle.” If a fuel or fuel additive is not sub sim, a fuel or fuel additive manufacturer may obtain a waiver under CAA sec. 211(f)(4) if the manufacturer can demonstrate that the new fuel or fuel additive “will not cause or contribute to a failure of any emission control device or system (over the useful life of the motor vehicle, motor vehicle engine, nonroad engine, or nonroad vehicle in which such device or system is used) to achieve compliance by the vehicle or engine with the emission standards with respect to which it has been certified.” Together, these CAA sec. 211(f) provisions were designed to prevent fuels and fuel additives from being introduced into commerce that would degrade the emission performance of the existing fleet and protect vehicle manufacturers from their vehicles consequently failing emission standards in use.

As discussed above, in the CAA Amendments of 1990, Congress added CAA sec. 211(h) to address the volatility of gasoline, which largely codified EPA’s then-new RVP regulations. Accordingly, entirely separate from CAA sec. 211(f), CAA sec. 211(h)(1) prohibits the sale of gasoline with an RVP in excess of 9.0 psi during the high ozone season (while allowing EPA to promulgate more stringent RVP requirements for nonattainment areas), and CAA sec. 211(h)(4) provides a 1.0 psi RVP allowance for “fuel blends containing gasoline and 10 percent” ethanol.



## 2. Certification Fuels

Historically, two fuels are utilized in EPA’s emissions standards certification of gasoline-powered vehicles and engines: standardized gasoline with controlled parameters to ensure consistency across vehicle and engine certification used in emissions testing, and commercially available mileage accumulation fuels used to ensure durability in use of exhaust and evaporative emissions controls.<sup>92</sup> Historically the fuel used in emissions testing (“certification test fuel”) contained no oxygenates (e.g., ethanol) and was often referred to by its brand name, “indolene.”

In the 2014 Tier 3 rulemaking, we updated the certification test fuel for Tier 3 certified motor vehicles and changed the certification test fuel from E0 to E10 to reflect the widespread use of E10 in the marketplace.<sup>93</sup> The requirement to use Tier 3 E10 certification fuel may have applied as early as MY2015 if a manufacturer elected to comply early with the Tier 3 vehicle emissions standards, but the requirement to use E10 in at least some vehicles began with MY2017. Almost all MY2020 and newer vehicles must be certified for emissions testing with Tier 3 E10 certification fuel with some exceptions for small volume vehicle manufacturers, which must use Tier 3 E10 certification fuel by MY2022.

Service accumulation fuel for durability must be representative of commercially-available gasoline<sup>94</sup> and evaporative emissions durability must “employ gasoline fuel for the entire mileage accumulation period that 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.”<sup>95</sup> Since MY2004, service accumulation fuel used for evaporative system aging

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<sup>92</sup> See 46 FR 38582 (July 28, 1981).

<sup>93</sup> See 79 FR 23414 (April 28, 2014).

<sup>94</sup> See 40 CFR 86.113-15(a)(5).

<sup>95</sup> See 40 CFR 86.1824-08(f)(1).

must contain the highest concentration of ethanol available in the market. After EPA partially granted the waivers for E15 in 2010 and 2011, we notified manufacturers in early 2012 that new evaporative emission families must be aged on E15 under 40 CFR 86.1824-08(f)(1). We believe that auto manufacturers began evaporative system aging on E15 as early as MY2014.

### 3. History of Sub Sim Interpretations

EPA has issued four interpretative rules that defined the meaning of “substantially similar” for gasoline. These interpretive rules describe the types of unleaded gasoline that are considered substantially similar to the unleaded gasoline utilized in our vehicle and engine certification programs by placing limits on a gasoline’s chemical composition and physical properties, including the types and amount of alcohols and ethers (oxygenates) that may be added to gasoline. Fuels that are found to be substantially similar to our certification fuels may be introduced into commerce. Each of our past interpretative rules provided an allowance for oxygenates within the gasoline. We last issued an interpretative rule in 2008 on the phrase “substantially similar” for gasoline.<sup>96</sup> The current substantially similar interpretative rule for unleaded gasoline allows oxygen content up to 2.7 percent by weight for certain ethers and alcohols. Despite having changed certification test fuel to include 10 volume percent ethanol, prior to this proposed action, we have not addressed what should be considered substantially similar to Tier 3 E10 certification fuel utilized in Tier 3 light duty vehicle certification.

In defining what qualifies as sub sim to certification fuels, we have listed general physical and chemical characteristics, such as oxygen content, because fuels and fuel additives meeting these general “sub sim” characteristics will “not adversely affect emissions.” If we were

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<sup>96</sup> See 73 FR 22281 (April 25, 2008).

to later find that a fuel or fuel additive that satisfies the physical and chemical sub sim characteristics “may reasonably be anticipated to endanger public health or welfare” or “impair to a significant degree the performance of any emission control device or system,” either in general or in particular vehicles or circumstances, we have authority to regulate that fuel or fuel additive under CAA sec. 211(c), which provides that we may by regulation place controls or prohibitions on fuels and fuel additives to protect public health or welfare or protect emission control devices or systems.<sup>97</sup> In our past interpretations defining what physical and chemical characteristics are necessary to make a fuel or fuel additive “sub sim” to certification test fuel, we have taken three primary factors into account: (1) emissions, (2) materials compatibility, and (3) drivability.<sup>98</sup>

We initially specified that fuel with oxygen content up to 2.0 weight percent is sub sim to certification test fuel.<sup>99</sup> We later revised the definition to allow oxygen content up to 2.7 weight percent for gasoline containing aliphatic ethers and/or alcohols (excluding methanol), finding, based on data and our experience with CAA sec. 211(f)(4) waiver applications, that such levels would not result in emissions, materials compatibility, or drivability problems compared with certification test fuel.<sup>100</sup> Thus, we have a history of establishing maximum oxygen content as a criterion, in addition to other criteria, for determining whether a fuel or fuel additive is substantially similar to a fuel utilized in certification.

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<sup>97</sup> See 45 FR 67443 (October 10, 1980).

<sup>98</sup> See 56 FR 5352 (February 11, 1991).

<sup>99</sup> See 45 FR 6743 (October 10, 1980). 2.0 wt% oxygen equates to approximately 5.7 vol% ethanol.

<sup>100</sup> See 56 FR 5352 (February 11, 1991). 2.7 wt% oxygen equates to approximately 7.7 vol% ethanol.

With respect to fuel volatility, our sub sim interpretations have specified that in order to qualify as sub sim to certification test fuel, which has historically had an RVP of 9.0 psi, fuels need only “meet ASTM standards in general, that is, not necessarily for every geographic location and time of year.”<sup>101</sup> To qualify as sub sim, gasoline (whether or not containing ethanol) “must possess, at time of manufacture, all the physical and chemical characteristics of an unleaded gasoline as specified in ASTM D 4814-88 for at least one of the Seasonal and Geographical Volatility Classes specified in the standard.”<sup>102</sup>

#### 4. Criteria for Determining Whether a Fuel is “Substantially Similar”

In order to be substantially similar, a fuel or fuel additive must be sub sim to a fuel used in the certification of any vehicle or engine under CAA sec. 206. To make this determination, we have generally considered the effects of a fuel or fuel additive on emissions (exhaust and evaporative), materials compatibility, and driveability for motor vehicles and motor vehicle engines certified under CAA sec. 206.<sup>103</sup>

In this proposed CAA sec. 211(f)(1) interpretative rulemaking, we consider whether E15 is substantially similar to Tier 3 E10 certification fuel when used in Tier 3 light-duty vehicles. The scope of that comparison is relatively narrow for two reasons. First, CAA sec. 211(f)(1) only requires a consideration of the potential impacts on light-duty motor vehicles and motor vehicle engines. In this regard, CAA sec. 211(f)(1) is different than what an applicant must demonstrate in a waiver under CAA sec. 211(f)(4) from the restrictions of CAA sec. 211(f)(1). CAA sec. 211(f)(1) is focused on motor vehicles and motor vehicle engines under CAA sec. 206 and applies to a broad class of fuels. A CAA sec. 211(f)(4) waiver, on the other hand, requires that a

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<sup>101</sup> See 46 FR 38585 (July 28, 1981).

<sup>102</sup> See 73 FR 22281 (April 25, 2008).

<sup>103</sup> See, e.g., 56 FR 5354 (February 11, 1991).

specific fuel not cause or contribute any vehicle or engine certified under CAA sec. 206 and 213 to exceed emission standards over the useful life of the vehicle or engine. Thus, the scope of vehicles and engines considered to determine whether a fuel is substantially similar under CAA sec. 211(f)(1) is significantly narrower than the scope of vehicles and engines that must be considered by EPA for a waiver to be granted under CAA sec. 211(f)(4).

Second, under CAA sec. 211(f)(1), the sub sim determination need only demonstrate that E15 is sub sim to a fuel used in certification of a 1975 or later MY vehicle or engine, not substantially similar to all certification fuels required and used historically (e.g., E0 for light-duty vehicles and trucks prior to Tier 3) to assess compatibility and emission performance. In this case, the sub sim determination demonstrates that E15 is sub sim to Tier 3 E10 certification fuel.

## 5. Technical Rationale and Discussion

As discussed above, we have considered whether a fuel has similar effects on emissions, materials compatibility, and driveability when determining whether a fuel is substantially similar to certification fuel. Based on existing data and our engineering judgement, we have concluded that E15, with its additional oxygen content relative to Tier 3 E10 certification fuel, would have effects on emissions, materials compatibility, and drivability substantially similar to E10 in Tier 3 vehicles.

### a. Exhaust Emissions

In the 2010 CAA sec. 211(f)(4) partial waiver for E15, we concluded from available data that neither the immediate combustion effects nor the long-term durability impacts of operating on E15 blends would prevent MY2001 and newer light-duty vehicles from complying with their

full useful life emission standards.<sup>104</sup> This decision was supported by a large study conducted by DOE that tested 16 high-sales vehicles spanning model years 1999-2007 using ethanol splash blends made from Tier 2 certification gasoline (E0).<sup>105</sup> Analysis of the resulting data shows that the E15 blend produced approximately 5% higher NO<sub>x</sub>, 4% higher NMOG, and 4% lower CO compared to E10, though none of these differences was statistically significant. This work did not measure PM emissions, but the expectation at the time was that PM should react to ethanol in a similar way as NMOG emissions.

Since the time of the 2010 waiver decision, additional data have been published on the effects of ethanol blends on Tier 2 vehicles. The EPA/V2/E-89 study (referred to as “EPA/V2 study”), jointly conducted by EPA, DOE/National Renewable Energy Laboratory (NREL), and the Coordinating Research Council (CRC) in 2009-2010, looked at the effects of five fuel properties, including ethanol concentration, on emissions from 15 high-sales light-duty vehicles from MY2008. Measurements included PM, a pollutant for which its relationship to fuel properties had previously not been examined in much detail for gasoline vehicles. The size and scope of this study allowed for statistical models to be developed that could be used to correlate the impacts of the five fuel properties, including ethanol concentration, on emissions, enabling projections to be made of the emission impacts of a wide range of fuels, not limited to those tested. Results generally confirmed the NO<sub>x</sub> and CO emission impacts described above, while indicating that ethanol’s effects on NMOG and PM are more complex and depend on other fuel

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<sup>104</sup> See 75 FR 68096 (November 4, 2010).

<sup>105</sup> Knoll, K., West, B., Huff, S., Thomas, J. et al., "Effects of Mid-Level Ethanol Blends on Conventional Vehicle Emissions," SAE Technical Paper 2009-01-2723, 2009.

parameters, such as the fuel's distillation profile and aromatics content.<sup>106, 107</sup> For example, the EPAAct study statistical models estimate approximately 2% higher NO<sub>x</sub>, 4% lower NMOG, 2% lower CO, and 2% higher PM for E15 compared to the E10 fuels used in the DOE study. If we instead assume an E15 splash blend starting from a typical E10 market fuel, the EPAAct study models project 2% higher NO<sub>x</sub>, 2% higher NMOG, 2% lower CO, and 4% higher PM. Since these figures represent the output of models whose coefficients survived a process of statistical testing, they are meaningful despite being small. This type of analysis is different from performing a test for significant differences directly on paired emission measurements, as is presented for the other studies discussed below, where measured differences may be statistically insignificant due to the limited scope of the test program and/or the number of variables left uncontrolled.

Two studies published in 2017 and 2018 by CRC, projects E-94-2 and E-94-3, respectively, examined the effects of ethanol and PM Index on PM and other emissions from MY2012-2015 Tier 2 vehicles, all with gasoline direct injected (GDI) engines and several with turbocharging.<sup>108, 109</sup> Results for the overall test fleet of 16 vehicles in E-94-2 showed no statistically significant effect of E10 match blends<sup>110</sup> relative to E0 for total hydrocarbons

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<sup>106</sup> EPA Office of Transportation and Air Quality. "EPAAct/V2/E-89: Assessing the Effect of Five Gasoline Properties on Exhaust Emissions from Light-Duty Vehicles Certified to Tier 2 Standards: Final Report on Program Design and Data Collection". EPA-420-R-13-004. April 2013.

<sup>107</sup> Butler, A., Sobotowski, R., Hoffman, G., and Machiele, P., "Influence of Fuel PM Index and Ethanol Content on Particulate Emissions from Light-Duty Gasoline Vehicles," SAE Technical Paper 2015-01-1072, 2015, doi:10.4271/2015-01-1072.

<sup>108</sup> Morgan, Peter; Smith, Ian; Premnath, Vinay; Kroll, Svitlana; Crawford, Robert. "Evaluation and Investigation of Fuel Effects on Gaseous and Particulate Emissions on SIDI In-Use Vehicles". SwRI 03.20955. Southwest Research Institute, San Antonio, TX. CRC E-94-2. Coordinating Research Council, Alpharetta, GA. March 2017.

<sup>109</sup> Morgan, Peter; Lobato, Peter; Premnath, Vinay; Kroll, Svitlana; Brunner, Kevin; Crawford, Robert. "Impacts of Splash-Blending on Particulate Emissions for SIDI Engines". SwRI 03.20955-1. Southwest Research Institute, San Antonio, TX. CRC E-94-3. Coordinating Research Council, Alpharetta, GA. June 2018.

<sup>110</sup> Matched blended fuels are fuels that have been crafted to control fuel parameters (e.g., distillation parameters and RVP) after the blending of ethanol typically for research and testing purposes. This is contrasted with splash blended fuels, which are not controlled to specifically account for the blending of ethanol.

(THC), NO<sub>x</sub>, or CO, while PM increased by 19% for the regular-grade (87 AKI) test fuels. The E-94-3 study tested a four-vehicle subset on four E10 splash blends made from the E0 fuels in E-94-2, and found a PM increase of 21% on average, consistent with the effect found in the larger E94-2 study. Assuming this PM effect is linear over small fuel changes, we would expect around 10% higher PM when moving from E10 to E15. Comparing these results to the EPAct study and DOE study above suggests that later-technology vehicles with direct injection have equal or lower sensitivity to ethanol blending for gaseous emissions, but may be more sensitive for PM.

Another study published in 2018 by the University of California, Riverside Center for Environmental Research and Technology (“CE-CERT”) looked at the effects of ethanol and aromatics on emissions from five vehicles spanning model years 2016 to 2017, all with GDI engines and certified to either Tier 3 or LEV III standards.<sup>111</sup> The test fuels included E0, E10, and E15 blends that were closely matched on aromatic content (at two levels, 21% and 29% volume) but the mid-point distillation temperature (T40-T50) was uncontrolled, and varied significantly.<sup>112</sup> Results of this study showed no statistically significant difference in NO<sub>x</sub>, non-methane hydrocarbons (NMHC), or PM when comparing E15 to E10 blends at either aromatics level.

While there are limited data on Tier 3 vehicles, the results of the Tier 2 and Tier 3 vehicle studies cited above are nevertheless largely consistent with each other given that ethanol blending also affects many other fuel properties, and given that ethanol is blended into gasolines in different ways that affect the collateral property changes differently. This makes it difficult to

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<sup>111</sup> Karavalakis, G; Durbin, T; Yang, J; Roth, P., “Impacts of Aromatics and Ethanol Content on Exhaust Emissions from Gasoline Direct Injection (GDI) Vehicles”. University of California, CE-CERT, April 2018.

<sup>112</sup> The EPAct study found T50 to have a meaningful and statistically significant impact on NMOG, NMHC, NO<sub>x</sub>, and PM emissions.



interpret trends across the body of literature without detailed information on multiple fuel properties. However, since the early 1990s, a number of programs have studied the effects of ethanol on emissions from earlier vintage vehicles, and based on these studies, emissions models have been published, including the Complex Model,<sup>113</sup> Predictive Model,<sup>114</sup> and MOVES simulator,<sup>115</sup> and the results from the more recent studies are also largely consistent with them. Namely, ethanol blending causes slight increases in NO<sub>x</sub> emissions and slight decreases for CO emissions. Earlier studies did not evaluate PM emissions from ethanol blending.

While some criteria pollutants would have relative and real increases (NO<sub>x</sub> and PM) and others have similar decreases (VOC and CO) on E15 compared to E10, these changes are relatively small. In the E15 partial waivers, we determined that effects of this magnitude were too small to cause or contribute 2001 and newer light-duty vehicles to exceed the vehicles' certified exhaust emissions standards and we expect that this would also be the case for Tier 3 certified vehicles. While CAA sec. 211(f)(1) does not define specific criteria for how to determine whether an ethanol blend is substantially similar to certification test gasoline, we believe that the small changes in exhaust emissions from E15 relative to Tier 3 E10 certification fuel used in Tier 3 certified vehicles are within the scope of what we have determined to be similar in our prior similar interpretive rulemakings. Therefore, we believe that E15 is similar to Tier 3 E10 certification fuel from the perspective of exhaust emissions. However, we seek comment and request any additional information related to the potential effects on the exhaust

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<sup>113</sup> See "Complex Model Used to Analyze RFG and Anti-dumping Emissions Performance Standards," available at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/complex-model-used-analyze-rfg-and-anti-dumping>.

<sup>114</sup> See "California Gasoline Predictive Models, and CARBOB Model Development," available at <https://www.arb.ca.gov/fuels/gasoline/premodel/pmdevelop.htm>.

<sup>115</sup> See "Moves and Other Mobile Source Emissions Models," available at: <https://www.epa.gov/moves>.

emissions of E15 compared to Tier 3 E10 certification fuel, particularly in Tier 3 certified vehicles given the limited data currently available.

b. Evaporative Emissions

EPA has set evaporative emission standards for motor vehicles since 1971. During the ensuing years, these evaporative standards have continued to evolve, resulting in additional evaporative emissions reductions. Consideration of whether E15 is substantially similar to Tier 3 E10 certification fuel for evaporative emissions requires consideration of the applicable evaporative emissions standards to which the particular motor vehicles were certified, in this case Tier 3 motor vehicles. There are now six main components to motor vehicle evaporative emissions that are important for our standards: (1) Diurnal (evaporative emissions that come off the fuel system as a motor vehicle heats up during the course of the day); (2) refueling emissions (evaporative emissions that come off the fuel system as the vehicle is refueled); (3) hot soak (evaporative emissions that come off a hot motor vehicle as it cools down after the engine is shut off); (4) running loss (evaporative emissions that come off the fuel system during motor vehicle operation); (5) permeation (evaporative emissions that come through the walls of elastomers in the fuel system and are measured as part of the diurnal test); and (6) unintended leaks due to deterioration/damage that is now largely monitored through onboard diagnostic standards.

For hot soak, permeation, and unintended leak evaporative emissions, we expect that E15 would have a similar effect as Tier 3 E10 certification fuel. In the E15 partial waivers, we stated that we did not expect that E15 would have an effect on hot soak, permeation, and unintended leak evaporative emissions based on a review of the data and on the fact that auto manufacturers have been required to age vehicles on E10 for evaporative emissions durability testing since MY 2004. We are not aware of any information suggesting that Tier 3 vehicles would behave

differently since they are aged for evaporative emissions durability on E15 and certified on Tier 3 E10 certification fuel. Furthermore, in our review of the testing of permeation on pre-Tier 3 vehicles (i.e., prior to changes made to address permeation) in the E15 partial waiver decisions, while ethanol was shown to significantly worsen permeation emissions, there was no discernable worsening of the impacts at higher ethanol concentrations.<sup>116</sup> Consequently, we do not anticipate permeation emissions with E15 to be any higher than with E10.

We are proposing two alternative approaches to assessing the evaporative emissions impacts of E15 with regard to the volatility of the fuel. First, we compare E15 at 10.0 psi to Tier 3 E10 certification fuel at 9.0 psi to evaluate differences in evaporative emissions from refueling, diurnal, and running loss emissions sources. Alternatively, we compare E15 at 9.0 psi, the fuel without a 1-psi waiver under CAA sec. 211(h)(4), to Tier 3 E10 certification fuel at 9.0 psi.

Refueling, diurnal, and running loss evaporative emissions increase as fuel volatility increases, with gasoline with an RVP of 10.0 psi producing significantly more vapor for the evaporative emission control system to capture and purge through the engine than gasoline with an RVP of 9.0 psi.<sup>117</sup> However, because we specifically addressed gasoline volatility in our prior 1981, 1991, and 2008 sub sim reinterpretations,<sup>118</sup> we are not proposing to modify our long-standing approach to controlling volatility in this action, and because there are not refueling, diurnal, or running loss evaporative emission impacts of E15 relative to Tier 3 E10 certification fuel apart from RVP, we do not believe these evaporative emission impacts are relevant to our proposed interpretation of sub sim. Furthermore, our existing regulations promulgated under

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<sup>116</sup> See 75 FR 68115-68120 (November 4, 2010) and 76 FR 4675-4681 (January 26, 2011).

<sup>117</sup> These effects are discussed more in Section II.E.

<sup>118</sup> See 46 FR 38582 (July 28, 1981), 56 FR 5352 (February 11, 1991), and 73 FR 22277 (April 25, 2008), respectively. Historically, we have defined sub sim with regards to volatility as being anything within the general ASTM specifications for volatility for any location and time of year.

CAA sec. 211(c) and 211(h) are a sufficient mechanism to control the RVP of gasoline. Since this interpretation primarily responds to the fact that we have now changed Tier 3 certification fuel to include 10 percent ethanol, we do not believe modification of our sub sim interpretation to set a specific RVP level would be appropriate.

Historically, the primary purpose of the requirement under the definition of substantially similar that gasoline must meet a volatility class under the ASTM specification for gasoline was to ensure that the fuel was physically and chemically similar to gasoline as to be used in a gasoline-fueled motor vehicle. For example, in the 1980 sub sim interpretative rulemaking, we allowed gasoline-ethanol blends containing up to 2.0 weight percent oxygen (about 5.5 volume percent ethanol); such fuel would experience a similar 1-psi increase to E10 or E15 if produced using the same base gasoline. Even during 1980, certification fuel used for gasoline-fueled motor vehicles was expected to have an RVP of 9.0 psi.<sup>119</sup> Therefore, we have not generally considered the expected increase in RVP resulting from the addition of RVP when determining whether a fuel is sub sim to gasoline certification fuel.

We determined that such a change was unnecessary and declined to impose such a limitation when we reinterpreted sub sim in 1991 and in 2008. In 1991, we maintained the view that sub sim fuels need only meet general ASTM specifications (i.e., any volatility class in ASTM D 4814-88) for volatility. This was after we promulgated the Phase I and Phase II RVP standards for gasoline under CAA sec. 211(c) and Congress enacted CAA sec. 211(h) in 1990, which, as discussed above, we have interpreted as essentially codifying our regulatory approach to fuel volatility as it existed prior to 1990. In 2008, when we provided flexibility for testing

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<sup>119</sup> See 40 CFR 86.113-78 (1977).

gasoline used only in Alaska to meet sub sim volatility requirements, we chose to maintain the existing volatility language for gasoline for the rest of the U.S.

We are also proposing that E15 at 9.0 psi RVP is sub sim to Tier 3 E10 certification fuel at 9.0 psi RVP during the summer. This would allow us, from a technical standpoint, to consider the impacts of RVP on evaporative emissions, and in particular on refueling, diurnal, and running loss evaporative emissions under CAA sec. 211(f)(1). Refueling, diurnal, and running loss evaporative emissions are mostly a function of volatility of the fuel. Therefore, if two fuels have the same RVP, the expected evaporative emissions from the two fuels would be similar. In this situation, since there is no difference in RVP, 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.

We believe that under CAA sec. 211(f)(1) we only need to determine that E15 at 9.0 psi RVP is sub sim to Tier 3 E10 certification fuel at 9.0 psi RVP in order for fuel manufacturers and downstream parties to take advantage of the CAA sec. 211(h)(4) waiver. Congress intended for gasoline-ethanol blends to have a 1-psi waiver in order to promote ethanol blending in gasoline. In other words, given the existence of CAA sec. 211(h)(4), we believe it is appropriate when interpreting sub sim for CAA sec. 211(f)(1) to compare E15 at 9.0 psi RVP to E10 certification test fuel at 9.0 psi RVP. CAA sec. 211(h)(4) then provides the 1-psi waiver to E15. Therefore, under this alternative we would propose to interpret sub sim to apply to gasoline with a maximum of 9.0 psi RVP during the summer.

In summary, we expect that E15 would have similar evaporative emissions effects as Tier 3 E10 certification fuel for Tier 3 light-duty vehicles with regard to evaporative emissions from permeation, hot soak, and other unintended evaporative emissions. For refueling, diurnal and

running loss evaporative emissions, we are not proposing to alter the existing interpretation of substantially similar. As explained above in our proposed interpretation of CAA sec. 211(h)(4), we believe it was Congress' intent to allow for gasoline-ethanol blended fuels containing at least 10 percent ethanol to receive the 1-psi waiver and we have interpreted sub sim under 211(f)(1) to be consistent with Congress' intent. Therefore, we are proposing that E15 at 10.0 psi RVP is sub sim to Tier 3 E10 certification test fuel at 9.0 psi RVP when used in Tier 3 vehicles.

Alternatively, we propose that E15 at 9.0 psi RVP is sub sim to Tier 3 E10 certification fuel at 9.0 psi RVP when used in Tier 3 vehicles.

c. Materials Compatibility

Materials compatibility is a key factor in considering what fuels or fuel additives are sub sim to certification fuel, insofar as poor materials compatibility can lead to serious exhaust and evaporative emission compliance problems not only immediately upon use, but especially over the full useful life of vehicles and engines. In the E15 partial waivers, we determined that the use of E15 in MY2001 and newer light-duty motor vehicles “will not [result in] materials compatibility issues that lead to exhaust or evaporative emissions exceedances.”<sup>120</sup> We argued that “[n]ewer motor vehicles, such as Tier 2 and NLEV vehicles (MY2001 and newer), on the other hand, were designed to encounter more regular ethanol exposure compared to earlier model year motor vehicles” since EPA’s in-use verification program would require auto manufacturers to place more “emphasis on real world motor vehicle testing” prompting manufacturers to consider commercially available fuels containing ethanol when developing and testing their emissions systems.<sup>121</sup> Based on this assessment plus confirmatory data from DOE’s extensive

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<sup>120</sup> See 75 FR 68122-68123 (November 4, 2010); 76 FR 4681 (January 26, 2011).

<sup>121</sup> See 75 FR 68122 (November 4, 2010).

test program that aged MY2001 and newer vehicles up to 120,000 miles on E15, we concluded that MY2001 and newer vehicles would not have materials compatibility issues with E15. We expect that Tier 3 certified vehicles would have similar, if not better, materials compatibility with E15 compared to MY2001 and newer vehicles since Tier 3 certified vehicles should be designed to encounter E15 in-use and manufacturers are required to use E15 as an aging fuel for evaporative durability testing.

As required under the vehicle and certification regulations,<sup>122</sup> since granting the E15 partial waivers, E15 is now used as an aging fuel for service accumulation for evaporative durability testing. Auto manufacturers have used E15 for service accumulation for evaporative durability testing since at least MY2014. This means that many Tier 2 certified vehicles since MY2014 and all Tier 3 certified vehicles have been aged on E15 and have been designed with materials capable of handling E15 for extended periods of time.

Therefore, we would not expect any materials compatibility issues from E15 in Tier 3 vehicles and we expect that E15 would have substantially similar or identical materials compatibility with Tier 3 E10 certification fuel.

d. Driveability

A change in the driveability of a motor vehicle that results in significant deviation from normal operation (e.g., stalling, hesitation, etc.) would result in increased emissions. These increases may not be demonstrated in the emission certification test cycles but instead are present during in-use operation. In addition to consumer dissatisfaction, a motor vehicle stall and subsequent restart can result in a significant increase in emissions because HC and CO emission

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<sup>122</sup> See 40 CFR 86.1824-08(f)(1).

rates are typically highest during vehicle starts, especially cold starts. Further, concerns exist if the consumer or operator tampers with the motor vehicle in an attempt to correct the driveability issue since consumers may attempt to modify a motor vehicle from its original certified configuration. Thus, we have considered whether fuels or fuel additives have an adverse effect on driveability relative to certification fuel to define what is substantially similar.

We concluded in the E15 partial waivers that we did not believe that E15 would cause driveability concerns for MY2001 and newer light-duty vehicles. We reviewed the data and information from the over 30 different test programs evaluated to grant the E15 partial waivers and we found “no specific reports of driveability, operability or on-board diagnostics (OBD) issues across many different vehicles and duty cycles including lab testing and in-use operation.”<sup>123</sup>

After having granted the partial E15 waivers, we believe that Tier 2 and Tier 3 vehicles also have better capability of operating on E15, since as mentioned above, auto manufacturers have been required to use E15 as an aging fuel for evaporative durability aging since at least MY2014.

We also believe that the producers and distributors of gasoline adhere to ASTM specifications for gasoline (i.e., ASTM D 4814),<sup>124</sup> which helps address the driveability of gasoline that contains up to 15 volume percent ethanol. As E15 has been in the market since at least 2012, industry, through ASTM International, has worked to develop voluntary consensus-based standards to help ensure the quality of E15 made and used in the marketplace. For example, ASTM D4814-18c has language to ensure that gasoline-ethanol blends have certain

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<sup>123</sup> See 76 FR 4681–82 (January 26, 2011).

<sup>124</sup> ASTM Standard D4814, 2019, “Standard Specification for Automotive Spark-Ignition Engine Fuel,” ASTM International, West Conshohocken, PA, 2003, DOI: 10.1520/C0033-03, [www.astm.org](http://www.astm.org).



physical and chemical characteristics, like the gasoline-ethanol blend having distillation parameters falling within specified ranges, to ensure that when the gasoline-ethanol blended fuel is used, driveability issues will not arise.<sup>125</sup>

For these reasons, we believe that E15 would have similar driveability characteristics to Tier 3 E10 certification fuel.

e. Conclusion

For reasons described above, we are proposing that E15 is substantially similar to Tier 3 E10 certification fuel. As discussed above, when interpreting which fuels and fuel additives are sub sum to certification fuel under CAA sec. 211(f)(1), we consider those potential effects of relevance under CAA sec. 211(f)(1) of fuels and fuel additives on certified motor vehicles' emissions (exhaust and evaporative), materials compatibility, and driveability. Regarding emissions, while E15 compared with Tier 3 E10 certification test fuel would have small emissions changes in Tier 3 vehicles, we expect that E15 would exhibit similar exhaust and evaporative emissions for Tier 3 vehicles certified on Tier 3 E10 certification fuel. For materials compatibility and driveability, we expect that due to E15 being used as a service accumulation fuel for evaporative emissions aging, as well as our conclusions for MY2001 and newer light-duty motor vehicles regarding materials compatibility and driveability in the E15 partial waivers, E15 would be sub sim to Tier 3 E10 certification fuel.

Our proposed interpretation is limited to gasoline that contains only ethanol content up to 15 percent as this is the only oxygenate that we have sufficient data and information to support at

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<sup>125</sup> Id.

this time.<sup>126</sup> Other oxygenates (notably isobutanol) may have similar emissions effects to Tier 3 E10 certification fuel, but we lack the data and information on emissions, materials compatibility, and driveability as established for ethanol as part of the E15 partial waiver decisions and the Tier 3 rulemaking. Therefore, our proposed interpretation of sub sim for gasoline would interpret gasoline-ethanol blends containing up to 15 percent ethanol as sub sim, while keeping the oxygen content limit of 2.7 weight percent for other oxygenates. We seek comment on whether we should interpret sub sim to encompass other oxygenates and request any supporting data on the potential effects of other oxygenates on emissions, materials compatibility, and driveability of Tier 3 vehicles.

6. Other Aspects of the Proposed Interpretative Rulemaking

a. Effects of Proposed Interpretation of CAA sec. 211(h)(4)

The proposed new interpretation of “substantially similar” interpreting E15 to be sub sim to Tier 3 E10 certification fuel discussed in this section would make it lawful for refiners and importers to make and introduce into commerce E15 without the use of the E15 partial waivers. This proposed interpretation of “substantially similar” in conjunction with the proposed interpretation of CAA sec. 211(h)(4) would also extend the exemption from the CAA sec. 211(h)(1) upper RVP limit from 9.0 psi to 10.0 psi for fuels containing 9–15 percent ethanol.

As previously explained, the deemed to comply provision was promulgated at the inception of the RVP program when industry had just begun blending ethanol in gasoline and

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<sup>126</sup> It should also be noted that we chose to express the proposed increase in gasoline-ethanol content in terms of volume percentage versus converting to weight percent oxygenate. We did this for two reasons. First, as stated, we believe we only have data and information to support an interpretation for gasoline containing only ethanol up to 15 volume percent. Second, this avoids the issues associated with the variability in the density of gasoline.

reflects the highest permissible ethanol content under the waiver under CAA sec. 211(f)(4). Specifically, the deemed to comply provision applies where “the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4) of this section.”<sup>127</sup> A plain reading of this provision therefore, would suggest that it could not apply where the agency concludes that a fuel is substantially similar to certification fuels, under CAA sec. 211(f)(1). However, we seek comment on the continued use of the deemed to comply provision to ease the demonstration burdens for fuels that do not have a CAA sec. 211(f)(4) waiver, but nonetheless can be introduced into commerce because they are substantially similar to Tier 3 E10 certification fuel.

If we finalize our interpretation of substantially similar proposed in Section II.C, the 1-psi waiver would be available to fuel manufacturers, refiners, and importers, in contrast to the approach discussed in Section II.B, which would only allow downstream parties to take advantage of the 1-psi waiver. However, retailers that produce E15 via a blender pump would still have issues complying with EPA fuels regulations at 40 CFR parts 79 and 80 unless they made the E15 solely from DFE and certified gasoline (or CBOB).

b. Regulatory Amendments

The technical amendments to our regulations discussed in Section II.B.2, in the context of our first approach to allow the 1-psi waiver for E15 during the summer, would also be necessary were EPA to finalize a new interpretation of “substantially similar” that finds that E15 is sub sim to Tier 3 E10 certification fuel. The regulatory changes would be identical to those discussed in Section II.B.2, as those regulatory changes would be promulgated to effectuate our new interpretation of CAA sec. 211(h)(4). In short, we would promulgate regulatory amendments

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<sup>127</sup> CAA sec. 211(h)(4)(B).

modifying the ethanol content at 40 CFR 80.27 to blends of gasoline containing 9–15 percent ethanol. We would also promulgate regulations removing requirements implemented in the MMR relating to (1) comingling of E10 and E15; and (2) PTD requirements for E15 that would no longer be necessary were E15 to receive the 1-psi waiver. As discussed in Section II.B.2, all other regulations promulgated as part of the MMR would remain in place.

c. Potential Conditions as part of CAA sec. 211(f)(1) interpretative rulemaking

CAA sec. 211(f)(1)(A) prohibits fuel or fuel additive manufacturers from first introducing into commerce, or increasing the concentration in use of, any fuel or fuel additive for general use in light-duty motor vehicles which is not substantially similar to that utilized in the certification of motor vehicles or engines under CAA sec. 206. As explained above, we have interpreted the “substantially similar” provision several times to allow the introduction into commerce of certain fuel blends. 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. Given the fact that there have now been multiple certification fuels since 1977, when CAA sec. 211(f)(1) was first enacted, we believe it is reasonable to interpret this provision as allowing EPA to apply restrictions on a sub sim determination, where the restrictions are intended to avoid the kinds of problems that prompted the prohibition against introduction into commerce. We solicit comment on this approach, including comments on the specific conditions we should impose.

One implication of a sub sim interpretation that includes E15 under CAA sec. 211(f)(1) would be that a waiver under CAA sec. 211(f)(4) will no longer be necessary for E15 to be introduced into commerce. This would in effect remove the conditions of the E15 partial waivers imposed on fuel and fuel additive manufacturers, in the absence of any limitations on the sub sim

interpretation. This would mean that the conditions in the E15 partial waivers designed to limit the introduction into commerce of E15 to only MY2001 and newer light-duty motor vehicles would not apply. The need for the conditions on the E15 partial waivers may be partially mitigated because we have already put in place parallel restrictions in our regulations in the E15 MMR rulemaking at 40 CFR part 80, subpart N.<sup>128</sup> However, some conditions in the E15 partial waivers are not part of the MMR. One such condition is the requirement that fuel and fuel additive manufacturers have an EPA-approved misfueling mitigation plan (MMP) prior to introducing E15 into commerce. While MMPs generally commit fuel and fuel additive manufacturers to adhere to regulatory requirements of the MMR, MMPs also commit these manufacturers to participate in public outreach on the appropriate use of E15 and allow for specific, additional misfueling mitigation measures that may apply in a manufacturers specific situation. Another condition in the E15 partial waivers is that ethanol producers must manufacture denatured fuel ethanol that meets industry established quality standards if used to make E15. This requirement is not currently part of EPA's fuels regulations.

Furthermore, as discussed, the technical basis to deny the E15 waiver request for MY2000 and older motor vehicles and nonroad products and promulgate the MMR is unchanged and removing the conditions in the E15 partial waivers removes a layer of protection against the misfueling of these vehicles, engines, and equipment.<sup>129</sup> We denied the E15 waiver request for MY2000 and older motor vehicles, nonroad vehicles, engines, and equipment (including

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<sup>128</sup> As noted above, these restrictions remain necessary, and we are not proposing to lift the prohibition at 40 CFR 80.1504(a)(1) on the sale, introduction, or use of E15 into MY2000 and older light-duty motor vehicles, heavy-duty motor vehicles, or nonroad engines, vehicles, and equipment, nor are we proposing to remove any of the misfueling mitigation requirements in the E15 MMR. Consequently, those marketplace protections will be unaffected by this proposed action.

<sup>129</sup> See 75 FR 68127-68138 (November 4, 2010).

motorcycles, and heavy-duty motor vehicles) due to our engineering assessment that these vehicles, engines, and equipment may experience emissions failures over these vehicles, engines, and equipments' full useful lives. Also, as discussed above, in the MMR we concluded that under CAA sec. 211(c)(1)(A), the likely result would be increased VOC, CO, and NO<sub>x</sub> emissions were these particular engines, vehicles and equipment to use E15. The prohibitions and regulatory requirements were designed to help mitigate the misfueling of E15 in these vehicles.

There are still millions of MY2000 and older motor vehicles on the road (although they will over time make a smaller contribution to vehicle miles travelled) and hundreds of millions of pieces of nonroad equipment not designed for and prohibited from E15 use. The existing conditions on the E15 partial waivers under CAA sec. 211(f)(4) help ensure E15 fuel quality and mitigate the misfueling of vehicles, engines, and equipment and we believe it is appropriate to continue to impose the same conditions on parties that introduce E15 into commerce under a CAA sec. 211(f)(1) sub sim interpretative rulemaking. Therefore, we are proposing and seek comment on certain limitations, including those contained in the current CAA sec. 211(f)(4) waiver, as part of an interpretative rulemaking which defines E15 as substantially similar to Tier 3 E10 certification fuel under CAA sec. 211(f)(1).

Additionally, we seek comment on whether this proposed sub sim interpretation for E15 should be limited to the subset of the national vehicle and engine fleet to which the current E15 waivers apply (MY2001 and newer light-duty motor vehicles) or on which our assessment in Section II.C is based (i.e., only to vehicles and engines certified using Tier 3 E10 certification fuel). While we have not previously imposed conditions in substantially similar interpretative rulemakings designed to limit the applicability to certain classes of vehicles, engines, and equipment, for the reasons explained above, we are seeking comment in this case. The record has

not changed with respect to the inability of older vehicles, nonroad equipment, motorcycles, or heavy-duty trucks to use E15, which formed the basis of our denial of the E15 waiver request for such vehicles, engines, and equipment.

Furthermore, our assessment in Section II.C was limited to only Tier 3 E10 certification fuel used to certify MY2020 (some earlier) light-duty vehicles, not all in-use vehicles and engines that run on gasoline. Such a condition would be in recognition of the fact that, in contrast to the date when CAA sec. 211(f)(1) was enacted, not all gasoline vehicles and equipment are certified on the same gasoline. All other vehicles, engines, and equipment prior to Tier 3 used certification fuel without ethanol, and some nonroad vehicles, engines, and equipment are still certified using E0. A condition limiting the applicability of the sub sim interpretative rulemaking to vehicles certified on Tier 3 certification fuel would recognize the fact that most vehicles, engines, and equipment were not certified on E10, and prevent emission exceedances by limiting which vehicles, engines, and equipment could use E15 under the proposed sub sim interpretative rulemaking.

Finally, we seek comment on whether we can impose the existing waiver conditions in the E15 partial waivers, in their entirety, as conditions in the proposed substantially similar interpretative rulemaking. The conditions on the E15 partial waivers provide additional misfueling mitigation and fuel quality protections, which as mentioned above some stakeholders believe may need to be bolstered in the future as E15 becomes more available to consumers.

#### *D. E15 Misfueling Mitigation*

Some stakeholders have raised concerns since the President's announcement over whether the remaining E15 misfueling mitigation measures would be sufficient in light of this

proposed action.<sup>130</sup> These stakeholders suggested that a possible consequence of this proposed action would be an increase in the availability of E15 in the market resulting in an increase in the potential misfueling of E15 in nonroad vehicles, engines, and equipment and MY2000 and older light-duty vehicles. These stakeholders suggested that, in light of their concerns and advancements in technology since our MMR rule, we seek comment on a wide range of additional misfueling mitigation measures to help avoid the misfueling of E15.

While we believe additional misfueling measures are unnecessary at this time and outside the scope of this proposed action, we recognize that as E15 and other higher-level ethanol blends become more prevalent in the marketplace, the use of additional misfueling mitigation measures may be appropriate. We also recognize that additional misfueling mitigation measures would most likely place a significant burden on retailers, many of whom are small businesses, to upgrade fuel dispensers to implement physical barriers to E15 use or employ radio-frequency identification (RFID) technology. Therefore, we seek comment on whether additional misfueling mitigation measures would be appropriate and we specifically seek comment on the costs and benefits of such measures on affected parties.

*E. E15 Criteria Pollutant and Air Toxics Emission Impacts*

As discussed above, we expect the emissions of E15 to be substantially similar to those of E10 Tier 3 certification fuel when used in Tier 3 light-duty vehicles. This section describes expected emissions effects of the proposed action on evaporative and exhaust emissions of E15 relative to E10 typically available in the marketplace.

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<sup>130</sup> See “Joint Comments on E15 Education and Outreach” from the Outdoor Power Equipment Institute and the National Marine Manufacturers Association to EPA, January 29, 2019.



Evaporative emissions from vehicles comprise approximately 60 percent of the VOC emissions during summertime conditions from the current vehicle fleet based on results produced by MOVES2014b, and such VOC emissions contribute to ambient levels of ozone, PM, and air toxics, all of which endanger public health and welfare. Today's vehicles are equipped with charcoal canisters to capture vapors generated during refueling as well as daily diurnal temperature fluctuations. This stored vapor is then drawn into the engine and combusted during vehicle operation.

Currently and historically, vehicle manufacturers have been required to certify their vehicles on test gasoline with a volatility of 9.0 psi RVP under severe operating conditions similar to what might be expected on high ozone days. The evaporative emission standards have been progressively made more stringent over time, such that under the Tier 3 standards they require essentially zero vapor loss during normal operation on 9.0-psi fuel. Increasing fuel RVP from 9.0 psi to 10.0 psi increases fuel vapor generation significantly under summertime conditions, which can overwhelm a vehicle's evaporative control system and push it out of compliance. Consequently, controlling the volatility of gasoline during the summer is important in order to control the evaporative VOC emissions produced by vehicles and engines in-use.

This proposal changes the volatility standard that applies to E15 in-use from 9.0 psi to 10.0 psi RVP. Viewing this change in isolation, one might expect a significant increase in evaporative emissions. To accurately assess emission impacts in this case, however, we need to examine current real-world circumstances. Namely, we expect any E15 introduced into the market to displace E10 that is already being sold and that carries the 1-psi waiver in conventional gasoline areas (E10 has nearly 100 percent market share for gasoline sold in the U.S.). E15 has a slightly lower RVP than E10 when made from the same BOB, a situation we believe will be the

case unless E15 use becomes widespread.<sup>131</sup> Thus, to the extent that E15 displaces E10 in the short term, E15 is expected to lower the volatility of in-use gasoline by as much as 0.1 psi.<sup>132</sup>

Use of E15 blends will have other criteria pollutant emission impacts beyond those related to volatility described above. Assuming E15 is made from the same BOB as E10, we expect the additional 5 volume percent ethanol to further dilute hydrocarbon fuel components such as aromatics, producing changes in several exhaust emissions such as NO<sub>x</sub>, NMOG, and benzene.<sup>133, 134</sup> Ethanol also causes changes in the volatility profile of the blended fuel, typically lowering the mid-point distillation temperature (T50) significantly, and the 90 percent temperature (T90) slightly.<sup>135</sup> Table II.E-1 shows predicted fuel property and exhaust emission changes for Tier 2 vehicles using both E10 certification gasoline and a typical market E10 as baselines for comparison. Results using the EPA<sub>Act</sub> model developed from the EPA<sub>Act</sub>/V2/E-89 study described in Section II.C.5.a suggest E15 blends are expected to produce slightly lower CO, and slightly higher NO<sub>x</sub> and PM compared to their E10 blending base. Changes in NMOG (or VOC) vary in direction depending on the T50 of the blending base.

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<sup>131</sup> We believe it would be unlikely for refiners to produce an E15 CBOB for such a small difference in RVP. However, refiners may want to create a CBOB with a slightly lower octane level to account for the increased octane from the additional ethanol in E15 versus E10. We believe this would only occur if E15 comprised a large part of a conventional gasoline area's market.

<sup>132</sup> "Determination of the Potential Property Ranges of Mid-Level Ethanol Blends." American Petroleum Institute, Washington, DC. April 2010.

<sup>133</sup> For the effects of sulfur on emissions see Table ES-3 in "The Effects of Ultra-Low Sulfur Gasoline on Emissions from Tier 2 Vehicles in the In-Use Fleet." US EPA Office of Transportation and Air Quality, Ann Arbor MI. EPA-420-R-14-002, March 2014.

<sup>134</sup> For the effects of ethanol and aromatics on emissions see Tables ES-1 through ES-4 in "Assessing the Effect of Five Gasoline Properties on Exhaust Emissions from Light-Duty Vehicles Certified to Tier 2 Standards: Analysis of Data from EPA<sub>Act</sub> Phase 3 (EPA<sub>Act</sub>/V2/E-89): Final Report." US EPA Office of Transportation and Air Quality, Ann Arbor MI. EPA-420-R-13-002, March 2013.

<sup>135</sup> "Determination of the Potential Property Ranges of Mid-Level Ethanol Blends." American Petroleum Institute, Washington, DC. April 2010.

**Table II.E-1: Example emission impacts of E15 blends based on EPAAct model.**

	Fuel properties used in analysis					E15 emissions impact relative to indicated baseline			
	Eth. vol%	Arom. Vol%	RVP psi	T50 °F	T90 °F	CO	NMOG	NO <sub>x</sub>	PM
Baseline: E10 certification fuel at 9 psi	10.0	23.0	9.0	200	325				
E15 at 9 psi (splash)	15.0	21.9	9.0	163	321	-2.5%	-5.6%	1.8%	2.7%
E15 at 10 psi (splash)	15.0	21.9	10.0	163	321	-1.3%	-8.0%	1.8%	2.7%
Baseline: E10 market fuel at 10 psi	10.0	23.0	10.0	180	320				
E15 at 10 psi (splash)	15.0	21.9	10.0	160	316	-2.0%	2.2%	2.5%	4.0%
E15 at 10 psi (MOVES Fuel Wizard)*	15.0	21.7	10.0	167	318	-2.6%	1.4%	2.7%	4.1%

\*The MOVES Fuel Wizard attempts to estimate how properties would change in a widespread blending scenario.

If E15 use becomes widespread in the longer term, refiners may adjust the base blendstock to accommodate the additional ethanol. 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, and octane match-blending is understood to have been a contributing factor.<sup>136, 137</sup> For other fuel properties, such as sulfur and benzene content, refiner control could be relaxed slightly for E15 blendstocks with the finished market E15 blend still meeting with the regulatory limits. Moving from E15 splash blends to match blends may then undo some small emission reductions occurring when E15 is made from refinery blendstocks designed for E10.

<sup>136</sup> See Figure 3-4 of the Regulatory Impact Analysis for “Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards.” EPA-420-R-14-005, February 2014.

<sup>137</sup> See Figure 65 of “Fuel Trends Report: Gasoline 2006-2016.” EPA-420-R-17-005. October 2017.

*F. E15 Economic Impacts*

**1. Benefits for E15 RVP**

We anticipate that providing the flexibility to use E15 at 10.0 psi RVP in the summer could help incentivize retailers to introduce E15 into the marketplace. In situations where denatured fuel ethanol is cheaper than gasoline, parties may elect to make E15 more widely available, which may result in a modest decrease in fuel prices at the pump. This could help to further the use of increased volumes of renewable fuels under the RFS program, which in turn could provide energy security benefits.

**2. Costs for E15 RVP**

Our proposal to allow E15 to take advantage of the 1-psi waiver in the summer may help open new market opportunities for E15. However, fuel manufacturers and distributors of E15 would not be compelled to make or offer E15 and could choose to offer E15 as dictated by market demands and individual business decisions.

Overall, we anticipate very little change in costs regarding the proposed regulatory provisions to allow E15 to receive the 1-psi waiver in the summer. This action places no new regulatory burdens on any party in the gasoline or denatured fuel ethanol distribution system and modifies, but does not remove, PTD requirements for E15. Hence, we expect that these proposed provisions would not substantially alter the cost of compliance for parties that produce and distribute E15.

**III. RIN Market Reforms**

*A. Overview of RFS Compliance*

The RFS program began in 2006, pursuant to the requirements in CAA sec. 211(o) that were added through the Energy Policy Act of 2005 (EPAct). The statutory requirements for the

RFS program were subsequently modified through the Energy Independence and Security Act of 2007 (EISA), leading to the publication of major revisions to the regulatory requirements on March 26, 2010.<sup>138</sup>

Under CAA sec. 211(o), EPA is required to set renewable fuel percentage standards every year.<sup>139</sup> To comply, obligated parties<sup>140</sup> can purchase and blend the requisite volumes of renewable fuels into the petroleum-derived transportation fuels they produce or import. However, to allow the market to function more efficiently and avoid market disruption, in implementing the statutorily-required credit program, and to assist obligated parties in meeting their individual RVOs, Congress directed EPA to establish, through a transparent public rulemaking process, a system for the generation and use of renewable fuel program credits.<sup>141</sup> The credits created under this program are known as RINs. RINs are credits that are generated upon production of qualifying renewable fuel and ultimately used by obligated parties to demonstrate compliance. Renewable fuel producers and importers generate and assign RINs to the renewable fuel they produce or import. These RINs are then transferred with the renewable fuel to the downstream parties that blend the renewable fuel into transportation fuel. In lieu of blending the renewable fuels themselves to demonstrate compliance, obligated parties have the option to instead purchase RINs from other parties that blend renewable fuels.

The assigned RINs that accompany the renewable fuel can primarily be separated from the fuel if the fuel is purchased by an obligated party or blended into transportation fuel. Once separated, RINs can be traded as a separate commodity from the renewable fuel. Obligated

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<sup>138</sup> See 75 FR 14670 (March 26, 2010).

<sup>139</sup> See, e.g., final rule establishing the RFS standards for 2019 and biomass-based diesel volume for 2020 (83 FR 63704, December 11, 2018).

<sup>140</sup> Obligated parties are refiners and importers of gasoline and diesel fuel. See 40 CFR 80.1406.

<sup>141</sup> See CAA sec. 211(o)(5).

parties accumulate RINs over the course of the year, either by buying renewable fuel with assigned RINs that they separate and retain for compliance (and either blend the fuel themselves or rely on others to do on their behalf), or by purchasing separated RINs on the open market. All RIN transactions, including the generation of RINs, RIN trades, and the retirement of RINs to satisfy an obligated party's RVOs, are reported to EPA using the EPA Moderated Transaction System (EMTS).<sup>142</sup>

The annual RVOs for a given obligated party are calculated by multiplying the obligated party's total annual production and import of gasoline and diesel fuel by four annual percent standards corresponding to the four renewable fuel categories established by Congress.<sup>143</sup> Each obligated party must obtain sufficient RINs of each category to demonstrate compliance with its individual RVOs for the four annual percentage standards. Obligated parties comply on an annual average basis, through their annual compliance report to EPA that identifies their obligation based on gasoline and diesel production/import and identifies the RINs acquired and retired for that year's compliance. Thus, compliance under the RFS program requires obligated parties to understand how to calculate their individual obligations based on the four percentage standards, and then to plan for their annual compliance demonstration through RIN acquisition, either through blending or through trading, over the course of the year. There are also associated registration, reporting, and recordkeeping requirements.

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<sup>142</sup> Public EMTS data can be found on EPA's website at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard>.

<sup>143</sup> The 2019 percentage standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel are 0.230%, 1.73%, 2.71%, and 10.97%, respectively. The cellulosic and biomass-based diesel standards are nested within the advanced biofuel standard, which is itself nested in the total renewable fuel standard. This implies a conventional renewable fuel percentage standard of 8.26%. See 83 FR 63704 (December 11, 2018).

*B. RIN Market Assessment*

Renewable fuel producers and importers generate RINs by entering their renewable fuel production or import information into EMTS. When a renewable fuel producer or importer transfers ownership of the fuel to another party, the assigned RINs usually transfer as well. Both parties must report information about the RIN transaction to EMTS within five days of the transfer. Parties must also report in EMTS when they separate RINs from fuel, when they trade separated RINs with another party, and when they retire RINs for compliance or other reasons. EMTS effectively acts as an electronic platform that records RIN transactions, conducts RIN title transfers between parties, and maintains a RIN account balance for each registered party.

RINs are transacted through contracts or on the spot market, in bilateral trades directly between buyers and sellers, or facilitated by third-party brokers. EPA designed the RIN system to operate as a relatively “open” trading market in order to maximize liquidity and ensure a robust marketplace for RINs. For example, in establishing the original trading program, EPA attempted to provide as much compliance flexibility as possible and did not place limits on the number of allowable RIN trades, nor restrict the types of parties that could acquire and trade RINs. Several stakeholders from across the fuels industries supported the trading system we finalized in 2007.<sup>144</sup> In the RFS1 final rule preamble, we summarized the comments of several parties as saying “that unlimited trading among all interested parties would increase liquidity and transparency in the RIN market,” and “that increasing the number of participants would facilitate the acquisition of RINs by obligated parties and promote economic efficiency.”<sup>145</sup>

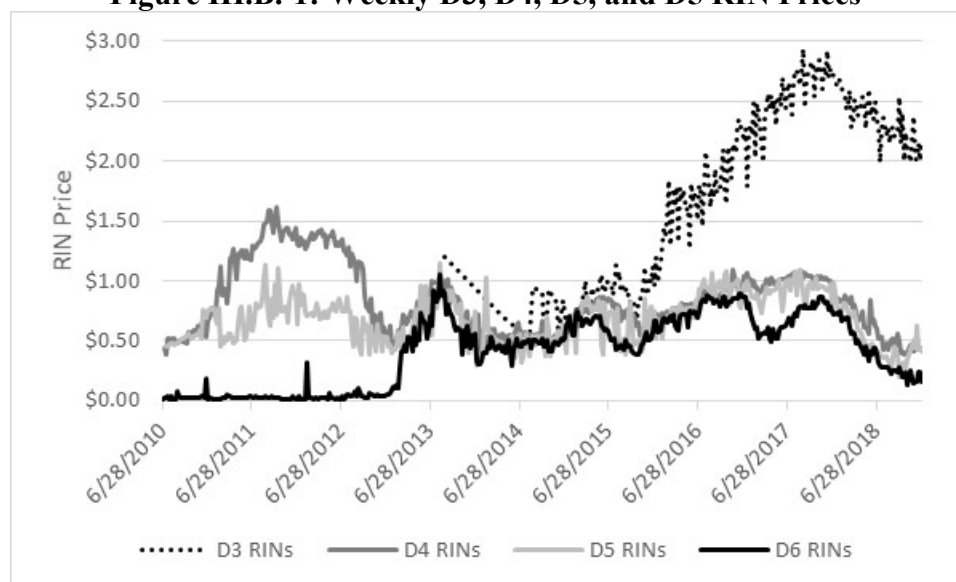
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<sup>144</sup> See Chapter 5.4.3 of “Regulation of Fuels and Fuel Additives: Renewable Fuel Standard Program – Summary and Analysis of Comments.” EPA 420-R-07-006, April 2007, available at <https://www.epa.gov/sites/production/files/2015-08/documents/420r07006.pdf>.

<sup>145</sup> See 72 FR 23944 (May 1, 2007).

Individual transaction prices are generally not made public, but some services, such as OPIS and Argus, offer daily price information on commodities such as RINs from a subset of parties that trade in the RIN market. The public can access this information for a fee paid to these service providers. Recently, EPA began posting aggregated weekly RIN price information reported to EPA through EMTS on our public website, which is updated monthly.<sup>146</sup> RIN prices are a function of multiple factors, including but not limited to changes in petroleum prices, agricultural feedstock (e.g., corn, soy) prices, and expectations of future market shifts and standards. RIN prices may also fluctuate as the market responds to RFS standards and expectations of future EPA policy decisions.

**Figure III.B.-1: Weekly D3, D4, D5, and D5 RIN Prices<sup>a</sup>**



<sup>a</sup> All data from EMTS and publicly available at: <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rin-trades-and-price-information>

<sup>146</sup> See <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rin-trades-and-price-information>. The RIN Price dataset shows historical, weekly, volume-weighted average RIN price data for separated RINs as reported to EPA through EMTS. Price filters are applied to the data set to remove outliers and data is aggregated to protect confidential business information.



While there are many different factors that impact RIN prices, a review of the historical RIN price data demonstrates that RIN prices generally follow expected market principles. For example, in the early years of the RFS program (2010–2012) D6 RIN prices (for mostly corn ethanol) were generally only a few cents. During this time, the implied conventional biofuel volume (the difference between the total renewable fuel volume and the advanced biofuel volume and the only volume to which D6 RINs can be applied) could be met by blending ethanol as E10. The blending of ethanol up to E10 was driven by economic factors rather than financial incentives provided by the RFS program.<sup>147</sup> First, ethanol has a relatively high octane value, and thus is attractive as a gasoline blendstock component. Second, ethanol was cheaper on a volumetric (per gallon) basis than gasoline during this time period, and it was therefore economic to blend at levels up to 10 percent. Third, though ethanol contains about one-third less energy than gasoline on a per-gallon basis, that fuel economy difference between E10 and gasoline without ethanol (E0) is relatively small (approximately 3 percent) and is largely unnoticed by consumers. In light of these factors, the blending of ethanol up to E10 was economically viable for blenders in these years. The D6 RIN price was therefore very low, approximately equal to the transaction costs of trading RINs between parties.

In 2013, however, the implied conventional biofuel volume established by the RFS program exceeded the volume of ethanol that could be blended into gasoline at a rate of up to 10 percent (the E10 blendwall). To meet the aggregate RVOs, obligated parties now needed to acquire RINs beyond those that were available from blending ethanol as E10. These additional RINs had to come from either blending ethanol into higher-level ethanol blends (e.g., E85) or

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<sup>147</sup> Until 2013, the price for D6 (conventional biofuel) RINs, the vast majority of which were generated for ethanol produced from corn starch, was negligible (See Figure III.B-1). The Volumetric Ethanol Excise Tax Credit was also available to ethanol blenders through 2011.

blending non-ethanol biofuels (such as biodiesel or renewable diesel beyond what was needed to satisfy the biomass-based diesel (BBD) and advanced biofuel volume standards). Blending ethanol into higher level blends, unlike the blending of ethanol into E10 blends, was not an economically viable practice in 2013 (nor is it currently) absent the incentives provided by the RFS program (i.e., the RIN price). Although ethanol has a higher octane value than gasoline, the existing vehicle fleet in the United States does not realize an additional benefit from the higher octane level of high ethanol blends such as E85. Further, consumers notice the decrease in fuel economy (between 15 and 27 percent) in such blends. This is because ethanol contains about one-third less energy than gasoline on a per-gallon basis. The sale of higher-level ethanol blends is also limited to flexible fuel vehicles, and relatively few retail stations offer these higher-level ethanol blends due to the combination of the high cost of the infrastructure upgrades to enable most existing stations to sell E85 and the low demand for E85, even among FFV owners.<sup>148</sup> The relatively low number of stations selling E85 has also hindered the competitiveness of the pricing of the few retail stations that do sell these blends. As a result, in most cases obligated parties have turned to additional volumes of biodiesel and renewable diesel instead of E85 or other higher level ethanol blends to meet their implied conventional biofuel volume obligation and therefore their total renewable fuel obligation.<sup>149</sup> D4 (BBD) RINs, generated for biodiesel and renewable diesel, have in effect served as a ceiling for D6 RIN prices since excess D4 RINs can be used to satisfy an obligated party's total renewable fuel obligation. As a result, the D6 RIN

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<sup>148</sup> Pouliot, S., Liao, K.A., Babcock, B.A.; "Estimating Willingness to Pay for E85 in the United States Using an Intercept Survey of Flex Motorists." Working Paper 16-WP 562, Center for Agricultural and Rural Development, Iowa State University, June 2018.

<sup>149</sup> While biodiesel and renewable diesel remain considerably more expensive than diesel fuel, the recently expired tax subsidy for them, coupled with a lesser infrastructure hurdle enabled them to be a more economical option than higher level ethanol blends in recent years.

price rose to just slightly below the D4 RIN price. With a few exceptions (such as in the first half of 2017) when the total renewable fuel obligation has been at or below the E10 blendwall, the D6 RIN price has generally moved in conjunction with the D4 RIN price since 2013.

D5 RIN prices similarly followed distinct pricing patterns prior to reaching the E10 blendwall in 2013 and in the years since 2013. Prior to reaching the blendwall, a significant volume of the D5 RINs were generated for imported sugarcane ethanol. Since sugarcane ethanol was generally more expensive to produce than corn ethanol (driven by high world sugar prices), the D5 RIN price generally reflected the price difference between corn ethanol and sugarcane ethanol during this time period. When the E10 blendwall was reached in 2013 it became much more expensive to blend additional volumes of ethanol (both for corn ethanol and sugarcane ethanol) since additional ethanol had to be sold in higher-level ethanol blends. As a result, the primary fuels used to satisfy the implied volume of “other advanced” biofuels (the remaining advanced biofuel volume after subtracting the required volumes of BBD and cellulosic biofuel) in 2013 and the following years have been biodiesel and renewable diesel. The D5 RIN price in these years has followed the D4 RIN price, with the few cents difference between the two RIN prices reflecting the fact that, unlike D4 RINs, D5 RINs can only be used towards an obligated party’s advanced biofuel and total renewable fuel obligations (and not the BBD obligation).

As with D6 and D5 RIN prices, D4 RIN prices generally follow expected market fundamentals. D4 RIN prices are generally equal to the difference between the market prices of biodiesel and petroleum diesel, after accounting for the biodiesel tax credit. For each year from 2010 through 2017, a \$1 per gallon biodiesel blenders tax credit from the Internal Revenue Service has also been available. In some years, such as 2013 and 2016, this tax credit was available prospectively (i.e., the tax credit was in place throughout the year). In other cases, such

as in 2012 and 2017, the tax credit was only available retroactively (i.e., the tax credit was not extended until near the end of the year or after the year had ended but applied to all qualifying biodiesel and renewable diesel blended in that year). The biodiesel blenders tax credit has not yet been extended to 2018 or 2019 by Congress.<sup>150</sup> For years in which the biodiesel tax credit was not in place prospectively, the D4 RIN prices generally reflected the market's confidence that the tax credit would ultimately be applicable. A recent paper investigating the price of D4 RINs and economic fundamentals further supports this view of the D4 RIN market stating that "movements in the D4 RIN price at frequencies of a month or longer are well explained by two economic fundamentals: the spread between the biodiesel and Ultra Low Sulfur Diesel prices and whether the biodiesel tax credit is in effect."<sup>151</sup>

Finally, the D3 RIN price has generally followed the combined prices of the cellulosic waiver credit (CWC) and the D4/D5 RIN price. Each year since 2010, we have reduced the required volume of cellulosic biofuel from the statutory volumes using the cellulosic waiver authority set forth in CAA sec. 211(o)(7)(D). When EPA takes this action, the statute requires that we make CWCs available for purchase to obligated parties at a price determined using a formula given in the statute. CWCs can be used to satisfy an obligated party's cellulosic biofuel obligation, but unlike a D3 (or D7) RIN, a CWC cannot be used towards satisfying an obligated party's advanced biofuel or total renewable fuel obligations. Thus, a D3 RIN has the "compliance equivalency" of a CWC plus a D5 (or D4) RIN. As expected, the D3 RIN price has generally been slightly less than the sum of the CWC price and the D4/D5 RIN price. This price point reflects the compliance certainty that the CWC offers (CWCs cannot later be determined to

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<sup>150</sup> As of February 28, 2019.

<sup>151</sup> Irwin, S.H., K. McCormack, and J. H. Stock (2018). "The Price of Biodiesel RINs and Economic Fundamentals," NBER Working Paper Series, Working Paper 25341.

be invalid) as well as the fact that CWCs can simply be purchased directly from EPA at the compliance deadline rather than purchased in relatively small quantities from biofuel producers or blenders.

Obligated parties that purchased RINs on the market for compliance in 2013 saw their D6 RIN prices substantially increase from the year prior (see Figure III.B.1). Though this increase in D6 RIN prices was the result of structural changes in the market, as described above, increasing D6 RIN prices did raise concerns regarding whether market manipulation played some role in elevated prices. Some RFS stakeholders petitioned EPA to change the definition of obligated party, arguing in part that the current point of obligation facilitates price manipulation. In response to those petitions, EPA conducted an extensive analysis of RIN prices and market dynamics. After studying the data, we concluded that RIN prices generally reflected market fundamentals and that obligated parties (including parties that purchase separated RINs) recover the cost of RINs in the market price of the gasoline and diesel fuel they sell.<sup>152</sup>

### *C. President's Directive*

Some RFS stakeholders have voiced concerns regarding whether elevated RIN prices and excessive RIN price volatility are being caused at least in part by some type of market manipulation. In comments to proposed EPA rulemakings, litigation filings and arguments, and via meetings with EPA staff, some stakeholders have described conditions that they believe make the RIN market vulnerable to anti-competitive behavior. For example, commenters have described a thin market volume, opaque price signals, and inelastic demand and supply curves

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<sup>152</sup> See “Denial of Petitions for Rulemaking to Change the RFS Point of Obligation” (2017), available at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100TBGV.pdf>.

and have provided specific examples of behavior they find manipulative, such as phantom RIN offers that suddenly vanish and reappear at higher prices after a party attempts to buy them at the purported asking price.<sup>153</sup> These stakeholders also speculate that, as a result of market conditions and price volatility, anti-competitive behavior is taking place. For example, commenters have argued that a small number of sophisticated market participants control a large number of “surplus” RINs that they hoard and use to squeeze the market.

We take these claims of market manipulation seriously and have taken formal action previously to investigate claims of manipulation. In March 2016, EPA entered into a Memorandum of Understanding (MOU) with the Commodity Futures Trading Commission (CFTC).<sup>154</sup> Under the MOU, we provided CFTC with certain RIN data for analysis in order to facilitate an EPA investigation.

Although we have yet to see data-based evidence of RIN market manipulation, the potential for such behavior is a concern, and we have already formally solicited comment from stakeholders on potential changes that might address such issues. In the 2018 RVO proposal, we broadly sought input on potential regulatory changes related to RIN trading as well as on ways to increase program transparency.<sup>155</sup> We received comments from stakeholders suggesting a number of regulatory changes related to who may purchase RINs, the duration for which RINs could be held, and other potential requirements related to the buying, selling, or holding of RINs. We also received a number of suggestions for increasing the amount of data related to the RIN

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<sup>153</sup> See, e.g., comments from Monroe Energy (Docket Item No. EPA-HQ-OAR-2018-0167-0622).

<sup>154</sup> See “Memorandum of Understanding Between the Environmental Protection Agency and the Commodity Futures Trading Commission on the Sharing of Information Available to EPA Related to the Functioning of Renewable Fuel and Related Markets” (2016), available at <https://www.epa.gov/sites/production/files/2016-03/documents/epa-cftc-mou-2016-03-16.pdf>.

<sup>155</sup> See 82 FR 34206 (July 21, 2017).

market that we make publicly available. We evaluated these ideas, and in the 2019 RVO proposal, we listed those that were under consideration for implementation at that time, including: prohibiting parties other than obligated parties from purchasing separated RINs; requiring public disclosure if a party holds a certain percentage of the RIN market; requiring obligated parties to retire RINs for compliance purposes on a more frequent basis; and publicly posting information on RIN prices, small refinery exemptions, and RIN holdings by different categories of entities.<sup>156</sup> We requested comment on the expected impact that these specific changes could have on the RIN market, either positively or negatively.

We received many comments in support of publicly posting more RFS program data. In response, in September 2018, we began publishing weekly aggregated RIN prices, as reported in EMTS by sellers and buyers, as well as weekly aggregated transaction volumes. We believe publishing as much data and information on the RIN market as possible, while still protecting confidential business information, improves market transparency and helps obligated parties and other market participants make informed decisions. We also believe that these data can reduce information asymmetry among market participants increasing confidence in the market. In addition, we began publishing information on small refinery exemption requests received and granted by EPA and the volumes of gasoline and diesel fuel exempted. This helped all obligated parties account for the potential volume exempted under these provisions and make adjustments to their compliance strategies accordingly.

We also received a wide variety of comments regarding the other ideas we put forth for comment in the 2019 RVO: prohibiting parties other than obligated parties from purchasing

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<sup>156</sup> See 83 FR 32024 (July 10, 2018).

separated RINs, requiring public disclosure if a party holds a certain percentage of the RIN market, and requiring obligated parties to retire RINs for compliance purposes on a more frequent basis. Some commenters expressed support for these ideas and offered others for our consideration while some commenters opposed both the specific reform proposals and the general concept of interfering with the open RIN market in any way. Summaries of, and responses to, those comments are included throughout this action as we explain the rationale behind the proposals we are making today.

On October 11, 2018, President Trump issued a White House statement<sup>157</sup> explaining that EPA was being directed to initiate a rulemaking to address RIN price manipulation claims and increase transparency in the RIN market. Specifically, the memorandum directs EPA to consider potential reforms to the RIN regulations, including but not limited to the following proposals:

- Prohibiting entities other than obligated parties from purchasing separated RINs.
- Requiring public disclosure when RIN holdings held by an individual actor exceed specified limits.
- Limiting the length of time a non-obligated party can hold RINs.
- Requiring the retirement of RINs for the purpose of compliance be made in real time.

Pursuant to this directive, we are proposing these reforms.

#### *D. Objectives*

We are interested in ensuring that the RIN market works efficiently and is free of anti-competitive behavior. We affirm that price manipulation through anti-competitive behavior,

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<sup>157</sup> See “President Donald J. Trump is Expanding Waivers for E15 and Increasing Transparency in the RIN Market” Fact Sheet, available at: <https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-expanding-waivers-e15-increasing-transparency-rin-market>.



similar to what is referred to as cornering or squeezing the market, and false or misleading representations in transactions, is antithetical to effective market operation and should be discouraged.<sup>158</sup> Were such anti-competitive behaviors to occur, it could undermine the confidence of market participants in the RIN market and undermine the RFS program itself. Consequently, in this action, we are proposing regulatory changes based upon the President’s Directive that could help prevent anti-competitive behavior. For each reform, we evaluated comments already submitted to EPA describing its advantages and disadvantages. We also evaluated how a reform could be designed and implemented, whether a reform could be gamed or have unintended consequences, and what potential burden and cost it could place on regulated parties and on EPA. In Section III.E, we describe our evaluation in detail for each reform, including sharing comments received from stakeholders on similar market reform ideas solicited in prior rulemakings.

EPA designed the RIN system and regulations to maximize compliance flexibility and market liquidity. We realize that new market restrictions could impact that flexibility and liquidity. For example, we note the numerous comments received on the 2019 RVO rule stating that changes to the RIN market structure could reduce liquidity, increase volatility, and make the

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<sup>158</sup> Such behaviors may also violate the anti-fraud and anti-manipulation provisions of the Commodity Exchange Act. See, e.g., Section 9(a)(2) of the CEA, 7 U.S.C. § 13(a)(2) (2012), states that it is a felony for “Any person to manipulate or attempt to manipulate the price of any commodity in interstate commerce...or to corner or attempt to corner any such commodity or knowingly to deliver or cause to be delivered for transmission through the mails or interstate commerce by telegraph, telephone, wireless, or other means of communication false or misleading or knowingly inaccurate reports concerning crop or market information or conditions that affect or tend to affect the price of any commodity in interstate commerce.” Section 6(c)(1) of the CEA, 7 U.S.C. § 9(1) (2012), titled Prohibition against manipulation, states that “it shall be unlawful for any person, directly or indirectly, to use or employ, or attempt to use or employ, in connection with...a contract of sale of any commodity in interstate commerce...any manipulative or deceptive device or contrivance....”

RIN market function less efficiently, increasing costs to obligated parties and consumers.<sup>159</sup> In addition, a white paper on the President’s Directive recently released by the American Petroleum Institute (API) cautions that “the proposed regulatory changes are likely to create additional significant problems of their own” and that “history suggests that regulatory agencies should be extremely cautious in changing established rules in regulated markets.”<sup>160</sup> Interested stakeholders have also suggested that some reforms could impact the ability of small, less recognized, or new renewable fuel producers and blenders to enter the market. Finally, we understand that some reforms could inadvertently affect otherwise legitimate market behavior. For example, parties that make a profit on the RIN market are not necessarily conducting manipulative or anti-competitive behavior and may very well be increasing market efficiency and liquidity with their actions. Therefore, we have taken into consideration the potential for reforms to harm the RIN market in this proposed action.

We are proposing regulatory changes in this action for all four reforms identified in the President’s Directive and request comments on both the positive and negative consequences of each reform. We intend to finalize the reforms that we conclude are beneficial for the RFS program, the RIN market, and the RFS stakeholders, and do not impose unnecessary burden. For all four reforms outlined in this action, we focus on separated RINs only; we believe the physical storage limitations faced by renewable fuel already reduce the opportunity for price manipulation of assigned RINs and that the existing regulations at 40 CFR 80.1428 already include anti-hoarding provisions for RINs attached to renewable fuel. Furthermore, for each of the four

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<sup>159</sup> See, e.g., comments to the 2019 RVO rule from Steptoe & Johnson LLP on behalf of the National Association of Convenience Stores (NACS) and the Society of Independent Gasoline Marketers of America (SIGMA), BP, and American Petroleum Institute (API) in Docket No. EPA-HQ-OAR-2018-0167.

<sup>160</sup> See “An Analysis of the Renewable Fuel Standard’s RIN Market”, Covington & Burling LLP, February 15, 2019, available at <https://www.api.org/~media/Files/Policy/Fuels-and-Renewables/2019/RIN-market-paper.pdf>.

reforms, we evaluate whether we should limit the proposed regulatory provision to D6 RINs only. Stakeholder concerns over market manipulation focused mainly on D6 RINs because, as described in Section III.B, in 2013 the overall demand for RINs increased due to the increased RVO set in the statute while the supply of D6 RINs remained nearly flat due to the E10 blendwall.<sup>161</sup> D6 RINs are also the predominant RIN type generated, and therefore impacts on D6 RIN prices have much larger consequences for obligated parties than impacts on the prices of other RIN types.<sup>162</sup> For each reform discussed in Section III.E, we explain whether it is feasible to propose that the reform apply to D6 RINs only and our rationale. We seek comment on narrowing the scope of the proposals in this action to D6 RINs only.

#### *E. Proposed Approach to Individual Regulatory Reforms*

For each potential reform, we discuss the basic concept, its implications for the program and marketplace, the scope and design of the specific regulatory modification in question, and other relevant details. Broadly speaking, EPA is interested not only in comments on specific individual reforms, but also on how the various reforms might work in combination, and the degree to which the reforms provide, or detract from, symmetry in the marketplace, so that one set of actors is not advantaged at the expense of another set operating in the same market.

##### **1. Reform One: Public Disclosure If RIN Holdings Exceed Certain Threshold**

The first potential reform from the President's Directive that we address in this action is a requirement for public disclosure when a party's RIN holdings exceed a certain threshold. The fundamental concept underpinning this reform is that increased transparency can help deter market actors from amassing an excess of separated RINs, which due to the concentration in

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<sup>161</sup> We acknowledge that the stock of D6 RINs has fluctuated over time due to market shifts, EPA actions, and other factors, and that a larger stock of RINs puts downward pressure on RIN prices.

<sup>162</sup> According to data from EMTS approximately 78 percent of all RINs generated in 2018 were D6 RINs.

ownership of available supplies could result in undue influence or market power. This reform could also let market participants know the underlying status of the market. A concentration of separated RINs, if sufficiently large in scope, could be used by a party to manipulate the market by artificially affecting prices in any direction. The most extreme examples of market power are monopolies, but concentration can be a concern even for markets with many participants when only a few control the majority of available supply at any given point in time.

In this action, we are proposing to set two thresholds that would work in tandem to identify parties that have amassed RINs in excess of normal business practices, which could indicate an intent to assert an inappropriate influence on the market. These thresholds would apply to holdings of separated D6 RINs only. The first threshold would be triggered if a party's end-of-day separated D6 RIN holdings exceeded three percent of the total implied conventional biofuel volume requirement (e.g., 15 billion gallons for compliance year 2018) set for that year by EPA in the RVO rule, which is the total renewable fuel volume requirement minus the advanced fuel volume requirement. A party without an RVO (a non-obligated party) that triggered the first threshold would notify EPA of an exceedance at the end of the quarter. An obligated party that triggered the first threshold would apply the second threshold by comparing its end-of-day separated D6 RIN holdings with 130 percent of its individual implied conventional RVO. Only obligated parties that triggered both the first and second thresholds would notify EPA of an exceedance at the end of the quarter. In this action, we are proposing to publish on our website on a quarterly basis the names of any parties that report exceeding the thresholds. We are also proposing that the RIN holdings of corporate affiliates be included in a party's calculations to determine if they trigger a threshold. The definition of corporate affiliate,

calculation of the thresholds and specifics of the reporting requirements are discussed in more detail below.

The purpose of putting into place a disclosure requirement is twofold: first, to provide transparency in the market regarding how often certain RIN position thresholds are reached and exceeded, and second, to disincentivize such behavior by requiring public disclosure. If the threshold were ever exceeded, public disclosure would alert market participants and where appropriate prompt a closer review of the circumstances by EPA. Were the threshold to be exceeded, we could then consider further actions to investigate for anti-competitive behavior and help prevent similar behavior in the future. We seek comment on what those further actions might entail, including actions to address concerns within the broader RIN market generally.

It is important to emphasize that we use the term “threshold” in this proposed regulatory modification to mean a level that may be exceeded, with only a disclosure consequence if exceeded. We use the term “limit” in this action to mean a level that may not be exceeded, with a potential enforcement consequence if exceeded. As an alternative to the RIN holding thresholds we are proposing, we seek comment on establishing a RIN holdings limit, whereby we would prohibit parties from holding more than a certain level of RINs. Other marketplaces have established such limits, and we discuss the distinction, as well as the reasons for pursuing the threshold/disclosure approach, below. We seek comment on this alternative proposal and on the issue generally.

Regulatory bodies supervising markets regularly take measures to prevent excessive market power, and it is useful when considering new regulations in the RIN market to assess the tools used in other comparable areas. Tools used in other markets to accomplish similar market power-limiting objectives include collecting market participant data, conducting market

surveillance, publicly disclosing market information, and restricting the activity of certain market participants. Physical commodity markets are not typically regulated with holdings thresholds or limits, however, because the physical restrictions to hoarding, like limited physical storage space, obviate the need for regulatory restriction and oversight. Rather, holding thresholds and limits are usually reserved for futures and derivative markets where such physical constraints do not serve as a check on market concentration. For example, the CFTC currently maintains limits on the number of open positions<sup>163</sup> that parties can take at a given time in nine agricultural markets.<sup>164</sup> Other entities registered with the CFTC, called Exchanges, impose and enforce position limits on a large number of remaining futures and options.

RINs do not fall neatly into either category; they are neither limited by physical storage space nor a derivative. In looking for analogs in other regulated markets, it is therefore helpful to see how other environmental allowance markets operate for purposes of comparison. For this action, we looked at other environmental credit programs and their markets to better understand options for the RIN market and found that different markets operate with different approaches. For example, the California Air Resources Board (CARB) enforces an allowance holding limit in the California Cap-and-Trade Program for greenhouse gas emissions;<sup>165</sup> the Regional Greenhouse Gas Initiative (RGGI)<sup>166</sup> enforces a credit purchasing limit in the RGGI cap-and-

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<sup>163</sup> An open position refers to a contract for the purchase or sale of a commodity for future delivery. See CFTC Regulation 150.2, 17 CFR 150.2 (2012), available at [https://ecfr.io/Title-17/se17.2.150\\_12](https://ecfr.io/Title-17/se17.2.150_12).

<sup>164</sup> See CFTC Regulation 150.2, 17 CFR 150.2 (2012), available at [https://ecfr.io/Title-17/se17.2.150\\_12](https://ecfr.io/Title-17/se17.2.150_12).

<sup>165</sup> More information on California's Cap and Trade program can be found at <https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>. Information about the allowance holding limit can be found in "Facts About Cap and Trade: Market Oversight and Enforcement" (2011), available at [https://www.arb.ca.gov/cc/capandtrade/market\\_oversight.pdf](https://www.arb.ca.gov/cc/capandtrade/market_oversight.pdf).

<sup>166</sup> The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to cap and

trade program credit auctions; and the Government of Canada enforced a limit in its Federal Renewable Fuels Regulations on the number of compliance credits a primary supplier can own at the end of each month.<sup>167</sup> On the other hand, neither EPA’s Acid Rain Program<sup>168</sup> nor California’s Low Carbon Fuel Standard (LCFS)<sup>169</sup> has limits or thresholds on allowance or credit holdings, and we are unaware of any state Renewable Portfolio Standard (RPS) program<sup>170</sup> that enforces a renewable energy credit holding threshold or limit.

a. Implications and Discussion

We believe that requiring public disclosure by parties that exceed a certain RIN holding threshold could prove beneficial for the market as a whole. It could disincentivize parties from gaining market power, signal potentially harmful behavior to competitors, regulators, and policy makers, and be used to justify stronger preventative actions. However, this reform could also have detrimental effects, especially if not designed properly. Excess market power is very difficult to quantify in any given market, even if regulators have perfect knowledge of all market conditions. A real risk exists of setting a RIN holding threshold in this rulemaking incorrectly. If a threshold is set too low, it could unnecessarily compromise market efficiency and liquidity and interfere with obligated parties’ ability to comply with regulations by disincentivizing them from

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reduce CO<sub>2</sub> emissions from the power sector. More information on RGGI can be found at <https://www.rggi.org>. Information about the credit purchasing limit can be found in “CO<sub>2</sub> Allowance Auctions Frequently Asked Questions” (2017), available at [https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/38/RGGI\\_CO2\\_Allowance\\_Auction\\_FAQs\\_Jan\\_10\\_2017.pdf](https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/38/RGGI_CO2_Allowance_Auction_FAQs_Jan_10_2017.pdf).

<sup>167</sup> More information on Canada’s Federal Renewable Fuel Regulations, including about the credit limit, can be found in “Questions & Answers on the Federal Renewable Fuels Regulations” (2012), available at <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/revised-questions-answers-renewable-fuels.html>.

<sup>168</sup> More information on EPA’s Acid Rain Program can be found at <https://www.epa.gov/airmarkets/acid-rain-program>.

<sup>169</sup> More information on California’s LCFS Program can be found at <https://www.arb.ca.gov/fuels/lcfs/lcfs.htm>.

<sup>170</sup> An RPS is a regulatory method mandating utility companies operating within a certain jurisdiction to increase production of energy from renewable resources. More information on RPS programs can be found in “Chapter 5. Renewable Portfolio Standards” of “EPA Energy and Environment Guide to Action” (2015), available at [https://www.epa.gov/sites/production/files/2017-06/documents/guide\\_action\\_full.pdf](https://www.epa.gov/sites/production/files/2017-06/documents/guide_action_full.pdf).

holding the necessary quantity of RINs to meet their RVO. We therefore believe that a threshold with a consequence of public disclosure is appropriate rather than a holding limit with an enforcement consequence. A threshold serves as a deterrent and warning bell without the risk of unnecessarily causing harm. We also believe that, in the face of insufficient evidence of any identified parties currently exhibiting what might be considered excessive market power, public disclosure is an appropriate first action. EPA could follow up with more restrictive measures later if warranted and seeks comment on what follow-up actions might be appropriate.

The following sections outline the various considerations we made in designing this proposed measure.

b. Scope

As discussed in Section III.D, for each of the four potential reforms, we evaluated whether we could limit the scope of the measure to D6 RINs. For this provision of publicly disclosing when a party exceeds a RIN holding threshold, we concluded that we could limit its scope to D6 RINs without compromising its intended effect. Also, we believe that we can practically design and propose a maximum D6 RIN holding threshold without setting one for D3, D4, or D5 RINs. Not only have D6 RINs raised the most stakeholder concern, as discussed above, but the nested nature of the RVOs and the unique characteristics of other RIN markets (e.g., D3) would make covering all RIN categories considerably more complicated. As also discussed in Section III.D, we are further limiting our proposal of this measure to separated RINs because we believe the physical storage limitations faced by renewable fuel already reduce the opportunity for price manipulation of assigned RINs and that the existing regulations at 40 CFR 80.1428 already include anti-hoarding provisions for RINs attached to renewable fuel. Finally,



we are proposing that this threshold cover any vintage D6 RINs that are available for compliance with the current year RVO. We seek comment on these proposed aspects of this reform.

c. Methodology for the RIN Holding Threshold<sup>171</sup>

In this action, we are proposing to set two holding thresholds. As stated above, it is extremely difficult to pinpoint a specific market share that would equate to concerning market power. Therefore, we approach this reform by instead estimating the holding level that we believe would be consistent with legitimate market needs. We recognize that legitimate holdings for obligated parties relate to the number of RINs they need for compliance with their RVO, so we logically conclude that an obligated party threshold should relate to its RVO. We also recognize that non-obligated parties have no RVO and require a different threshold methodology. Non-obligated parties have less need to hold RINs than obligated parties because they have no compliance use for them, so we believe their threshold should generally be set lower. Thus, we believe one lower threshold that covers everybody and a second higher threshold that adjusts to the compliance needs of obligated parties together would adequately constrain a market with a very wide range of participants. Both non-obligated parties and obligated parties would be held to similar incentives.

We are proposing a primary D6 RIN holding threshold for all RIN-holding parties relative to the implied conventional biofuel volume requirement finalized by EPA each year. We determine the implied conventional biofuel volume requirement by subtracting the advanced fuel volume requirement from the total renewable fuel volume requirement because D6 RINs can only be used to meet the implied conventional biofuel portion of the total RVO. For example, if

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<sup>171</sup> We refer to the threshold in the singular in the title to describe the overall policy, but as described in this section, we are actually proposing a dual threshold approach.

the implied conventional biofuel volume requirement were 15 billion in a given year, a certain percentage of 15 billion would be the primary threshold for that year. A threshold relative to the volume requirement adjusts over time to the size of the annual standard rather than to the number of RINs in the market. The benefit of this approach is that the volume requirement does not change, so parties know exactly what level to avoid at all times. This approach is similar to the calculation of the allowance holding limit used in the linked cap-and-trade programs implemented by California and Quebec.<sup>172</sup>

In this action, we are proposing to set a secondary threshold for obligated parties. We recognize that larger obligated parties with large RVOs have valid reasons to accumulate and hold a volume of RINs that might exceed the primary threshold, not only to meet their next annual compliance obligation but also to bank additional RINs for compliance with the following year's obligation. As explained in Section III.D, many instances of RIN accumulation are legitimate and are not related to price manipulation, making it that much harder for regulators to pinpoint the instances of RIN accumulation that are not based on legitimate commercial or compliance needs. For example, parties that anticipate an increase in the price of RINs and/or the quantity of RINs they will need for compliance purposes in future years may choose to acquire RINs beyond their needs for the current year for use in the following year. Therefore, we recognize that the threshold would have to somehow account for and allow RINs held to meet compliance obligations. For example, exemptions to position limits in futures and options markets are granted by the CFTC or Exchanges on a case-by-case basis to parties that

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<sup>172</sup> See "Facts About Holding Limit for Linked Cap-and-Trade Programs" (September 14, 2018), available at [https://www.arb.ca.gov/cc/capandtrade/holding\\_limit.pdf](https://www.arb.ca.gov/cc/capandtrade/holding_limit.pdf).

demonstrate valid commercial stakes in the underlying physical market.<sup>173</sup> In addition, parties that are covered by the cap and have an emissions compliance obligation under the California Cap-and-Trade Program are allowed to hold more allowances than parties not covered by the cap. While all parties participating in the California Cap-and-Trade Program are subject to the same fixed annual holding limit, parties with a compliance obligation qualify for a limited exemption from the holding limit. Allowances placed in a covered entity's compliance account (from which the entity can no longer remove or trade allowances) up to the limited exemption do not count against the holding limit. The limited exemption is based on lagged values of the entity's reported emissions and is large enough to cover the entity's cumulative emissions obligations. This ensures that entities with compliance obligations greater than the holding limit can still acquire and hold compliance instruments to comply with their obligations.<sup>174</sup> We seek comment on the general concept of a secondary threshold for obligated parties in the RFS program.

d. Setting the Primary Threshold

We are proposing that all RIN-holding parties would be subject to a primary threshold for disclosure. We are proposing one approach to calculating the primary threshold that adjusts depending on how many RVOs are in effect. For anytime between April 1 and December 31, when only one set of annual RVOs is in effect, we are proposing that the primary threshold would equal three percent of the annual implied conventional biofuel volume requirement established by EPA in a rule promulgated each year to set the annual renewable fuel standards.

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<sup>173</sup> A position limit refers to a limit on the number of contracts for the purchase or sale of a commodity for future delivery a party can hold. See CFTC Regulation 150.2, 17 CFR 150.2 (2012) at [https://ecfr.io/Title-17/se17.2.150\\_12](https://ecfr.io/Title-17/se17.2.150_12).

<sup>174</sup> See "Facts About Limited Exemption from the Holding Limit" (December 1, 2017), available at [https://www.arb.ca.gov/cc/capandtrade/limited\\_exemption.pdf](https://www.arb.ca.gov/cc/capandtrade/limited_exemption.pdf).

In our hypothetical example, this would amount to three percent of 15 billion D6 RINs, or 450 million D6 RINs. For anytime between January 1 and March 31, when two sets of annual RVOS are in effect, we are proposing that the primary threshold would be three percent of 125 percent of the annual implied conventional biofuel volume requirement. We are proposing that the threshold in the first quarter of the year should be 125 percent of the other months because parties may need to hold RINs for two overlapping RVOs in that quarter rather than just one. In our hypothetical example, this would amount to three percent of 18.75 billion D6 RINs, or 562.5 million D6 RINs. We propose that a party's RIN balance at the end of each day in EMTS would be combined with any RINs in pending trades at the end of the day. We seek comment on this approach.

To determine the primary threshold of three percent, we considered thresholds in other programs as well as an analysis of RFS RIN holdings. We looked at the linked cap-and-trade programs implemented by California and Quebec as examples. They use a formula that calculates a holding limit of about three percent of their combined annual allowance budgets every year.<sup>175</sup> Based on our discussions with CARB concerning the implementation and effectiveness of that threshold, we are proposing a similar level. We therefore conclude that a holding limit or threshold of three percent of an allowance or credit standard can identify parties which have acquired RIN holdings larger than necessary for normal business operations and which may indicate an effort to assert inappropriate market power. To help inform our assessment of a three-percent threshold, we conducted a screening analysis using individual-level data to evaluate historical market shares. Specifically, we looked at daily D6 RIN holdings

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<sup>175</sup> See calculation in the memorandum, "California and Quebec Holding Limit Percentages," available in the docket for this action.

aggregated by company between April 1, 2017 and April 1, 2018, compared to the overall market. For simplicity, we looked at D6 RINs of all vintages. Using our proposed equations for the primary threshold, we found that in that one-year period, 13 out of 126 obligated parties would have exceeded the three percent primary threshold. None of the 280 non-obligated parties that held separated D6 RINs in that time period exceeded the three percent primary threshold.<sup>176</sup>

We seek comment on the general approach of setting the primary D6 RIN holding threshold relative to the implied conventional biofuel volume requirement and the specific application of a three-percent threshold. We also seek comment on the actual thresholds that this calculation generates, whether it is appropriate, and whether it could harm any market participants and, if so, how. We also considered setting two primary thresholds, one for obligated parties set at three percent and a lower one for non-obligated parties set at one percent (an obligated party would still apply the secondary threshold if it exceeded its primary threshold). In our hypothetical example, a one percent threshold would amount to 150 million RINs from April 1 to December 31 and 188 million RINs from January 1 to March 31. We considered this approach because a one percent primary threshold for non-obligated parties could potentially meet the objectives outlined in Sections III.E.3 and III.E.4 in a simplified and more streamlined way than the various reforms proposed in those sections. In our screening analysis, we found that two non-obligated parties would have exceeded the one percent threshold during the time period analyzed, though we did not consider whether the parties were affiliated with an obligated party,

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<sup>176</sup> See calculation in the memorandum, “Threshold Calculations for D6 RIN Holding Parties,” available in the docket for this action.

as described below.<sup>177</sup> We seek comment on this considered approach of limiting non-obligated parties using just one reform, a lower primary threshold of one percent.

We considered but are not proposing setting a threshold relative to total separated D6 RINs available in the market. The downside of this approach is that the quantity of total available RINs changes continuously, and it is not possible for market participants to know what it is at every moment. This makes it difficult to calculate the threshold at any given time. Another downside of this approach is that it uses all unretired, separated D6 RINs as a proxy for available D6 RINs because that is the best information that either the market or EPA has. If a party were to keep D6 RINs off the market, as is alleged by some parties, then our proxy would become an overestimate of the actual number of D6 RINs available. Thus, this approach would underestimate a party's market share. In considering this approach, we also could not find a universal standard for the level of market share that constitutes an inappropriate or concerning level of market power. The only example we could find of another environmental credit program that implements a market share limit is the RGGI program, which applies a 25-percent limit to the number of credits a party can purchase at a single credit auction.<sup>178</sup> Though this is not a holding limit or threshold per se, it is a limit that relates to preventing a party from establishing undue market power. Therefore, if we were to choose this approach to setting a threshold in the final rule, we would consider a D6 RIN holding threshold at or around 25 percent of total

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<sup>177</sup> See calculation in the memorandum, "Threshold Calculations for D6 RIN Holding Parties," available in the docket for this action.

<sup>178</sup> See "CO<sub>2</sub> Allowance Auctions Frequently Asked Questions" (January 10, 2017), available at [https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/38/RGGI\\_CO2\\_Allowance\\_Auction\\_FAQs\\_Jan\\_10\\_2017.pdf](https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/38/RGGI_CO2_Allowance_Auction_FAQs_Jan_10_2017.pdf).

available D6 RINs. In our screening analysis, we compared maximum individual end-of-day D6 RIN holdings in every quarter between 2013 and 2018 to total available D6 RINs in that quarter. We looked at all, non-expired D6 RINs regardless of the year in which they were generated.<sup>179</sup> We found that the maximum market share over that entire time period, by any individual RIN holder, was 18 percent. In other words, on one day, one party held 18 percent of the 9.9 billion D6 separated RINs available on that day. In that particular case, an obligated party hit the 18-percent level in the first quarter of 2017, at a time when other obligated parties were retiring hundreds of millions of RINs in single EMTS transactions for the upcoming compliance deadline. This activity dropped the total available RINs in the market suddenly and drastically. Setting aside those periods of time where significant and sudden RIN retirements were occurring, the maximum level of D6 RINs that any one party held at a time was between 10 and 14 percent of all D6 RINs.<sup>180</sup> These figures are commensurate with the gasoline and diesel production market share of the largest refiners. We seek comment on our proposal to set the primary threshold relative to the annual implied conventional biofuel volume requirement and on the alternative approach considered but not proposed.

e. The Secondary Threshold

If a RIN-holding party exceeded the primary threshold, it would indicate that its D6 RIN holdings were a sizeable share of the market. For parties with no RVO, this would signal a

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<sup>179</sup> CAA sec. 211(o)(5) requires that EPA establish a credit program as part of its RFS regulations, and that the credits be valid to show compliance for 12 months as of the date of generation. EPA implemented this requirement through the use of RINs, which can be used to demonstrate compliance for the year in which they are generated or the subsequent compliance year. Obligated parties can obtain more RINs than they need in a given compliance year, allowing them to “carry over” these excess RINs for use in the subsequent compliance year, although use of these carryover RINs is limited to 20 percent of the obligated party’s RVO.

<sup>180</sup> The full analysis is detailed in the memorandum, “Daily Comparison of Individual RIN Holdings to Total Available RINs,” available in the docket for this action.

position that could potentially command market power with the potential to artificially influence price. For obligated parties, however, a second test would be needed to evaluate their holdings against their compliance obligation because that could explain their sizeable holdings. For the secondary threshold, we are proposing that an obligated party would compare its implied conventional biofuel RVO to its D6 RIN holdings of all vintages, on a daily basis. If the D6 RIN holdings are more than 130 percent of the implied conventional biofuel RVO on any day, the obligated party would trigger the public disclosure requirement. We are proposing one approach to calculating the secondary threshold that adjusts depending on how many RVOs are in effect. We want to account for the fact that, generally, an obligated party holds more D6 RINs in the first three months of the year when it is preparing to retire for the prior year's obligation while also accumulating RINs for the current year's obligation.

For days between April 1 and December 31, an obligated party would multiply its gasoline and diesel production and import volume from the prior year by the difference between the renewable fuel percentage standard from the prior year and the advanced fuel percentage standard from the prior year. It would also account for any deficit volume it carried over from the prior year. See the proposed equations at 40 CFR 80.1435 for more detail on this proposed approach.

For days between January 1 and March 31, an obligated party would multiply its gasoline and diesel production and import volume from the prior year by 125 percent of the difference between the renewable fuel percentage standard from the prior year and the advanced fuel percentage standard from the prior year. It would also account for any deficit volume it carried over two years ago to the prior year. See the proposed equations at 40 CFR 80.1435 for more detail on this proposed approach. We are proposing that obligated parties who triggered the



primary threshold would conduct this secondary threshold calculation at least quarterly using daily RIN holding levels and implied conventional biofuel RVOs.

We also considered requiring the calculations at the end of the compliance year when the actual annual RVO becomes known. For example, on March 31, when a large obligated party reports to EPA its actual gasoline and diesel production and import volume and its RVOs for the prior year, it could also evaluate its daily D6 RIN holdings against the implied conventional biofuel RVO for the year. The downside to this approach is that the red flag for potentially problematic market power could come long after the excessive RIN holding level occurs, in some cases over a year later. This delay between the RIN holding level and public disclosure of the exceedance would decrease the effectiveness of the reform and hamper its intended purpose of deterrence and market notification. Therefore, we are not proposing such an option. We seek comment on the quarterly interval proposed. We chose 130 percent because it allows for holdings of 100 percent of their implied conventional biofuel RVO, 20 percent for banking, and 10 percent for additional flexibility and uncertainty. This flexibility would, for example, cover potentially invalid D6 RINs that may not be sold or retired according to the existing part 80 regulations. With the secondary threshold in place, an obligated party with end-of-day D6 RIN holdings in a given quarter below the primary threshold would not trigger public disclosure, while an obligated party with D6 RIN holdings above the primary threshold would conduct a second test against 130 percent of their implied conventional biofuel RVO to date to determine whether public disclosure would be triggered.

In our screening analysis, we found that in the 2017 compliance year, thirteen obligated parties would have exceeded a three-percent primary threshold and would have applied the secondary threshold. We found that three would have also exceeded the 130-percent threshold at

least once.<sup>181</sup> We note that we were unable to fully aggregate holdings and RVOs by corporate affiliates, as described further below, or account for RINs that an obligated party was holding for a small refinery with an exemption approval from EPA.<sup>182</sup> Nonetheless, this analysis suggests that a few obligated parties might have to report triggering the proposed D6 RIN holding threshold in the future. We seek comment on proposing to set the secondary threshold at 130 percent of the implied conventional biofuel RVO to date for obligated parties and the 125 percent factor that would be applied in the first quarter of the year.

f. Aggregating RIN Holdings

Market power can be applied in an anti-competitive way when a party controls a sufficiently large share of available supply, in this case separated D6 RINs. As already described, we are proposing in this action to require a RIN holding reporting threshold on at least each individual entity registered to transact RINs in EMTS. However, two individual entities with independent registration profiles in EMTS may be affiliated and may have control over each other's RIN holdings and each other's actions. For example, two entities may be subsidiaries of the same parent company or one entity may be the official financial asset trading arm of the other. In each of these cases, each entity may have control over a larger RIN holding than its individual EMTS account would suggest.

In addition, we note that a RIN holding threshold applied to individual parties, without regard to their affiliations, would create a large gaming opportunity. One party that wanted to gain market power but evade the RIN holding reporting threshold provision could spin-off

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<sup>181</sup> We aggregated all facilities by their company ID in EMTS to get a company total for both RIN holdings and thresholds. See calculations in the memorandum, "Threshold Calculations for D6 RIN Holding Parties," available in the docket for this action.

<sup>182</sup> While our analysis could not account for this, our proposed regulations do.

various subsidiaries that would each hold RINs below the reporting threshold. It is our intent to design this reform to prevent such gaming.

As a result, we are proposing in this action that a party would aggregate its RIN holdings with the holdings of all other parties with overlapping ownership or corporate control for evaluation against the thresholds. This methodology is similarly applied by CARB for the California cap-and-trade credit holding limit and by RGGI for the RGGI program auction purchasing limit. We provide a few examples to illustrate this proposed concept. If an obligated party were owned by a non-obligated party, then the combined D6 RIN holdings would first be applied against the primary threshold. If the primary threshold were triggered, then the combined D6 RIN holdings would be applied against the secondary threshold using the obligated party's implied conventional biofuel RVO. If two non-obligated parties were affiliated by corporate ownership, then their combined D6 RIN holdings would be applied against the primary threshold only. If two obligated parties were affiliated by corporate ownership, then their combined D6 RIN holdings would be applied against the primary threshold first and then, if necessary, against the secondary threshold using the obligated parties' implied combined conventional biofuel RVO. Were we to finalize any other approaches to establishing RIN holding thresholds for reporting, we would intend to require that the RIN holdings of all parties affiliated by corporate ownership would nevertheless still be aggregated together.

In order to propose a definition for the term "corporate affiliate," we reviewed how other environmental credit programs define and apply this concept. California's Cap-and-Trade Program applies a shared, single allowance holding limit to entities and their direct corporate associations, which they generally define as when one entity has more than 50-percent ownership in another entity or when two entities share a common parent (i.e., when there is a common

entity of which the two entities are subsidiaries). In addition, the California Cap-and-Trade Program requires that entities report, when requested, information related to indirect corporate associations, which they define as ownership of more than 20 percent but less than or equal to 50 percent.<sup>183</sup> For the RGGI program auction purchase limit, corporate association occurs when one applicant has more than 20-percent ownership in another applicant or when one party has 20-percent ownership in two applicants (parent company).<sup>184</sup>

In this action, we are proposing that two parties are corporate affiliates if one has more than 20-percent ownership in the other or if both parties are owned more than 20 percent by the same parent company. We are proposing a “more than 20” percent ownership level because it is consistent with the value that the other programs apply. For this proposed provision on a D6 RIN holding threshold, we are proposing that only corporate affiliates registered to own RINs in EMTS would be included in the RIN holding aggregation. Corporate affiliates that are not registered in EMTS to own RINs would not need to be included in the threshold calculations as these affiliates cannot hold RINs<sup>185</sup>.

We considered but are not proposing to require aggregation of RIN holdings for comparison to the threshold among parties with a contractual relationship, for example if there is an implicit or explicit agreement in place for one to purchase RINs for the other. As such, an obligated party that has a contract in place with a trader or a blender for delivery of D6 RINs would not add those D6 RINs to its holdings for comparison to the threshold until delivery

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<sup>183</sup> See “Chapter 3.1.A: Disclosure of Corporate Associations, Consultants or Advisors, and Knowledgeable Employees” of “Cap-and-Trade Regulation Instructional Guidance” (February 2015), available at <https://www.arb.ca.gov/cc/capandtrade/guidance/guidance.htm>.

<sup>184</sup> See “Auction Notice for CO<sub>2</sub> Allowance Auction 42 on December 05, 2018” (October 9, 2018), available at [https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/42/Auction\\_Notice\\_Oct\\_09\\_2018.pdf](https://www.rggi.org/sites/default/files/Uploads/Auction-Materials/42/Auction_Notice_Oct_09_2018.pdf).

<sup>185</sup> For diagrams and examples of different types of affiliates, see the memorandum, “Affiliates and Groups Definitional Relationship and Requirements,” available in the docket for this action.

occurred. We realize that this proposed approach would omit some RINs from the threshold comparison that could be under a party's control. However, we believe that a methodology for including such contractual relationships in the aggregation would be too complex and could result in double-counting RINs. We seek comment on our proposed approach to defining corporate affiliate and on omitting contractual affiliates from the RIN holding aggregation.

g. CBI Determination

We are proposing to require public disclosure of the name of a party that reported exceeding the EPA-set RIN holding threshold. We are not proposing to publicly disclose the actual RIN holding level, the amount by which it exceeded the threshold, when it exceeded the threshold, how many times it did so, or which threshold was applied. As such, we are proposing to determine that a yes/no answer to this threshold question does not qualify as CBI under the CAA. We find that whether a party exceeded a RIN-holding threshold provides very little insight into its actual RIN holding level, its gasoline or diesel production or import volume, or any other information that competitors could use to discern sensitive information.

In responding to a Freedom of Information Act (FOIA) request in 2013, we determined that certain data collected and stored by EMTS at that time were CBI, including a party's RIN holdings at the end of the quarter.<sup>186</sup> We recognize that in our evaluation of disclosing whether an entity exceeded a RIN holding threshold, we therefore need to carefully consider whether the underlying RIN holding level is sufficiently masked. In other words, we need to ensure that we do not disclose underlying CBI data or allow the CBI to be computed, back-calculated, or otherwise discerned using other publicly available data. Since the actual RIN level cannot be

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<sup>186</sup> See EPA's FOIA Request Confidentiality Determination document (Docket Item No. EPA-HQ-OAR-2016-0041-0023).

discerned or back-calculated by knowing whether the threshold was exceeded, we believe our proposed public disclosure accomplishes this objective.

Under the approach proposed in this action, a large obligated party that triggers the primary threshold would apply the secondary threshold of 130 percent of its implied conventional fuel RVO to date, which in turn is calculated by multiplying a publicly known percentage standard with its annual gasoline and diesel production or import volume. We recognize that fuel production volume and import volume are closely protected by refiners and importers as sensitive information that could potentially harm competitiveness if disclosed. Therefore, in our evaluation of public disclosure, we also need to consider whether fuel volume could be computed, back-calculated, or otherwise discerned by publishing whether a party exceeded an RVO-relative threshold. We find that it could not, since neither the threshold nor any numbers above it relates to or requires a specific fuel volume. The threshold and the figure of comparison are ratios and do not disclose or make discernable information about the actual fuel production or import volume.

We also considered whether any information related to this proposed disclosure could warrant CBI treatment, such as information that has not yet gone through a formal CBI determination process by EPA. We do not believe the information we propose to disclose constitutes CBI because, as previously discussed, the underlying RIN holding level is sufficiently masked. We believe it is in the interest of the market and the program to publicly disclose exceedances of the proposed threshold. We are proposing a threshold in this action that is sufficiently high to only be exceeded by volume of RINs that is likely more than a party would need for compliance or for any other legitimate business need. We believe that our proposed threshold is consistent with the level of RIN holdings that could cause excessive market power,

and we want to protect the integrity and functioning of the RIN market by deterring potentially anti-competitive behavior through public disclosure. We also note that the disclosure would come after the sale were completed and would not be associated with a date or dates, so disclosing the threshold-related information could not interfere with a sale negotiated in the past. Finally, we note that a company can control whether it exceeds the threshold and therefore whether its exceedance will be publicly disclosed by ensuring that its RIN holdings never exceed the threshold. In this way, a company has the power to control whether this information is released.

We seek comment on whether publication of whether the parties in a corporate affiliate group exceeded the RIN holding threshold would disclose underlying CBI or otherwise would likely result in substantial competitive harm to a particular company. Please identify the specific data element and explain how the public release of that particular value would or would not be likely to result in disclosure of underlying CBI or otherwise cause substantial competitive harm. If the concern is that the release of being above a threshold would allow competitors to derive a CBI value for an individual facility or company, specifically describe the mechanism by which this could occur. Describe any unique process or aspect of a facility or company that would be revealed if the data were made publicly available. If the value would disclose underlying CBI only when used in combination with other publicly available data, then identify the information that could be revealed, describe how it would be calculated or otherwise discerned, explain why the information is sensitive, describe the competitive harm that its disclosure would be likely to cause, and identify the source of the other data. If the data are physically published, such as in a book, industry trade publication, or federal agency publication, provide the title, volume number (if applicable), author(s), publisher, publication date, frequency of publication, and International

Standard Book Number (ISBN), or other identifier. For data published on a website, provide the address of the website, the date the website was last visited, and identify the website publisher and content author. Avoid conclusory and unsubstantiated statements or general assertions regarding potential harm.

In summary, we have found that the information described in this section for public disclosure is clearly not entitled to CBI treatment. We are describing our finding and the rationale behind it in this notice of proposed rulemaking because we expect this finding to be of high interest to stakeholders. We encourage those with CBI concerns to submit comments, which we will take into consideration in the finalization of this rulemaking.

#### h. Reporting and Recordkeeping Requirements

In this action, we are proposing that parties would calculate the threshold for each day, and parties that triggered the threshold for a day would be required to report the event to EPA by the quarterly reporting deadlines specified in Table 1 to 40 CFR 80.1452. We seek comment on the proposed quarterly frequency and whether quarterly notice allows for too much lag between an exceedance and disclosure. For a corporate affiliate group that triggered the threshold together, each registered party would be required to separately notify EPA of the event. We are proposing to add a yes/no question on triggering the threshold to the RIN Activity Report that all RIN-holding parties are already required to submit to EPA quarterly. The party would select “no” if the threshold was never triggered during the given quarter or “yes” if it was triggered at least once in the quarter. The submitting official would be required to certify the completeness and accuracy of that answer upon report submission. We are also proposing that independent auditors would need to review all daily threshold calculations during the attest engagement process and would need to include in their attest engagement report to EPA confirmation that the



party notified EPA as required of all instances of the threshold being triggered. This would include confirmation that the D6 RIN holdings and RVOs, if applicable, of all corporate affiliates were fully and properly accounted for in the calculations. We therefore are proposing that parties registered to hold RINs be required to keep as records all threshold calculations, including corporate affiliate values, and provide those records to the auditor for review.

The proposed calculation would use gasoline and diesel production and import volumes from the prior compliance year as a proxy for volumes in the current year. We recognize that the calculations could be an inaccurate representation of current year volumes in some cases, such as mergers or big changes in import volumes from year to year. However, in most situations we envision that these year-to-year changes may not impact the necessity to report. We seek comment on ways to fairly account for these limited situations.

In this action, we are proposing that EPA would be responsible for publicly disclosing that a party notified us of exceeding the threshold. We already maintain and regularly update a centralized website for RFS data<sup>187</sup> that has become the hub for up-to-date program information and transparency. Stakeholders, as well as the public at large, who want to know the identity of those that hold RINs in excess of the amount that flags potential market power concerns would only need to go to one place, EPA's website, to find all publicly available information on the topic. We seek comment on our proposal to publish the names of parties that exceed the RIN holding disclosure threshold on the EPA website.

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<sup>187</sup> Public EMTS data can be found on EPA's website at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard>.

## 2. Reform Two: Increase RFS Compliance Frequency

The second potential reform we address in this action is establishing a requirement for more frequent retirement of RINs for purposes of program compliance. The fundamental concept underpinning this reform is that, if it were finalized, obligated parties would be required to retire RINs in their accounts gradually over the year rather than all at once at the end of the year. We believe that requiring RINs to be retired for compliance on a more frequent basis could potentially help minimize opportunities for hoarding or other behavior that could negatively impact the RIN market. Further, we believe this regulatory modification would have the added benefit of helping obligated parties reduce the risk of non-compliance at the end of the year since they would be required to obtain RINs to meet a portion of their individual RVO on a quarterly basis.

Under this reform, we are proposing to establish RIN retirement requirements for the first three quarters of the compliance year, calculated as the gasoline and diesel production and import volume through the end of the quarter multiplied by 80 percent of the current year renewable fuel standard. We are proposing to include the 80 percent factor for these interim RIN retirements to address the inherent uncertainty of projecting an obligated party's obligation without full information. Obligated parties would submit reports to EPA 60 days after the end of the quarter to demonstrate compliance with these requirements and could use any D-code RINs to do so. This reform would not impact the current annual RVO calculations or compliance, including the two-year RIN life, the annual deficit carryover, or the 20 percent carryover provisions. Specifics on the calculations, reporting requirements and schedules are discussed in more detail below.

Some stakeholders have voiced concern about asymmetry in the market if EPA were to establish a more frequent compliance period for obligated parties without requiring RIN holders to make RINs available more frequently, and vice versa. Taking this concern under consideration, we have tried to balance this reform with our proposed reform that would limit the duration that a non-obligated party could hold separated RINs (discussed in Section III.E.4). Namely, this proposal would establish that both program compliance and the requirement for non-obligated parties to sell their separated RINs apply at quarterly intervals. We believe this symmetry will help to facilitate more frequent compliance and reduce the risk of one party having an unfair advantage over the other since both sides would face similar obligations to buy and sell RINs within the required timeframes.

We believe that more frequent RIN retirement could help smooth demand for RINs across the year. However, under this proposed reform, RIN demand could still increase at certain times of the year due to circumstances beyond EPA's control, which could make purchasers particularly vulnerable to manipulative terms from sellers at those times. Even though the magnitude of the obligation would be roughly decreased by a factor of four, sellers with excess RINs beyond their quarterly retirement requirements could still exercise power over the RIN market—now several times throughout the year before each quarterly deadline instead of just once annually. Market power is relative, and we recognize that a smaller stockpile of RINs in a party's account relative to a smaller pool of available RINs can still result in market power. Therefore, the ultimate benefit of this reform on the RIN market and on parties' behavior is unclear.

a. Implications on the Annual RVO

In this action, we are not proposing to change the timeframe of the annual RVO or the annual RVO compliance obligation. Rather, we are proposing to maintain the annual RVO and annual RVO compliance obligation and to add requirements for periodic RIN retirement throughout the year. This is similar to personal tax requirements imposed by the IRS and states; money is generally withheld from an individual's paycheck throughout the year based on an estimate of their annual tax burden, but the actual annual tax burden is only calculated and due for full payment once the tax year is over. By proposing a requirement for obligated parties to retire RINs periodically through the year, we are able to leave intact the many elements of the RFS program that are based on an annual program (e.g., the annual deficit provision, the annual 20 percent carryover provision, and the two-year life of a RIN). We believe that these annual program components, as described further below, are functioning effectively and that changing these annual program components could create harmful unintended consequences. We believe we can leave these annual elements of the program unchanged while still accomplishing the objective of this reform.

The current RFS program is designed around an annual RVO. As specified in 40 CFR 80.1407(a), obligated parties wait until the compliance year has passed to calculate their annual RVOs using their actual annual gasoline and diesel production and import volume. The RVO equations also account for deficits on an annual basis, such that a deficit incurred in the prior year is carried over into the current year. 40 CFR 80.1427(a) specifies how obligated parties demonstrate compliance with this annual RVO. These equations were designed so that an obligated party has an entire year to collect enough RINs to address any deficit carried over from the prior year. We believe that this annual approach to satisfying prior year deficits should

continue unchanged. Therefore, we are not proposing any edits to 40 CFR 80.1407(a) or 80.1427(a).

The deficit provision comes from direction in the CAA for EPA to include provisions allowing any person to carry forward a renewable fuel deficit from one calendar year to the next when certain conditions are met. The conditions outlined in the CAA are “that the person, in the calendar year following the year in which the renewable fuel deficit is created (i) achieve compliance with the renewable fuel requirements under paragraph (2); and (ii) generates or purchases additional renewable fuel credits to offset the renewable fuel deficit of the previous year.”<sup>188</sup> Since the statute specifies that an obligated party can create a deficit on an annual basis, we are proposing in this action to maintain that annual flexibility. Therefore, an obligated party would be allowed to fall short of its RIN retirement requirements in any or all periods of one compliance year as long as it retired RINs at some point in the following compliance year to offset the following year’s obligation, which includes the current year deficit. See Section III.E.2.e for further discussion on such RIN retirement shortfalls.

Finally, 40 CFR 80.1427(a)(5) specifies that no more than 20 percent of an obligated party’s current year RVO can be satisfied with prior year RINs. In this action, we are not proposing any amendments to this part of the regulation. We propose that this carryover provision continue to only apply to the annual RVO. We are not proposing to apply this provision to any interval other than annually. Therefore, an obligated party that retired RINs periodically during the year, pursuant to this action, could use any amount of prior year RINs to

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<sup>188</sup> See CAA sec. 211(o)(5)(D).

do so, subject to the requirements that the final annual RVO compliance demonstration is consistent with the 20-percent carryover provision.

b. Compliance Frequency

During the development of this proposed rule, we considered establishing compliance frequencies other than quarterly. Ultimately, however, we chose to propose a quarterly compliance frequency for obligated parties; a quarterly requirement appears to balance the objectives of a more frequent compliance requirement without being overly burdensome or introducing excessive complexity. As such, obligated parties would be required to use new equations proposed at 40 CFR 80.1427(d) for the first, second, and third quarters of a year. Obligated parties would not have a separate RIN retirement requirement for the fourth quarter and would instead continue to use the existing RVO equations at 40 CFR 80.1427(a) to demonstrate compliance with the annual RVO. We seek comment on a quarterly frequency and on whether obligated parties that reporting gasoline and diesel production and import volumes to the Energy Information Agency (EIA) weekly and monthly would prefer a frequency greater than quarterly that aligns with the EIA survey frequency.

We considered a provision that would require RIN retirement for every batch of gasoline or diesel immediately or shortly after it is produced or imported, but we do not believe a practical implementation framework for this concept exists. It would be virtually impossible for the market to instantaneously meet such tight demand for RINs by obligated parties. The generation of RINs and the production and import of transportation fuel are not time aligned over the course of the year. We believe that a quarterly RIN retirement requirement is close enough to “real time” compliance to meet the objectives of this reform while still providing enough flexibility for obligated parties to feasibly comply.

As part of our analysis, we reviewed the historic pace of RIN generation throughout a calendar year. We observed that RIN generation is not consistent throughout the year and varies depending on the month or season. For example, in calendar year 2017, the monthly generation of biomass-based diesel (D4) RINs is lowest in January because biodiesel blending drops in the winter months when gelling of biodiesel can occur in some regions. The monthly D4 generation rate increased gradually until July when it began to decrease again. Finally, generation spiked higher in December than in any other month as parties worked to meet the RFS requirement that renewable fuel must be generated and blended in the same calendar year (and in some years rushed to take advantage of expiring tax credits). In fact, generation of all four D-code RINs peaked in December. When we compared these monthly generation rates to a potential monthly RIN retirement requirement based on estimated monthly gasoline and diesel volumes,<sup>189</sup> we saw that in many months, the demand for RINs exceeded the generation of new RINs. In addition, when we compared the monthly generation of all D-code RINs with potential monthly RIN retirement requirement, we found that cumulative RIN generation would not catch up to the cumulative RIN retirement requirement until December. This lack of alignment in time between RIN generation and gasoline/diesel fuel demand renders “real time” RIN retirement infeasible. We concluded from this analysis that it is important to provide some margin of time-flexibility to allow obligated parties to acquire RINs for compliance and that too-frequent retirement requirements would be too restrictive and counterproductive.

We seek comment on the appropriateness of a quarterly frequency requirement and on other potential frequencies, such as monthly or bi-annually. Because of the need for flexibility,

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<sup>189</sup> See calculation in the memorandum, “Comparison of Monthly RIN Generation Rates to a Potential Monthly RVO,” available in the docket for this action.

we also considered several compliance deadlines, by which obligated parties would need to achieve the quarterly compliance requirements. See Section III.E.2.f for a discussion of deadline options considered and the deadlines we are proposing in this action.

c. Scope

As discussed earlier in this preamble, for each reform we considered whether we could limit its scope to reduce the risk of unintended negative consequences while still meeting the objective of the reform. In particular, we considered whether we could limit the reforms to just D6 RINs since D6 RINs are the main source of market manipulation concern.

For the compliance frequency reform outlined here in Section III.E.2, we concluded that, because of the nested nature of the RIN system, we could not require retirement of only D6 RINs. For example, an obligated party could choose to retire only D3, D4, and D5 RINs, which are nested in the renewable fuel obligation, to comply with its renewable fuel RVO. Therefore, we are proposing a quarterly RIN retirement requirement based on only the renewable fuel RVO in this action and allowing obligated parties to retire any D-code of RINs to meet it.

d. Incurring a Shortfall

In this action, we are proposing that an obligated party would be allowed to fall short of a quarterly RIN retirement requirement if it met certain conditions. This shortfall provision would mirror the flexibility provided by the annual deficit provision described above. Under one set of conditions, a party would be allowed to incur a shortfall in a quarter of a given year as long as in the following year it satisfied all three quarterly RIN retirement obligations. Under a second set of conditions, a party would be allowed to incur a shortfall in a quarter of a given year and in a quarter of the following year if its annual RVO for the current year were equal to zero (e.g., as the result of an approved small refinery exemption). Under this proposal, a shortfall in one



quarter would have the same effect as a shortfall in all three quarters of the year on a party's ability to incur shortfalls in the following year. We are proposing amendments to 40 CFR 80.1427(b) to reflect this provision.

We considered an alternative approach under which a party's shortfall in one or more quarters of a year would not affect a party's ability to incur a shortfall in one or more quarters of the following year. However, we believe this alternative would create a loophole to this reform that could be exploited by obligated parties to circumvent the proposed quarterly RIN retirement requirements. By way of example, consider an obligated party that retired no RINs in the first three quarters of a given year and then fully complied with its annual RVOs at the end of the year by retiring all required RINs. Under the alternative approach, the obligated party would be allowed to incur shortfalls in all three quarters of the following year and could repeat this compliance strategy again and again. This would amount to a circumvention of the proposed quarterly compliance reform altogether. Considering this example under the proposed approach instead, the obligated party that retired no RINs in the first three quarters of a given year would be required to meet the quarterly RIN retirement requirements of the following year. We seek comment on allowing shortfalls under certain conditions and on our approach to preventing shortfalls over multiple years. We seek comment on the alternative we considered as well as other alternative approaches commenters recommend.

e. Calculating the RIN Retirement Requirement

We are proposing in this action that the RIN retirement requirements for the first three quarters of a compliance year would be calculated as 80 percent of an obligated party's cumulative gasoline and diesel production and import volume multiplied by the renewable fuel percentage standard for the current year. As explained above, the quarterly RIN retirement

equations would not include an input for any prior year deficit carried over or a limitation on the year of the RINs used. We believe that an 80-percent flexibility would address the seasonal variability in RIN generation that could impede a party's ability to acquire 100 percent of its required RINs. We also believe that an 80-percent flexibility would provide some leeway for volume errors identified at the end of the year through the attest engagement process. We seek comment on this approach to providing obligated parties with this flexibility and on the value of 80 percent that we chose to propose and whether a different value would be more appropriate.

We considered, but are not proposing, setting a RIN holding requirement rather than a RIN retirement requirement. Under this approach, obligated parties would need to demonstrate that they owned at least 80 percent of their cumulative volumes multiplied by the renewable fuel percentage standard. One reason for this approach is that it could better align with the RIN holding threshold calculations proposed in Section III.E.1, which would not adjust the threshold as RINs were retired every quarter. As such, an obligated party that had retired 60 percent of its annual renewable fuel obligation after three quarters would only have a legitimate need to hold the 40 percent of its annual obligation remaining plus 30-percent headroom, but it would be allowed under our proposal to hold 130 percent. We proposed these calculations in Section III.E.1 to keep them simple, but we realize that some commenters may find it unbalanced and unfair. We seek comment on adjusting this reform to a holding rather than retirement requirement to address concerns with the threshold calculations.

f. Compliance Deadline

Under the existing regulations, the deadline by which obligated parties must demonstrate compliance with their annual RVOs is March 31 of the year following the compliance year. As such, parties have three months after the last day of the compliance period to compile their

gasoline and diesel production and import volumes, calculate their RVOs, acquire the necessary number of RINs, and submit their annual compliance reporting forms. This three-month administrative period is necessary for obligated parties to complete all of the required compliance steps properly.

In this action, we are proposing that an administrative period be added to the end of the first, second, and third quarters for demonstration of compliance with the periodic RIN retirement requirements. We are proposing a two-month administrative period such that the compliance demonstration deadlines would be June 1, September 1, and December 1 of the compliance year. This delayed schedule would provide obligated parties with additional time to gather production and import volumes, acquire RINs, and complete the reporting forms and would align with existing quarterly reporting deadlines. RINs generated during the administrative period could be used for compliance in the previous quarter. We are proposing that a three-month administrative period and the March 31 compliance demonstration deadline continue to apply to the annual RVO. We seek comment on these proposed deadlines and on whether a different administrative period or periods would be more appropriate.

g. Reporting and Recordkeeping

In this action, we are proposing that compliance with the quarterly RIN retirement requirements would be demonstrated to EPA through reporting. The quarterly deadlines described above would be reporting deadlines and would align with the existing deadlines for RIN generation, transaction, and activity reports. We believe that aligning our proposed quarterly deadlines with deadlines for existing reporting requirements would be an easier adjustment for parties. To implement this reporting requirement, we are proposing that obligated parties would report cumulative gasoline and diesel production and import volumes and demonstration of

compliance with requirements in the first three quarters. We are also proposing to update recordkeeping requirements to include all applicable quarterly values and calculations. We are not proposing to amend the attest engagement due date, so it would continue to be required once at the end of each compliance year. The RIN generation, transaction, and activity reports would continue to be required quarterly.

We are proposing that any minor adjustments that an obligated party would need to make to a prior quarter's reported volumes due to an EPA-reported remedial action would be required to be accounted for in the next RIN retirement calculation and demonstration. Since the obligated party would be certifying that their reported values were accurate to the best of their knowledge, we believe that the risk of gaming the regulations by consistently under-calculating a quarterly RIN retirement requirement is low. A continued pattern of under-calculating by one party could potentially result in an enforcement action. We seek comment to this approach to remedial action volume adjustments and on alternatives to account for them in this action.

#### h. Small Refinery Exemptions

Under this reform, we are proposing that all obligated parties would be required to meet RIN retirement requirements on a quarterly basis. This means that small refineries that submit a petition for an extension of the small refinery exemption would typically face reporting and RIN retirement requirements before EPA issues a decision on the petition. Even under the current annual reporting requirements, many small refineries already choose to retire RINs before EPA acts on their petitions, understanding that EPA will later "unretire" those RINs should EPA ultimately decide exemption is warranted for that refinery in that compliance year. However, we recognize that quarterly RIN retirement obligations for small refineries that may receive an exemption would not necessarily be efficient. As described below, small refineries that expect to

receive hardship relief can alternatively defer quarterly reporting under the retirement shortfall provisions proposed in this action provided they did not carry a deficit from the previous compliance year (e.g., if they received hardship relief in the previous year).

Under this proposal, all refineries including small refineries would be able to incur a full RIN requirement shortfall in the first three quarters as long as they had not incurred a deficit in the prior year. When EPA grants an RFS exemption, the exempt refinery has no RFS obligation during the compliance year for which an exemption has been granted. For small refineries that received RFS hardship exemptions, their annual RVO would be zeroed out. Since the small refineries wouldn't trigger the annual deficit provision in that year, they could repeat the same steps in the next year if they still faced hardship. We note that an obligated party reporting at an aggregated level for multiple refineries, including at least one small refinery, would not zero out its total annual RVO. Rather, when EPA approved its small refinery exemption(s), it would exclude the small refinery volumes from its annual RVO calculations but still include volumes from the other refineries. As such, we believe that a small refinery that would like to take the compliance path outlined above would have to report on a facility-by-facility basis, rather than on an aggregated basis. An obligated party that wished to report at an aggregated level would have to account for any small refinery volumes when calculating and complying with its quarterly RIN retirement requirement.

If the small refinery chose to comply with the proposed quarterly RIN retirement requirements and then received an RFS exemption from EPA, then we would work with the small refinery to unretire its RINs as we do now under the current annual reporting requirements. We are not seeking comment on whether EPA can unretire RINs after granting a small refinery exemption. If the small refinery chose to incur a RIN retirement shortfall in the first three

quarters but did not receive an exemption from EPA, then it would be required to comply with the annual RVO by March 31 as they also do under the current annual reporting requirement by either obtaining the appropriate number of RINs or by taking a deficit. In that case, whether they met the annual obligation or carried a deficit into the follow year, they would be prohibited from incurring a shortfall in any quarter of the following year.

### 3. Reform Three: Limiting Who Can Purchase Separated RINs

The third potential reform from the President's Directive that we address in this action is limiting the purchasing of separated RINs to obligated parties only. Canada structured its Federal Renewable Fuels Regulations this way by only permitting primary suppliers, the regulated parties under those regulations, to acquire compliance units from others.<sup>190</sup> This is also how the credit provisions in our gasoline sulfur and benzene programs are structured. In those EPA programs, the obligated parties are both the generators of the credits and the users of the credits and are the only parties that need to take any action. Conversely, in the RFS program, obligated parties are typically dependent on the action of other parties, such as renewable fuel producers and blenders, to actually introduce the renewable fuel and the RINs into the marketplace. Consequently, the RFS program was set up differently.

Supporters of this regulatory change argue that, since obligated parties are the only parties who need to purchase RINs for the purpose of compliance, obligated parties should be the only parties allowed to purchase separated RINs. The goal of this reform is to minimize the number of parties trading RINs so as to reduce the risk of hoarding or other actions by non-obligated parties that could improperly impact the prices of RINs and thus impact the cost of

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<sup>190</sup> See "Questions & Answers on the Federal Renewable Fuels Regulations" (2012), available at <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/revised-questions-answers-renewable-fuels.html>.

compliance for obligated parties. In developing this proposed reform, EPA is taking into consideration the concerns that limiting the parties that can trade in the RIN market could have negative unintended consequences, as discussed below.

Under this reform, we are proposing that only obligated parties, exporters and certain non-obligated parties be allowed to purchase separated D6 RINs. Non-obligated parties would be exempt from this proposed provision if they were a corporate affiliate or a contractual affiliated of an obligated party.

As explained in Section III.B of this action, RINs are generated with the generation of renewable fuel and move downstream of the producer attached to the renewable fuel. When a blender acquires the renewable fuel and blends it with conventional fuel, the blender is required to separate the RIN from the renewable fuel. The separated RIN becomes its own commodity separate from the renewable fuel that can be traded and used separately. By the very nature of the blender's role in the fuel distribution system and the requirements of the RFS program, blenders must become owners of separated RINs. Therefore, this reform is limited to only the purchase of separated RINs.

a. Implications and Discussion

As described above, this reform would limit the purchasing of separated D6 RINs to obligated parties and certain non-obligated parties. Some stakeholders have commented that this reform would be beneficial because it would specifically block market traders and brokers whose only intention is to make a profit in the RIN market and may have an incentive to engage in manipulative or anti-competitive behavior to boost their profits.<sup>191</sup> (We note, however, that

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<sup>191</sup> See, e.g., comments from HollyFrontier (Docket Item No. EPA-HQ-OAR-2018-0167-1198), Monroe Energy (Docket Item No. EPA-HQ-OAR-2018-0167-0622), and Valero (Docket Item No. EPA-HQ-OAR-2018-0167-1041).

simply making a profit on the RIN market is not manipulative or anti-competitive behavior.) Limiting non-obligated parties from purchasing separated D6 RINs could help deter or prevent that potential behavior from occurring in the future. Conversely, some have claimed that limiting the number of parties participating could harm the RIN market and have other unintended consequences. In fact, this specific reform was explicitly raised for consideration in the 2019 RVO proposal, and we received multiple comments in opposition, citing the harm this reform would likely cause. For example, many parties commented that the liquidity of the RIN market would decline if RIN market participation were curtailed. These comments stated that some parties without a compliance obligation alleviate the burden on the seller of finding a counterpart willing to buy the exact amount of RINs for sale at that exact time. They do so by aggregating small RIN bundles for large buyers, disaggregating large RIN parcels for sale to multiple buyers, and holding RINs until the parties are ready to buy. Some commenters also stated that, especially in a market as sensitive to policy announcements as the RIN market, higher participation can reduce volatility and help the market adjust to a policy or other shock more quickly than curtailed participation. As such, these comments warned that restricting participation in the RIN market would reduce liquidity, increase volatility, and ultimately increase RIN prices.<sup>192</sup>

Some commenters explained that a RIN price reflecting higher transaction costs would not be representative of the fundamentals of the market and thus would weaken the market signal function of RIN prices. For example, the RIN price is used by obligated parties to estimate the compliance cost they need to recover through their fuel pricing, by biofuel producers to gauge supply and demand of the biofuel market, and by downstream parties to decide whether to build

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<sup>192</sup> See, e.g., comments from ACT Commodities (Docket Item No. EPA-HQ-OAR-2018-0167-0615), Phillips 66 (Docket Item No. EPA-HQ-OAR-2018-0167-1267), and Shell (Docket Item No. EPA-HQ-OAR-2018-0167-0513).



out more blending infrastructure. Curtailed market liquidity could weaken everyone's ability to react to the market effectively.

Some stakeholders have also provided comment to EPA outside of the 2019 RVO rulemaking about how this reform would harm them and their business operations directly. Specifically, we heard from some non-obligated parties who play a large role in the existing fuel market by blending biofuel with petroleum-based fuel and moving the blended fuel downstream to retailers. These blenders enter into term contracts with obligated parties for delivery of a specific quantity of RINs at the end of the contract period. Blenders base their commitment on expected fuel blending volumes, which relate to expected fuel production and fuel demand. However, if fuel production or demand fell shorter than expected, RIN separation by the blender would also fall short. In order to meet its contractual obligation in this situation, the blender would have to buy separated RINs on the RIN market. A reform that prohibited blenders from buying separated RINs would require blenders and their obligated party counter-parties to restructure the RIN delivery guarantees in the current contracts. Therefore, some of these blenders have expressed concern with the harm to them and the operation of the RFS program that this reform could cause. They've also highlighted the asymmetry this would create in the fuels system between refineries and blenders; blenders who fall short of their RIN supply contracts with refineries would not be able to fill the gap while refineries who fall short of their petroleum-based fuel contracts with blenders would be able to fill the gap by purchasing gasoline, diesel, or blendstock on the market as needed. Therefore, they characterize a reform that prohibits them from purchasing separated RINs as creating an uneven playing field in the fuels industry.

For all of the reasons listed above, we are not proposing to prohibit all but obligated parties from purchasing separated D6 RINs because we recognize that doing so could cause harm to parties, the D6 RIN market, and to the RFS program. Thus, our proposal to limit this reform reflects a weighing of the beneficial aspects of deterring potential market manipulation against the potential negative consequences on the RFS program. We seek comment on these potential consequences as well as comments on alternative approaches to implement this reform.

b. Scope

We are proposing to limit the scope of this reform to D6 RINs only. D6 RINs are the D-code about which we have heard concerns related to hoarding and market manipulation. In order to limit any unintended consequences of this action, we believe it is sensible to limit this action to D6 RINs. For example, we believe that it would be very challenging to restrict the purchasing of separated D3 RINs because D3 RINs generated from biogas to fuel natural gas vehicles are generated at the same time as they are separated; it would not be possible to distinguish parties who own a D3 RIN from parties who separated it. We seek comment on our narrow application of this reform to D6 RINs only and on concerns of anti-competitive behavior related to the purchasing of other D-code RINs.

In this action, we are proposing that obligated parties as well as a limited set of non-obligated parties would be allowed to purchase separated D6 RINs freely. We considered a firm prohibition on all transactions of all parties other than obligated parties from purchasing D6 RINs, but we believe that certain limited situations involving non-obligated parties should continue to be allowed for the RFS to function properly. We outline those situations and allowances below.

First, we are proposing that a party that is a corporate affiliate or a contractual affiliate, as proposed at 40 CFR 80.1401, to an obligated party would be allowed to execute a separated D6 RIN purchase transaction. This would include a party that is owned more than 20 percent by an obligated party or that owns more than 20 percent of an obligated party. This would also include a party that has an agreement to deliver RINs to an obligated party. Based on discussions with some obligated parties, we believe that they routinely contract with third-parties, such as traders, to deliver separated D6 RINs. We have also learned, as described in Section III.E.3.a, that some non-obligated parties routinely commit under contract to deliver D6 RINs to obligated parties based on their anticipated future blending volumes and must purchase separated D6 RINs on the market to satisfy the contract if their blending volumes fall short. We believe all of these contractual transactions are helpful to obligated parties and that obligated parties, the very parties this reform is attempting to protect, would be harmed if these types of contractual transactions were prohibited.

Second, we are proposing that non-obligated parties needing to replace invalid RINs would also be allowed to purchase separated RINs for that purpose. Parties that generate renewable fuel with RINs attached sometimes make errors in their renewable fuel and RIN calculations, and blenders that purchase RINs attached to renewable fuel sometimes learn too late that the RINs they've acquired are fraudulent or erroneous. We believe that the most straightforward and practical way to allow these parties to stay compliant with the RFS program is to continue to allow them to replace invalid RINs by purchasing new separated RINs from the market.

Third, we are proposing that exporters of renewable fuel that needed D6 RINs to satisfy their exporter RVOs according to 40 CFR 80.1430 would be allowed to purchase separated D6

RINs in these limited situations. Parties that export conventional fuel blended with renewable fuel must acquire and retire RINs to account for the portion of their exported product that is renewable fuel. These exporters do not necessarily receive, generate or separate RINs, so they need another way to acquire RINs in order to comply with the program.

Ultimately, we believe that our proposal would successfully exclude from the RIN market those parties that serve no function in the fuels market and that may enter the RIN market for speculative or manipulative reasons only. We seek comment on providing allowances in this reform, including whether doing so would create any gaming opportunities and, if so, how that could be avoided. For example, a non-obligated party could create a contract with an obligated party at a minimum level as a way to game this reform. We seek comment on how we could tighten this reform but still allow enough compliance flexibility for obligated parties with contractual relationships with non-obligated parties. We also seek comment on the appropriateness of these allowances and on any other limited situations, in which non-obligated parties should be allowed to purchase separated D6 RINs.

We recognize that a reform prohibiting non-obligated parties from certain activities could create strong incentives for non-obligated parties to become obligated parties. This can be done relatively easily by importing a small volume of fuel or blending small volumes of blendstock to produce fuel. This type of gaming could circumvent the entire purpose of this reform and create a sizable implementation burden on EPA to no avail. We seek comment on ways this gaming could be prevented should we finalize this reform, including limiting the number of separated D6 RINs that importers, blender refiners, and non-obligated parties exempted from this prohibition can purchase. This is similar to the limitation we placed on the ability of certain obligated parties to separate RINs under 40 CFR 80.1429(b)(9).

c. Reporting and Recordkeeping

As described in Section III.E.1.h, we are proposing to add a yes/no field on the D6 RIN holding threshold to the RIN Activity Report that all RIN holding parties already submit to EPA quarterly. Since all RIN holding parties already submit these reports quarterly, we believe the incremental reporting burden of filling out a new threshold field would be minimal. In order to maintain compliance oversight of this RIN purchasing restriction on non-obligated parties, we are proposing to also add a field to the quarterly RIN Activity Report on whether a non-obligated party purchased D6 RINs in the quarter. If the non-obligated party reported purchasing any amount of separated D6 RINs, it would then have to report whether a valid reason (e.g., invalid RINs, exports, contract with obligated party) applied. As with the threshold field, we believe it would be important for parties to certify that they were in compliance with this proposed provision. We are also proposing that non-obligated parties would be required to keep all applicable records related to this restriction, such as actual contracts with obligated parties or evidence of invalid RINs and make those records available to their attest engagement auditor. The auditor would review the records and confirm that the party made the proper calculations and reported accurately to EPA on compliance with the proposed provision. We seek comment on this proposed approach to compliance oversight.

d. Alternative Approaches Considered

In addition to the specific reform we are proposing to restrict to certain parties the ability to purchase separated D6 RINs, we seek comment on alternatives that also meet the objective of this reform in the President's Directive but in a more simple and direct way. We recognize that prohibiting a class of parties from taking an action but then carving out a list of exceptions to that prohibition has the potential to be confusing and unwieldy. Instead of the reform that we are

proposing, an alternative approach to accomplishing the intended goals of this reform objective could be to rely only on the first reform discussed in Section III.E.1. Rather than restricting who could purchase and who could sell to whom, we could address the concern that non-obligated parties might hoard RINs only by imposing a limit on their D6 RIN holding. The holding limit specifically on non-obligated parties could be lower than the three percent of the annual conventional biofuel volume requirement proposed. We seek comment on these alternatives and on any other alternatives commenters recommend.

#### 4. Reform Four: Limiting Duration of RIN Holdings by Non-Obligated Parties

The fourth potential reform from the President's Directive that we address in this action is limiting the duration a non-obligated party can hold RINs. In Section III.E.3, we describe our proposal to restrict certain non-obligated parties from purchasing separated RINs but still allowing them to own separated RINs that they acquire by blending renewable fuel into petroleum-based fuel. This fourth reform would restrict non-obligated parties further by limiting how long they could hold the separated RINs acquired at blending. The concept behind this reform is to require non-obligated parties to inject their RINs into the market soon after acquiring them to maximize liquidity for obligated parties who need the RINs for compliance.

Under this reform, we are proposing a limit on the duration that a non-obligated party can hold separated D6 RINs. Specifically, we are proposing that a non-obligated party must sell or retire as many RINs as it obtained in a quarter by the quarter's end. For example, both a RIN separated on January 1 and a RIN separated on March 31 would each need to be offset by a RIN sale in the first quarter. The proposed provision would not apply to potentially invalid D6 RINs that are required to be held and prohibited from being sold. This proposed provision would not

apply to obligated parties. Additional information on calculations and reporting are discussed in more detail in Section III.E.4.e.

The potential anti-competitive behavior related to non-obligated parties holding RINs that would be avoided with this action is the potential to accumulate enough RINs to gain market power and then use that market power to manipulate the price of RINs. We note that such market power is also addressed by the public disclosure reform outlined in Section III.E.1. However, we are additionally proposing to limit the duration that non-obligated parties can hold separated RINs in this action as an alternative or additional method to address this concern. We seek comment on the value of limiting the duration that a non-obligated party can hold separated RINs, and specifically on whether it adds any safeguards against manipulative behavior beyond the public disclosure reform.

Some obligated parties have complained that blenders routinely withhold separated RINs from the market until the price is high enough to secure a large profit. We note that such actions are not necessarily price manipulation or evidence of anti-competitive behavior.

a. Implications and Discussion

As described above, this reform would limit the duration that a non-obligated party could hold a D6 RIN and would therefore interfere with attempts at increasing its market power. This reform could also increase the availability of D6 RINs on the market for obligated parties who want or need to acquire RINs for quarterly retirement. A final benefit of this reform is that it provides symmetry to the quarterly RIN retirement requirement for obligated parties as discussed in Section III.E.2; that reform would increase the frequency of D6 RIN demand and this reform would increase the frequency of D6 RIN supply.

This reform could also have harmful consequences for some parties in the market. At an even more basic level, a fuel blender with separated RINs to sell may not be able to find a party willing to buy those RINs at the time of blending. Therefore, a duration limit that is set too short could take too much flexibility away from non-obligated parties and make it difficult for them to participate in the RIN system. As such, we have proposed a duration limit of a quarter that we believe minimizes the risk of causing harm to parties in the RIN system.

Finally, we note that non-obligated parties who want to evade the duration limit for holding separated RINs could easily take the minimal action necessary to become an obligated party. For example, a blender could easily blend a small volume of blending stocks to produce gasoline or diesel or import a small volume of petroleum-based fuel in order to become an obligated party. As an obligated party, the blender would no longer be subject to a restriction on how long it could hold its RINs. While such gaming would not directly harm any party or the RIN market, it could harm the integrity of the program if done widely and could increase the implementation and oversight burden on EPA. We seek comment on the implications of such gaming and on any ideas to prevent it, including imposing the duration limit on RINs held by importers and blender refiners that are in excess of their RVO requirements. This is similar to the limitations we placed on the ability of these obligated parties to separate RINs under 40 CFR 80.1429(b)(9).

b. Scope

We are proposing to limit the scope of this reform to D6 RINs only. D6 RINs are the only D-code about which we have heard concerns related to hoarding and market manipulation. In order to limit any unintended consequences of this action, we believe it is sensible to limit the type of RIN it applies to while still meeting the objective of the reform. For example, since most



D3 RINs are generated only once a month, we believe parties might need more flexibility on the time between RIN generation and RIN sale than other D-codes. Furthermore, D4 RINs attached to biodiesel produced by a small or unknown company may not be well received on the market, so a non-obligated party that blends such biodiesel into petroleum-based diesel and separates such D4 RINs might need time to find a willing buyer. A restriction on how long they can hold such D4 RINs before selling could upset the balance in purchase negotiations and force non-obligated parties to sell these D4 RINs at significantly discounted prices to stay in compliance with this proposed regulation. We seek comment on our narrow application of this reform to D6 RINs only and on concerns of anti-competitive behavior related to the purchasing of other D-code RINs.

We are also proposing that separated D6 RINs that are potentially invalid would not be accounted for by a non-obligated party in its count of D6 RINs separated in a quarter. A party would leave those D6 RINs out of the count of D6 RINs it would have to sell or retire. The non-obligated party would continue to be subject to the requirements at 40 CFR 80.1431.

c. Duration

Although we did not identify this reform concept in the list of reforms under EPA consideration in the 2019 RVO proposal, several parties proactively commented on this concept. Some commenters suggested a 30-day duration, others suggested 60 days, and still others suggested 90 days. We considered each of these potential durations and decided to propose in this action a 90-day cycle, whereby the number of separated D6 RINs that a non-obligated party would be required to sell or retire in a quarter would be number of separated D6 RINs that the party separated or purchased in that same quarter. Requiring non-obligated parties to sell RINs by the end of the quarter would have the significant benefit of matching the quarterly RIN

retirement cycle that would be required of obligated parties under this Section III.E.2 of this action. Coordinating these two frequencies may help maintain equilibrium in the RIN market and create equity among all RIN system participants. We seek comment on the appropriateness of this duration and of any other potential durations. We note that the reform proposed under Section III.E.2 would require RIN retirement of only 80 percent of the renewable fuel standard, so we seek comment on whether the RIN holding duration should only apply to 80 percent of RINs separated or purchased in order to better align the two reforms.

d. Implementation

In this action, we are proposing that a non-obligated party would be required to count the total number of RINs it separated or purchased each quarter and sell or retire that many total RINs by the end of the same quarter. For example, a non-obligated party would count the total number of RINs it separated or purchased between January 1 and March 31 of a given year and then would sell or retire that many RINs between January 1 and March 31 of that year. This approach would meet the intention of this reform to prevent RIN hoarding and increase liquidity without getting stuck needlessly in the details of which specific RIN is being sold. It would also allow non-obligated parties the flexibility to hold onto some D6 RINs that may be more difficult to sell for a longer period of time, provided they are selling an equal number of D6 RINs by the established deadline. We are also proposing that, for a non-obligated party, any D6 RINs acquired in one quarter through a remedial action with an EPA-generated separation date in the previous quarter would add the D6 separated RINs to its separated total for the current quarter.

We also considered a slightly longer period between RIN separation and sale in which a non-obligated party would be required to count the number of RINs it separated each quarter and sell at least that many RINs in that quarter and the following quarter. For example, a non-

obligated party that sold 100 RINs between January 1 and March 31 would have to sell at least 100 RINs between January 1 and June 30. RINs separated on January 1 would need to be sold within 180 days and RINs separated on March 31 would need to be sold within 90 days. Such a scheme would create overlapping periods, however, in which the same RIN sale could be counted towards two different quarterly requirements. We ultimately decided to propose a quarterly requirement, but we seek comment on this alternative approach.

We also considered an approach that would initiate a 90-day expiration timer for each separated RIN batch on the day it is separated by a non-obligated party. Under this design, a blender would need to sell each RIN or batch of RINs within 90 days of separating it from the underlying renewable fuel. However, such an implementation scheme would place a large burden on non-obligated parties to keep track of multiple expiration timers, possibly dozens or hundreds at a time. It would also be very costly, if not infeasible, for EPA to update EMTS to track so many individual expiration deadlines, which across the entire system could total in the thousands or millions at any given time. A slightly more manageable version that we considered but are not proposing would be to require that an individual RIN separated in one quarter by a blender be sold by that blender by that quarter's compliance deadline for obligated parties. This approach would still tag each RIN or RIN batch with an expiration date, but the same expiration date would be applied to all RINs generated in the quarter. This approach would result in a total of four expiration dates a year across the whole RIN system for EPA to keep track of rather than thousands or millions. However, we believe that any approach that requires EMTS to tag individual RINs or RIN batches with a specific date would be technically infeasible. We seek comment on the proposed approach and on any other alternative approaches that commenters recommend.

The approach we are proposing, if finalized, as well as all of the other approaches considered, would allow a non-obligated party to maintain the RIN holdings it would have on the day before the effective date of this reform. This aspect of the reform could incentivize non-obligated parties to build up their RIN holdings in advance of the final rule effective date, which would be counter to the goal of this reform. We seek comment on an approach to addressing this concern.

We are proposing that all non-obligated parties would be subject to this D6 RIN holding duration limit, with no exception. For the third reform discussed in Section E.III.3, we are proposing situations that should be excluded from its restriction, namely situations in which exporters would need to satisfy export RVOs, non-obligated parties would need to replace invalid RINs, and non-obligated parties would need to satisfy contract terms with obligated parties. We believe those exceptions are warranted because they either allow parties to meet the RFS requirements or because they help the RFS program run smoothly for obligated parties. For the reform discussed in this section, however, we do not believe that any exceptions are necessary. For example, a non-obligated party that needs D6 RINs to satisfy a contract with an obligated party could still do so while meeting the holding duration limit. We seek comment on whether any exceptions to this reform would be warranted, and if so which exceptions and why.

e. Reporting and Recordkeeping

In order to maintain compliance oversight of this RIN holding duration reform on non-obligated parties, we propose in this action to add a field to the quarterly RIN Activity Report on whether the proposed D6 RIN holding duration limit was exceeded in the quarter. We are also proposing that the attest engagement auditor would review the D6 RIN separation and sales numbers and confirm that the parties made the proper calculations and reported accurately to

EPA on compliance with the proposed provision. This proposed approach to reporting, recordkeeping, and compliance oversight is similar to our proposals for the first and third reforms discussed in this action. We seek comment on this proposed approach to compliance oversight.

## 5. Enhancing EPA's Market Monitoring Capabilities

In addition to the four reforms proposed in this action, we are considering taking additional steps to enhance our market monitoring capabilities in order to better detect potential market manipulation. The items listed below represent options we are currently considering, and we welcome public input on any aspects related to enhancing our data collections, enhancing our data systems, and/or seeking third-party RIN market surveillance assistance. We are also seeking comment on how these options could work in conjunction with the four reforms outlined in Sections III.E.1–4.

### a. Enhance Data Collection

Monitoring a commodities market as large and complex as the RIN market requires a substantial amount of market data. We currently require parties to submit some data under the RFS related to RIN trades. These data include trade prices, RIN volumes traded, and the parties involved in the transaction. These current data collections can be used to assess the RIN market for manipulative activities, but we recognize that we have an opportunity in this action to diversify the data we collect to enhance our ability to monitor the market. We also recognize the importance of balancing the benefits of additional data with the burden imposed both on the regulated industry and EPA of reporting and handling the data. Considering these factors, we are requesting comment on additional data collections that would enhance our ability to monitor the RIN market for instances of manipulation.

As described in Section III.E.1, we are proposing that parties would be required to report to EPA when their aggregate RIN holdings, including holdings of corporate affiliates, exceed a specified threshold. In order to provide meaning to this proposed reform and to enhance our market monitoring capabilities, we are proposing in this section that auditors would include in their annual attest engagements submitted to EPA by June 1 following the compliance year the names of the party's corporate and contractual affiliates in the compliance year. Parties that meet both definitions would need to be identified in both categories.<sup>193</sup> Given the complexity of contracts and RIN transactions, it is very challenging for EPA to confirm whether parties have common ownership and whether any group of corporate affiliates reached a level of aggregated D6 RIN holdings in a compliance year that would trigger the thresholds established in Section III.E.1 of this action. Therefore, we believe we need to collect information on corporate affiliates to allow us to properly conduct oversight of the RIN market. We are also proposing that this list would contain the names of contractual affiliates so that we could maintain some insight into any additional market share parties could have control over. We note that this list would include parties that are not registered with EMTS to hold RINs. While only registered affiliates are included in the threshold equations in Section III.E.1 for simplicity, we believe we need a wider picture of affiliations to, for example, monitor for a non-registered party that has established contracts with multiple parties to purchase and own a large number of aggregated RINs on its behalf. We would treat these lists as CBI and would not make them publicly available. We recognize that there may be challenges that we may not be aware of for parties to disclose this information to auditors and for auditors to pass it along to EPA, and therefore we are seeking

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<sup>193</sup> For diagrams and examples of different types of affiliates, see the memorandum, "Affiliates and Groups Definitional Relationship and Requirements," available in the docket for this action.

comment on any potential concerns and how these concerns may outweigh the benefits of adding this data to market oversight.

We are also proposing amendments to 40 CFR 80.1452(c)(12) to specify how parties report prices of RIN transactions to EPA. Currently, some RIN prices reported are illogical numbers, so we are providing further instruction on how to report the true price correctly. Specifically, we are proposing that a per gallon RIN price would be required for a separated RIN transaction and that a price of \$0.00 would only be allowed for intracompany and tolling agreement transactions. We are also seeking comment on any other legitimate reasons for reporting a \$0.00 RIN price besides the reasons identified above.

We are also planning to update business rules in EMTS to require that both parties in a RIN transaction enter the same RIN price. EMTS already has a business rule that requires both parties in a RIN transaction to enter the same RIN volume, and this business rule has been very helpful in maintaining high quality volume data that we can reliably publish and use for compliance oversight. These and other business rules prevent data entry errors and prompt parties that haven't properly followed the instructions in the regulations to correct their numbers. By adding a similar business rule to EMTS on prices, we believe we can prevent reporting errors and improve the quality and reliability of our price data.

Finally, we are proposing to update the transaction type options at 40 CFR 80.1452(c)(6) to capture whether a RIN transaction is the result of a spot trade or of delivery from a term contract. We believe that collecting this additional information will improve our understanding of the RIN price reported because we will know whether the price was established on the transaction date or sometime prior. With this information in hand, we could filter term contract prices out of the RIN price dataset that we publish and analyze internally for compliance

oversight. Thus, the published price would be a better reflection of market prices on a given day. We seek comment on this updated reporting requirement.

b. Third-Party Market Monitoring

We are considering whether we should employ third-party monitoring of the RIN market. We are aware of other environmental commodity markets that employ third-party market monitoring services to conduct analysis of the market, including screening for potential anti-competitive behavior or market manipulation. For example, the Western Climate Initiative, Inc. provides administrative services to the linked cap and trade programs in Quebec and California, including managing a contract with a company that provides independent marketing monitoring for the jurisdictions.<sup>194</sup> Quebec and California each maintain market monitoring capabilities to oversee the joint market. In addition, RGGI contracts with a third-party to monitor its CO<sub>2</sub> allowance trading market and produce and publish quarterly and annual reports summarizing their findings.<sup>195</sup> We believe additional RIN market oversight and monitoring from an independent third-party could serve as a deterrent to manipulative behavior and increase market transparency, enabling the market to more easily function as designed. However, we also recognize this added feature would come at a cost that may or may not outweigh the benefits. For example, there would be additional financial and staff time costs to manage the contracts and system with the third party, including ensuring proper data security, transfer, and training that would divert EPA's already limited resources away from the many high priority areas under the RFS program. Therefore, we are seeking comment on whether we should consider employing

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<sup>194</sup> See "Annual Report 2017 Activities and Accomplishments" (May 1, 2018), available at [http://www.wci-inc.org/docs/Attachment%206a.%20WCI\\_Inc\\_2017\\_Annual\\_Report\\_Final.pdf](http://www.wci-inc.org/docs/Attachment%206a.%20WCI_Inc_2017_Annual_Report_Final.pdf).

<sup>195</sup> See "Annual Report on the Market for RGGI CO<sub>2</sub> Allowances: 2017" (May 2018), available at <https://www.rggi.org/auctions/market-monitor-reports>.



third-party monitoring of the RIN market, including production of market analysis reports and how to share findings in these reports and still protect confidential business information.

*F. RIN Market Reform Economic Impacts*

1. Benefits of RIN Market Reform

The goal of the proposed reforms is to discourage or help prevent anti-competitive market practices that may introduce uncertainty or volatility into the RIN market. If these anti-competitive behaviors were to occur in the RIN market, then it comes at a cost to both obligated parties and biofuel producers if the prices are artificially inflated or deflated. Therefore, if the proposed reforms deliver on their intended goal, we believe the net benefit of this should help reduce undue costs and lower the risks for both obligated parties and renewable fuel producers. These proposed reforms also provide the added benefit of increasing transparency into the RIN market. In general, true commodities markets function optimally when all participants have access to as much information possible, without infringing on confidential business information, and this information is disseminated or shared with all parties at the same time. This helps create a level playing field and minimize any potential advantage one party may have over the another. The net benefit of greater transparency helps market participants, such as obligated parties, plan short- and long-term strategies to manage their compliance costs.

2. Costs of RIN Market Reform

As detailed in Sections III.E.1–4, we are proposing to require additional reporting and recordkeeping for obligated parties under the RFS program and non-obligated parties that participate in the RIN market. As a result, we expect modest costs associated with these new

requirements.<sup>196</sup> Specifically, we anticipate new costs associated with reporting and recordkeeping requirements related to RIN holdings, affiliated parties, increased compliance frequency, and any other data elements EPA collects as informed by Section III.E.5.a. We also anticipate some costs associated with prohibiting certain non-obligated parties from purchasing separated D6 RINs. Many of these parties have developed business models and enter into contracts that may require them to leverage the ability to purchase separated D6 RINs on spot markets. Prohibiting this practice would require that these parties adjust their business models.

#### *G. Conclusion*

On October 11, 2018, President Trump issued a White House statement explaining that EPA was being directed to initiate a rulemaking. Consequently, in this action, we are proposing regulatory changes in line with the President’s Directive that could serve to prevent anti-competitive behavior from potentially taking root in the future.

In Section III.E.1, we are proposing to set two thresholds that would work in tandem to identify parties with separated D6 RIN holdings significantly larger than needed for normal business functions and which may indicate an attempt to assert inappropriate market power. Although we are not proposing that exceeding the threshold would be a prohibited act, we are proposing that we would publish on our website the names of any parties that reported exceeding the thresholds. We are also proposing that the RIN holdings of corporate affiliates be included in a party’s threshold calculations. In Section III.E.2, we are proposing to establish RIN retirement requirements for the first three quarters of the compliance year. Obligated parties could use any D-code RINs to do so. This reform would not impact the current annual RVO calculations or

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<sup>196</sup> For a quantitative breakdown of new recordkeeping and reporting burden imposed by this action, see “ICR \_Detailed Burden Tables” and “E15 RVP RIN Market Reform Rule ICR \_Supporting Statement” materials in the docket for this action.

compliance. In Section III.E.3, we are proposing that only obligated parties, exporter, and certain non-obligated parties be allowed to purchase separated D6 RINs. Non-obligated parties would be exempt from this proposed restriction if they were a corporate or contractual affiliate to an obligated party. In Section III.E.4, we are proposing a limit on the duration that a non-obligated party could hold separated D6 RINs. Specifically, we are proposing that a non-obligated party would be required to sell or retire as many RINs as it obtained in a quarter by the end of that quarter. In Section III.E.5, we outline our consideration of taking additional steps to enhance our market monitoring capabilities. We discuss the possibility of employing a third-party market monitor to conduct analysis of the RIN market, including screening for potential anti-competitive behavior.

Overall, we are proposing to amend existing reports to collect quarterly RIN retirement information and information on whether the proposed D6 RIN holding thresholds were exceeded and whether the proposed requirements on purchasing and holding separated D6 RINs were met. We are proposing that parties would keep all records related to these reporting requirements and would submit them to auditors for the attest engagement process. In particular, we are proposing that each party would submit a complete list of its corporate and contractual affiliates to the auditor for review and that the auditor would submit that list to EPA with its attest engagement report. Finally, we are proposing enhancements to existing reporting fields in EMTS to improve our RIN price data for analysis.

We are seeking comment on all of the reform details proposed in this action, including the proposed reporting and recordkeeping requirements. We also seek comment on means to reduce the burden of implementation of these reforms, including on small entities. We are not seeking comment on the many elements of the RFS program that are not proposed for

amendment in this action, and those program elements and regulatory provisions are outside the scope of this action.

#### **IV. Statutory and Executive Order Reviews**

*A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review*

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket.

*B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs*

This action is not expected to be an Executive Order 13771 regulatory action. Details on the estimated costs of this proposed rule can be found in EPA's analysis of the potential costs and benefits associated with this action.

*C. Paperwork Reduction Act (PRA)*

With respect to the E15 1-psi waiver portion of this action, no new information collection burden is imposed under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2060-0675. The proposed changes to the regulations would remove a small segment of language on PTDs required to be generated and kept as records by parties that make and distribute gasoline under the regulations at 40 CFR part 80, subpart N. These proposed changes would not require any additional information from regulated parties nor do we believe that these proposed changes would substantively alter practices used by regulated parties to satisfy the PTD regulatory requirements.

The information collection activities related to the RIN market reform portion of this proposed rule have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) document that EPA prepared has been assigned EPA ICR number 2592.01. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

This ICR includes all additional RFS related information collection activities resulting from the Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations proposed rulemaking. These information collection activities include new recordkeeping and reporting requirements proposed under 40 CFR Part 80, subpart M.

*Respondents/affected entities:* The respondents to this information collection fall into the following general industry categories: petroleum refineries, ethyl alcohol manufacturers, other basic organic chemical manufacturing, chemical and allied products merchant wholesalers, petroleum bulk stations and terminals, petroleum and petroleum products merchant wholesalers, gasoline service stations, and marine service stations.

*Respondent's obligation to respond:* Mandatory.

*Estimated number of respondents:* 22,119.

*Frequency of response:* Quarterly, annually.

*Total estimated burden:* 216,891 hours (per year). Burden is defined at 5 CFR 1320.3(b).

*Total estimated cost:* \$20,445,451 (per year).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to [OIRA\\_submission@omb.eop.gov](mailto:OIRA_submission@omb.eop.gov), Attention: Desk Officer for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**. EPA will respond to any ICR-related comments in the final rule.

*D. Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule.

With respect to the E15 1-psi waiver portion of this action, the proposed regulatory changes do not substantively alter the regulatory requirements on parties that make and distribute gasoline. Additionally, the proposed interpretation to allow E15 to receive the 1-psi waiver would allow parties that make and distribute E15, including small entities, more flexibility in the summer to satisfy market demands.

With respect to the proposed RIN market reform provisions of this action, we have conducted a screening analysis to assess whether we should make a finding that this action will

not have a significant economic impact on a substantial number of small entities.<sup>197</sup> As detailed in that analysis, we believe that the existing flexibilities for small entities provide sufficient compliance flexibility and no additional flexibilities are necessary.

We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities.

*E. Unfunded Mandates Reform Act (UMRA)*

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action implements mandates specifically and explicitly set forth in CAA sec. 211 and we believe that this action represents the least costly, most cost-effective approach to achieve the statutory requirements.

*F. Executive Order 13132: Federalism*

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

*G. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments*

This action does not have tribal implications as specified in Executive Order 13175.

*H. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks*

EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may

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<sup>197</sup> See “Screening Analysis for the Proposed Modifications to RFS RIN Market Regulations,” available in the docket for this action.

disproportionately affect children, per the definition of “covered regulatory action” in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

*I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use*

This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. The flexibility provided to E15 blends by this action will enable additional supply of energy but are not expected to have an immediate significant effect on supply, distribution, or use of energy. The modifications to the RFS compliance system are not expected to have a significant effect on supply, distribution, or use of energy.

*J. National Technology Transfer and Advancement Act (NTTAA)*

This rulemaking does not involve technical standards.

*K. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*

EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low income populations, and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). This proposed rule does not affect the level of protection provided to human health or the environment by applicable air quality standards. This action does not substantially relax the control measures on sources regulated by EPA fuels programs and therefore will not cause emissions increases from these sources.



**V. Statutory Authority**

Statutory authority for this action comes from section 211 of the Clean Air Act, 42 U.S.C. 7545. Additional support for the procedural and compliance related aspects of this proposed rule comes from sections 114, 208, and 301(a) of the Clean Air Act, 42 U.S.C. sections 7414, 7542, and 7601(a).

**List of Subjects in 40 CFR Part 80:**

Environmental protection, Fuel additives, Gasoline, Labeling, Motor vehicle pollution, Penalties, Reporting and recordkeeping requirements.

Dated: \_\_\_\_\_.

\_\_\_\_\_  
Andrew Wheeler,  
Administrator.

For the reasons set forth in the preamble, EPA proposes to amend 40 CFR part 80 as follows:

**Part 80—REGULATION OF FUEL AND FUEL ADDITIVES**

1. The authority citation for part 80 continues to read as follows:

**Authority:** 42 U.S.C. 7414, 7521, 7542, 7545, and 7601(a).

**Subpart B—Controls and Prohibitions**

2. Section 80.27 is amended by revising paragraph (d)(2) to read as follows:

**§80.27 Controls and prohibitions on gasoline volatility.**

\* \* \* \* \*

(d) \* \* \*

(2) In order to qualify for the special regulatory treatment specified in paragraph (d)(1) of this section, gasoline must contain denatured, anhydrous ethanol. The concentration of the ethanol, excluding the required denaturing agent, must be at least 9% and no more than 15% (by volume) of the gasoline. The ethanol content of the gasoline shall be determined by the use of one of the testing methodologies specified in §80.47. The maximum ethanol content shall not exceed any applicable waiver conditions under section 211(f) of the Clean Air Act.

\* \* \* \* \*

3. Section 80.28 is amended by revising paragraphs (g)(6)(iii), (g)(8) introductory text, and (g)(8)(ii) as follows:

**§80.28 Liability for violations of gasoline volatility controls and prohibitions.**

\* \* \* \* \*

(g) \* \* \*

(6) \* \* \*

(iii) That the gasoline determined to be in violation contained no more than 15% ethanol (by volume) when it was delivered to the next party in the distribution system.

\* \* \* \* \*

(8) In addition to the defenses provided in paragraphs (g)(1) through (g)(6) of this section, in any case in which an ethanol blender, distributor, reseller, carrier, retailer, or wholesale purchaser-consumer would be in violation under paragraphs (b), (c), (d), (e) or (f), of this section, as a result of gasoline which contains between 9 and 15 percent ethanol (by volume) but exceeds the applicable standard by more than one pound per square inch (1.0 psi), the ethanol blender, distributor, reseller, carrier, retailer or wholesale purchaser-consumer shall not be deemed in violation if such person can demonstrate, by showing receipt of a certification from the facility from which the gasoline was received or other evidence acceptable to the Administrator, that:

\* \* \* \* \*

(ii) The ethanol portion of the blend does not exceed 15 percent (by volume); and

\* \* \* \* \*

#### **Subpart M—Renewable Fuel Standard**

4. Section 80.1401 is amended by adding in alphabetical order definitions for “Contractual affiliate,” “Corporate affiliate,” “Corporate affiliate group,” “DX RIN,” and “End of Day” to read as follows:

#### **§80.1401 Definitions.**

\* \* \* \* \*

*Contractual affiliate* means one of the following:

(1) Two parties are contractual affiliates if they have an explicit or implicit agreement in place for one to purchase or hold RINs on behalf of the other or to deliver RINs to the other. This other party may or may not be registered under the RFS program.

(2) Two parties are contractual affiliates if one RIN-owning party purchases or holds RINs on behalf of the other. This other party may or may not be registered under the RFS program.

\* \* \* \* \*

*Corporate affiliate* means one of the following:

(1) Two parties are corporate affiliates if one owns or controls ownership of more than 20 percent of the other.

(2) Two parties are corporate affiliates if one parent company owns or controls ownership of more than 20 percent of both.

*Corporate affiliate group* means a group of parties in which each party is a corporate affiliate to at least one other party in the group.

\* \* \* \* \*

*DX RIN* means a RIN with a D code of X, where X is the D code of the renewable fuel as identified under §80.1425, generated under §80.1426, and submitted to EMTS under §80.1452.

For example, a D6 RIN is a RIN with a D code of 6.

\* \* \* \* \*

*End of day* means 7:00 a.m. Coordinated Universal Time (UTC).

\* \* \* \* \*

5. Section 80.1427 is amended by:

a. Revising paragraph (b)(1) introductory text;

- b. Redesignating paragraphs (b)(1)(ii) through (iv) as paragraphs (b)(1)(iii) through (v);
- c. Adding new paragraph (b)(1)(ii);
- d. Revising newly redesignated paragraph b(1)(iii); and
- e. Adding paragraph (d).

The revisions and additions read as follows:

**§80.1427 How are RINs used to demonstrate compliance?**

\* \* \* \* \*

(b) \* \* \*

(1) An obligated party that fails to meet the requirements of paragraph (a)(1) or (a)(7) of this section for calendar year i or fails to meet the requirements of paragraph (d)(1) of this section for any quarter in calendar year i is permitted to carry a deficit into year i + 1 under the following conditions:

\* \* \* \* \*

(ii) The party met the requirements of paragraph (d)(1) of this section in each quarter in calendar year i – 1 for the same RVO.

(iii) The party subsequently meets the requirements of paragraphs (a)(1) and (d)(1) of this section for calendar year i + 1 and carries no deficit into year i + 2 for the same RVO.

\* \* \* \* \*

(d) *Installment requirement.* (1) In addition to the annual demonstration pursuant to §80.1451(a)(1) that an obligated party has met its Renewable Volume Obligations under §§80.1407 and 80.1430, each obligated party must meet an installment requirement by retiring a

sufficient number of RINs for the first three quarters of the compliance year by the reporting deadlines specified in Table 1 to §80.1451, except as specified in paragraph (d)(3) of this section.

(2) Obligated parties must determine their installment requirements as follows:

$$IR_{i,q} = [RFStd_{RF,i} * (GV_{i,q} + DV_{i,q}) * 0.80] + SHORT_{i,q} - OVER_{i,q}$$

Where:

$IR_{i,q}$  = The installment requirement is the number of RINs an obligated party needs to retire for quarter q in compliance period i, in RINs.

$RFStd_{RF,i}$  = The Renewable Volume Obligation for renewable fuel for compliance period i, determined by EPA pursuant to §80.1405, in percent.

$GV_{i,q}$  = The cumulative non-renewable gasoline volume, determined in accordance with §80.1407(b), (c), and (f), which is produced in or imported into the 48 contiguous states or Hawaii by an obligated party in compliance period i through quarter q, in gallons.

$DV_{i,q}$  = The cumulative non-renewable diesel volume, determined in accordance with §80.1407(d), (e), and (f), produced in or imported into the 48 contiguous states or Hawaii by an obligated party in compliance period i through quarter q, in gallons.

i = The compliance period, typically expressed as a calendar year.

q = The quarter, as defined in Table 1 to §80.1451, in compliance period i.

$SHORT_{i,q}$  = Cumulative shortfall from prior quarters in compliance period i through quarter q, which includes the amount of additional RINs an obligated party needed to retire to meet the installment requirement in the prior quarter(s), in RINs. For quarter one, this term is zero.

$OVER_{i,q}$  = Cumulative overage from the prior quarter(s) in compliance period i through quarter q, which includes the amount of excess RINs retired more than the installment requirement in the prior quarter(s), in RINs. For quarter one, this term is zero.

(3) An obligated party must satisfy the installment in compliance period i as required by paragraph (d)(2) of this section unless the obligated party satisfies all installments in compliance period i + 1 or has no RVO in compliance period i.

6. Section 80.1428 is amended by revising paragraph (b)(2) to read as follows:

**§80.1428 General Requirements for RIN distribution.**

\* \* \* \* \*

(b) \* \* \*

(2) *Separated RIN ownership.* (i) Any person that has registered pursuant to §80.1450 can own a separated RIN, except as specified in paragraph (b)(2)(ii) of this section.

(ii) Only a person that has registered as an obligated party or exporter of renewable fuel pursuant to §80.1450, and who must satisfy an RVO, may purchase a separated D6 RIN, unless the person meets one of the following conditions:

(A) The person meets the definition of contractual affiliate or corporate affiliate in §80.1401.

(B) The person is replacing an invalid D6 RIN under this subpart.

(iii) Any person who owns a separated D6 RIN under paragraph (b)(2)(i) of this section and is not an obligated party must either sell or retire at least the total number of D6 RINs separated or purchased in a quarter by the quarterly report deadline specified in Table 1 in §80.1451.

(iv) Any person who owns a separated D6 RIN to replace an invalid D6 RIN, as allowed under paragraph (b)(2)(ii)(B) of this section, may not sell the separated or purchased D6 RIN and must retire the separated or purchased D6 RIN within 60 days of the date of separating or purchasing the RIN pursuant to the applicable provisions of §§80.1431 and 80.1474.

\* \* \* \* \*

7. Section 80.1435 is added to read as follows:

**§80.1435 How are RIN holdings and RIN holding thresholds calculated?**

(a) *RIN holdings calculation.*

(1) Each party must calculate daily end-of-day separated D6 RIN holdings by aggregating its end-of-day separated D6 RIN holdings with the end-of-day separated D6 RIN holdings of all corporate affiliates in a corporate affiliate group and use the end-of-day separated D6 RIN holdings as specified in paragraph (b) of this section.

(2) Each party must calculate, as applicable, the holdings-to-market percentage under paragraph (b)(1) of the section and the holdings-to-obligation percentage under paragraph (b)(2) of this section quarterly in accordance with the schedule specified in Table 1 to §80.1451.

(3) Each obligated party that is part of a corporate affiliate group that has a holdings-to-market percentage, as calculated under paragraph (b)(1) of this section, greater than 3.00 percent for any calendar day in a compliance period must calculate their holdings-to-obligation percentage as specified in paragraph (b)(2) of this section.

(4) Each party must individually keep copies of all calculations and supporting information for separated D6 RIN holding threshold calculations required under this section as specified in §80.1454(u).

(b) *RIN holding thresholds calculations.*



(1) *Primary test calculations.* For each day in a compliance period, each party that owns RINs must calculate the holdings-to-market percentage for their corporate affiliate group using the method specified in paragraph (b)(1)(i) or (b)(1)(ii) of this section, as applicable.

(i) For each day beginning January 1 through March 31, calculate the holdings-to-market percentage for a corporate affiliate group as follows:

$$\text{HTMP}_d = [(\sum \text{D6RIN}_d)_a / (\text{CNV\_VOL}_{\text{TOT},i} * 1.25)] * 100$$

Where:

$\text{HTMP}_d$  = The holdings-to-market percentage is the percentage of separated D6 RINs a corporate affiliate group holds on calendar day d relative to the total expected number of separated D6 RINs in the market in compliance period i, in percent.

d = A given calendar day.

i = The compliance period, typically expressed as a calendar year.

a = Individual corporate affiliate in a corporate affiliate group.

$(\sum \text{D6RIN}_d)_a$  = Sum of the number of separated D6 RINs each individual corporate affiliate a holds at the end of calendar day d, in RIN-gallons.

$\text{CNV\_VOL}_{\text{TOT},i}$  = The total expected annual volume of conventional renewable fuels for the compliance period i, in gallons. Unless otherwise specified, this number is 15 billion gallons.

(ii) For each day beginning April 1 through December 31, calculate the holdings-to-market percentage for a corporate affiliate group as follows:

$$\text{HTMP}_d = [(\sum \text{D6RIN}_d)_a / (\text{CNV\_VOL}_{\text{TOT},i})] * 100$$

Where:

$HTMP_d$  = The holdings-to-market percentage is the percentage of separated D6 RINs a corporate affiliate group holds on calendar day d relative to the total expected number of separated D6 RINs in the market in compliance period i, in percent.

d = A given calendar day.

i = The compliance period, typically expressed as a calendar year.

a = Individual corporate affiliate in a corporate affiliate group.

$(\sum D6RIN_d)_a$  = Sum of the number of separated D6 RINs each individual corporate affiliate a holds at the end of calendar day d, in RIN-gallons.

$CNV\_VOL_{TOT,i}$  = The total expected annual volume of conventional renewable fuels for compliance period i, in gallons. Unless otherwise specified, this number is 15 billion gallons.

(2) *Secondary threshold calculations.* For each day in a compliance period where a corporate affiliate group is required to calculate with the secondary threshold requirement under §80.1435(a)(4), each obligated party must calculate the holdings-to-obligation percentage for their corporate affiliate group using the methods at paragraph (b)(2)(i) or (b)(2)(ii) of this section, as applicable.

(i) For each day beginning January 1 through March 31, calculate the holdings-to-obligation percentage as follows:

$$HTOP_d = [(\sum D6RIN_d)_a / \{[(\sum CNV\_RVO_{i-1})_a + (\sum CNV\_DEF_{i-1})_a + (\sum CNV\_DEF_{i-2})_a] * 1.25\}] * 100$$

Where:

$HTOP_d$  = The holdings-to-obligation percentage is the percentage of separated D6 RINs a corporate affiliate group holds on calendar day d relative to their expected separated D6 RIN

holdings based on the corporate affiliate group's conventional RVO for compliance period i-1, in percent.

$d$  = A given calendar day.

$i$  = The compliance period, typically expressed as a calendar year.

$a$  = Individual corporate affiliate in a corporate affiliate group.

$(\sum D6RIN_d)_a$  = Sum of the number of separated D6 RINs each individual corporate affiliate  $a$  holds on calendar day  $d$ , in RIN-gallons.

$(\sum CNV\_RVO_{i-1})_a$  = Sum of the conventional RVOs for each individual corporate affiliate  $a$  for compliance period  $i-1$  as calculated in paragraph (b)(2)(iii) of this section, in RIN-gallons.

$(\sum CNV\_DEF_{i-1})_a$  = Sum of the conventional deficits for each individual corporate affiliate  $a$  as calculated in paragraph (b)(2)(iv) of this section for compliance period  $i-1$ , in RIN-gallons.

$(\sum CNV\_DEF_{i-2})_a$  = Sum of the conventional deficits for each individual corporate affiliate  $a$  as calculated in paragraph (b)(2)(iv) of this section for compliance period  $i-2$ , in RIN-gallons.

(ii) For each day beginning April 1 through December 31, calculate the holdings-to-obligation percentage as follows:

$$HTOP_d = \{(\sum D6RIN_d)_a / [(\sum CNV\_RVO_{i-1})_a + (\sum CNV\_DEF_{i-1})_a]\} * 100$$

Where:

$HTOP_d$  = The holdings-to-obligation percentage is the percentage of separated D6 RINs a corporate affiliate group holds on calendar day  $d$  relative to their expected separated D6 RIN holdings based on the corporate affiliate group's conventional RVO for compliance period  $i-1$ , in percent.

$d$  = A given calendar day.

$i$  = The compliance period, typically expressed as a calendar year.

$a$  = Individual corporate affiliate in a corporate affiliate group.

$(\sum D6RIN_d)_a$  = Sum of the number of separated D6 RINs each individual corporate affiliate  $a$  holds on calendar day  $d$ , in RIN gallons.

$(\sum CNV\_RVO_{i-1})_a$  = Sum of the conventional RVOs for each individual corporate affiliate  $a$  for compliance period  $i-1$  as calculated in paragraph (b)(2)(iii) of this section, in RIN-gallons.

$(\sum CNV\_DEF_{i-1})_a$  = Sum of the conventional deficits for each individual corporate affiliate  $a$  as calculated in paragraph (b)(2)(iv) of this section for compliance period  $i-1$ , in RIN-gallons.

(iii) As needed to calculate the holdings-to-obligation percentage in paragraphs (b)(2)(i) and (b)(2)(ii) of this section, calculate the conventional RVO for an individual corporate affiliate as follows:

$$CNV\_RVO_i = \{[RFStd_{RF,i} * (GV_i + DV_i)] - [RFStd_{AB,i} * (GV_i + DV_i)]\} + ERVO_{RF,i}$$

Where:

$CNV\_RVO_i$  = The conventional RVO for an individual corporate affiliate for compliance period  $i$  without deficits, in RIN-gallons.

$i$  = The compliance period, typically expressed as a calendar year.

$RFStd_{RF,i}$  = The standard for renewable fuel for compliance period  $i$  determined by EPA pursuant to §80.1405, in percent.

$RFStd_{AB,i}$  = The standard for advanced biofuel for compliance period  $i$  determined by EPA pursuant to §80.1405, in percent.

$GV_i$  = The non-renewable gasoline volume, determined in accordance with §80.1407(b), (c), and (f), which is produced in or imported into the 48 contiguous states or Hawaii by an obligated party for compliance period  $i$ , in gallons.

$DV_i$  = The non-renewable diesel volume, determined in accordance with §80.1407(b), (c), and (f), which is produced in or imported into the 48 contiguous states or Hawaii by an obligated party for compliance period  $i$ , in gallons.

$ERVO_{RF,i}$  = The sum of all renewable volume obligations from exporting renewable fuels, as calculated under §80.1430, by an obligated party for compliance period  $i$ , in RIN-gallons.

(iv) As needed to calculate the holdings-to-obligation percentage in paragraphs (b)(2)(i) and (b)(2)(ii) of this section, calculate the conventional deficit for an individual corporate affiliate as follows:

$$CNV\_DEF_i = D_{RF,i} - D_{AB,i}$$

Where:

$CNV\_DEF_i$  = The conventional deficit for an individual corporate affiliate for compliance period  $i$ , in RIN-gallons. If a conventional deficit is less than zero, use zero for conventional deficits in paragraphs (b)(2)(i) and (b)(2)(ii) of this section.

$i$  = The compliance period, typically expressed as a calendar year.

$D_{RF,i}$  = Deficit carryover from compliance period  $i$  for renewable fuel, in RIN-gallons.

$D_{AB,i}$  = Deficit carryover from compliance period  $i$  for advanced biofuel, in RIN-gallons.

(c) *Exceeding the D6 RIN holding thresholds.*

(1) *Primary threshold test.* If a party or corporate affiliate group has a holdings-to-market percentage greater than three percent for any calendar day in a compliance period, as determined

under paragraph (b)(1) of this section, and the corporate affiliate group does not contain an obligated party, each party in the corporate affiliate group must separately submit a report to EPA as specified in §80.1451(c).

(2) *Secondary threshold test.* If an obligated party or a corporate affiliate group required to calculate a holdings-to-obligation percentage under paragraph (a)(3) of this section has a holdings-to-obligation percentage greater than 130.00 percent for any calendar day in a compliance period, as determined under paragraph (b)(2) of this section, each party in the corporate affiliate group must separately report to EPA as specified in §80.1451(c).

(3) *Reporting deadline.* Parties required to report to EPA under this section as specified under §80.1451(c), must report to EPA by the deadlines specified in Table 1 to §80.1451.

8. Section 80.1451 is amended by revising paragraphs (a)(3) and (c)(2) to read as follows:

**§80.1451 What are the reporting requirements under the RFS program?**

(a) \* \* \*

(3) The quarterly RIN activity reports required under paragraph (c)(2) of this section to also include:

(i) For obligated parties, all of the following information:

(A) The installment requirement calculated using the procedures in §80.1427(d) for the applicable quarterly reporting period.

(B) The cumulative shortfall from prior quarters as calculated in §80.1427(d).

(C) The cumulative overage from the prior quarters as calculated in §80.1427(d).

(D) The resulting balance after applying total RINs retired for compliance as calculated in §80.1427(d).

(ii) Any additional information that the Administrator may require.

\* \* \* \* \*

(c) \* \* \*

(2) Reports related to a person's RIN activity must be submitted to EPA according to the schedule specified in paragraph (f)(2) of this section. Each report must summarize RIN activities for the reporting period and must include all of the following information:

(i) The submitting party's name.

(ii) The submitting party's EPA-issued company identification number.

(iii) Primary registration designation or compliance level for compliance year (e.g., "Aggregated Refiner," "Exporter," "Renewable Fuel Producer," "RIN Owner Only," etc.).

(iv) Number of prior-year and current-year separated D3, D4, D5, D6, and D7 RINs owned at the end of the quarter.

(v) Indicate if the submitting party exceeded the separated D6 RIN holding threshold in the quarter, as determined by the applicable calculation specified in §80.1435. If the answer is yes, then EPA may publish the name and EPA-issued company identification number of the party.

(vi) For non-obligated parties who purchased separated D6 RINs during the reporting period, the reason(s) for the purchase consistent with §80.1428(b)(2)(ii).

(vii) Total number of assigned D6 RINs separated during the reporting period.

(viii) Total number of separated D6 RINs purchased during the reporting period.

(ix) Total number of separated D6 RINs sold during the reporting period.

(x) Total number of separated D6 RINs retired during the reporting period.

(xi) For non-obligated parties, total number of separated D6 RINs subject to the requirement in §80.1428(b)(2)(iii) held past the stated RIN distribution deadline.

(xii) The volume of renewable fuel (in gallons) owned at the end of the quarter.

(xiii) The total number of assigned RINs owned at the end of the quarter.

(xiv) Any additional information that the Administrator may require.

\* \* \* \* \*

9. Section 80.1452 is amended by:

a. Revising paragraph (c)(12); and

b. Adding paragraph (c)(15).

The revision and addition read as follows:

**§80.1452 What are the requirements related to the EPA Moderated Transaction System (EMTS)?**

\* \* \* \* \*

(c) \* \* \*

(12)(i) For RIN buy or sell transaction types including assigned RINs, the per-gallon RIN price or the per-gallon price of renewable fuel with RINs included.

(ii) For RIN buy or sell transaction types including separated RINs, the per-gallon RIN price.

\* \* \* \* \*

(15) For buy or sell transactions of separated RINs, the mechanism used to purchase the RINs (e.g., spot market or fulfilling a term contract).

\* \* \* \* \*

10. Section 80.1454 is amended by adding paragraphs (i)(1) through (2) and (u) through (y) to read as follows:

**§80.1454 What are the recordkeeping requirements under the RFS program?**



\* \* \* \* \*

(i) \* \* \*

(1) For buy or sell transactions of separated RINs, parties must retain records substantiating the price reported to EPA under §80.1452.

(2) For buy or sell transactions of separated RINs, parties must retain records demonstrating the transaction mechanism (e.g., spot market or fulfilling a term contract).

\* \* \* \* \*

(u) *Requirements for recordkeeping of RIN holdings for all parties transacting or owning RINs.*

(1) Parties must retain records related to end-of-day separated D6 RIN holdings, conventional RVO calculations, and any associated calculations recorded in order to meet the RIN holdings requirements described in §80.1435. Such records must include information related to any corporate affiliates and their RIN holdings and calculations.

(2) Parties must retain records related to their reports to EPA regarding threshold compliance under §§80.1435 and 80.1451.

(v) *Requirements for recordkeeping for installment requirement.*

(1) Obligated parties must retain records related to gasoline and diesel production levels used for RVO calculation in §§80.1427 and 80.1451.

(2) Obligated parties must retain records related to the RVO calculation inputs as listed in §§80.1427 and 80.1451.

(3) Obligated parties must retain records related to any remedial actions submitted after the quarterly compliance deadline.

(w) *Recordkeeping requirements for parties prohibited from purchasing separated D6 RINs.*

(1) Non-obligated parties must retain all records pertaining to why they purchased separated D6 RINs. This may include, but is not limited to, legal contracts with obligated parties or documents indicating the need to replace invalid D6 RINs.

(2) [Reserved]

(x) *Requirements for recordkeeping of D6 RIN holdings by non-obligated parties.*

(1) Non-obligated parties must retain all records related to the number of D6 RINs separated in a given quarter, purchased in a given quarter, and sold in a given quarter to demonstrate compliance with the requirements in §80.1428.

(2) [Reserved]

(y) *Requirements for recordkeeping of contractual and corporate affiliates.*

(1) Parties must retain records including, but not limited to, the name, address, business location, contact information, and description of relationship, for each corporate affiliate. For the corporate affiliate group, a relational diagram.

(2) Parties must retain records including, but not limited to, the name, address, business location, contact information, and contract or other agreement for each contractual affiliate.

11. Section 80.1460 is amended by revising paragraphs (c)(1) and (d) to read as follows:

**§80.1460 What acts are prohibited under the RFS program?**

\* \* \* \* \*

(c) \* \* \*

(1) Fail to acquire sufficient RINs, fail to retire sufficient RINs, or use invalid RINs to meet the person's RVOs or quarterly compliance requirements under §80.1427.

\* \* \* \* \*

(d) *RIN retention violation*. No person may do any of the following:

(1) Retain RINs in violation of the requirements in §80.1428(a)(5).

(2) Purchase separated RINs in violation of the requirements in §80.1428(b)(2).

\* \* \* \* \*

12. Section 80.1464 is amended by:

- a. Revising paragraph (a)(3)(ii);
- b. Adding paragraphs (a)(4) through (5);
- c. Revising paragraph (b)(3)(ii);
- d. Adding paragraph (b)(5);
- e. Revising paragraph (c)(2)(ii); and
- f. Adding paragraph (c)(3).

The revisions and additions read as follows:

**§80.1464 What are the attest engagement requirements under the RFS program?**

(a) \* \* \*

(3) \* \* \*

(ii) Obtain the database, spreadsheet, or other documentation used to generate the information in the RIN activity reports; compare the RIN transaction samples reviewed under paragraph (a)(2) of this section with the corresponding entries in the database or spreadsheet and report as a finding any discrepancies; compute the total number of current-year and prior-year RINs owned at the start and end of each quarter, purchased, separated, sold, retired and reinstated, and for parties that reported RIN activity for RINs assigned to a volume of renewable fuel, the volume and type of renewable fuel (as defined in §80.1401) owned at the end of each

quarter; as represented in these documents; obtain a list of all corporate affiliates and a list of all contractual affiliates and review the information regarding their documented relationship to the submitter (e.g., contracts, or other legal documents); and identify any contractual affiliates that had a contract with the party that did not result in transfer of RINs to the party during the calendar year; report a separate list for all corporate affiliates and all contractual affiliates including identification information for each corporate or contractual affiliate (e.g., company ID, company name, corporate address, etc) and any findings to EPA.

*(4) Quarterly installment requirement for obligated parties.*

(i) Compare the volumes of products listed in §80.1407(c) and (e) reported to EPA in the report required under §80.1451(a)(3) with the volumes, excluding any renewable fuel volumes, contained in the inventory reconciliation analysis under §80.133 and the volume of non-renewable diesel produced or imported. Verify that the volumes reported to EPA agree with the volumes in the inventory reconciliation analysis and the volumes of non-renewable diesel produced or imported, and report as a finding any exception.

(ii) Compare the calculated installment requirement for each quarter using the required steps found in 80.1427(d) with any RINs retired for compliance. Verify that any cumulative shortfall or cumulative overage is carried through as applicable into any subsequent quarter.

(5) *RIN holdings.* (i) Obtain and read copies of the RIN holdings calculations kept under §80.1454(u) for the obligated party and any corporate affiliates.

(ii) Report as a finding any date where the aggregated calculation exceeded the RIN holding threshold(s) specified in §80.1435. State whether this information agrees with the party's reports (notification of threshold exceedance) to EPA.

(b) \* \* \*

(3) \* \* \*

(ii) Obtain the database, spreadsheet, or other documentation used to generate the information in the RIN activity reports; compare the RIN transaction samples reviewed under paragraph (b)(2) of this section with the corresponding entries in the database or spreadsheet and report as a finding any discrepancies; report the total number of each RIN generated during each quarter and compute and report the total number of current-year and prior-year RINs owned at the start and end of each quarter, purchased, separated, sold, retired and reinstated, and for parties that reported RIN activity for RINs assigned to a volume of renewable fuel, the volume of renewable fuel owned at the end of each quarter, as represented in these documents; review the information regarding contractual affiliates and corporate affiliates (as defined in §80.1401) and their documented relationship to the submitter; identify any contractual affiliates that had a contract with the party that did not result in transfer of RINs to the party during the calendar year; report a separate list for all corporate affiliates and all contractual affiliates including identification information for each corporate or contractual affiliate (e.g., company ID, company name, corporate address, etc) and any findings to EPA.

\* \* \* \* \*

(5) *RIN holdings*. (i) Obtain and read copies of the RIN holdings calculations for the renewable fuel producers and RIN-generating importers and any corporate affiliates.

(ii) Report as a finding any date where the aggregated calculation exceeded the RIN holding threshold(s) specified in §80.1435.

(c) \* \* \*

(2) \* \* \*

(ii) Obtain the database, spreadsheet, or other documentation used to generate the information in the RIN activity reports; compare the RIN transaction samples reviewed under paragraph (c)(1) of this section with the corresponding entries in the database or spreadsheet and report as a finding any discrepancies; compute the total number of current-year and prior-year RINs owned at the start and end of each quarter, purchased, sold, retired, separated, and reinstated and for parties that reported RIN activity for RINs assigned to a volume of renewable fuel, the volume of renewable fuel owned at the end of each quarter, as represented in these documents; review the information regarding corporate affiliates and contractual affiliates (as defined in §80.1401) and their documented relationship to the submitter (e.g., contract); identify any contractual affiliates that had a contract with the party that did not result in transfer of RINs to the party during the calendar year; report a separate list for all corporate affiliates and all contractual affiliates including identification information for each corporate or contractual affiliate (e.g., company ID, company name, corporate address, etc) and any findings to EPA.

(3) *RIN holdings*. (i) Obtain and read copies of the RIN holdings calculations for the renewable fuel producers and RIN-generating importers and any corporate affiliates.

(ii) Report as a finding any date where the aggregated calculation exceeded the RIN holding threshold specified in §80.1435. State whether this information agrees with the party's reports (notification of threshold exceedance) to EPA.

\* \* \* \* \*

#### **Subpart N—Additional Requirements for Gasoline-Ethanol Blends**

13. Section 80.1503 is amended by:

- a. Revising paragraph (a)(1)(vi)(B);
- b. Removing and reserving paragraph (a)(1)(vi)(C);

- c. Revising paragraph (b)(1)(vi)(B); and
- d. Removing and reserving paragraphs (b)(1)(vi)(C) through (E).

The revisions read as follows:

**§80.1503 What are the product transfer document requirements for gasoline-ethanol blends, gasolines, and conventional blendstocks for oxygenate blending subject to this subpart?**

(a) \* \* \*

(1) \* \* \*

(vi) \* \* \*

(B) The conspicuous statement that the gasoline being shipped contains ethanol and the percentage concentration of ethanol as described in §80.27(d)(3).

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

(vi) \* \* \*

(B)(1) For gasoline containing less than 9 volume percent ethanol, the following statement: “EX—Contains up to X% ethanol. The RVP does not exceed [fill in appropriate value] psi.” The term X refers to the maximum volume percent ethanol present in the gasoline.

(2) The conspicuous statement that the gasoline being shipped contains ethanol and the percentage concentration of ethanol as described in §80.27(d)(3) may be used in lieu of the statement required under paragraph (b)(1)(vi)(B)(1) of this section.

\* \* \* \* \*

14. Section 80.1504 is amended by removing and reserving paragraphs (f) and (g).