## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Parts 79 and 80

**[EPA–HQ–OAR–2019–0136; FRL–10003–79–OAR]**

**RIN 2060–AU42**

## Renewable Fuel Standard Program: Standards for 2020 and Biomass-Based Diesel Volume for 2021 and Other Changes

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

**ACTION:** Final rule.

**SUMMARY:** Under section 211 of the Clean Air Act, the Environmental Protection Agency (EPA) is required to set renewable fuel percentage standards every year. This action establishes the annual percentage standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that apply to gasoline and diesel transportation fuel produced or imported in the year 2020. Relying on statutory waiver authority that is available when the projected cellulosic biofuel production volume is less than the applicable volume specified in the statute, EPA is establishing volume requirements for cellulosic biofuel, advanced biofuel, and total renewable fuel that are below the statutory volume targets. We are also establishing the applicable volume of biomass-based diesel for 2021. In addition, we are finalizing changes to the percentage standard calculations to account for volumes of gasoline and diesel we project will be exempted from the renewable volume obligations. Finally, this action finalizes several regulatory changes to the Renewable Fuel Standard (RFS) program including new pathways, flexibilities for regulated parties, and clarifications of existing regulations.

**DATES:** This final rule is effective on April 6, 2020.

**ADDRESSES:** The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2019–0136. All documents in the docket are listed on the *https://www.regulations.gov* website. Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material is not available on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available electronically through *https://www.regulations.gov.*

**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.*

**SUPPLEMENTARY INFORMATION:** Entities potentially affected by this final rule are those involved with the production, distribution, and sale 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 [1] codes | SIC [2] 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 | 221210 | 4925 | Manufactured gas production and distribution. |
| Industry | 454319 | 5989 | Other fuel dealers. |

[1] North American Industry Classification System (NAICS).
[2] 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 final action. This table lists the types of entities that EPA is now aware could potentially be affected by this action. Other types of entities not listed in the table could also be affected. To determine whether your entity would be affected by this action, you should carefully examine the applicability criteria in 40 CFR part 80. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

### Outline of This Preamble

## I. Executive Summary

The Renewable Fuel Standard (RFS) program began in 2006 pursuant to the requirements in Clean Air Act (CAA) section 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.[1] EISA's stated goals include moving the United States (U.S.) toward ''greater energy independence and security [and] increas[ing] the production of clean renewable fuels.'' [2]

The statute includes annual volume targets and requires EPA to translate those volume targets (or alternative volume requirements established by EPA in accordance with statutory waiver authorities) into compliance obligations that obligated parties must meet every year. In this action we are establishing the applicable volumes for cellulosic biofuel, advanced biofuel, and total renewable fuel for 2020, and biomass-based diesel (BBD) for 2021.[3]

We are also finalizing changes to the percentage standard calculations to account for volumes of gasoline and diesel we project will be exempted from the renewable volume obligations, and establishing the annual percentage standards (also known as ''percent standards'') for cellulosic biofuel, BBD, advanced biofuel, and total renewable fuel that would apply to gasoline and diesel produced or imported in 2020.[4]

Finally, we are finalizing several regulatory changes to the RFS program to facilitate the implementation of this program going forward including new pathways, flexibilities for regulated parties, and clarifications of existing regulations.

Today, nearly all gasoline used for transportation purposes contains 10 percent ethanol (E10), and on average diesel fuel contains nearly 5 percent of biodiesel and renewable diesel.[5] However, the market has fallen well short of the statutory volumes for cellulosic biofuel, resulting in shortfalls in the advanced biofuel and total renewable fuel volumes. In this action, we are establishing a volume requirement for cellulosic biofuel at the level we project to be available for 2020, along with an associated applicable percentage standard. For advanced biofuel and total renewable fuel, we are finalizing volume requirements using the ''cellulosic waiver authority'' that result in advanced biofuel and total renewable fuel volume requirements that are lower than the statutory targets by the same magnitude as the reduction in the cellulosic biofuel reduction. This would effectively maintain the implied statutory volumes for non-cellulosic biofuel and conventional biofuel.[6]

The resulting volume requirements for 2020 are shown in Table I–1. Relative to the levels finalized for 2019, the 2020 volume requirements for cellulosic biofuel, advanced biofuel and total renewable fuel would be higher by approximately 170 million gallons. This entire increase for each category is attributable to the increased projection of cellulosic biofuel production in 2020 (see Section III for a further discussion of our cellulosic biofuel projection). We are also establishing the volume requirement for BBD for 2021 at 2.43 billion gallons. This volume is equal to the BBD volume finalized for 2020.

[1] 75 FR 14670, March 26, 2010.

[2] Public Law 110–140, 121 Stat. 1492 (2007) (''EISA'').

[3] The 2020 BBD volume requirement was established in the 2019 final rule. 83 FR 63704 (December 11, 2018).

[4] For a list of the statutory provisions related to the determination of applicable volumes, see the 2018 final rule (82 FR 58486, December 12, 2017; Table I.A–2).

[5] Average biodiesel and/or renewable diesel blend percentages based on EIA's October 2019 Short Term Energy Outlook (STEO) and EPA's Moderated Transaction System (EMTS).

[6] The statutory total renewable fuel, advanced biofuel and cellulosic biofuel requirements for 2020 are 30.0, 15.0 and 10.5 billion gallons respectively. This implies a conventional renewable fuel applicable volume (the difference between the total renewable fuel and advanced biofuel volumes) of 15.0 billion gallons, and a non-cellulosic advanced biofuel applicable volume (the difference between the advanced biofuel and cellulosic biofuel volumes) of 4.5 billion gallons.

TABLE I–1—FINAL VOLUME REQUIREMENTS [a]

| | 2019 [b] | 2020 Statutory volumes | 2020 Proposed volumes | 2020 Final volumes | 2021 Final volumes |
|---|---|---|---|---|---|
| Cellulosic biofuel (billion gallons) | 0.42 | 10.50 | 0.54 | 0.59 | n/a |
| Biomass-based diesel (billion gallons) | 2.1 | ≥1.0 | [c] N/A | [c] 2.43 | 2.43 |
| Advanced biofuel (billion gallons) | 4.92 | 15.00 | 5.04 | 5.09 | n/a |
| Renewable fuel (billion gallons) | 19.92 | 30.00 | 20.04 | 20.09 | n/a |

[a] All values are ethanol-equivalent on an energy content basis, except for BBD which is biodiesel-equivalent.
[b] The 2019 volume requirements for cellulosic biofuel, advanced biofuel, and renewable fuel were established in the 2019 final rule (83 FR 63704, December 11, 2018). The 2019 BBD volume requirement was established in the 2018 final rule (82 FR 58486, December 12, 2017).
[c] The 2020 BBD volume requirement of 2.43 billion gallons was established in the 2019 final rule (83 FR 63704, December 11, 2018).

*A. Approach To Setting Volume Requirements*

For advanced biofuel and total renewable fuel, we are reducing the statutory volumes based on the ''cellulosic waiver authority'' that result in advanced biofuel and total renewable fuel volume requirements that are lower than the statutory targets by the same magnitude as the reduction in the cellulosic biofuel applicable volume. Further discussion of our cellulosic waiver authority is found in Section II. This follows the same general approach as in the 2018 and 2019 final rules, as well as the 2020 proposed rule. The volumes for cellulosic biofuel, advanced biofuel, and total renewable fuel exceed the required volumes for these fuel types in 2019.

*B. Cellulosic Biofuel*

The CAA requires EPA to annually determine the projected volume of cellulosic biofuel production for the following year. If the projected volume of cellulosic biofuel production is less than the applicable volume specified in section 211(o)(2)(B)(i)(III) of the statute, EPA must lower the applicable volume used to set the annual cellulosic biofuel percentage standard to the projected volume available. In this rule we are establishing a cellulosic biofuel volume requirement of 0.59 billion ethanol-equivalent gallons for 2020 based on our projection. This volume is 0.17 billion ethanol-equivalent gallons higher than the cellulosic biofuel volume finalized for 2019. Our projection in Section III considers many factors, including the estimate of cellulosic biofuel production received from the Energy Information Administration (EIA); [7] RIN generation data for past years and 2019 to date that is available to EPA through the EPA Moderated Transaction System (EMTS); the information we have received regarding individual facilities' capacities, production start dates, and biofuel production plans; a review of cellulosic biofuel production relative to EPA's projections in previous annual rules; and EPA's own engineering judgment. To project cellulosic biofuel production for 2020 we used the same general methodology as in the 2018 and 2019 final rules, together with updated data.

*C. Advanced Biofuel*

If we reduce the applicable volume of cellulosic biofuel below the volume specified in CAA section 211(o)(2)(B)(i)(III), we also have the authority to reduce the applicable volumes of advanced biofuel and total renewable fuel by the same or a lesser amount. We refer to this as the ''cellulosic waiver authority.'' The conditions that caused us to reduce the 2019 volume requirement for advanced biofuel below the statutory target remain relevant in 2020.

As in the 2019 final rule, we investigated the projected availability of non-cellulosic advanced biofuels in 2020. In Section IV, we describe our consideration of many factors, including:

- The ability of the market to make advanced biofuels available,
- The ability of the standards we set to bring about market changes in the time available,
- The potential impacts associated with diverting biofuels and/or biofuel feedstocks from current uses to the production of advanced biofuel used in the U.S.,
- The fact that the biodiesel tax credit is currently not available for 2020,
- Current tariffs on imports of biodiesel from Argentina and Indonesia and the proposal to change those tariffs, and
- The cost of advanced biofuels

We also considered the size of the carryover RIN bank. Based on these considerations, we have determined that the statutory volume target for advanced biofuel should be reduced by the same amount as the reduction in the statutory volume target for cellulosic biofuel, consistent with our July 29, 2019, proposal (''the July 29 proposal''). Specifically, the statutory volume target for advanced biofuel should be reduced by 9.91 billion gallons. This maintains the implied statutory volume requirement for non-cellulosic advanced biofuel of 4.5 billion gallons, and results in a final advanced biofuel volume requirement for 2020 of 5.09 billion gallons, which is 0.17 billion gallons higher than the advanced biofuel volume requirement for 2019.

*D. Total Renewable Fuel*

As we have articulated in previous annual standard-setting rulemakings,[8] we believe that the cellulosic waiver authority is best interpreted to require equal reductions in advanced biofuel and total renewable fuel. Consistent with previous years, we are reducing total renewable fuel by the same amount as the reduction in advanced biofuel, such that the resulting implied volume requirement for conventional renewable fuel would be 15 billion gallons, the same as the implied volume requirement in the statute. The result is that the final 2020 volume requirement is 20.09 billion gallons.

*E. 2021 Biomass-Based Diesel*

In EISA, Congress specified increasing applicable volumes of BBD through 2012. Beyond 2012, Congress stipulated that EPA, in coordination with DOE and USDA, was to establish the BBD volume based on a review of the implementation of the program during calendar years specified in the tables in CAA 211(o)(B)(i) and other statutory factors, provided that the required volume for BBD could not be less than 1.0 billion gallons. Starting in 2013, EPA has set the BBD volume requirement above the statutory minimum, most recently resulting in 2.43 billion gallons for 2020. In this rule we are maintaining the BBD volume for 2021 at 2.43 billion gallons.

[7] Letter from Linda Capuano, EIA Administrator to Andrew Wheeler, EPA Administrator. October 9, 2019. Available in docket EPA–HQ–OAR–2019–0136.

[8] See, *e.g.,* 83 FR 63704 (December 11, 2018).

Given current and recent market conditions, the advanced biofuel requirement is driving the production and use of biodiesel and renewable diesel volumes over and above volumes required through the separate BBD standard, and we expect this to continue. While EPA continues to believe it is appropriate to maintain the opportunity for other advanced biofuels to compete for market share, the vast majority of the advanced biofuel obligations in recent years have been satisfied with BBD. Thus, after a review of implementation of the program to date and considering the statutory factors, we are establishing, in coordination with USDA and DOE, an applicable volume of BBD for 2020 of 2.43 billion gallons.

*F. Annual Percentage Standards*

The renewable fuel standards are expressed as a volume percentage and are used by each refiner and importer of fossil-based gasoline or diesel to determine their renewable fuel volume obligations.

Four separate percentage standards are required under the RFS program, corresponding to the four separate renewable fuel categories shown in Table I–1. The specific formulas we use in calculating the renewable fuel percentage standards are contained in the regulations at 40 CFR 80.1405. On October 28, 2019, we proposed changes to our percentage standard formulas in 40 CFR 80.1405. (''October 28 Proposal''). These changes were intended to project the exempted volume of gasoline and diesel due to small refinery exemptions, regardless of whether we grant those exemptions prior or after the annual rule. For 2020, we proposed to project exempt volumes are based on a three-year average of the relief recommended by the Department of Energy (DOE) for 2016–2018. In this action, we are finalizing these proposed changes. These changes result in increases to the percentage standards as compared to the percentage standards in the July 29 proposal.

Consistent with these changes, we are also announcing our general policy approach to small refinery exemptions going forward, including for now-pending 2019 petitions as well as for future 2019 and 2020 petitions. Although final decisions on any exemption petition must await EPA's receipt and adjudication of those petitions, EPA intends to grant relief consistent with DOE's recommendations where appropriate. This policy extends to DOE's recommendations of partial (50%) relief: Where appropriate, we intend to grant 50% relief where DOE recommends 50% relief.

The volume of transportation gasoline and diesel used to calculate the proposed percentage standards was based on Energy Information Administration's (EIA) October 2019 Short Term Energy Outlook (STEO), minus an estimate of fuel consumption in Alaska. The final applicable percentage standards for 2020 are shown in Table I.B.6–1. Details, including the projected gasoline and diesel volumes used, can be found in Section VII.

TABLE I.F–1—FINAL 2020 PERCENTAGE STANDARDS

| | Percentage standards |
|---|---|
| Cellulosic biofuel | 0.34% |
| Biomass-based diesel | 2.10 |
| Advanced biofuel | 2.93 |
| Renewable fuel | 11.56 |

*G. Amendments to the RFS and Fuels Programs Regulations*

In implementing the RFS program EPA has identified several areas where regulatory changes would assist EPA in implementing the RFS program in future years. EPA requested comment on several of these regulatory changes in the July 29 proposal: Clarification of diesel RVO calculations, pathway petition conditions, a biodiesel esterification pathway, distillers corn oil and distillers sorghum oil pathways, and renewable fuel exporter provisions. Each of these regulatory changes is discussed in greater detail in Section IX.

Additionally, we proposed a number of changes to the RFS regulations as part of the proposed Renewables Enhancement and Growth Support (REGS) Rule.[9] EPA noted that it was considering finalizing several of those proposed changes along with the 2020 RVO final rule,[10] and are now finalizing the REGS Rule provisions listed below.

- Flexibilities for Renewable Fuel Blending for Military Use (REGS Section VIII.E)
- Heating Oil Used for Cooling (REGS Section VIII.F)
- Separated Food Waste Plans (REGS Section VIII.G)
- Additional Registration Deactivation Justifications (REGS Section VIII.J)
- New RIN Retirement Section (REGS Section VIII.L)
- New Pathway for Co-Processing Biomass With Petroleum To Produce Cellulosic Diesel, Jet Fuel, and Heating Oil (REGS Section VIII.M)
- Other Revisions to the Fuels Program (REGS Section IX)

The other provisions proposed in the REGS Rule remain under consideration but are not being finalized at this time.

*H. Response to Remand of 2016 Standards Rulemaking*

In 2015, EPA established the total renewable fuel standard for 2016, relying in part on the general waiver authority under a finding of inadequate domestic supply.[11] Several parties challenged that action, and the U.S. Court of Appeals for the D.C. Circuit, in *Americans for Clean Energy* v. *EPA,* 864 F.3d 691 (2017) (hereafter ''*ACE*''), vacated EPA's use of the general waiver authority under a finding of inadequate domestic supply, finding that such use exceeded EPA's authority under the Clean Air Act. Specifically, EPA had impermissibly considered demand-side factors in its assessment of inadequate domestic supply, rather than limiting that assessment to supply-side factors. The court remanded the rule back to EPA for further consideration in light of the court's ruling.

In the July 29 proposal, we proposed that the applicable 2016 volume requirement for total renewable fuel and the associated percentage standard should not be changed. In light of the many comments received, we are still actively considering this issue. We are therefore not taking final agency action on this issue in today's final rule. We are instead deferring action on this issue to a separate action, which we anticipate in early 2020.

## II. Authority and Need for Waiver of Statutory Applicable Volumes

The CAA provides EPA with the authority to promulgate volume requirements below the applicable volume targets specified in the statute under specific circumstances. This section discusses those authorities. As described in the executive summary, we are setting the volume requirement for cellulosic biofuel at the level we project to be available for 2020, and an associated applicable percentage standard. For advanced biofuel and total renewable fuel, we are setting volume requirements and associated applicable percentage standards, based on use of the ''cellulosic waiver authority'' that would result in advanced biofuel and total renewable fuel volume requirements that are equivalent to the reduction in the cellulosic biofuel

[9] See 81 FR 80828 (November 16, 2016).

[10] See 84 FR 36765 (July 29, 2019).

[11] See 80 FR 77420 (December 14, 2015); CAA section 211(o)(7)(A)(ii).

reduction. This would effectively maintain the implied statutory volumes for non-cellulosic advanced and conventional renewable fuel.

*A. Statutory Authorities for Reducing Volume Targets*

In CAA section 211(o)(2), Congress specified increasing annual volume targets for total renewable fuel, advanced biofuel, and cellulosic biofuel for each year through 2022. However, Congress also recognized that under certain circumstances it would be appropriate for EPA to set volume requirements at a lower level than reflected in the statutory volume targets, and thus provided waiver provisions in CAA section 211(o)(7). Congress also specified increasing annual volume targets for BBD through 2012 and authorized EPA to set volume requirements for subsequent years (*i.e.,* after 2012) in coordination with USDA and DOE, and based upon consideration of specified factors.

1. Cellulosic Waiver Authority

Section 211(o)(7)(D)(i) of the CAA provides that if EPA determines that the projected volume of cellulosic biofuel production for a given year is less than the applicable volume specified in the statute, then EPA must reduce the applicable volume of cellulosic biofuel required to the projected volume available for that calendar year. In making this projection, EPA may not ''adopt a methodology in which the risk of overestimation is set deliberately to outweigh the risk of underestimation'' but must make a projection that ''takes neutral aim at accuracy.'' *API* v. *EPA,* 706 F.3d 474, 479, 476 (D.C. Cir. 2013). Pursuant to this provision, EPA has set the cellulosic biofuel requirement lower than the statutory volume for each year since 2010. As described in Section III.D, the projected volume of cellulosic biofuel production for 2020 is less than the 10.5 billion gallon volume target in the statute. Therefore, for 2020, we are finalizing a cellulosic biofuel volume lower than the statutory applicable volume, in accordance with this provision.

CAA section 211(o)(7)(D)(i) also provides EPA with the authority to reduce the applicable volume of total renewable fuel and advanced biofuel in years when it reduces the applicable volume of cellulosic biofuel under that provision. The reduction must be less than or equal to the reduction in cellulosic biofuel. For 2020, we are reducing the applicable volumes of advanced biofuel and total renewable fuel under this authority.

EPA has used the cellulosic waiver authority to lower the advanced biofuel and total renewable fuel volumes every year since 2014 as a result of waiving the cellulosic volumes. Further discussion of the cellulosic waiver authority, and EPA's interpretation of it, can be found in the preamble to the 2017 final rule.[12]

In this action we are using the cellulosic waiver authority to reduce the statutory volume targets for advanced biofuel and total renewable fuel by equal amounts, consistent with our long-held interpretation of this provision and our approach in setting the 2014–2019 standards. This approach considers the Congressional objectives reflected in the volume tables in the statute, and the environmental objectives that generally favor the use of advanced biofuels over non-advanced biofuels.[13] As described in Section IV, we are reducing the advanced biofuel volume under the cellulosic waiver authority by the amount of the reduction in cellulosic biofuel and providing an equal reduction under the cellulosic waiver authority in the applicable volume of total renewable fuel. We are taking this action both because we do not believe that the statutory volumes can be achieved, and because we believe that backfilling of the shortfall in cellulosic with advanced biofuel would not be appropriate in light of concerns about high costs of the advanced biofuels and the potential for feedstock switching. The volumes of advanced biofuel and total renewable fuel resulting from this exercise of the cellulosic waiver authority provide for an implied volume allowance for conventional renewable fuel of 15 billion gallons, and an implied volume allowance for non-cellulosic advanced biofuel of 4.5 billion gallons, equal to the implied statutory volumes for 2020. As discussed in Section IV, we also believe that the resulting volume of advanced biofuel is attainable, and that the resulting volume of total renewable fuel can be made available by the market.

2. General Waiver Authority

Section 211(o)(7)(A) of the CAA provides that EPA, in consultation with the Secretary of Agriculture and the Secretary of Energy, may waive the applicable volumes specified in the Act in whole or in part based on a petition by one or more States, by any person subject to the requirements of the Act, or by the EPA Administrator on his own motion. Such a waiver must be based on a determination by the Administrator, after public notice and opportunity for comment that: (1) Implementation of the requirement would severely harm the economy or the environment of a State, a region, or the United States; or (2) there is an inadequate domestic supply.

EPA received comments requesting that EPA should use the general waiver authority to further reduce volumes under findings of inadequate domestic supply and/or severe harm to the economy or environment, as well as comments to the contrary. Based on our review of the comments and updated data, and consistent with EPA's rationale and decisions in setting the 2019 standards, we decline to exercise our discretion to reduce volumes under the general waiver authority. Further discussion of these issues is found in the Response To Comments (''RTC'') document.[14]

*B. Severability*

The various portions of this rule are severable. Specifically, the following portions are severable from each other: The percentage standards for 2020 (described in Section VII); the 2021 BBD volume requirement (Section VI); the administrative actions (Section VIII); and the regulatory amendments (Section IX). In addition, each of the regulatory amendments is severable from the other regulatory amendments. If any of the above portions is set aside by a reviewing court, we intend the remainder of this action to remain effective. For instance, if a reviewing court sets aside one of the regulatory amendments, we intend for the 2020 percentage standards to go into effect.

*C. Treatment of Carryover RINs*

Consistent with our approach in the rules establishing the RFS standards for

[12] See 81 FR 89752–89753 (December 12, 2016); see also *API* v. *EPA,* 706 F.3d 474 (D.C. Cir. 2013) (requiring that EPA's cellulosic biofuel projections reflect a neutral aim at accuracy); *Monroe Energy* v. *EPA,* 750 F.3d 909, 915–16 (D.C. Cir. 2014) (affirming EPA's broad discretion under the cellulosic waiver authority to reduce volumes of advanced biofuel and total renewable fuel); *Americans for Clean Energy* v. *EPA* (''*ACE*''), 864 F.3d 691, 730–735 (D.C. Cir. 2017) (same); *Alon Refining Krotz Spring, Inc.* v. *EPA,* 936 F.3d 628, 662–663 (D.C. Cir. 2019) (same); *American Fuel & Petrochemical Manufacturers* v. *EPA,* 937 F.3d 559, 577–78 (D.C. Cir. 2019) (same).

[13] See 81 FR 89752–89753 (December 12, 2016). See also 78 FR 49809–49810 (August 15, 2013); 80 FR 77434 (December 14, 2015). Advanced biofuels are required to have lifecycle GHG emissions that are at least 50% less than the baseline defined in EISA. Non-advanced biofuels are required to have lifecycle GHG emissions that are at least 20% less than the baseline defined in EISA unless the fuel producer meets the grandfathering provisions in 40 CFR 80.1403. Beginning in 2015, all growth in the volumes established by Congress come from advanced biofuels.

[14] See also ''Endangered Species Act No Effect Finding for the 2020 Final Rule.''

2013 through 2019, we have also considered the availability and role of carryover RINs in setting the cellulosic biofuel, advanced biofuel, and total renewable fuel volume requirements for 2020. Neither the statute nor EPA regulations specify how or whether EPA should consider the availability of carryover RINs in exercising our statutory authorities.[15] As noted in the context of the rules establishing the RFS standards for 2014 through 2019, we believe that a bank of carryover RINs is extremely important in providing obligated parties compliance flexibility in the face of substantial uncertainties in the transportation fuel marketplace, and in providing a liquid and well-functioning RIN market upon which success of the entire program depends.[16] Carryover RINs provide flexibility in the face of a variety of unforeseeable circumstances that could limit the availability of RINs and reduce spikes in compliance costs, including weather-related damage to renewable fuel feedstocks and other circumstances potentially affecting the production and distribution of renewable fuel. On the other hand, carryover RINs can be used for compliance purposes, and in the context of the 2013 RFS rulemaking we noted that an abundance of carryover RINs available in that year, together with possible increases in renewable fuel production and import, justified maintaining the advanced and total renewable fuel volume requirements for that year at the levels specified in the statute.[17] In general, we have authority to consider the size of the carryover RIN bank in deciding whether and to what extent to exercise any of our discretionary waiver authorities.[18] EPA's approach to the consideration of carryover RINs in exercising our cellulosic waiver authority was affirmed in *Monroe Energy* and *ACE.*[19]

The RIN system was established in accordance with CAA section 211(o)(5), which authorizes the generation of credits by any person who refines, blends, or imports renewable fuel in excess of the requirements of the statute.[20] In the RFS1 and RFS2 rulemakings, we also established a 20 percent rollover cap on the amount of an obligated party's RVO that can be met using previous-year RINs.[21] In implementing the RFS program, we have observed that an adequate carryover RIN bank serves to make the RIN market liquid wherein RINs are freely traded in an open market making them readily available and accessible to those obligated parties who need them for compliance at prices established by that open market. Just as the economy as a whole functions best when individuals and businesses prudently plan for unforeseen events by maintaining inventories and reserve money accounts, we believe that the RFS program functions best when sufficient carryover RINs are held in reserve for potential use by the RIN holders themselves, or for possible sale to others that may not have established their own carryover RIN reserves. Were there to be too few RINs in reserve, then even minor disruptions causing shortfalls in renewable fuel production or distribution, or higher than expected transportation fuel demand (requiring greater volumes of renewable fuel to comply with the percentage standards that apply to all volumes of transportation fuel, including the unexpected volumes) could lead to the need for a new waiver of the standards and higher compliance costs, undermining the market certainty so critical to the RFS program. Moreover, a significant drawdown of the carryover RIN bank leading to a scarcity of RINs may stop the market from functioning in an efficient manner (*i.e.,* one in which there are a sufficient number of reasonably available RINs for obligated parties seeking to purchase them), even where the market overall could satisfy the standards. For all of these reasons, the collective carryover RIN bank provides a necessary programmatic buffer that both facilitates individual compliance, provides for smooth overall functioning of the program, and is consistent with the statutory provision allowing for the generation and use of credits.[22]

1. Carryover RIN Bank Size

We estimate that there are currently approximately 3.48 billion total carryover RINs available, an increase of 1.29 billion RINs from the previous estimate of 2.19 billion total carryover RINs in the July 29 proposal.[23] We also estimate that there are currently approximately 680 million advanced carryover RINs available (which are a subset of the 3.48 billion total carryover RINs), an increase of 290 million RINs from the previous estimate in the July 29 proposal. This increase in the carryover RIN bank is primarily the result of the millions of RINs that were unretired by small refineries that were granted hardship exemptions after the July 29 proposal.[24] These volumes of carryover RINs are approximately 17 percent of the 2020 total renewable fuel volume requirement and 13 percent of the 2020 advanced biofuel volume requirement, which are less than the 20 percent maximum limit permitted by the RFS regulations to be carried over for use in complying with the 2020 standards.[25]

However, there remains considerable uncertainty surrounding the ultimate size of the carryover RIN bank available for compliance with the 2020 standards for several reasons, including the possibility of additional small refinery exemptions, higher or lower than expected transportation fuel demand (requiring greater or lower volumes of renewable fuel to comply with the percentage standards that apply to all

[15] CAA section 211(o)(5) requires that EPA establish a credit program as part of its RFS regulations, and that the credits be valid for obligated parties 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 our regulations limit the use of these carryover RINs to 20 percent of the obligated party's RVO. For the bank of carryover RINs to be preserved from one year to the next, individual carryover RINs are used for compliance before they expire and are essentially replaced with newer vintage RINs that are then held for use in the next year. For example, vintage 2018 carryover RINs must be used for compliance in 2019, or they will expire. However, vintage 2019 RINs can then be ''banked'' for use in 2020.

[16] See 80 FR 77482–87 (December 14, 2015), 81 FR 89754–55 (December 12, 2016), 82 FR 58493–95 (December 12, 2017), and 83 FR 63708–10 (December 11, 2018).

[17] See 79 FR 49793–95 (August 15, 2013).

[18] These discretionary waiver authorities include the discretionary portion of the cellulosic waiver authority, CAA section 211(o)(7)(D)(i) (''the Administrator may also reduce the applicable volume of renewable fuel and advanced biofuels requirement''), the general waiver authority, CAA section 211(o)(7)(A) (''The Administrator . . . may waive the requirements''), and the BBD waiver authority with regard to the extent of the reduction in the BBD volume, CAA section 211(o)(7)(E)(ii) (''the Administrator . . . shall issue an order to reduce . . . the quantity of biomass-based diesel . . . by an appropriate quantity'').

[19] *Monroe Energy* v. *EPA,* 750 F.3d 909 (D.C. Cir. 2014); *ACE,* 864 F.3d at 713.

[20] See 75 FR 14670 (March 26, 2010) and 72 FR 23900 (May 1, 2007).

[21] See 75 FR 14734–35 (March 26, 2010) and 72 FR 23934–35 (May 1, 2007).

[22] Here we use the term ''buffer'' as shorthand reference to all of the benefits that are provided by a sufficient bank of carryover RINs.

[23] The calculations performed to estimate the number of carryover RINs currently available can be found in the memorandum, ''Carryover RIN Bank Calculations for 2020 Final Rule,'' available in the docket.

[24] Information about the number of small refinery exemptions (SREs) granted and the volume of RINs not required to be retired as a result of those exemptions can be found at: *https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rfs-small-refinery-exemptions.*

[25] See 40 CFR 80.1427(a)(5).

volumes of transportation fuel), and the impact of 2019 RFS compliance on the bank of carryover RINs. In addition, we note that there have been enforcement actions in past years that have resulted in the retirement of carryover RINs to make up for the generation and use of invalid RINs and/or the failure to retire RINs for exported renewable fuel. Future enforcement actions could have similar results and require that obligated parties and/or renewable fuel exporters settle past enforcement-related obligations in addition to complying with the annual standards, thereby potentially creating demand for RINs greater than can be accommodated through actual renewable fuel blending in 2020. In light of these uncertainties, the net result could be a bank of total carryover RINs larger or smaller than 17 percent of the 2020 total renewable fuel volume requirement, and a bank of advanced carryover RINs larger or smaller than 13 percent of the 2020 advanced biofuel volume requirement.

2. EPA's Decision Regarding the Treatment of Carryover RINs

We have evaluated the volume of carryover RINs currently available and considered whether it would justify an intentional drawdown of the carryover RIN bank in setting the 2020 volume requirements. We also carefully considered the comments received, including comments on the role of carryover RINs under our waiver authorities and the policy implications of our decision.[26] For the reasons described throughout Section II.C, we do not believe we should intentionally draw down the carryover RIN bank in setting the 2020 volumes. The current bank of carryover RINs provides an important and necessary programmatic and cost spike buffer that will both facilitate individual compliance and provide for smooth overall functioning of the program. We believe that a balanced consideration of the possible role of carryover RINs in achieving the statutory volumes for cellulosic biofuel, advanced biofuel, and total renewable fuel, versus maintaining an adequate bank of carryover RINs for important programmatic functions, is appropriate when EPA exercises its discretion under its statutory authorities, and that the statute does not specify the extent to which EPA should require a drawdown in the bank of carryover RINs when it exercises its waiver authorities. Therefore, for the reasons noted above and consistent with the approach we took in the rules establishing the RFS standards for 2014 through 2019, we have decided to maintain our proposed approach and are not setting the 2020 volume requirements at levels that would envision an intentional drawdown in the bank of carryover RINs. We note that we may or may not take a similar approach in future years; we will assess the situation on a case-by-case basis going forward and take into account the size of the carryover RIN bank in the future and any lessons learned from implementing past rules.

## III. Cellulosic Biofuel Volume for 2020

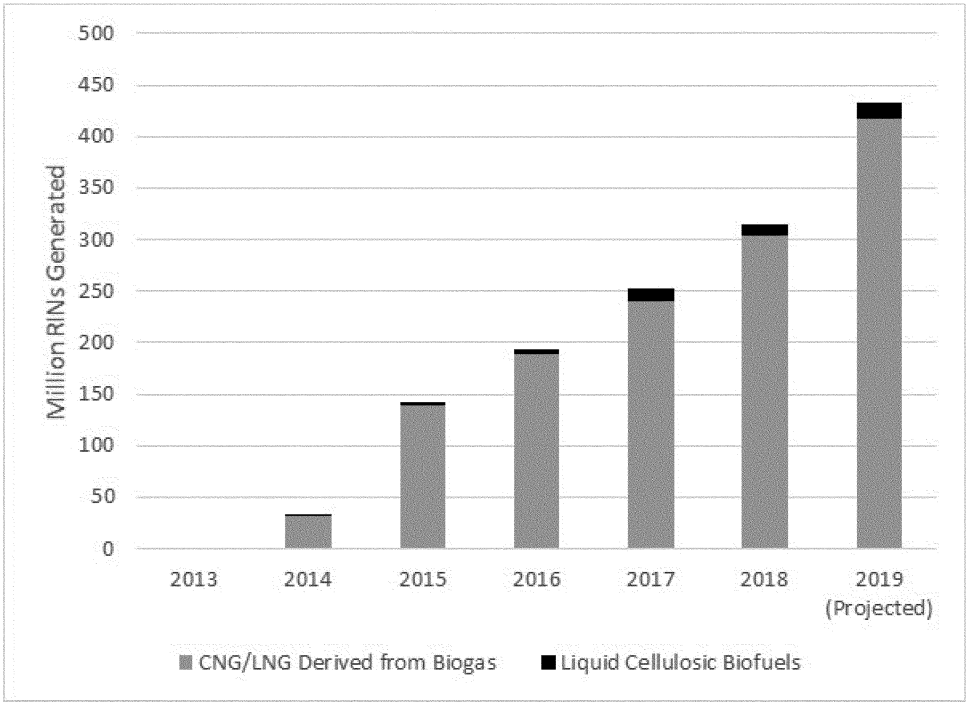
In the past several years, production of cellulosic biofuel has continued to increase. Cellulosic biofuel production reached record levels in 2018, driven largely by CNG and LNG derived from biogas.[27] The projected volume of cellulosic biofuel production in 2019 is even higher that the volume produced in 2018. Production of liquid cellulosic biofuel has also increased in recent years, even as the total production of liquid cellulosic biofuels remains much smaller than the production volumes of CNG and LNG derived from biogas (see Figure III–1). This section describes our assessment of the volume of qualifying cellulosic biofuel that we project will be produced or imported into the U.S. in 2020, and some of the uncertainties associated with those volumes.

[26] In their comments on the 2020 NPRM, parties generally expressed two opposing points of view. Commenters representing obligated parties supported EPA's proposed decision to not assume a drawdown in the bank of carryover RINs in determining the appropriate volume requirements, reiterating the importance of maintaining the carryover RIN bank in order to provide obligated parties with necessary compliance flexibilities, better market trading liquidity, and a cushion against future program uncertainty. Commenters representing renewable fuel producers, however, stated that not accounting for carryover RINs goes against Congressional intent of the RFS program to increase renewable fuel volumes every year and deters investment in cellulosic and advanced biofuels. A full description of comments received, and our detailed responses to them, is available in the RTC document in the docket.

[27] The majority of the cellulosic RINs generated for CNG/LNG are sourced from biogas from landfills; however, the biogas may come from a variety of sources including municipal wastewater treatment facility digesters, agricultural digesters, separated municipal solid waste (MSW) digesters, and the cellulosic components of biomass processed in other waste digesters.

Figure III-1

Cellulosic RINs Generated (2013-2019)




In order to project the volume of cellulosic biofuel production in 2020, we considered numerous factors, including EIA's projection of cellulosic biofuel production in 2020, the accuracy of the methodologies used to project cellulosic biofuel production in previous years, data reported to EPA through EMTS, and information we collected through meetings with representatives of facilities that have produced or have the potential to produce qualifying volumes of cellulosic biofuel in 2020.

There are two main elements to the cellulosic biofuel production projection: Liquid cellulosic biofuel and CNG/LNG derived from biogas. To project the range of potential production volumes of liquid cellulosic biofuel we used the same general methodology as the methodology used in the 2018 and 2019 final rules. We have adjusted the percentile values used to select a point estimate within a projected production range for each group of companies based on updated information (through September 2019) with the objective of improving the accuracy of the projections. To project the production of cellulosic biofuel RINs for CNG/LNG derived from biogas, we used the same general year-over-year growth rate methodology as in the 2018 and 2019 final rules, with updated RIN generation data through September 2019. This methodology reflects the mature status of this industry, the large number of facilities registered to generate cellulosic biofuel RINs from these fuels, and EPA's continued attempts to refine its methodology to yield estimates that are as accurate as possible. This methodology is an improvement on the methodology that EPA used to project cellulosic biofuel production for CNG/LNG derived from biogas in the 2017 and previous years (see Section III.B for a further discussion of the accuracy of EPA's methodology in previous years). The methodologies used to project the production of liquid cellulosic biofuels and cellulosic CNG/LNG derived from biogas are described in more detail in Sections III.D–1 and III.D–2.

The balance of this section is organized as follows. Section III.A provides a brief description of the statutory requirements. Section III.B reviews the accuracy of EPA's projections in prior years, and also discusses the companies EPA assessed in the process of projecting qualifying cellulosic biofuel production in the U.S. Section III.C discusses EIA's projection of cellulosic biofuel production in 2020. Section III.D discusses the methodologies used by EPA to project cellulosic biofuel production in 2020 and the resulting projection of 0.59 billion ethanol-equivalent gallons.

### *A. Statutory Requirements*

CAA section 211(o)(2)(B)(i)(III) states the statutory volume targets for cellulosic biofuel. The volume of cellulosic biofuel specified in the statute for 2020 is 10.5 billion gallons. The statute provides that if EPA determines, based on a letter provided to the EPA by EIA, that the projected volume of cellulosic biofuel production in a given year is less than the statutory volume, then EPA shall reduce the applicable volume of cellulosic biofuel to the projected volume available during that calendar year.[28]

[28] CAA section 211(o)(7)(D)(i). The U.S. Court of Appeals for the District of Columbia Circuit evaluated this requirement in *API* v. *EPA,* 706 F.3d 474, 479–480 (D.C. Cir. 2013), in the context of a challenge to the 2012 cellulosic biofuel standard. The Court stated that in projecting potentially available volumes of cellulosic biofuel EPA must apply an ''outcome-neutral methodology'' aimed at providing a prediction of ''what will *actually* happen.'' *Id.* at 480, 479. The Court also determined that Congress did not require ''slavish adherence by EPA to the EIA estimate'' and that EPA could ''read the phrase 'based on' as requiring great respect but allowing deviation consistent with that respect.'' In addition, EPA has consistently interpreted the term ''projected volume of cellulosic biofuel production'' in CAA section 211(o)(7)(D)(i) to include volumes of cellulosic biofuel likely to be made available in the U.S., including from both domestic production

Continued

In addition, if EPA reduces the required volume of cellulosic biofuel below the level specified in the statute, we may reduce the applicable volumes of advanced biofuels and total renewable fuel by the same or a lesser volume,[29] and we are also required to make cellulosic waiver credits available.[30] Our consideration of the 2020 volume requirements for advanced biofuel and total renewable fuel is presented in Section IV.

*B. Cellulosic Biofuel Industry Assessment*

In this section, we first explain our general approach to assessing facilities or groups of facilities (which we collectively refer to as ''facilities'') that have the potential to produce cellulosic biofuel in 2020. We then review the accuracy of EPA's projections in prior years. Next, we discuss the criteria used to determine whether to include potential domestic and foreign sources of cellulosic biofuel in our projection for 2020. Finally, we provide a summary table of all facilities that we expect to produce cellulosic biofuel in 2020.

In order to project cellulosic biofuel production for 2020, we have tracked the progress of a number of potential cellulosic biofuel production facilities, located both in the U.S. and in foreign countries. We considered a number of factors, including EIA's projection of cellulosic biofuel production in 2020, information from EMTS, the registration status of potential biofuel production facilities as cellulosic biofuel producers in the RFS program, publicly available information (including press releases and news reports), and information provided by representatives of potential cellulosic biofuel producers. As discussed in greater detail in Section III.D.1, our projection of liquid cellulosic biofuel is based on a facility-by-facility assessment of each of the likely sources of cellulosic biofuel in 2020, while our projection of CNG/LNG derived from biogas is based on an industry-wide assessment. To make a determination of which facilities are most likely to produce liquid cellulosic biofuel and generate cellulosic biofuel RINs in 2020, each potential producer of liquid cellulosic biofuel was investigated further to determine the current status of its facilities and its likely cellulosic biofuel production and RIN generation volumes for 2020. Both in our discussions with representatives of individual companies and as part of our internal evaluation process, we gathered and analyzed information including, but not limited to, the funding status of these facilities, current status of the production technologies, anticipated construction and production ramp-up periods, facility registration status, and annual fuel production and RIN generation targets.

1. Review of EPA's Projection of Cellulosic Biofuel in Previous Years

As an initial matter, it is useful to review the accuracy of EPA's past cellulosic biofuel projections. The record of actual cellulosic biofuel production, including both cellulosic biofuel (which generate D3 RINs) and cellulosic diesel (which generate D7 RINs), and EPA's projected production volumes from 2015–2019 are shown in Table III.B–1. These data indicate that EPA's projection was lower than the actual number of cellulosic RINs made available in 2015,[31] higher than the actual number of RINs made available in 2016 and 2017, and lower than the actual number of RINs made available in 2018. Based on our current projection of cellulosic biofuel production for 2019 based on data through September 2019, EPA's projection of cellulosic biofuel in 2019 also appears likely to be lower than actual RIN generation in 2019. The fact that the projections made using this methodology have been somewhat inaccurate, under-estimating the actual number of RINs made available in 2015, 2018, and likely 2019, and over-estimating in 2016 and 2017, reflects the inherent difficulty with projecting cellulosic biofuel production. It also emphasizes the importance of continuing to make refinements to our projection methodology in order to make our projections more accurate.

TABLE III.B.1–1—PROJECTED AND ACTUAL CELLULOSIC BIOFUEL PRODUCTION (2015–2018)

[Million gallons] [a]

| | Projected volume [b] | | | Actual production volume [c] | | |
|---|---|---|---|---|---|---|
| | Liquid cellulosic biofuel | CNG/LNG derived from biogas | Total cellulosic biofuel [d] | Liquid cellulosic biofuel | CNG/LNG derived from biogas | Total cellulosic biofuel [d] |
| 2015 [e] | 2 | 33 | 35 | 0.5 | 52.8 | 53.3 |
| 2016 | 23 | 207 | 230 | 4.1 | 186.2 | 190.3 |
| 2017 | 13 | 298 | 311 | 11.8 | 239.5 | 251.3 |
| 2018 | 14 | 274 | 288 | 10.6 | 303.2 | 313.8 |
| 2019 [f] | 20 | 399 | 418 | 15.5 | 418.2 | 433.7 |

[a] As noted in Section III.A. above, EPA has consistently interpreted the term ''projected volume of cellulosic biofuel production'' to include volumes of cellulosic biofuel likely to be made available in the U.S., including from both domestic production and imports. The volumes in this table therefore include both domestic production of cellulosic biofuel and imported cellulosic biofuel.

[b] Projected volumes for 2015 and 2016 can be found in the 2014–2016 Final Rule (80 FR 77506, 77508, December 14, 2015); projected volumes for 2017 can be found in the 2017 Final Rule (81 FR 89760, December 12, 2016); projected volumes for 2018 can be found in the 2018 Final Rule (82 FR 58503, December 12, 2017); projected volumes for 2019 can be found in the 2019 Final Rule (83 FR 63704, December 11, 2018).

[c] Actual production volumes are the total number of RINs generated minus the number of RINs retired for reasons other than compliance with the annual standards, based on EMTS data.

[d] Total cellulosic biofuel may not be precisely equal to the sum of liquid cellulosic biofuel and CNG/LNG derived from biogas due to rounding.

[e] Projected and actual volumes for 2015 represent only the final 3 months of 2015 (October–December) as EPA used actual RIN generation data for the first 9 months of the year.

and imports (*see, e.g.,* 80 FR 77420 (December 14, 2015) and 81 FR 89746 (December 12, 2016)). This interpretation is consistent with the statutory direction to establish the cellulosic volume at the ''projected volume available.'' We do not believe it would be reasonable to include in the projection all cellulosic biofuel produced throughout the world, regardless of likelihood of import to the U.S., since volumes that are not imported would not be available to obligated parties for compliance and including them in the projection would render the resulting volume requirement and percentage standards unachievable through the use of cellulosic biofuel RINs.

[29] CAA section 211(o)(7)(D)(i).

[30] See CAA section 211(o)(7)(D)(ii); 40 CFR 80.1456.

[31] EPA only projected cellulosic biofuel production for the final three months of 2015, since data on the availability of cellulosic biofuel RINs (D3+D7) for the first nine months of the year were available at the time the analyses were completed for the final rule.

[f] Actual production in 2019 is a projection based on actual data from January–September 2019 and a projection of likely production for October–December 2019.

EPA's projections of liquid cellulosic biofuel were higher than the actual volume of liquid cellulosic biofuel produced each year from 2015 to 2018.[32] Depending on liquid cellulosic biofuel production in the last 3 months or 2019, our projection for 2019 may ultimately be an over-projection or under-projection of actual production, however at this time it appears likely to result in an over-projection. As a result of the over-projections in 2015–2016 (and the anticipated over-projection in 2017), and in an effort to take into account the most recent data available and make the liquid cellulosic biofuel projections more accurate, EPA adjusted our methodology in the 2018 final rule.[33] The adjustments to our methodology adopted in the 2018 final rule resulted in a projection that is close to the volume of liquid cellulosic biofuel produced in 2018 and appear likely to result in a reasonably accurate projection in 2019. In this final rule we are again applying the approach we first used in the 2018 final rule: Using percentile values based on actual production in previous years, relative to the projected volume of liquid cellulosic biofuel in these years. We have adjusted the percentile values to project liquid cellulosic biofuel production based on actual liquid cellulosic biofuel production in 2016 to 2019. We believe that the use of the methodology (described in more detail in Section III.D.1), with the adjusted percentile values, results in a projection that reflects a neutral aim at accuracy since it accounts for expected growth in the near future by using historical data that is free of any subjective bias.

We next turn to the projection of CNG/LNG derived from biogas. For 2018 and 2019, EPA used an industry-wide approach, rather than an approach that projects volumes for individual companies or facilities, to project the production of CNG/LNG derived from biogas. EPA used a facility-by-facility approach to project the production of CNG/LNG derived from biogas from 2015–2017. Notably the facility-by-facility methodology resulted in significant over-estimates of CNG/LNG production in 2016 and 2017, leading EPA to develop the alternative industry wide projection methodology first used in 2018. This updated approach reflects the fact that this industry is far more mature than the liquid cellulosic biofuel industry, with a far greater number of potential producers of CNG/LNG derived from biogas. In such cases, industry-wide projection methods can be more accurate than a facility-by-facility approach, especially as macro market and economic factors become more influential on total production than the success or challenges at any single facility. The industry-wide projection methodology slightly under-projected the production of CNG/LNG derived from biogas in 2018 and appears likely to slightly under-project the production of these fuels in 2019. However, the difference between the projected and actual production volume of these fuels was smaller than in 2017.

As further described in Section III.D.2, EPA is again projecting production of CNG/LNG derived from biogas using the industry-wide approach. We calculate a year-over-year rate of growth in the renewable CNG/LNG industry and apply this year-over-year growth rate to the total number of cellulosic RINs generated and available to be used for compliance with the annual standards in 2018 to estimate the production of CNG/LNG derived from biogas in 2020.[34] We have applied the growth rate to the number of available 2018 RINs generated for CNG/LNG derived from biogas as data from this year allows us to adequately account for not only RIN generation, but also for RINs retired for reasons other than compliance with the annual standards. While more recent RIN generation data is available, the retirement of RINs for reasons other than compliance with the annual standards generally lags RIN generation, sometimes by up to a year or more.

The production volumes of cellulosic biofuel in previous years also highlight that the production of CNG/LNG derived from biogas has been significantly higher than the production of liquid cellulosic biofuel in previous years. This is likely the result of a combination of several factors, including the mature state of the technology used to produce CNG/LNG derived from biogas relative to the technologies used to produce liquid cellulosic biofuel and the relatively low production cost of CNG/LNG derived from biogas (discussed in further detail in Section V). These factors are unlikely to change in 2020. While we project production volumes of liquid cellulosic biofuel and CNG/LNG derived from biogas separately, the actual volume of each fuel type produced may be higher or lower than projected.

2. Potential Domestic Producers

There are several companies and facilities located in the U.S. that have either already begun producing cellulosic biofuel for use as transportation fuel, heating oil, or jet fuel at a commercial scale,[35] or are anticipated to be in a position to do so at some time during 2020. The RFS program provides a strong financial incentive for domestic cellulosic biofuel producers to sell any fuel they produce for domestic consumption.[36] To date nearly all cellulosic biofuel produced in the U.S. has been used domestically [37] and all the domestic facilities we have contacted in deriving our projections intend to produce fuel on a commercial scale for domestic consumption and plan to use approved pathways. These factors give us a high degree of confidence that cellulosic biofuel RINs will be generated for all cellulosic biofuel produced by domestic commercial scale facilities. To generate RINs, each of these facilities must be registered with EPA under the RFS program and comply with all the regulatory requirements. This includes using an approved RIN-generating pathway and verifying that their feedstocks meet the definition of renewable biomass. Most of the domestic companies and facilities considered in our assessment of potential cellulosic biofuel producers in 2019 have already successfully

[32] We note, however, that because the projected volume of liquid cellulosic biofuel in each year was very small relative to the total volume of cellulosic biofuel, these over-projections had a minimal impact on the accuracy of our projections of cellulosic biofuel for each of these years.

[33] 82 FR 58486 (December 12, 2017).

[34] To project the volume of CNG/LNG derived from biogas in 2020, we multiply the number of 2018 RINs generated for these fuels and available to be used for compliance with the annual standards by the calculated growth rate to project production of these fuels in 2019 and then multiply the resulting number by the growth rate again to project the production of these fuels in 2020.

[35] For a further discussion of EPA's decision to focus on commercial scale facilities, rather than R&D and pilot scale facilities, see the 2019 proposed rule (83 FR 32031, July 10, 2018).

[36] According to data from EMTS, the average price for a 2019 cellulosic biofuel RINs sold in 2019 (through September 2019) was $1.30. Alternatively, obligated parties can satisfy their cellulosic biofuel obligations by purchasing an advanced (or biomass-based diesel) RIN and a cellulosic waiver credit. The average price for a 2019 advanced biofuel RINs sold in 2019 (through September 2019) was $0.43 while the price for a 2019 cellulosic waiver credit is $1.77 (EPA–420–B–18–052).

[37] The only known exception was a small volume of fuel produced at a demonstration scale facility exported to be used for promotional purposes.

completed facility registration, and have successfully generated RINs.[38] A brief description of each of the domestic companies (or group of companies for cellulosic CNG/LNG producers and the facilities using Edeniq's technology) that EPA believes may produce commercial-scale volumes of RIN generating cellulosic biofuel by the end of 2020 can be found in a memorandum to the docket for this final rule.[39] General information on each of these companies or group of companies considered in our projection of the potentially available volume of cellulosic biofuel in 2020 is summarized in Table III.B.4–1.

3. Potential Foreign Sources of Cellulosic Biofuel

In addition to the potential sources of cellulosic biofuel located in the U.S., there are several foreign cellulosic biofuel companies that may produce cellulosic biofuel in 2020. These include facilities owned and operated by Beta Renewables, Enerkem, Ensyn, GranBio, and Raizen. All of these facilities use fuel production pathways that have been approved by EPA for cellulosic RIN generation provided eligible sources of renewable feedstock are used and other regulatory requirements are satisfied. These companies would therefore be eligible to register their facilities under the RFS program and generate RINs for any qualifying fuel imported into the U.S. While these facilities may be able to generate RINs for any volumes of cellulosic biofuel they import into the U.S., demand for the cellulosic biofuels they produce is expected to be high in their own local markets.

EPA's projection of cellulosic biofuel production in 2020 includes cellulosic biofuel that is projected to be imported into the U.S. in 2020, including potential imports from all the registered foreign facilities under the RFS program. We believe that due to the strong demand for cellulosic biofuel in local markets and the time necessary for potential foreign cellulosic biofuel producers to register under the RFS program and arrange for the importation of cellulosic biofuel to the U.S., cellulosic biofuel imports from foreign facilities not currently registered to generate cellulosic biofuel RINs are generally highly unlikely in 2020. For purposes of our 2020 cellulosic biofuel projection we have excluded potential volumes from foreign cellulosic biofuel production facilities that are not currently registered under the RFS program.

Cellulosic biofuel produced at three foreign facilities (Ensyn's Renfrew facility, GranBio's Brazilian facility, and Raizen's Brazilian facility) generated cellulosic biofuel RINs for fuel exported to the U.S. since 2017; projected volumes from each of these facilities are included in our projection of available volumes for 2020. EPA has also included projected volume from two additional foreign facilities. These two facilities (Enerkem's Canadian facility and Ensyn's Port-Cartier, Quebec facility) have both completed the registration process as cellulosic biofuel producers. We believe that it is appropriate to include volume from these facilities in light of their proximity to the U.S., the proven technology used by these facilities, the volumes of cellulosic biofuel exported to the U.S. by the company in previous years (in the case of Ensyn), and the company's stated intentions to market fuel produced at these facilities to qualifying markets in the U.S. All of the facilities included in EPA's cellulosic biofuel projection for 2020 are listed in Table III.B.4–1.

4. Summary of Volume Projections for Individual Companies

General information on each of the cellulosic biofuel producers (or group of producers, for producers of CNG/LNG derived from biogas and producers of liquid cellulosic biofuel using Edeniq's technology) that factored into our projection of cellulosic biofuel production for 2020 is shown in Table III.B.4–1. This table includes both facilities that have already generated cellulosic RINs, as well as those that have not yet generated cellulosic RINs, but are projected to do so by the end of 2020. As discussed above, we have focused on commercial-scale cellulosic biofuel production facilities. Each of these facilities (or group of facilities) is discussed further in a memorandum to the docket.[40]

TABLE III.B.4–1—PROJECTED PRODUCERS OF CELLULOSIC BIOFUEL FOR U.S. CONSUMPTION IN 2020[41]

| Company name | Location | Feedstock | Fuel | Facility capacity (million gallons per year)[42] | Construction start date | First production[43] |
|---|---|---|---|---|---|---|
| CNG/LNG Producers[44] | Various | Biogas | CNG/LNG | Various | Various | Various. |
| Edeniq | Various | Corn Kernel Fiber | Ethanol | Various | Various | October 2016. |
| Enerkem | Edmonton, AL, Canada. | Separated MSW | Ethanol | [45] 10 | 2012 | September 2017.[46] |
| Ensyn | Renfrew, ON, Canada. | Wood Waste | Heating Oil | 3 | 2005 | 2014. |
| Ensyn | Port-Cartier, QC, Canada. | Wood Waste | Heating Oil | 10.5 | June 2016 | January 2018. |
| GranBio | São Miguel dos Campos, Brazil. | Sugarcane bagasse. | Ethanol | 21 | Mid 2012 | September 2014. |
| QCCP/Syngenta | Galva, IA | Corn Kernel Fiber | Ethanol | 4 | Late 2013 | October 2014. |
| Red Rock Biofuels | Lakeview, OR | Wood Waste | Diesel, Jet Fuel, Naphtha. | 15 | July 2018 | 1Q 2020. |
| Raizen | Piracicaba City, Brazil. | Sugarcane bagasse. | Ethanol | 11 | January 2014 | July 2015. |

[38] Most of the facilities listed in Table III.B.3–1 are registered to produce cellulosic (D3 or D7) RINs with the exception of several of the producers of CNG/LNG derived from biogas and Red Rock Biofuels. EPA is unaware of any outstanding issues that would reasonably be expected to prevent these facilities from registering as cellulosic biofuel producers and producing qualifying cellulosic biofuel in 2020.

[39] ''Cellulosic Biofuel Producer Company Descriptions (May 2019),'' memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136.

[40] ''Cellulosic Biofuel Producer Company Descriptions (May 2019),'' memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136.

*C. Projection From the Energy Information Administration*

Section 211(o)(3)(A) of the CAA requires EIA to ''provide to the Administrator of the Environmental Protection Agency an estimate, with respect to the following calendar year, of the volumes of transportation fuel, biomass-based diesel, and cellulosic biofuel projected to be sold or introduced into commerce in the United States.'' EIA provided these estimates to EPA on October 9, 2019.[47] With regard to domestically produced cellulosic ethanol, the EIA estimated that the available volume in 2020 would be 7 million gallons. In its letter, EIA did not identify the facilities on which their estimate of liquid cellulosic biofuel production was based. EIA did, however, indicate in the letter that it only included domestic production of cellulosic ethanol in their projections. These EIA projections, therefore, do not include cellulosic biofuel produced by foreign entities and imported into the U.S., nor estimates of cellulosic diesel, cellulosic heating oil or CNG/LNG produced from biogas, which together represent approximately 99 percent of our projected cellulosic biofuel volume for 2020. When limiting the scope of our projection to the companies assessed by EIA, we note that our volume projections are similar. EPA projects approximately 5 million gallons of cellulosic ethanol will be produced domestically in 2020.

*D. Cellulosic Biofuel Volume for 2020*

1. Liquid Cellulosic Biofuel

For our 2020 liquid cellulosic biofuel projection, we use the same general approach as we have in projecting these volumes in previous years. We begin by first categorizing potential liquid cellulosic biofuel producers in 2020 according to whether or not they have achieved consistent commercial scale production of cellulosic biofuel to date. We refer to these facilities as consistent producers and new producers, respectively. Next, we define a range of likely production volumes for 2020 for each group of companies. Finally, we use a percentile value to project from the established range a single projected production volume for each group of companies in 2020. As in the 2018 and 2019 final rules, we calculated percentile values for each group of companies based on the past performance of each group relative to our projected production ranges. This methodology is briefly described in this section and is described in detail in memoranda to the docket.[48]

We first separate the list of potential producers of cellulosic biofuel (listed in Table III.B.4–1) into two groups according to whether the facilities have achieved consistent commercial-scale production and cellulosic biofuel RIN generation. We next defined a range of likely production volumes for each group of potential cellulosic biofuel producers. The low end of the range for each group of producers reflects actual RIN generation data over the last 12 months for which data were available at the time our technical assessment was completed (October 2018–September 2019).[49] For potential producers that have not yet generated any cellulosic RINs, the low end of the range is zero. For the high end of the range, we considered a variety of factors, including the expected start-up date and ramp-up period, facility capacity, and the number of RINs the producer expects to generate in 2020.[50] The projected range for each group of companies is shown in Tables III.D.1–1 and III.D.1–2.[51]

TABLE III.D.1–1—2020 PRODUCTION RANGES FOR NEW PRODUCERS OF LIQUID CELLULOSIC BIOFUEL

[Million ethanol-equivalent gallons]

| Companies included | Low end of the range | High end of the range [a] |
|---|---|---|
| Enerkem, Ensyn (Port Cartier facility), BioEnergy, Red Rock Biofuels | 0 | 30 |

[a] Rounded to the nearest million gallons.

[41] Despite generating cellulosic RINs in previous years Poet-DSM's facility has not been included in Table III.B.4–1 after announcing their plans to suspend commercial production at this facility.

[42] The Facility Capacity is generally equal to the nameplate capacity provided to EPA by company representatives or found in publicly available information. Capacities are listed in physical gallons (rather than ethanol-equivalent gallons). If the facility has completed registration and the total permitted capacity is lower than the nameplate capacity, then this lower volume is used as the facility capacity.

[43] Where a quarter is listed for the first production date EPA has assumed production begins in the middle month of the quarter (*i.e.,* August for the 3rd quarter) for the purposes of projecting volumes.

[44] For more information on these facilities see ''December 2019 Assessment of Cellulosic Biofuel Production from Biogas (2020),'' memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136.

[45] The nameplate capacity of Enerkem's facility is 10 million gallons per year. However, we anticipate that a portion of their feedstock will be non-biogenic municipal solid waste (MSW). RINs cannot be generated for the portion of the fuel produced from non-biogenic feedstocks. We have taken this into account in our production projection for this facility (See ''May 2019 Liquid Cellulosic Biofuel Projections for 2020 CBI'').

[46] This date reflects the first production of ethanol from this facility. The facility began production of methanol in 2015.

[47] Letter from Linda Capuano, EIA Administrator to Andrew Wheeler, EPA Administrator. October 9, 2019. Available in docket EPA–HQ–OAR–2019–0136.

[48] ''December 2019 Liquid Cellulosic Biofuel Projections for 2020 CBI'' and ''Calculating the Percentile Values Used to Project Liquid Cellulosic Biofuel Production for the 2020 FRM,'' memorandums from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136.

[49] Consistent with previous years, we have considered whether there is reason to believe any of the facilities considered as potential cellulosic biofuel producers for 2020 is likely to produce a smaller volume of cellulosic biofuel in 2020 than in the previous 12 months for which data are available. At this time, EPA is not aware of any information that would indicate lower production in 2020 from any facility considered than in the previous 12 months for which data are available. Despite generating cellulosic RINs in previous years Poet-DSM's facility has not been included in our projection of cellulosic biofuel production in 2020 after announcing their plans to suspend commercial production at this facility.

[50] As in our 2015–2019 projections, EPA calculated a high end of the range for each facility (or group of facilities) based on the expected start-up date and a six-month straight-line ramp-up period. The high end of the range for each facility (or group of facilities) is equal to the value calculated by EPA using this methodology, or the number of RINs the producer expects to generate in 2020, whichever is lower.

[51] More information on the data and methods EPA used to calculate each of the ranges in these tables in contained in ''December 2019 Liquid Cellulosic Biofuel Projections for 2020 CBI'' memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136. We have not shown the projected ranges for each individual company. This is because the high end of the range for some of these companies are based on the company's production projections, which they consider confidential business information (CBI). Additionally, the low end of the range for facilities that have achieved consistent commercial scale production is based on actual RIN generation data in the most recent 12 months, which is also claimed as CBI.

TABLE III.D.1–2—2020 PRODUCTION RANGES FOR CONSISTENT PRODUCERS OF LIQUID CELLULOSIC BIOFUEL

[Million ethanol-equivalent gallons]

| Companies included | Low end of the range [a] | High end of the range [b] |
|---|---|---|
| Facilities using Edeniq's technology (registered facilities), Ensyn (Renfrew facility), GranBio, QCCP/Syngenta, Raizen | 10 | 36 |

[a] Rounded to the nearest million gallons.

After defining likely production ranges for each group of companies, we next determined the percentile values to use in projecting a production volume for each group of companies. We calculated the percentile values using actual production data from 2016 through 2019.[52] The first full year in which EPA used the current methodology for developing the range potential production volumes for each company was 2016, while 2019 is the most recent year for which we have data.

For each group of companies and for each year from 2016–2019, Table III.C.1–3 shows the projected ranges for liquid cellulosic biofuel production (from the 2014–16, 2017, 2018, and 2019 final rules), actual production, and the percentile values that would have resulted in a projection equal to the actual production volume.

TABLE III.D.1–3—PROJECTED AND ACTUAL LIQUID CELLULOSIC BIOFUEL PRODUCTION IN 2016–2019

[Million gallons]

| | Low end of the range | High end of the range | Actual production [53] | Actual percentile |
|---|---|---|---|---|
| New Producers [54] | | | | |
| 2016 | 0 | 76 | 1.06 | 1st |
| 2017 | 0 | 33 | 8.79 | 27th |
| 2018 | 0 | 47 | 2.87 | 6th |
| 2019 | 0 | 10 | 0.00 | 0th |
| Average [a] | N/A | N/A | N/A | 9th |
| Consistent Producers [55] | | | | |
| 2016 | 2 | 5 | 3.28 | 43rd |
| 2017 | 3.5 | 7 | 3.02 | −14th |
| 2018 | 7 | 24 | 7.74 | 4th |
| 2019 | 14 | 44 | 15.51 | 5th |
| Average [a] | N/A | N/A | N/A | 10th |

[a] We have not averaged the low and high ends of the ranges, or actual production, as we believe it is more appropriate to average the actual percentiles from 2016–2019 rather than calculating a percentile value for 2016–2019 in aggregate. This approach gives equal weight to the accuracy of our projections for each year from 2016–2019, rather than allowing the average percentiles calculated to be dominated by years with greater projected volumes.

Based upon this analysis, EPA has projected cellulosic biofuel production from new producers at the 9th percentile of the calculated range and from consistent producers at the 10th percentile.[56] These percentiles are calculated by averaging the percentiles that would have produced cellulosic biofuel projections equal to the volumes produced by each group of companies in 2016–2019. Prior to 2016, EPA used different methodologies to project available volumes of cellulosic biofuel and thus believes it inappropriate to calculate percentile values based on projections from those years.[57]

We then used these percentile values, together with the ranges determined for each group of companies discussed above, to project a volume for each group of companies in 2020. These calculations are summarized in Table III.D.1–4.

[52] To calculate the percentile value that would have resulted in a projection equal to actual production for 2019 we projected actual liquid cellulosic biofuel production for 2019 using data through September 2019 and an updated projection of liquid cellulosic biofuel production for October–December 2019.

[53] Actual production is calculated by subtracting RINs retired for any reason other than compliance with the RFS standards from the total number of cellulosic RINs generated.

[54] Companies characterized as new producers in the 2014–2016, 2017, 2018, and 2019 final rules were as follows: Abengoa (2016), CoolPlanet (2016), DuPont (2016, 2017), Edeniq (2016, 2017), Enerkem (2018, 2019), Ensyn Port Cartier (2018, 2019), GranBio (2016, 2017), IneosBio (2016), and Poet (2016, 2017).

[55] Companies characterized as consistent producers in the 2014–2016, 2017, 2018, and 2019 final rules were as follows: Edeniq Active Facilities (2018, 2019), Ensyn Renfrew (2016–2019), GranBio (2018, 2019), Poet (2018, 2019), Quad County Corn Processors/Syngenta (2016–2019), and Raizen (2019).

[56] For more detail on the calculation of the percentile values used in this final rule see ''Calculating the Percentile Values Used to Project Liquid Cellulosic Biofuel Production for 2020 FRM,'' available in EPA docket EPA–HQ–OAR–2019–0136.

[57] EPA used a similar projection methodology for 2015 as in 2016–2018, however we only projected cellulosic biofuel production volume for the final 3 months of the year, as actual production data were available for the first 9 months. We do not believe it is appropriate to consider data from a year for which 9 months of the data were known at the time the projection was made in determining the percentile values used to project volume over a full year.

TABLE III.D.1–4—PROJECTED VOLUME OF LIQUID CELLULOSIC BIOFUEL IN 2020

[Million ethanol-equivalent gallons]

| | Low end of the range [a] | High end of the range [a] | Percentile | Projected volume [a] |
|---|---|---|---|---|
| Liquid Cellulosic Biofuel Producers; Producers without Consistent Commercial Scale Production | 0 | 30 | 9th | 3 |
| Liquid Cellulosic Biofuel Producers; Producers with Consistent Commercial Scale Production | 10 | 36 | 10th | 13 |
| Total | N/A | N/A | N/A | [b] 15 |

[a] Volumes rounded to the nearest million gallons.
[b] Volumes do not add due to rounding.

2. CNG/LNG Derived From Biogas

For 2020, EPA is using the same industry wide projection approach as used for 2018 and 2019 based on a year-over-year growth rate to project production of CNG/LNG derived from biogas used as transportation fuel.[58] EPA calculated the year-over-year growth rate in CNG/LNG derived from biogas by comparing RIN generation from October 2018 to September 2019 (the most recent 12 months for which data are available) to RIN generation in the 12 months that immediately precede this time period (October 2017 to September 2018). The growth rate calculated using this data is 37.9 percent.[59] These RIN generation volumes are shown in Table III.D.2–1.

TABLE III.D.2–1—GENERATION OF CELLULOSIC BIOFUEL RINS FOR CNG/LNG DERIVED FROM BIOGAS

[Million gallons] [60]

| RIN generation (October 2017–September 2018) | RIN generation (October 2018–September 2019) | Year-over-year increase |
|---|---|---|
| 278,134,565 | 383,605,247 | 37.9% |

EPA then applied this 37.9 percent year-over-year growth rate to the total number of 2018 cellulosic RINs generated and available for compliance for CNG/LNG. This methodology results in a projection of 576.8 million gallons of CNG/LNG derived from biogas in 2020. In this rule, as in the 2018 and 2019 final rules, we are again applying the calculated year-over-year rate of growth to the volume of CNG/LNG actually supplied in 2018 (taking into account actual RIN generation as well as RINs retired for reasons other than compliance with the annual volume obligations) to provide an updated projection of the production of these fuels in 2019, and then applying the rate of growth to this updated 2019 projection to project the production of these fuels in 2020.[61]

We believe that projecting the production of CNG/LNG derived from biogas in this manner appropriately takes into consideration the actual recent rate of growth of this industry, and that this growth rate accounts for both the potential for future growth and the challenges associated with increasing RIN generation from these fuels in future years. This methodology may not be appropriate to use as the projected volume of CNG/LNG derived from biogas approaches the total volume of CNG/LNG that is used as transportation fuel, as RINs can be generated only for CNG/LNG used as transportation fuel. We do not believe that this is yet a constraint as our projection for 2020 is below the total volume of CNG/LNG that is currently used as transportation fuel.[62]

3. Total Cellulosic Biofuel in 2020

After projecting production of cellulosic biofuel from liquid cellulosic biofuel production facilities and producers of CNG/LNG derived from biogas, EPA combined these projections to project total cellulosic biofuel production for 2020. These projections are shown in Table III.D.3–1. Using the methodologies described in this section, we project that 0.59 billion ethanol-equivalent gallons of qualifying cellulosic biofuel will be produced in 2020. We believe that projecting overall production in 2020 in the manner described above results in a neutral estimate (neither biased to produce a projection that is too high nor too low) of likely cellulosic biofuel production in 2020.

[58] Historically RIN generation for CNG/LNG derived from biogas has increased each year. It is possible, however, that RIN generation for these fuels in the most recent 12 months for which data are available could be lower than the preceding 12 months. We believe our methodology accounts for this possibility. In such a case, the calculated rate of growth would be negative.

[59] This growth rate is higher than the growth rates used to project CNG/LNG volumes in the 2019 final rule (29.0%, see 83 FR 63717, December 11, 2018) and the 2018 final rule (21.6%, see 82 FR 58502, December 12, 2017).

[60] Further detail on the data used to calculate each of these numbers in this table, as well as the projected volume of CNG/LNG derived from biogas used as transportation fuel in 2020 can be found in ''December 2019 Assessment of Cellulosic Biofuel Production from Biogas (2020)'' memorandum from Dallas Burkholder to EPA Docket PA–HQ–OAR–2019–0136.

[61] To calculate this value, EPA multiplied the number of 2018 RINs generated and available for compliance for CNG/LNG derived from biogas (303.2 million), by 1.379 (representing a 37.9 percent year-over-year increase) to project production of CNG/LNG in 2019, and multiplied this number (418.2 million RINs) by 1.379 again to project production of CNG/LNG in 2020.

[62] EPA is aware of several estimates for the quantity of CNG/LNG that will be used as transportation fuel in 2020. As discussed in a paper prepared by Bates White for the Coalition for Renewable Gas (''Renewable Natural Gas Supply and Demand for Transportation.'' Bates White Economic Consulting, April 5, 2019) these estimates range from nearly 600 million ethanol-equivalent gallons in 2020 (February 2019 STEO) to over 1.5 billion gallons (Fuels Institute—US Share). As discussed in further detail in a memorandum to the docket (''December 2019 Assessment of Cellulosic Biofuel Production from Biogas (2020)'' memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136) we believe the higher projections are likely to be more accurate. Thus, the volume of CNG/LNG used as transportation fuel would not appear to constrain the number of RINs generated for this fuel in 2020.

TABLE III.D.3–1—PROJECTED VOLUME OF CELLULOSIC BIOFUEL IN 2020

| | Projected volume [a] |
|---|---|
| Liquid Cellulosic Biofuel Producers; Producers without Consistent Commercial Scale Production (million gallons) | 3 |
| Liquid Cellulosic Biofuel Producers; Producers with Consistent Commercial Scale Production (million gallons) | 13 |
| CNG/LNG Derived from Biogas (million gallons) | 577 |
| Total (billion gallons) | 0.59 |

[a] Rounded to the nearest million gallons.

Unlike in previous years, we have rounded the final projected volume of cellulosic biofuel to the nearest 10 million gallons as proposed. This is consistent with the volumes in the tables containing the statutory volume targets for cellulosic biofuel through 2022, which also specify volumes to no more than the nearest 10 million gallons (and in many cases only to the nearest 100 million gallons). While in previous years we have rounded the required cellulosic biofuel volume to the nearest million gallon, the projected volume of cellulosic biofuel has grown such that this level of precision is unnecessary, and likely unfounded. By rounding to the nearest 10 million gallons the total projected volume of cellulosic biofuel is affected in the most extreme case by only 5 million gallons, or approximately 1 percent of the total projected volume. The uncertainty in the projected volume of cellulosic biofuel is significantly higher than any error introduced by rounding the projected volume to the nearest 10 million gallons.

## IV. Advanced Biofuel and Total Renewable Fuel Volumes for 2020

The national volume targets for advanced biofuel and total renewable fuel to be used under the RFS program each year through 2022 are specified in CAA section 211(o)(2)(B)(i)(I) and (II). Congress set annual renewable fuel volume targets that envisioned growth at a pace that far exceeded historical growth and, for years after 2011, prioritized that growth as occurring principally in advanced biofuels (contrary to previous growth patterns where most growth was in conventional renewable fuel). Congressional intent is evident in the fact that the implied statutory volume requirement for conventional renewable fuel is 15 billion gallons for all years after 2014, while the advanced biofuel volume requirements, driven largely by growth in cellulosic biofuel, continue to grow each year through 2022 to a total of 21 billion gallons. Early growth in conventional renewable fuels was expected to provide a bridge to the new, more beneficial cellulosic biofuels in the later years.[63]

Due to a projected shortfall in the availability of cellulosic biofuel, and consistent with our long-held interpretation that the cellulosic waiver authority is best interpreted to provide equal reductions to advanced biofuel and total renewable fuel volumes, we are reducing the statutory volume targets for both advanced biofuel and total renewable fuel for 2020 by the maximum amount permitted under the cellulosic waiver authority, 9.91 billion gallons. Section IV.A explains the volumetric limitation on our use of the cellulosic waiver authority to reduce advanced biofuel and total renewable fuel volumes. Section IV.B presents our technical analysis of the reasonably attainable and attainable volumes of advanced biofuel. Sections IV.C and IV.D further explain our decision to exercise the maximum discretion available under the cellulosic waiver authority to reduce advanced biofuel and total renewable fuel, respectively.

To begin, we have evaluated the capabilities of the market and are making a finding that the 15.0 billion gallons specified in the statute for advanced biofuel cannot be reached in 2020. This is primarily due to the expected continued shortfall in cellulosic biofuel; production of this fuel type has consistently fallen short of the statutory targets by 90 percent or more, and as described in Section III, we project that it will fall far short of the statutory target of 10.5 billion gallons in 2020. For this and other reasons described in this section we are reducing the advanced biofuel statutory target by 9.91 billion gallons for 2020.

In previous years when we have used the cellulosic waiver authority, we have determined the extent to which we should reduce advanced biofuel volumes by considering a number of different factors under the broad discretion which that authority provides, including:

- The availability of advanced biofuels (*e.g.,* historic data on domestic supply, expiration of the biodiesel blenders' tax credit, potential imports of biodiesel in light of the Commerce Department's determination on tariffs on biodiesel imports from Argentina and Indonesia, potential imports of sugarcane ethanol, and anticipated changes in the production of feedstocks for advanced biodiesel and renewable diesel)
- The energy security and greenhouse gas (GHG) impacts of advanced biofuels
- The availability of carryover RINs
- The intent of Congress as reflected in the statutory volumes tables to substantially increase the use of advanced biofuels over time
- Increased costs associated with the use of advanced biofuels, and
- The increasing likelihood of adverse unintended impacts associated with use of advanced biofuel volumes achieved through diversion of foreign fuels or substitution of advanced feedstocks from other uses to biofuel production.

Before the 2018 standards were set, the consideration of these factors led us to conclude that it was appropriate to set the advanced biofuel standard in a manner that would allow the partial backfilling of missing cellulosic volumes with non-cellulosic advanced biofuels.[64] In the 2018 and 2019 standards final rules, we concluded that partial backfilling of missing cellulosic biofuel volumes with advanced biofuel was not warranted, primarily due to a shortfall in reasonably attainable volumes of advanced biofuels, high costs, the potential for feedstock switching and/or foreign fuel diversion which could compromise GHG benefits and disrupt markets, and an interest in preserving the existing carryover RIN bank.[65] [66]

[63] See, for instance, comments from Growth Energy where they note that ''. . . producers of starch ethanol . . . are leading investors in cellulosic biofuels, which may be derived from corn.'' Page 31 of ''Comments from Growth Energy on proposed 2018 standards,'' available in docket EPA–HQ–OAR–2019–0136.

[64] For instance, see 81 FR 89750 (December 12, 2016).

[65] See 82 FR 58504 (December 12, 2017).

[66] See 83 FR 63719 (December 11, 2018).

For 2020, we have determined that the concerns surrounding partial backfilling of missing cellulosic biofuel with advanced biofuel remain valid. As a result, we are reducing the statutory volume target for advanced biofuel by the same amount as the reduction in cellulosic biofuel. This results in the non-cellulosic component of the advanced biofuel volume requirement being equal to 4.50 billion gallons in 2020, which is the same as the implied statutory volume requirement for non-cellulosic advanced biofuel for 2020.

The impact of our exercise of the cellulosic waiver authority is that after waiving the statutory volume target for cellulosic biofuel down to the projected available level, and then reducing the statutory volume target for advanced biofuel by the same amount, the resulting volume requirement for advanced biofuel for 2020 is 5.09 billion gallons. This volume requirement is 170 million gallons more than the applicable volume used to derive the 2019 percentage standard. Furthermore, after applying the same reduction to the statutory volume target for total renewable fuel, the volume requirement for total renewable fuel is also 170 million gallons more than the applicable volume used to derive the 2019 percentage standard. These increases are entirely attributable to a 170 million gallon increase in the cellulosic biofuel volume requirement. The implied volumes of non-cellulosic advanced biofuel and conventional renewable fuel will remain the same as in 2019 at 4.5 and 15 billion gallons respectively.

### *A. Volumetric Limitation on Use of the Cellulosic Waiver Authority*

As described in Section II.A, when making reductions in advanced biofuel and total renewable fuel under the cellulosic waiver authority, the statute limits those reductions to no more than the reduction in cellulosic biofuel. As described in Section III.C, we are establishing a 2020 applicable volume for cellulosic biofuel of 590 million gallons, representing a reduction of 9,910 million gallons from the statutory target of 10,500 million gallons. As a result, 9,910 million gallons is the maximum volume reduction for advanced biofuel and total renewable fuel that is permissible using the cellulosic waiver authority. Use of the cellulosic waiver authority to this maximum extent would result in volumes of 5.09 and 20.09 billion gallons for advanced biofuel and total renewable fuel, respectively.

TABLE IV.A–1—LOWEST PERMISSIBLE VOLUMES USING ONLY THE CELLULOSIC WAIVER AUTHORITY

[Million gallons]

| | Advanced biofuel | Total renewable fuel |
|---|---|---|
| Statutory target | 15,000 | 30,000 |
| Maximum reduction permitted under the cellulosic waiver authority | 9,910 | 9,910 |
| Lowest 2020 volume requirement permitted using only the cellulosic waiver authority | 5,090 | 20,090 |

We are authorized under the cellulosic waiver authority to reduce the advanced biofuel and total renewable fuel volumes ''by the same or a lesser'' amount as the reduction in the cellulosic biofuel volume.[67] As discussed in Section II.A, EPA has broad discretion in using the cellulosic waiver authority in instances where its use is authorized under the statute, since Congress did not specify factors that EPA must consider in determining whether to use the authority to reduce advanced biofuel or total renewable fuel, nor what the appropriate volume reductions (within the range permitted by statute) should be. Thus, we have the authority to set the 2020 advanced biofuel volume requirement at a level that is designed to partially backfill for the shortfall in cellulosic biofuel. However, as discussed below, we do not believe this would be appropriate for 2020.

### *B. Attainable Volumes of Advanced Biofuel*

We have evaluated whether it would be appropriate to require 5.09 billion ethanol-equivalent gallons of advanced biofuel for 2020. In doing so, we have considered both attainable and reasonably attainable volumes of advanced biofuel to inform our exercise of the cellulosic[68] waiver authority. As we explained in the 2019 final rule, both ''reasonably attainable'' and ''attainable'' are terms of art defined by EPA.[69] Volumes described as ''reasonably attainable'' are those that can be reached with minimal market disruptions, increased costs, reduced GHG benefits, and diversion of advanced biofuels or advanced biofuel feedstocks from existing uses. Volumes described as ''attainable,'' in contrast, are those we believe can be reached but would likely result in market disruption, higher costs, and/or reduced GHG benefits. Neither ''reasonably attainable'' nor ''attainable'' are meant to convey the ''maximum achievable'' level, which, as we explained in the 2017 final rule, we do not consider to be an appropriate target under the cellulosic waiver authority.[70] Finally, we note that our assessments of the ''reasonably attainable'' and ''attainable'' volumes of non-cellulosic advanced biofuels are not intended to be as exacting as our projection of cellulosic biofuel production, described in Section III of this rule.[71]

[67] CAA section 211(o)(7)(D)(i).

[68] 83 FR 63704, 63721 (December 11, 2019).

[69] Our consideration of ''reasonably attainable'' volumes is not intended to imply that ''attainable'' volumes are unreasonable or otherwise inappropriate. As we explain in this section, we believe that an advanced biofuel volume of 5.09 billion gallons, although not reasonably attainable, is attainable, and that establishing such volume is an appropriate exercise of our cellulosic waiver authority.

[70] 81 FR 89762 (December 12, 2016). The maximum achievable volume may be relevant to our consideration of whether to exercise the general waiver authority on the basis of inadequate domestic supply. However, for 2020, we have determined that after exercising our cellulosic waiver authority to the full extent permitted, the resulting advanced biofuel volume is attainable. Therefore, further reductions using the general waiver authority on the basis of inadequate domestic supply are not necessary.

[71] The statute directs EPA to lower the cellulosic biofuel volume to the projected production level where that level falls short of the statutory volume. Under *API* v. *EPA,* 706 F.3d 474, 479–80 (D.C. Cir. 2013), we must project this production level with neutral aim at accuracy, that is, make a technical determination about the market's ability to produce cellulosic biofuels. By contrast, the discretionary portion of the cellulosic waiver authority does not explicitly require EPA to project the availability of advanced biofuels, but instead confers broad discretion on EPA. Moreover, while we have chosen to estimate reasonably attainable and attainable volumes of advanced biofuel, these volumes do not equate to projected production alone. Rather, in exercising the discretionary portion of the cellulosic waiver authority, we also consider a range of policy factors—such as costs, greenhouse gas emissions,

Continued

As in prior rulemakings, we begin by considering what volumes of advanced biofuels are reasonably attainable. In *ACE,* the Court noted that in assessing what volumes are ''reasonably attainable,'' EPA had considered the availability of feedstocks, domestic production capacity, imports, and market capacity to produce, distribute, and consume renewable fuel.[72] These considerations include both demand-side and supply-side factors.[73] We are taking a similar approach for 2020. We are establishing the advanced biofuel volume requirement at a level that takes into consideration both the benefits and drawbacks of an increase in the implied non-cellulosic advanced biofuel volume requirement, as well as the ability of the market to make such increased volumes available.

Our individual assessments of reasonably attainable volumes of each type of advanced biofuel reflect this approach. As discussed in further detail in this section, we find that 70 million gallons of imported advanced ethanol, 50 million gallons of other advanced biofuels, and 2.77 billion gallons of advanced biodiesel and renewable diesel are reasonably attainable. Together with our projected volume of 590 million gallons of cellulosic biofuel, the sum of these volumes is 5.00 billion gallons.[74] This is the volume of advanced biofuel that we believe is reasonably attainable.

As described in Section IV.A above, 5.09 billion gallons is the lowest level that we could set under the cellulosic waiver authority. Since the volume that we have determined to be reasonably attainable—5.00 billion gallons—is less than the lowest volume we can set under the cellulosic waiver authority, we also have considered whether the market can make more than 5.00 billion gallons of advanced biofuel, notwithstanding the potential for feedstock/fuel diversions. That is, we assess whether 5.09 billion gallons is merely ''attainable,'' as opposed to ''reasonably attainable.'' In particular, we assess whether additional volumes of advanced biodiesel and renewable diesel are attainable. We conclude that 2.83 billion gallons of advanced biodiesel and renewable diesel are attainable, notwithstanding potential feedstock/fuel diversions. This quantity of advanced biodiesel and renewable diesel, together with the cellulosic biofuel, sugarcane ethanol, and other advanced biofuels described above, will enable the market to make available 5.09 billion gallons of advanced biofuels.

1. Imported Sugarcane Ethanol

The predominant available source of advanced biofuel other than cellulosic biofuel and BBD has historically been imported sugarcane ethanol. Imported sugarcane ethanol from Brazil is the predominant form of imported ethanol and the only significant source of imported advanced ethanol. In setting the 2019 standards, we estimated that 100 million gallons of imported sugarcane ethanol would be reasonably attainable.[75] This was based on a combination of data from recent years demonstrating relatively low import volumes and older data indicating that higher volumes were possible. We also noted the high variability in ethanol import volumes in the past (including of Brazilian sugarcane ethanol), increasing gasoline consumption in Brazil, and variability in Brazilian production of sugar as reasons that it would be inappropriate to assume that sugarcane ethanol imports would reach the much higher levels suggested by some stakeholders.

At the time of the 2019 standards final rule, we used available data from a portion of 2018 to estimate that import volumes of sugarcane ethanol were likely to fall significantly below the 200 million gallons we had assumed when we set the 2018 standards. Since the 2019 final rule, new data reveals a continued trend of low imports. Specifically, import data for all of 2018 is now available and indicates that imports of sugarcane ethanol reached just 54 million gallons.

energy security, market disruptions, etc., as described throughout this section.

[72] See *ACE,* 864 F.3d at 735–36.

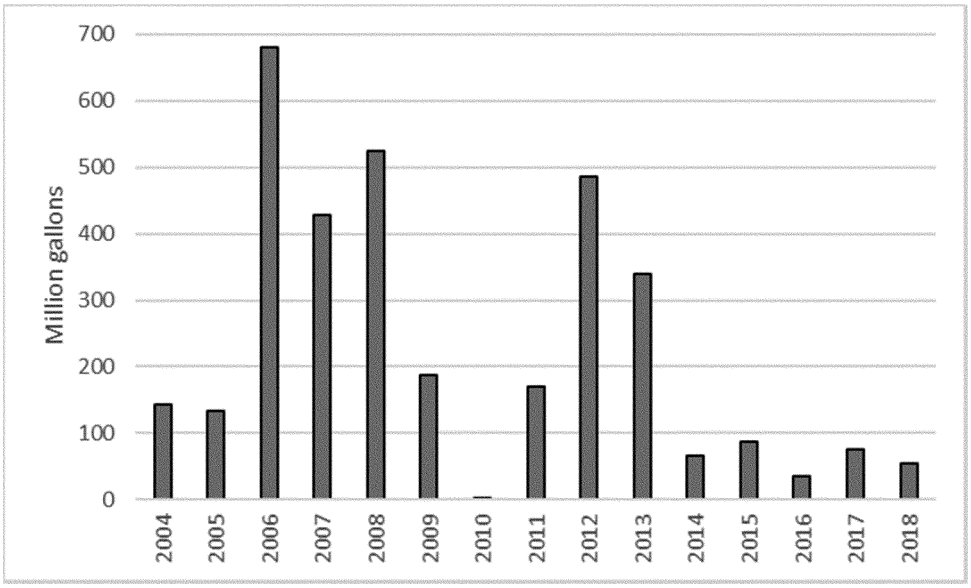
[73] See id. at 730–35.

[74] $0.07 + 0.05 + 2.77 \times 1.55 + 0.59 = 5.00$.

[75] 83 FR 63704 (December 11, 2018).

Figure IV.B.1-1

Historical Sugarcane Ethanol Imports




Source: "US Imports of Brazilian Fuel Ethanol from EIA - Oct 2019," docket EPA-HQ-OAR-2019-0136. Includes imports directly from Brazil and those that are transmitted through the Caribbean Basin Initiative and Central America Free Trade Agreement (CAFTA).

Data for 2019 through August indicate that advanced ethanol imports reached 95 million gallons. While we cannot project precisely what total import volumes will be by the end of 2019, as a first approximation is may be reasonable to assume that the monthly rate of import is consistent throughout the year. If so, then total 2019 imports could be 143 million gallons.

However, there is little evidence that the increase potentially exhibited in 2019 would continue into 2020 as there is no consistent upward or downward trend after 2013. Moreover, several factors create disincentives for increasing imports above the levels in recent years, including the E10 blendwall, the potential existence of a recurring tax credit for biodiesel and renewable diesel with which sugarcane ethanol competes within the advanced biofuel category, and the fact that imported sugarcane ethanol typically costs more than corn ethanol.[76] As a result of these factors and the lower levels that have occurred in recent years, we believe it would be appropriate to reduce the expected volume of imported sugarcane ethanol below 100 million gallons.

Imports of sugarcane ethanol appear to have stabilized in the 2014 to 2018 timeframe in comparison to previous years. The average for these years is 67 million gallons. Due to the difficulty in precisely projecting future import volumes as described further below, we believe that a rounded value of 70 million gallons would be more appropriate and thus we use 70 million gallons of imported sugarcane ethanol for the purposes of projecting reasonably attainable volumes of advanced biofuel for 2020. We believe the volume of fuel imported in previous years is a reasonable way to project the reasonably attainable volume of sugarcane ethanol in 2020.

In the July 29 proposal, we projected that 60 million gallons of imported sugarcane ethanol would be available in 2020. Our revised estimate of 70 million gallons reflects updated data on 2018 imports as well as a more robust quantitative approach to calculating recent actual imports.

We note that the future projection of imports of sugarcane ethanol is inherently imprecise and that actual imports in 2020 could be lower or higher than 70 million gallons. Factors that could affect import volumes include uncertainty in the Brazilian political climate, weather and harvests in Brazil, world ethanol demand and prices, constraints associated with the E10 blendwall in the U.S., the status of the biodiesel tax credit which affects the economic attractiveness of sugarcane ethanol's primary competitor, world demand for and prices of sugar, and the cost of sugarcane ethanol relative to that of corn ethanol. After considering these factors, and in light of the high degree of variability in historical imports of sugarcane ethanol, we believe that 70

[76] The difference between D5 and D6 RIN prices can also influence the relative attractiveness to consumers of advanced ethanol compared to conventional ethanol. However, there has been considerable variability in this particular RIN price difference over the last few years.

million gallons is reasonably attainable for 2020.[77]

2. Other Advanced Biofuel

In addition to cellulosic biofuel, imported sugarcane ethanol, and advanced biodiesel and renewable diesel, there are other advanced biofuels that can be counted in the determination of reasonably attainable volumes of advanced biofuel for 2020. These other advanced biofuels include non-cellulosic CNG, naphtha, heating oil, and domestically produced advanced ethanol. However, the supply of these fuels has been relatively low in the last several years.

TABLE IV.B.2–1—HISTORICAL SUPPLY OF OTHER ADVANCED BIOFUELS

[Million ethanol-equivalent gallons]

| | CNG/LNG | Heating oil | Naphtha | Domestic ethanol | Total [a] |
|---|---|---|---|---|---|
| 2013 | 26 | 0 | 3 | 23 | 52 |
| 2014 | 20 | 0 | 18 | 26 | 64 |
| 2015 | 0 | 1 | 24 | 25 | 50 |
| 2016 | 0 | 2 | 27 | 27 | 56 |
| 2017 | 2 | 2 | 32 | 26 | 62 |
| 2018 | 0 | 1 | 18 | 27 | 46 |

[a] Excludes consideration of D5 renewable diesel, as this category of renewable fuel is considered as part of biodiesel and renewable diesel as discussed in Section IV.B.3.

The significant decrease after 2014 in CNG/LNG from biogas as advanced biofuel with a D code of 5 is due to the re-categorization in 2014 of landfill biogas from advanced (D code 5) to cellulosic (D code 3).[78] Subsequently, total supply of these other advanced biofuels has exhibited no consistent trend during 2015 to 2018. The average during those four years was 54 million gallons. However, due to the high variability, and consistent with the approach we are taking for estimating volumes of imported sugarcane ethanol, we believe that this average should be rounded to the nearest 10 million gallons. As a result, we have used 50 million gallons to represent other advanced biofuels in the context of estimating attainable volumes of advanced biofuel.[79] As with sugarcane ethanol, we have not conducted an in-depth assessment of the volume of other advanced biofuels that could be made available to the U.S. without diverting this fuel from other markets. We believe the volume of fuel supplied in previous years is a reasonable way to project the reasonably attainable volume of other advanced biofuels in 2020.

We acknowledge that, in the July 29 proposal, we proposed using 60 million gallons of other advanced biofuel in estimating attainable volumes of advanced biofuel. This value was based on the same data shown in Table IV.B.2–1, but using a more qualitative approach wherein 60 million gallons was deemed representative of both historical volumes and those that could be attained in 2020. For this final rule we have chosen to use a mathematical approach that is consistent with the approach we have taken for imported sugarcane ethanol, and which we believe represents a more robust methodology for making future projections. As the change in the projected 2020 volume of other advanced biofuel is very small, we do not believe this change in approach meaningfully affects the broader assessment of advanced biofuel volumes. Moreover, we note that this final action uses a volume of imported sugarcane ethanol that is 10 million gallons higher than that proposed, while simultaneously using a volume of other advanced that is 10 million gallons lower than that proposed. The net effect on projections of advanced biofuel for both of these changes combined is zero.

We recognize that the potential exists for additional volumes of advanced biofuel from sources such as jet fuel, liquefied petroleum gas (LPG), butanol, and liquefied natural gas (as distinct from CNG), as well as non-cellulosic CNG from biogas produced in digesters. However, since they have been produced, if at all, in only de minimis and sporadic amounts in the past, we do not have a reasonable basis for projecting substantial volumes from these sources in 2020.[80]

3. Biodiesel and Renewable Diesel

Having projected the available volume of cellulosic biofuel, and the reasonably attainable volumes of imported sugarcane ethanol and ''other'' advanced biofuels, we next assess the availability of advanced biodiesel and renewable diesel by considering a wide range of factors. First, we calculate the amount of advanced biodiesel and renewable diesel that would be needed to meet the 5.09 billion ethanol-equivalent gallon advanced requirement were we to exercise our maximum discretion under the cellulosic waiver authority discussed in Section IV.A. This calculation, shown in Table IV.B.3–1, helps inform the exercise of our waiver authorities. Second, we consider the historical availability of these fuels, including the impacts of biodiesel tax policy and tariffs. Third, we consider other factors that could potentially limit the availability of these fuels including the production capacity of advanced biodiesel and renewable diesel production facilities, and the ability for the market to distribute and use these fuels. Fourth, we assess the availability of advanced feedstocks. As part of this analysis, we consider the volume of advanced biodiesel and renewable diesel that can be made available with minimal diversions of advanced feedstocks and biofuels from existing uses, *i.e.,* the reasonably attainable volume of advanced biodiesel and renewable diesel. We calculate this volume based on our projection of growth in qualifying feedstocks and on the reasonably attainable volume calculated in the 2019 final rule. Fifth, we consider how changes to the import and export of advanced biodiesel and

[77] Given the relatively small volumes of sugarcane ethanol we are projecting (approximately 1 percent of the advanced biofuel standard), even a significant deviation in its actual availability would likely have negligible impact on the market's ability to meet the advanced biofuel volumes.

[78] 79 FR 42128 (July 18, 2014).

[79] As with sugarcane ethanol, given the relatively small volumes of other advanced biofuels we are projecting (approximately 1% of the advanced biofuel standard), even a significant deviation in its actual availability would likely have negligible impact on the market's ability to meet the advanced biofuel volumes.

[80] No RIN-generating volumes of these other advanced biofuels were produced in 2018, and less than 1 million gallons total in prior years.

renewable diesel could impact the available volume of these fuels.

These analyses support three key findings. First, were EPA to exercise the cellulosic waiver authority to the maximum extent, we would require an advanced biofuel volume of 5.09 billion ethanol-equivalent gallons, of which we estimate 4.37 billion ethanol-equivalent gallons (2.83 billion actual gallons of biodiesel and renewable diesel) would be met by advanced biodiesel and renewable diesel. Second, the reasonably attainable volume of advanced biodiesel and renewable diesel, which can be achieved with minimal diversions of advanced feedstocks and biofuels (2.77 billion gallons) is slightly lower than this volume. This finding, together with the high cost of advanced biofuels, supports our decision to exercise the cellulosic waiver authority to the maximum extent and not to permit backfilling of missing cellulosic volumes with additional advanced biofuels. Third, 2.83 billion gallons of advanced biodiesel and renewable diesel are attainable by the market. These findings, together with additional discussions in the RTC document and docket memoranda, supports our decisions to neither require the use of additional volumes of advanced biofuel to backfill for the shortfall in cellulosic biofuel nor to further waive volumes under the general waiver authority.[81]

a. Volume of Advanced Biodiesel and Renewable Diesel To Achieve Advanced Biofuel Volume

We begin by calculating the volume of advanced biodiesel and renewable diesel that would be needed to meet the 2020 advanced biofuel volume were EPA to exercise the cellulosic waiver authority to the maximum extent. This important benchmark informs EPA's consideration of our waiver authorities, albeit as only one factor among many. Specifically, in past annual rules where the reasonably attainable volume of biodiesel and renewable diesel has exceeded this benchmark, as was the case in 2017 and 2018, EPA has considered whether or not to allow additional volumes of these fuels to backfill for missing cellulosic biofuel volumes. By contrast, where the reasonably attainable volume of advanced biodiesel and renewable diesel has been less than this benchmark, as was the case in 2019, this weighs in favor of exercising the cellulosic waiver authority to the maximum extent so as to minimize diversions of advanced biofuels and feedstocks and the associated harms and the need for additional volumes of high cost advanced biofuel. Relatedly, were EPA to find that volume of advanced biodiesel and renewable diesel needed to meet this benchmark is not attainable, that would weigh in favor of EPA exercising its discretion under additional waiver authorities, to the extent available, to make further reductions to the advanced biofuel volume.

As shown in Table IV.B.3–1, were EPA to exercise the cellulosic waiver authority to the maximum extent, the required volume of advanced biofuel would be 5.09 billion ethanol-equivalent gallons. After subtracting from this volume the available volume of cellulosic biofuel and reasonably attainable volumes of imported sugarcane ethanol and ''other'' advanced biofuels, we estimate that approximately 2.83 billion gallons of advanced biodiesel and renewable diesel would be needed to meet the 2020 advanced biofuel volume.

TABLE IV.B.3–1—DETERMINATION OF VOLUME OF BIODIESEL AND RENEWABLE DIESEL NEEDED IN 2020 TO ACHIEVE 5.09 BILLION GALLONS OF ADVANCED BIOFUEL

[Million ethanol-equivalent gallons except as noted]

| | |
|---|---|
| Target 2020 advanced biofuel volume requirement absent any backfilling of missing cellulosic biofuel | 5,090 |
| Cellulosic biofuel | 590 |
| Imported sugarcane ethanol | 70 |
| Other advanced | 50 |
| Calculated advanced biodiesel and renewable diesel needed (ethanol-equivalent gallons/physical gallons)[82] | 4,380\2,826 |

b. Historical Supply of Biodiesel and Renewable Diesel

We next consider the volumes of advanced biodiesel and renewable diesel supplied in previous years, as well as the impacts of biodiesel tax policy and tariffs on these volumes. A review of the volumes of advanced biodiesel and renewable diesel used in previous years is especially useful in projecting the potential availability of these fuels, since there are a number of complex and inter-related factors beyond simply total production capacity (including the availability of advanced biodiesel and renewable diesel feedstocks,[83] the expiration of the biodiesel tax credit, changes to tariffs on biodiesel from Argentina and Indonesia, import and distribution infrastructure, and other market-based factors) that could affect the supply of advanced biodiesel and renewable diesel. While historic data and trends alone are insufficient to project the volumes of biodiesel and renewable diesel that could be provided in future years, historic data can serve as a useful reference in considering future volumes.

Past experience suggests that a high percentage of the biodiesel and renewable diesel used in the U.S. (from both domestic production and imports) qualifies as advanced biofuel.[84] In

[81] We note that we have not attempted to determine the maximum achievable volume of these fuels. While the maximum achievable volume of advanced biodiesel and renewable diesel in 2020 is likely greater than 2.83 billion gallons we do not believe it would be appropriate to require a greater volume of these fuels due to the high cost and increased likelihood of adverse unintended impacts associated with these fuels.

[82] To calculate the volume of advanced biodiesel and renewable diesel that would generate the 4.37 billion RINs needed to meet the advanced biofuel volume EPA divided the 4.37 billion RINs by 1.55, which is the approximate average (weighted by the volume of these fuels expected to be produced in 2020) of the equivalence values for biodiesel (generally 1.5) and renewable diesel (generally 1.7).

[83] Throughout this section we refer to advanced biodiesel and renewable diesel as well as advanced biodiesel and renewable diesel feedstocks. In this context, advanced biodiesel and renewable diesel refer to any biodiesel or renewable diesel for which RINs can be generated that satisfy an obligated party's advanced biofuel obligation (*i.e.,* D4 or D5 RINs). While cellulosic diesel (D7) can also contribute towards an obligated party's advanced biofuel obligation, these fuels are discussed in Section III rather than in this section. An advanced biodiesel or renewable feedstock refers to any of the biodiesel, renewable diesel, jet fuel, and heating oil feedstocks listed in Table 1 to 40 CFR 80.1426 or in petition approvals issued pursuant to section 80.1416, that can be used to produce fuel that qualifies for D4 or D5 RINs. These feedstocks include, for example, soy bean oil; oil from annual cover crops; oil from algae grown photosynthetically; biogenic waste oils/fats/greases; non-food grade corn oil; camelina sativa oil; and canola/rapeseed oil (See pathways F, G, and H of Table 1 to section 80.1426).

[84] From 2011 through 2018 approximately 96 percent of all biodiesel and renewable diesel

Continued

previous years, biodiesel and renewable diesel produced in the U.S. have been almost exclusively advanced biofuel.[85] Volumes of imported biodiesel and renewable diesel, which include both advanced and conventional biodiesel and renewable diesel, have varied significantly from year to year, as they are impacted both by domestic and foreign policies, as well as many economic factors. Production, import, export, and total volumes of advanced biodiesel and renewable diesel are shown in Table IV.B.3–2, while volumes of conventional biodiesel and renewable diesel are shown in the following Table IV.B.3–3.

TABLE IV.B.3–2 [86]—ADVANCED (D4 AND D5) BIODIESEL AND RENEWABLE DIESEL FROM 2011 TO 2019

[Million gallons] [a]

| | 2011 | 2012 | 2013 | 2014 [b] | 2015 [b] | 2016 | 2017 | 2018 | 2019 [c] |
|---|---|---|---|---|---|---|---|---|---|
| Domestic Biodiesel | 969 | 984 | 1,364 | 1,296 | 1,245 | 1,581 | 1,530 | 1,843 | 1825 |
| (Annual Change) | (N/A) | (+15) | (+380) | (−68) | (−51) | (+336) | (−51) | (+313) | (−18) |
| Domestic Renewable Diesel | 59 | 50 | 112 | 158 | 174 | 236 | 251 | 306 | 531 |
| (Annual Change) | (N/A) | (−9) | (+62) | (+46) | (+16) | (+62) | (+15) | (+55) | (+225) |
| Imported Biodiesel | 43 | 39 | 153 | 130 | 261 | 562 | 462 | 175 | 246 |
| (Annual Change) | (N/A) | (−4) | (+114) | (−23) | (+131) | (+301) | (−100) | (−287) | (+71) |
| Imported Renewable Diesel | 0 | 28 | 145 | 130 | 120 | 165 | 191 | 178 | 256 |
| (Annual Change) | (N/A) | (+28) | (+117) | (−15) | (−10) | (+45) | (+26) | (−13) | (+78) |
| Exported Biodiesel and Renewable Diesel | 32 | 68 | 84 | 87 | 94 | 129 | 166 | 154 | 122 |
| (Annual Change) | (N/A) | (+36) | (+16) | (+3) | (+7) | (+35) | (+37) | (−12) | (−32) |
| Total [d] | 1,039 | 1,033 | 1,690 | 1,627 | 1,706 | 2,415 | 2,268 | 2,348 | 2,736 |
| (Annual Change) | (N/A) | (−6) | (+657) | (−63) | (+79) | (+709) | (−147) | (+80) | (+388) |

[a] All data from EMTS. EPA reviewed all advanced biodiesel and renewable diesel RINs retired for reasons other than demonstrating compliance with the RFS standards and subtracted these RINs from the RIN generation totals for each category in the table above to calculate the volume in each year.

[b] RFS required volumes for these years were not established until December 2015.

[c] Data for 2019 is based on actual production and import data through September 2019, and a projection for October–December 2019. For more information on how the volumes for 2019 were determined see ''Projecting Advanced Biofuel Production and Imports for 2019 (November 2019),'' Memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136.

[d] Total is equal to domestic production of biodiesel and renewable plus imported biodiesel and renewable diesel minus exports.

TABLE IV.B.3–3—CONVENTIONAL (D6) BIODIESEL AND RENEWABLE DIESEL FROM 2011 TO 2019

[Million gallons] [a]

| | 2011 | 2012 | 2013 | 2014 [b] | 2015 [b] | 2016 | 2017 | 2018 | 2019 [c] |
|---|---|---|---|---|---|---|---|---|---|
| Domestic Biodiesel | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| (Annual Change) | (N/A) | (−2) | (+1) | (+0) | (−1) | (+0) | (+0) | (+0) | (+0) |
| Domestic Renewable Diesel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (Annual Change) | (N/A) | (+0) | (+0) | (+0) | (+0) | (+0) | (+0) | (+0) | (+0) |
| Imported Biodiesel | 0 | 0 | 31 | 52 | 74 | 113 | 0 | 0 | 0 |
| (Annual Change) | (N/A) | (+0) | (+31) | (+21) | (+22) | (+39) | (-113) | (+0) | (+0) |
| Imported Renewable Diesel | 0 | 0 | 70 | 2 | 87 | 45 | 2 | 1 | 0 |
| (Annual Change) | (N/A) | (+0) | (+70) | (−68) | (+85) | (−42) | (−43) | (−1) | (−1) |
| Exported Biodiesel and Renewable Diesel | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| (Annual Change) | (N/A) | (+0) | (+0) | (+0) | (+1) | (+0) | (−1) | (+0) | (+0) |
| Total [d] | 2 | 0 | 102 | 55 | 160 | 157 | 2 | 1 | 0 |
| (Annual Change) | (N/A) | (−2) | (+102) | (−47) | (+105) | (−3) | (−155) | (−1) | (−1) |

[a] All data from EMTS. EPA reviewed all conventional biodiesel and renewable diesel RINs retired for reasons other than demonstrating compliance with the RFS standards and subtracted these RINs from the RIN generation totals for each category in the table above to calculate the volume in each year.

[b] RFS required volumes for these years were not established until December 2015.

[c] While a significant number of D6 RINs have been generated for biodiesel and renewable diesel in 2019 in recent years nearly all of these RINs have later been retired for reasons other than compliance with the volume obligations. Since D6 RIN prices have been relatively low in 2019 and the biodiesel tax credit is currently not available we are not projecting any production or import of D6 biodiesel or renewable diesel in 2019.

[d] Total is equal to domestic production of biodiesel and renewable plus imported biodiesel and renewable diesel minus exports.

supplied to the U.S. (including domestically produced and imported biodiesel and renewable diesel) qualified as advanced biodiesel and renewable diesel (14,214 million gallons of the 14,869 million gallons) according to EMTS data. This section focuses on the availability of advanced biodiesel and renewable diesel to meet the advanced biofuel volume. For a discussion of the availability of all biodiesel and renewable diesel that could be used to meet the total renewable fuel volume see ''Updated market impacts of biofuels in 2020,'' memorandum from David Korotney to docket EPA–HQ–OAR–2019–0136.

[85] From 2011 through 2018 over 99.9 percent of all the domestically produced biodiesel and renewable diesel supplied to the U.S. qualified as advanced biodiesel and renewable diesel (12,268 million gallons of the 12,275 million gallons) according to EMTS data.

[86] For this final rule EPA reviewed the data available in EMTS and updated historical renewable fuel production and RIN generation data. This updated data can be found in ''Historical RIN supply as of 8–12–19,'' memorandum from David Korotney to EPA docket EPA–HQ–OAR–2019–0136. Tables in this final rule that contain historical data (such as Tables IV.B.3–2, IV.B.3–3, VI.B.1–1 and VI.B.1–2) have been updated accordingly.

As we explained above, to meet an advanced biofuel volume of 5.09 billion ethanol-equivalent gallons we project that the market would supply 2.83 billion gallons of advanced biodiesel and renewable diesel. This volume (2.83 billion gallons) is approximately 90 million gallons greater than the volume of these fuels projected to be supplied in 2019 based on data through September 2019. Since 2011, the year-over-year changes in the volume of advanced biodiesel and renewable diesel used in the U.S. have varied greatly, from a low of 147 million fewer gallons from 2016 to 2017 to a high of 709 million additional gallons from 2015 to 2016. These changes were likely influenced by multiple factors such as the cost of biodiesel feedstocks and petroleum diesel, the status of the biodiesel blenders tax credit, growth in marketing of biodiesel at high volume truck stops and centrally fueled fleet locations, demand for biodiesel and renewable diesel in other countries, biofuel policies in both the U.S. and foreign countries, and the volumes of renewable fuels (particularly advanced biofuels) required by the RFS. This historical information does not indicate that the maximum previously observed increase of 709 million gallons of advanced biodiesel and renewable diesel would be reasonable to expect in 2020, nor does it indicate that the low (or negative) growth rates observed in other years would recur. Rather, these data illustrate both the magnitude of the changes in advanced biodiesel and renewable diesel in previous years and the significant variability in these changes.

The historic data indicates that the biodiesel tax policy in the U.S. can have a significant impact on the volume of biodiesel and renewable diesel used in the U.S. in any given year.[87] While the biodiesel blenders tax credit has applied in each year from 2010 to 2017, it has only been prospectively in effect during the calendar year in 2011, 2013, and 2016, while other years it has been applied retroactively. Each of the years in which the biodiesel blenders tax credit was in effect during the calendar year (2013 and 2016) resulted in significant increases in the volume of advanced biodiesel and renewable diesel used in the U.S. over the previous year (656 million gallons and 742 million gallons respectively). However, following these large increases in 2013 and 2016, there was little to no growth in the use of advanced biodiesel and renewable diesel in the following years. More recent data from 2019 suggests that while the availability of the tax credit certainly incentivizes an increasing supply of biodiesel and renewable diesel, supply increases can also occur in the absence of the tax credit, likely as the result of the incentives provided by the RFS program and other economic factors. The availability of this tax credit also provides biodiesel and renewable diesel with a competitive advantage relative to other advanced biofuels that do not qualify for the tax credit.[88]

Another important factor highlighted by the historic data is the tariffs imposed by the U.S. on biodiesel imported from Argentina and Indonesia. In December 2017 the U.S. International Trade Commission adopted tariffs on biodiesel imported from Argentina and Indonesia.[89] According to data from EIA,[90] no biodiesel was imported from Argentina or Indonesia since September 2017, after a preliminary decision to impose tariffs on biodiesel imported from these countries was announced in August 2017. As a result of these tariffs, total imports of biodiesel into the U.S. were significantly lower in 2018 than they had been in 2016 and 2017. The decrease in imported biodiesel did not, however, result in a decrease in the volume of advanced biodiesel and renewable diesel supplied to the U.S. in 2018. Instead, higher domestic production of advanced biodiesel and renewable diesel, in combination with lower exported volumes of domestically produced biodiesel, resulted in an overall increase in the volume of advanced biodiesel and renewable diesel supplied in 2018. On July 9, 2019, the Department of Commerce published a preliminary determination to reduce the countervailing duty on biodiesel imported from Argentina.[91] If finalized this could result in increasing volumes of biodiesel imports from Argentina in future years.

The historical data suggests that the 2.83 billion gallons of advanced biodiesel and renewable diesel projected to be used to meet an advanced biofuel volume of 5.09 billion ethanol-equivalent gallons is attainable. This would represent a projected increase of approximately 90 million gallons from 2019 to 2020. This increase is less than the average increase in the volume of advanced biodiesel and renewable diesel used in the U.S. from 2011 through 2019 (212 million gallons per year) and significantly less than the highest annual increase during this time (742 million gallons from 2015 to 2016). We note, however, that this assessment does not consider the sources of feedstock that would be used to meet this increase, or the potential impacts of supplying 2.83 billion gallons of advanced biodiesel and renewable diesel, which are discussed in greater detail in the following sections.

c. Consideration of Production Capacity and Distribution Infrastructure

After reviewing the historical volume of advanced biodiesel and renewable diesel used in the U.S., EPA next considers other factors that may impact the production, import, and use of advanced biodiesel and renewable diesel in 2020. The production capacity of registered advanced biodiesel and renewable diesel production facilities is highly unlikely to limit the production of these fuels, as the total production capacity for biodiesel and renewable diesel at registered facilities in the U.S. (4.1 billion gallons) exceeds the volume of these fuels that are projected to be needed to meet the advanced biofuel volume for 2020 after exercising the cellulosic waiver authority (2.83 billion gallons).[92] Significant registered production also exists internationally. Similarly, the ability for the market to distribute and use advanced biodiesel and renewable diesel appears unlikely constrain the growth of these fuels to a volume lower than 2.83 billion gallons. The investments required to distribute and use this volume of biodiesel and renewable diesel are expected to be manageable by the marketplace given the RIN value incentive, as this volume is approximately 90 million gallons greater than the volume of biodiesel and renewable diesel produced, imported, and used in the U.S. in 2019. The magnitude of the increase projected

[87] We note that the status of the tax credit does not impact our assessment of the reasonably attainable volume of advanced biodiesel and renewable diesel in 2020 as that assessment is primarily based on feedstock availability. The status of the tax credit could potentially affect the maximum achievable volume of these fuels, but our assessment demonstrates that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable whether or not the tax credit is renewed prospectively (or retrospectively) for 2020.

[88] For a further discussion of the impact of the tax credit on the supply of biodiesel and renewable diesel, see the discussion from the proposed rule (84 FR 36783, July 29, 2019).

[89] ''Biodiesel from Argentina and Indonesia Injures U.S. Industry, says USITC,'' Available online at: *https://www.usitc.gov/press_room/news_release/2017/er1205ll876.htm.*

[90] See ''EIA Biomass-Based Diesel Import Data'' available in docket EPA–HQ–OAR–2019–0136.

[91] 84 FR 32714 (July 9, 2019).

[92] The production capacity of the sub-set of biodiesel and renewable diesel producers that generated RINs in 2018 is approximately 2.9 billion gallons. See ''Biodiesel and Renewable Diesel Registered Capacity (March 2019)'' Memorandum from Dallas Burkholder to EPA Docket EPA–HQ–OAR–2019–0136.

from 2019 to 2020 (90 million gallons) is much smaller than the increases observed in previous years. These factors further support our finding that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable.

d. Consideration of the Availability of Advanced Feedstocks

We next consider the availability of advanced feedstocks that can be used to produce advanced biodiesel and renewable diesel. This assessment has two parts. First, we assess whether there are sufficient advanced feedstocks to produce 2.83 billion gallons of advanced biodiesel and renewable diesel. We find that the quantity of feedstocks exceeds the amount needed to do so, further supporting our conclusion that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable. Second, we assess whether the growth in advanced feedstocks suffices to produce 2.83 billion gallons of advanced biodiesel and renewable diesel without diverting advanced feedstocks or biofuels from existing uses, *i.e.,* the reasonably attainable volume. We find that the reasonably attainable volume falls slightly short at 2.77 billion gallons.

We believe the most reliable source for projecting the expected increase in virgin vegetable oils in the U.S. is USDA's World Agricultural Supply and Demand Estimates (WASDE). At the time of our assessment for this rule, the October 2019 version was the most current version of the WASDE report. The October 2019 WASDE projects that production of vegetable oil in the U.S. in the 2019/2020 market year will be sufficient to produce approximately 3.6 billion gallons of biodiesel and renewable diesel (including both advanced and conventional biofuels) if the entire volume of vegetable oil was used to produce these fuels. Additional advanced biodiesel and renewable diesel could also be produced from waste fats, oils, and greases as they have been in past years.[93] Thus, the availability of domestic vegetable oils, in combination the potential to source additional feedstocks from waste fats, oils, and greases, supports our conclusion that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable.

In addition, the global production of vegetable oil projected in the 2019/2020 marketing year in the October 2019 WASDE would be sufficient to produce approximately 59.3 billion gallons of biodiesel and renewable diesel (including both advanced and conventional biofuels).[94] While it would not be reasonable to assume that all, or even a significant portion, of global vegetable oil production globally or domestically could be available to produce biodiesel or renewable diesel supplied to the U.S. for a number of reasons,[95] the large global supply of vegetable oil further indicates that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable in 2020.

We now turn to the reasonably attainable volume of advanced biodiesel and renewable diesel, which we find to be 2.77 billion gallons. This volume represents the amount of advanced biodiesel and renewable diesel that can be supplied without relying on the diversion of advanced biofuels and feedstocks from existing uses and the associated harms of such diversions. We calculate this volume by summing the reasonable attainable volume from last year's final rule (2.61 billion gallons) with the volume that can be produced from the projected increase in advanced feedstocks from 2019 to 2020 (159 million gallons).[96]

We acknowledge that an increase in the required use of advanced biodiesel and renewable diesel could be realized through the production or collection of additional advanced feedstocks, a diversion of advanced feedstocks from other uses, or a diversion of advanced biodiesel and renewable diesel from existing markets in other countries. As already explained, the volume of advanced biodiesel and renewable diesel and their corresponding feedstocks projected to be produced globally exceeds the volume projected to be required in 2020 (2.83 billion gallons of advanced biodiesel and renewable diesel and the corresponding volume of advanced feedstocks) by a significant margin. However, we expect that increases in advanced biofuel and renewable fuel volumes beyond those that can be produced from the projected growth in advanced feedstock production and/or consumption (*e.g.,* by diverting advanced feedstocks or advanced biodiesel and renewable diesel from existing markets and uses) would be increasingly likely to incur adverse unintended impacts.[97]

This is because of several factors, notably the potential disruption of the current biogenic fats, oils, and greases market, the associated cost impacts to other industries resulting from feedstock diversion, and the potential adverse effect on lifecycle GHG emissions and energy security associated with feedstocks for biofuel production that would have been used for other purposes and which must then be backfilled with other feedstocks.[98] Similarly, increasing the supply of biodiesel and renewable diesel to the U.S. by diverting fuel that would otherwise have been used in other countries results in higher lifecycle GHG emissions than if the supply of these fuels was increased by an increased collection of waste fats and oils or increased production of feedstocks that are byproducts of other industries, especially if this diversion results in increased consumption of petroleum fuels in the countries that would have otherwise consumed the biodiesel or renewable diesel. By assessing the expected growth in the production of advanced feedstocks, we are attempting to minimize the incentives for the RFS program to increase the supply of advanced

[93] See ''Projections of FOG biodiesel and renewable diesel 2015–2018,'' memorandum from David Korotney to EPA Docket, EPA–HQ–OAR–2019–0136.

[94] The October 2019 WASDE projects production of vegetable oils in 2019/2020 in the U.S. and the World to be 12.58 and 207.50 million metric tons respectively. To convert projected vegetable oil production to potential biodiesel and renewable diesel production we have used a conversion of 7.7 pounds of feedstock per gallon of biodiesel or renewable diesel (World Agricultural Supply and Demand Estimates. United States Department of Agriculture, Office of the Chief Economist. October 10, 2019. ISSN 1554–9089). In addition, global production of biodiesel is projected to be 44.2 billion liters (11.7 billion gallons) in 2020 according to the July 2019 OECD–FAO Agricultural Outlook. Based on the projected production of biodiesel by country we estimate that over 80% of this biodiesel (all biodiesel except that produced in Columbia, Indonesia, Malaysia, and Thailand) could qualify as advanced biofuel if the feedstocks meet the definition of renewable biomass.

[95] These reasons include the demand for vegetable oil in the food, feed, and industrial markets both domestically and globally; constraints related to the production, import, distribution, and use of significantly higher volumes of biodiesel and renewable diesel; and the fact that biodiesel and renewable diesel produced from much of the vegetable oil available globally would not qualify as an advanced biofuel under the RFS program.

[96] As discussed in more detail in this section, this 159 million gallons increase is projected to be comprised of 94 million gallons from increased vegetable oil production, 17 million gallons from distillers corn oil, and 48 million gallons from waste fats, oils, and greases.

[97] The volume of advanced biodiesel and renewable diesel projected to be used to meet the advanced biofuel volume (2.83 billion gallons) is approximately 1 billion gallons greater than the volume of these fuels we projected would be used to meet the advanced biofuel volume for 2022 in the 2010 RFS final rule analyses (1.82 billion gallons). For a further discussion of this issue see Section 4.2.2.4 of the RTC.

[98] For instance, see the draft GHG assessment of palm oil biodiesel and renewable diesel at 77 FR 4300 (January 27, 2012). We believe palm or petroleum-derived products would likely be used to replace advanced biodiesel and renewable diesel diverted to the U.S. as these products are currently the lowest cost substitutes.

biodiesel and renewable diesel through feedstock switching or diverting biodiesel and renewable diesel from foreign markets to the U.S.

Advanced biodiesel and renewable diesel feedstocks include both waste oils, fats, and greases; and oils from planted crops. The projected growth in these feedstocks is expected to be modest relative to the volume of these feedstocks that is currently being used to produce biodiesel and renewable diesel. Most of the waste oils, fats, and greases that can be recovered economically are already being recovered and used in biodiesel and renewable diesel production or for other purposes. The availability of animal fats will likely increase with beef, pork, and poultry production. Most of the vegetable oil used to produce advanced biodiesel and renewable diesel that is sourced from planted crops comes from crops primarily grown for purposes other than providing feedstocks for biodiesel and renewable diesel, such as for livestock feed, with the oil that is used as feedstock for renewable fuel production a co-product.[99] This is true for soybeans and corn, which are the two largest sources of feedstock from planted crops used for biodiesel production in the U.S.[100] We do not believe that the increased demand for soybean oil or corn oil caused by a higher 2020 advanced biofuel standard would result in an increase in soybean or corn prices large enough to induce significant changes in agricultural activity.[101] However, production of these feedstocks is likely to increase over time as crop yields, oil extraction rates, and demand for the primary products increase.

Based on the October 2019 WASDE report the projected increase in vegetable oil production in the U.S. from the 2018/2019 marketing year to the 2019/2020 marketing year is 0.33 million metric tons per year.[102] This additional quantity of vegetable oils could be used to produce approximately 94 million additional gallons of advanced biodiesel or renewable diesel in 2020 relative to 2019.[103]

In the 2019 final rule we also noted that the WASDE projected a decrease in trade of both oilseeds and vegetable oils. The projected decrease in oilseed trade was likely due to tariffs enacted by China on soybean exports from the U.S. While the projected trade in oilseeds is expected to increase slightly from 2018/2019 to 2019/2020, trade in vegetable oils is projected to decrease by 0.12 million metric tons from 2018/2019 to 2019/2020. If converted to biodiesel, this volume of vegetable oils could be used to produce approximately 34 million additional gallons of advanced biodiesel or renewable diesel in 2020 relative to 2019. As in the 2019 final rule, we did not include in our projection of the reasonably attainable volumes the potential biodiesel or renewable diesel that could theoretically be produced from the oilseeds and vegetable oil projected to remain in the U.S. due to changes in trade of these products. This is because any biodiesel and renewable diesel produced from soybeans previously exported are necessarily diverted from other uses (even if the reason for this diversion is the tariffs, rather than the RFS program), and biodiesel produced from these diverted feedstocks is therefore more likely to have the adverse unintended effects as previously discussed.

In addition to virgin vegetable oils, we also expect increasing volumes of distillers corn oil[104] to be available for use in 2020. The WASDE report does not project distillers corn oil production, so EPA must use an alternative source to project the growth in the production of this feedstock. For this final rule we use results from the World Agricultural Economic and Environmental Services (WAEES) model to project the growth in the production of distillers corn oil.[105] In assessing the likely increase in the availability of distillers corn oil from 2019 to 2020, the authors of the WAEES model considered the effects of an increasing adoption rate of distillers corn oil extraction technologies at domestic ethanol production facilities, as well as increased corn oil extraction rates enabled by advances in this technology. The WAEES model projects that production of distillers corn oil will increase by approximately 130 million pounds from the 2018/2019 to the 2019/2020 agricultural marketing year. This quantity of feedstock could be used to produce approximately 17 million gallons of advanced biodiesel or renewable diesel. We believe it is reasonable to use these estimates from the WAEES model for these purposes based on the projected increase in the use of corn oil extraction and corn oil yield increases.

While much of the increase in advanced biodiesel and renewable diesel feedstocks produced in the U.S. from 2019 to 2020 is expected to come from virgin vegetable oils and distillers corn oil, increases in the supply of other sources of advanced biodiesel and renewable diesel feedstocks, such as biogenic waste fats, oils, and greases (FOG), could also occur. In scenarios with increases to the advanced biofuel and biomass-based diesel volume requirements in 2020 and 2021 the WAEES model projects minimal increases in the volume of biodiesel produced from total other fats and oils in the 2018/2019 and 2019/2020 marketing years.[106] Conversely, an assessment conducted by LMC International in 2017 and submitted in comments on our 2018 proposed rule projected that the waste oil supply in the U.S. could increase by approximately 2.4 million metric tons from 2016 to 2022.[107] This estimate represents a growth rate of approximately 0.4 billion tons per year, or enough feedstock to produce approximately 115 million gallons of biodiesel and renewable diesel per year. This estimate, however, only accounts for potential sources of feedstock and

[99] For example, corn oil is a co-product of corn grown primarily for animal feed or ethanol production, while soy and canola are primarily grown as livestock feed.

[100] According to EIA data 7,542 million pounds of soy bean oil and 2,085 million pounds of corn oil were used to produce biodiesel in the U.S. in 2018. Other significant sources of feedstock were yellow grease (1,668 million pounds), canola oil (total volume withheld, but monthly data suggests greater than 700 million pounds), and white grease (618 million pounds).''Monthly Biodiesel Production Report with Data for February 2019,'' U.S. Energy Information Administration. April 2019.

[101] This position is supported by several commenters, including the American Soybean Association (EPA–HQ–OAR–2019–0136–0177) and the Nebraska Soybean Association (EPA–HQ–OAR–2019–0136–0117).

[102] U.S. vegetable oil production is projected to be 12.25 million metric tons in the 2018/2019 agricultural marketing year and 12.58 million metric tons in the 2019/2020 agricultural marketing year.

[103] To calculate this volume, we have used a conversion of 7.7 pounds of feedstock per gallon of biodiesel or renewable diesel. This is based on the expected conversion of soybean oil (*http://extension.missouri.edu/p/G1990*), which is the largest source of feedstock used to produce advanced biodiesel and renewable diesel. Conversion rates for other types of vegetable oils used to produce biodiesel and renewable diesel are similar to those for soybean oil.

[104] Distillers corn oil is non-food grade corn oil produced by ethanol production facilities.

[105] For the purposes of this rule, EPA relied on WAEES modeling results submitted as comments by the National Biodiesel Board on the 2020 proposed rule (Kruse, J., ''Implications of an Alternative 2021 Biomass Based Diesel Volume Obligation for Global Agriculture and Biofuels,'' August 26, 2019, World Agricultural Economic and Environmental Services (WAEES)).

[106] The WAEES model projects a 7 million gallon increase in 2019/2020 and a 16 million gallon increase in 2020/2021. See Kruse, J., ''Implications of an Alternative Biomass Based Diesel Volume Obligation for Global Agriculture and Biofuels,'' August 26, 2019, World Agricultural Economic and Environmental Services.

[107] LMC International. *Global Waste Grease Supply.* August 2017 (EPA–HQ–OAR–2017–0091–3880).

not for the economic viability of recovering waste oils.

To project the increase in the use of biogenic FOG we used historical data to determine the increase in the use of these feedstocks to produce biodiesel and renewable diesel. From 2015–2018, advanced biodiesel and renewable diesel produced from biogenic FOG increased by an average of 48 million gallons per year.[108] This annual increase is higher than the increase in the use of these feedstocks projected by the WAEES model, but lower than the potential increase projected by LMC. We have included an additional 48 million gallons of advanced biodiesel and renewable diesel from FOG in our assessment of the reasonably attainable volume for 2020, consistent with the observed annual increase in advanced biodiesel and renewable diesel produced from these feedstocks in recent years.

In total, we project that increases in feedstocks produced in the U.S. are sufficient to produce approximately 159 million more gallons of advanced biodiesel and renewable diesel in 2020 relative to 2019. This number includes 94 million gallons from increased vegetable oil production, 17 million gallons from increased corn oil production, and 48 million gallons from increased waste oil collection. This increase does not include the projected 34 million gallons of biodiesel that could be produced from the projected reduction in vegetable oil trade since decreases in exported volumes of vegetable oils represent feedstocks diverted from use in other countries. Our projection also does not consider factors that could potentially affect the availability of advanced biofuel feedstocks that could be used to produce biodiesel or renewable diesel, such as changes in the volume of vegetable oils used in food markets or other non-biofuel industries. In our 2019 final rule, we determined that 2.61 billion gallons of advanced biodiesel and renewable diesel were reasonably attainable in 2019,[109] therefore our projection of the reasonably attainable volume of advanced biodiesel and renewable diesel in 2020 is 2.77 billion gallons.[110]

[108] ''Projections of FOG biodiesel and renewable diesel 2015–2018,'' memorandum from David Korotney to EPA Docket, EPA–HQ–OAR–2019–0136.

[109] 83 FR 63704 (December 11, 2018).

[110] We calculated the reasonably attainable volume for 2020 by adding the projected increase in advanced feedstocks (159 million gallons) to the reasonably attainable volume of these fuels we projected for 2019 (2.61 billion gallons). Another possible approach would be to add the 159-million-gallon increment in the reasonably attainable volume to the volume we now project to be used in 2019, 2.74 billion gallons (rather than the reasonably attainable volume we projected for 2019). This would result in a reasonably attainable volume of 2.90 billion gallons. While this approach uses more recent data on the availability of advanced biodiesel and renewable diesel in 2019, it does not account for whether or not the additional use of these fuels in 2019, beyond the reasonably attainable volume calculated in the 2019 final rule, resulted in diversions of advanced biofuels or feedstocks. In any event, even were we to adopt this approach, it would make no difference to our final decision on the volumes as (1) the difference in the calculated reasonably attainable volume is slight, (2) the high costs of advanced biodiesel and renewable diesel would justify exercising the maximum cellulosic waiver in any event, and (3) the volume we are finalizing is attainable under either approach.

e. Biodiesel and Renewable Diesel Imports and Exports

EPA next considered potential changes in the imports of advanced biodiesel and renewable diesel produced in other countries. In previous years, significant volumes of foreign produced advanced biodiesel and renewable diesel have been supplied to markets in the U.S. (see Table IV.B.2–1). These significant imports were likely the result of a strong U.S. demand for advanced biodiesel and renewable diesel, supported by the RFS standards, the low carbon fuel standard (LCFS) in California, the biodiesel blenders tax credit, and the opportunity for imported biodiesel and renewable diesel to realize these incentives. We have not included the potential for increased (or decreased) volumes of imported advanced biodiesel and renewable diesel in our projection of the reasonably attainable volume for 2020. As discussed previously, any increases in the import of advanced biodiesel and renewable diesel is necessarily diverted from other markets. There is also a far higher degree of uncertainty related to the availability and production of advanced biodiesel and renewable diesel in foreign countries, as this supply can be affected by a number of unpredictable factors such as the imposition of tariffs and increased incentives for the use of these fuels in other countries (such as tax incentives or blend mandates). EPA also lacks the data necessary to determine the quantity of these fuels that would otherwise be produced and used in other countries, and thus the degree to which the RFS standards are simply diverting this fuel from use in other countries as opposed to incentivizing additional production.

While we do not consider changes in imports or exports of advanced biodiesel and renewable diesel in our projection of the reasonably attainable volume, changes to the volume of these fuels that is imported and exported could potentially impact the attainable volume. Imports of advanced biodiesel and renewable diesel are projected to increase by 150 million gallons from 2018 to 2019 (from approximately 350 million gallons in 2018 to approximately 500 million gallons in 2019, see Table IV.B.3–2). At the same time, data through July 2019 suggests that the U.S. will export approximately 122 million gallons of domestically produced biodiesel in 2019.[111] Increased imports and/or decreased exports of these fuels in 2020 could contribute to the market supplying 2.83 billion gallons of advanced biodiesel and renewable diesel. The higher volumes of imported advanced biodiesel and renewable diesel in previous years (shown in Table IV.B.3–2) suggest that these changes are possible, especially if the tariffs on biodiesel imported from Argentina are reduced. Thus the potential for increased imports and decreased exports further supports our determination that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable.

While changes to the volumes of imports/exports of advanced biodiesel and renewable could supply the approximately 60 million gallon difference between the reasonably attainable volume of these fuels (2.77 billion gallons) and the volume needed to meet an advanced biofuel volume of 5.09 billion ethanol-equivalent gallons (2.83 billion gallons), these changes are not without impacts. Diverting this fuel to markets in the U.S. may be complicated as doing so would likely require higher prices for these fuels in the U.S. to divert the fuels from foreign markets that are presumably more profitable currently. It may also be more difficult and costly to distribute this additional volume of biodiesel and renewable diesel to domestic markets than the current foreign markets. Finally, reducing advanced biodiesel and renewable diesel exports may indirectly result in the decreased availability of imported volumes of these fuels, as other countries seek to replace volumes previously imported from the U.S.

f. Attainable and Reasonably Attainable Volumes of Advanced Biodiesel and Renewable Diesel

In sum, the 2.83 billion gallons of advanced biodiesel and renewable

[111] Projection is based on EIA data on exports of biomass-based diesel (biodiesel) through July 2019. For more detail on this projection see ''Projecting Advanced Biofuel Production and Imports for 2019 (November 2019),'' memorandum from Dallas Burkholder to EPA docket EPA–HQ–OAR–2019–0136.

diesel projected to be needed to achieve an advanced biofuel volume of 5.09 billion ethanol-equivalent gallons are attainable. We have reached this conclusion based on our analysis of the above factors, including historical supply of biodiesel and renewable diesel, the impacts of tax policy and tariffs, production capacity and distribution infrastructure, availability of advanced feedstocks, and imports and exports. By contrast, we find that only 2.77 billion gallons of advanced biodiesel and renewable diesel are reasonably attainable. This estimate is based on our analysis of growth in qualifying feedstocks, and represents the volume that can be supplied with minimal diversions of advanced biofuels and feedstocks from existing uses, and the associated harms of such diversions. These assessments support EPA's decision to establish the advanced biofuel volume for 2020 at 5.09 billion gallons, a volume which neither requires the use of EPA's general waiver authority nor the use of additional volumes of advanced biofuel in place of cellulosic biofuel.

### *C. Volume Requirement for Advanced Biofuel*

In exercising the cellulosic waiver authority for 2017 and earlier, we determined it was appropriate to require a partial backfilling of missing cellulosic volumes with volumes of non-cellulosic advanced biofuel we determined to be reasonably attainable, notwithstanding the increase in costs associated with those decisions.[112] For the 2018 and 2019 standards, in contrast, we placed a greater emphasis on costs in the context of balancing the various considerations, ultimately concluding that the applicable volume requirement should be based on the maximum reduction permitted under the cellulosic waiver authority, effectively preventing any backfilling of missing cellulosic biofuel with advanced biofuel. In setting the 2019 standards, we also found that greater volumes of advanced biofuel would be attainable but did not believe that requiring higher volumes would be appropriate as such volumes were not reasonably attainable and would lead to diversion of advanced feedstocks or biofuels and the associated harms.

For 2020, we are following the same approach as in 2018 and 2019 and exercising the cellulosic waiver authority to reduce the advanced biofuel requirement by the maximum extent permitted. This results in an advanced biofuel volume of 5.09 billion gallons. This also preserves the implied statutory volume target for non-cellulosic advanced biofuel at 4.5 billion gallons, identical to that for 2019. As in the 2019 standards, we are taking this approach for two reasons, each of which is an independent and sufficient justification. First, as in 2019, the reasonably attainable volume of advanced biofuel for 2020 falls short of the volume resulting from the maximum exercise of the cellulosic authority. It is thus appropriate to exercise the cellulosic waiver authority to the maximum extent to minimize the harms associated with advanced biofuel and feedstock diversions.

Second, even if greater volumes of advanced biofuel are reasonably attainable, the high cost of these fuels independently justifies reducing the advanced biofuel volume for 2020 by the maximum amount permitted under the cellulosic waiver authority. In the 2019 final rule we presented illustrative cost projections for sugarcane ethanol and soybean biodiesel in 2019, the two advanced biofuels that would be most likely to provide the marginal increase in volumes of advanced biofuel in 2019 in comparison to 2018. Sugarcane ethanol results in a cost increase compared to gasoline that ranges from $0.39–$1.04 per ethanol-equivalent gallon. Soybean biodiesel results in a cost increase compared to diesel fuel that ranges from $0.74–$1.23 per ethanol-equivalent gallon. Thus, the cost of these renewable fuels is high as compared to the petroleum fuels they displace.

In conclusion, we believe that a 2020 advanced biofuel volume requirement of 5.09 billion ethanol-equivalent gallons is appropriate following our assessment of volumes that are attainable and in consideration of carryover RINs, potential feedstock/fuel diversions, and costs. Comments requesting higher or lower volumes are addressed in the separate Response to Comments document.

### *D. Volume Requirement for Total Renewable Fuel*

As discussed in Section II.A.1, we believe that the cellulosic waiver provision is best interpreted as requiring that the advanced biofuel and total renewable fuel volumes be reduced by equal amounts. For the reasons we have previously articulated, we believe this interpretation is consistent with the statutory language and best effectuates the objectives of the statute, including the environmental objectives that generally favor the use of advanced biofuels over non-advanced biofuels and the legislative intent reflected in the statutory volume tables.[113] If we were to reduce the total renewable fuel volume requirement by a lesser amount than the advanced biofuel volume requirement, we would effectively increase the opportunity for conventional biofuels to participate in the RFS program beyond the implied statutory volume of 15 billion gallons. Applying an equal reduction of 9.91 billion gallons to both the statutory target for advanced biofuel and the statutory target for total renewable fuel results in a total renewable fuel volume of 20.09 billion gallons as shown in Table IV.A–1. This volume of total renewable fuel results in an implied volume of 15 billion gallons of conventional renewable fuel, which is the same as in the 2019 final rule. We have investigated the different ways that the market could respond to a total renewable fuel volume requirement of 20.09 billion gallons in a memorandum to the docket.[114] [115]

We note that the statute provides other authorities for EPA to reduce the required volumes beyond that permitted

[112] See, *e.g.,* Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Volume for 2017: Response to Comments (EPA–420–R–15–024, November 2015), pages 628–631, available in docket EPA–HQ–OAR–2015–0111–3671.

[113] See 81 FR 89752–89753 (December 12, 2016). See also 78 FR 49809–49810 (August 15, 2013); 80 FR 77434 (December 14, 2015).

[114] ''Updated market impacts of biofuels in 2020,'' memorandum from David Korotney to docket EPA–HQ–OAR–2019–0136. In prior actions, similar analyses to those described in this memorandum indicated that the market was capable of both producing and consuming the required volume of renewable fuels, and that as a result there was no basis for finding an inadequate domestic supply of total renewable fuel. See 82 FR 34229 & n.82 (July 21, 2017). Given the D.C. Circuit's decision in ACE, however, assessment of demand-side constraints is no longer relevant for determining inadequate domestic supply. Even so, we believe consideration of the ways that the market could make this volume available may still be generally relevant to whether and how EPA exercises its waiver authorities, such as our consideration of whether the volumes will cause severe economic harm.

[115] We note that the previously cited memorandum discusses the potential for total ethanol consumption in 2020, but does not make specific projections for E0, E15 and E85. Volumes of these ethanol blends are highly dependent upon consumer demand and retail distribution infrastructure. In prior annual rules, we assessed volumes of these blends in determining whether and to what extent to exercise the inadequate domestic supply waiver prong of the general waiver authority. The D.C. Circuit's decision *ACE* precludes assessment of demand-side constraints in determining inadequate domestic supply. While we could still assess such blend volumes in deciding whether and to what extent to exercise our other discretionary waiver authorities, and in evaluating the market's ability to meet the total renewable fuel requirement, doing so is not necessary. In terms of the market's ability to satisfy the total renewable fuel requirement, the more relevant consideration is whether the pool-wide ethanol volume, together with volumes of other biofuels, suffices. We note that EPA does not establish separate standards for E0, E15, or E85. Moreover, there has historically been a lack of reliable data on volumes of these blends, making reliance on the pool-wide ethanol volume a more technically robust approach.

by the cellulosic waiver. As explained in Section II of this rule and in Section 2 of the Response to Comments document, we do not believe it is appropriate to further reduce volumes under the general waiver authority.

We acknowledge that there is some uncertainty regarding whether the market will actually make available 5.09 billion ethanol-equivalent gallons of advanced biofuel or 20.09 billion ethanol-equivalent gallons of total renewable fuel in 2020. In the event that the market is not able to meet these volume requirements with biofuels produced and used in 2020, the carryover RIN bank represents a source of RINs that could help obligated parties meet them if the market fails to supply sufficient advanced biofuels. As discussed in greater detail in Section II.B.1, carryover RINs provide obligated parties compliance flexibility in the face of substantial uncertainties in the transportation fuel marketplace and provide a liquid and well-functioning RIN market upon which success of the entire program depends. We currently estimate that there are approximately 680 million advanced biofuel carryover RINs and 2.80 billion non-advanced (D6) carryover RINs available.

## V. Impacts of 2020 Volumes on Costs

In this section, EPA presents its assessment of the illustrative costs of this final RFS annual rulemaking. It is important to note that these illustrative costs do not attempt to capture the full impacts of this final rule. We frame the analyses we have performed for this rule as ''illustrative'' so as not to give the impression of comprehensive estimates. These estimates are provided for the purpose of showing how the cost to produce a gallon of a ''representative'' renewable fuel compares to the cost of fossil fuels (*e.g.,* petroleum-derived fuels). There are a significant number of caveats that must be considered when interpreting these illustrative cost estimates. For example, there are many different feedstocks that could be used to produce biofuels, and there is a significant amount of heterogeneity in the costs associated with these different feedstocks and fuels. Some renewable fuels may be cost competitive with the fossil fuels they replace; however, we do not have cost data on every type of feedstock and every type of fuel. Therefore, we do not attempt to capture this range of potential costs in our illustrative estimates.

The renewable fuel volumes for which we provide cost estimates are described in Section III. In this section, we estimate illustrative costs for two different cases. In the first case, we provide illustrative cost estimates by comparing the final 2020 RFS renewable fuel volumes to 2020 RFS statutory renewable fuel volumes. In the second case, we examine the final 2020 RFS renewable fuel volumes to the final 2019 RFS renewable fuel volumes to estimate changes in the annual costs of the final 2020 RFS annual rule in comparison to the final 2019 RFS annual rule.[116]

### *A. Illustrative Costs Analysis of 2020 Final Volumes Compared to the 2020 Statutory Volumes Baseline*

In this section, EPA provides illustrative cost estimates that compare the final 2020 RFS cellulosic renewable volume requirement to the 2020 RFS cellulosic statutory renewable fuel volume that would be required absent the exercise of our cellulosic waiver authority under CAA section 211(o)(7)(D)(i). As described in Section III, we are finalizing a cellulosic volume of 0.59 billion gallons for 2020, using our cellulosic waiver authority to waive the statutory cellulosic volume of 10.5 billion gallons by 9.91 billion gallons. Estimating the cost savings from renewable fuel volumes that are not projected to be produced is inherently challenging. EPA has taken the relatively straightforward methodology of multiplying the waived cellulosic volume by the wholesale per-gallon costs of cellulosic biofuel production relative to the fossil fuels they displace.

While there may be growth in other cellulosic renewable fuel sources, we believe it is appropriate to use cellulosic ethanol produced from corn kernel fiber at an existing corn starch ethanol production facility as representative of cellulosic renewable fuel. As explained in Section III, we believe that production of the major alternative cellulosic biofuel—compressed natural gas/liquefied natural gas (CNG/LNG)-derived from biogas—is constrained in 2020 due to a limitation in the number of vehicles capable of using this form of fuel.[117]

EPA uses a ''bottom-up'' engineering cost analysis to quantify the costs of producing a gallon of cellulosic ethanol derived from corn kernel fiber. There are multiple processes that could yield cellulosic ethanol from corn kernel fiber. EPA assumes a cellulosic ethanol production process that generates biofuel using distiller's grains, a co-product of generating corn starch ethanol that is commonly dried and sold into the feed market as distillers dried grains with solubles (DDGS), as the renewable biomass feedstock. We assume an enzymatic hydrolysis process with cellulosic enzymes to break down the cellulosic components of the distiller's grains. This process for generating cellulosic ethanol is similar to approaches currently used by industry to generate cellulosic ethanol at a commercial scale, and we believe these cost estimates are likely representative of the range of different technology options being developed to produce ethanol from corn kernel fiber. We then compare the per-gallon costs of the cellulosic ethanol to the fossil fuel that would be replaced at the wholesale stage, since that is when the two are blended together.

These cost estimates do not consider taxes, retail margins, or other costs or transfers that occur at or after the point of blending. Transfers are payments within society and are not additional costs (*e.g.,* RIN payments are one example of a transfer payment). We do not attempt to estimate potential cost savings related to avoided infrastructure costs (*e.g.,* the cost savings of not having to provide pumps and storage tanks associated with higher-level ethanol blends). When estimating per-gallon costs, we consider the costs of gasoline on an energy-equivalent basis as compared to ethanol, since more ethanol gallons must be consumed to travel the same distance as on gasoline due to the ethanol's lower energy content.

Table V.A–1 below presents the cellulosic fuel cost savings associated with this final rule that are estimated using this approach.[118] The per-gallon cost differences for cellulosic ethanol range from $0.46–$3.30 per ethanol-equivalent gallon ($/EEG).[119] Given that commercial cellulosic ethanol production is still at an early stage in its deployment, these cost estimates have a significant range. Multiplying the per-

[116] This action imposes renewable fuel standards only for 2020. However, solely for E.O. 13771 purposes in this section, we estimate the costs of the relevant volumes as though they applied in future years as well. Therefore, we use the term ''annual costs'' in this section.

[117] See Section III.D.2 for a further discussion of the quantity of CNG/LNG projected to be used as transportation fuel in 2020.

[118] Details of the data and assumptions used can be found in a Memorandum available in the docket entitled ''Cost Impacts of the Final 2020 Annual Renewable Fuel Standards'', Memorandum from Michael Shelby, Dallas Burkholder, and Aaron Sobel available in docket EPA–HQ–OAR–2019–0136.

[119] For the purposes of the cost estimates in this section, EPA has not attempted to adjust the price of the petroleum fuels to account for the impact of the RFS program, since the changes in the renewable fuel volume are relatively modest in comparison to the quantity of fuel associated with the petroleum market. Rather, we have used the wholesale price projections for gasoline and diesel as reported in EIA's October 2019 STEO.

gallon cost differences by the amount of cellulosic biofuel waived in this final rule results in approximately $4.6–$33 billion in cost savings.

TABLE V.A–1—ILLUSTRATIVE COSTS ANALYSIS OF 2020 FINAL CELLULOSIC VOLUMES COMPARED TO THE 2020 STATUTORY VOLUMES

| | |
|---|---|
| Cellulosic Volume Required (Million Ethanol-Equivalent Gallons) | 590 |
| Change in Required Cellulosic Biofuel from 2020 Statutory Volume (Million Ethanol-Equivalent Gallons) | (9,910) |
| Cost Difference Between Cellulosic Corn Kernel Fiber Ethanol and Gasoline Per-Gallon ($/Ethanol-Equivalent Gallons) [120] ($/EEG) [121] | $0.46–$3.30 |
| Annual Change in Overall Costs (Million $) [122] | $(4,600)–$(33,000) |

*B. Illustrative Cost Analysis of the 2020 Final Volumes Compared to the 2019 Final Volumes*

In this section, we provide illustrative cost estimates for the final 2020 RFS volumes compared to the final 2019 RFS volumes. In comparison to the final 2019 RFS volumes, the final 2020 RFS volumes result in an overall increase of 172 million ethanol-equivalent gallons of cellulosic biofuel derived from CNG/LNG from landfill biogas. To estimate the cost of production of CNG/LNG derived from landfill gas (LFG), EPA uses Version 3.2 of the Landfill Gas Energy Cost Model, or LFGcost-Web.[123] LFGcost-Web is a software tool developed by EPA's Landfill Methane Outreach Program (LMOP) to conduct initial economic feasibility analysis of developing LFG energy recovery projects in the United States. The default inputs and cost estimates by LFGcost-Web are based on typical project designs and for typical landfill situations. The Model attempts to include all equipment, site work, permits, operating activities, and maintenance that would normally be required for constructing and operating a typical project.

Table V.B–1 presents estimates of per energy-equivalent gallon costs for producing CNG/LNG derived from landfill biogas relative to natural gas at the wholesale level. These per-gallon costs are then multiplied by the increase in the final 2020 RFS cellulosic biofuel volume relative to the 2019 final RFS cellulosic biofuel volume to obtain an estimate of costs of using increased qualities of CNG/LNG from landfill biogas. An estimate of overall costs associated with the increase in the cellulosic biofuel volume is calculated as the range of $(1.1)–$17 million.

TABLE V.B–1—ILLUSTRATIVE COSTS ANALYSIS OF THE 2020 FINAL CELLULOSIC VOLUME COMPARED TO THE 2019 CELLULOSIC VOLUME [124]

| **Cellulosic Volume** | |
|---|---|
| Change in Volume (Million Ethanol-Equivalent Gallons) | 172 |
| **CNG/LNG Derived from Biogas Costs** | |
| Cost Difference Between CNG/LNG Derived from Landfill Biogas and Natural Gas Per Gallon ($/Ethanol-Equivalent Gallons) ($/EEG) | $(0.01)–$0.10 |
| **Annual Increase in Overall Costs (Million $)** | $(1.1)–$17 |

The annual volume-setting process encourages consideration of the RFS program on a piecemeal (*i.e.,* year-to-year) basis, which may not reflect the full, long-term costs and benefits of the program. For the purposes of this final rule, other than the estimates of costs of producing a ''representative'' renewable fuel compared to cost of fossil fuel, EPA did not quantitatively assess other direct and indirect costs or benefits of changes in renewable fuel volumes. These direct and indirect costs and benefits may include infrastructure costs, investment, climate change impacts, air quality impacts, and energy security benefits, which all to some degree may be affected by the annual volumes. For example, we do not have a quantified estimate of the lifecycle GHG or energy security benefits for a single year (*e.g.,* 2020). Also, there are impacts that are difficult to quantify, such as rural economic development and employment changes from more diversified fuel sources, that are not quantified in this rulemaking. While some of these impacts were analyzed in the 2010 final rulemaking that established the current RFS program, we have not analyzed these impacts for the 2020 volume requirements.[125]

## VI. Biomass-Based Diesel Volume for 2021

In this section we discuss the BBD applicable volume for 2021. We are setting this volume in advance of those for other renewable fuel categories in light of the statutory requirement in CAA section 211(o)(2)(B)(ii) to establish the applicable volume of BBD for years after 2012 no later than 14 months before the applicable volume will apply. We are not at this time setting the BBD

[120] For this table and all subsequent tables in this section, approximate costs in per-gallon cost difference estimates are rounded to the cents place.

[121] Since the proposed rule, we have updated these per-gallon and total annual cost differences based on EIA's updated projections for petroleum gasoline costs in 2020 from the October Short-Term Energy Outlook.

[122] For this table and all subsequent tables in this section, approximate resulting costs (other than in per-gallon cost difference estimates) are rounded to two significant figures.

[123] The current version of this model and user's manual are downloadable from the LMOP website. *https://www.epa.gov/lmop/download-lfgcost-web/.*

[124] For the proposed 2020 annual RFS rule, we estimated that there would be an increase of cellulosic biofuel derived from CNG/LNG from landfill biogas of 126 million gallons (ethanol-equivalent) compared to the 2019 final annual RFS volumes. The total costs of the proposed 2020 cellulosic volume compared to 2019 RFS cellulosic volume range from $(3.2)–$10 million. In this final rule, both the projected volume increase of CNG/LNG derived from biogas and the cost of natural gas to which this fuel is compared have been updated.

[125] RFS2 Regulatory Impact Analysis (RIA). U.S. EPA 2010, Renewable Fuel Standard Program (RFS2) Regulatory Impact Analysis. EPA–420–R–10–006. February 2010. Docket EPA–HQ–OAR–2009–0472–11332.

percentage standards that would apply to obligated parties in 2021 but intend to do so in late 2020, after receiving EIA's estimate of gasoline and diesel consumption for 2021. At that time, we will also set the percentage standards for the other renewable fuel types for 2021. Although the BBD applicable volume sets a floor for required BBD use, because the BBD volume requirement is nested within both the advanced biofuel and the total renewable fuel volume requirements, any BBD produced can be used to satisfy both of these other applicable volume requirements, even beyond the mandated BBD volume.

*A. Statutory Requirements*

The statute establishes applicable volume targets for years through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel. For BBD, applicable volume targets are specified in the statute only through 2012. For years after those for which volumes are specified in the statute, EPA is required under CAA section 211(o)(2)(B)(ii) to determine the applicable volume of BBD, in coordination with the Secretary of Energy and the Secretary of Agriculture, based on a review of the implementation of the program during calendar years for which the statute specifies the volumes and an analysis of the following factors:

1. The impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply;
2. The impact of renewable fuels on the energy security of the United States;
3. The expected annual rate of future commercial production of renewable fuels, including advanced biofuels in each category (cellulosic biofuel and BBD);
4. The impact of renewable fuels on the infrastructure of the United States, including deliverability of materials, goods, and products other than renewable fuel, and the sufficiency of infrastructure to deliver and use renewable fuel;
5. The impact of the use of renewable fuels on the cost to consumers of transportation fuel and on the cost to transport goods; and
6. The impact of the use of renewable fuels on other factors, including job creation, the price and supply of agricultural commodities, rural economic development, and food prices.

The statute also specifies that the volume requirement for BBD cannot be less than the applicable volume specified in the statute for calendar year 2012, which is 1.0 billion gallons.[126] The statute does not, however, establish any other numeric criteria, and provides EPA discretion over how to weigh the importance of the often competing factors and the overarching goals of the statute when the EPA sets the applicable volumes of BBD in years after those for which the statute specifies such volumes. In the period 2013–2022, the statute specifies increasing applicable volumes of cellulosic biofuel, advanced biofuel, and total renewable fuel, but provides no numeric criteria, beyond the 1.0 billion gallon minimum, on the level at which BBD volumes should be set.

In establishing the BBD and cellulosic standards as nested within the advanced biofuel standard, Congress clearly intended to support development of BBD and especially cellulosic biofuels, while also providing an incentive for the growth of other non-specified types of advanced biofuels. In general, the advanced biofuel standard provides an opportunity for other advanced biofuels (advanced biofuels that do not qualify as cellulosic biofuel or BBD) to compete with cellulosic biofuel and BBD to satisfy the advanced biofuel standard after the cellulosic biofuel and BBD standards have been met.

In *Alon Refining Krotz Spring, Inc.* v. *EPA,* the D.C. Circuit affirmed EPA's approach to setting the 2017 BBD volume as ''consistent with the structure and purposes of the statute.'' [127] In today's rule, we have applied the same general methodology upheld in *Alon* with updated information. Similar to the rule reviewed in *Alon,* today's rule finds that it is the advanced biofuel standard, when set in 2021, that will drive the use of BBD in 2021. Furthermore, in light of the benefits of incentivizing other advanced biofuels, we choose to preserve the existing gap for other advanced biofuels, and accordingly establish the BBD volume at the same level as for 2020: 2.43 billion gallons.

*B. Review of Implementation of the Program and the 2021 Applicable Volume of Biomass-Based Diesel*

One of the considerations in determining the BBD volume for 2021 is a review of the implementation of the program to date, as it affects BBD. This review is required by the CAA, and also provides insight into the capabilities of the industry to produce, import, export, distribute, and use BBD. It also helps us to understand what factors, beyond the BBD standard, may incentivize the availability of BBD. In reviewing the program, we assess numerous regulatory, economic, and technical factors, including the availability of BBD in past years relative to the BBD and advanced standards; the prices of BBD, advanced, and conventional RINs; the competition between BBD and other advanced biofuels in meeting the portion of the advanced standard not required to be met by BBD or cellulosic RINs; the maturation of the BBD industry over the course of the RFS program; and the effects of the BBD standard on the production and development of both BBD and other advanced biofuels.

Table VI.B.1–1 shows, for 2011–2019, the number of BBD RINs generated, the number of RINs retired due to export, the number of RINs retired for reasons other than compliance with the annual BBD standards, and the consequent number of available BBD RINs; for 2011–2019, the BBD and advanced biofuel standards; and for 2020, the BBD and advanced biofuel standards.

[126] See CAA section 211(o)(2)(B)(v).

[127] *Alon Refining Krotz Springs, Inc.* v. *EPA,* 936 F.3d 628, 666 (D.C. Cir 2019).

TABLE VI.B.1–1—BIOMASS-BASED DIESEL (D4) RIN GENERATION AND ADVANCED BIOFUEL AND BIOMASS-BASED DIESEL STANDARDS IN 2011–2020

[Million RINs or gallons] [128]

| | BBD RINs generated | Exported BBD (RINs) | BBD RINs retired, non-compliance reasons | Available BBD RINs [a] | BBD standard (gallons) [b] | BBD standard (RINs) [b] | Advanced biofuel standard (RINs) [b] |
|---|---|---|---|---|---|---|---|
| 2011 | 1,692 | 48 | 102 | 1,542 | 800 | 1,200 | 1,350 |
| 2012 | 1,738 | 102 | 91 | 1,545 | 1,000 | 1,500 | 2,000 |
| 2013 | 2,740 | 125 | 101 | 2,514 | 1,280 | 1,920 | 2,750 |
| 2014 | 2,710 | 134 | 99 | 2,477 | 1,630 | [c] 2,490 | 2,670 |
| 2015 | 2,796 | 145 | 45 | 2,606 | 1,730 | [c] 2,655 | 2,880 |
| 2016 | 4,009 | 203 | 121 | 3,685 | 1,900 | 2,850 | 3,610 |
| 2017 | 3,849 | 257 | 115 | 3,477 | 2,000 | 3,000 | 4,280 |
| 2018 | 3,871 | 247 | 59 | 3,565 | 2,100 | 3,150 | 4,290 |
| [d] 2019 | 4,381 | 183 | 0 | 4,198 | 2,100 | 3,150 | 4,920 |
| 2020 | N/A | N/A | N/A | N/A | 2,430 | 3,645 | 5,100 |

[a] Available BBD RINs may not be exactly equal to BBD RINs Generated minus Exported RINs and BBD RINs Retired, Non-Compliance Reasons, due to rounding.

[b] The volumes for each year are those used as the basis for calculating the percentage standards in the final rule. They have not been retroactively adjusted for subsequent events, such as differences between projected and actual gasoline and diesel use and exempted small refinery volumes.

[c] Each gallon of biodiesel qualifies for 1.5 RINs due to its higher energy content per gallon than ethanol. Renewable diesel qualifies for between 1.5 and 1.7 RINs per gallon, but generally has an equivalence value of 1.7. While some fuels that qualify as BBD generate more than 1.5 RINs per gallon, EPA multiplies the required volume of BBD by 1.5 in calculating the percent standard per 80.1405(c). In 2014 and 2015 however, the number of RINs in the BBD Standard column is not exactly equal to 1.5 times the BBD volume standard as these standards were established based on actual RIN generation data for 2014 and a combination of actual data and a projection of RIN generation for the last three months of the year for 2015, rather than by multiplying the required volume of BBD by 1.5. Some of the volume used to meet the BBD standard in these years was renewable diesel, with an equivalence value higher than 1.5.

[d] 2019 ''BBD RINs generated,'' ''Exported BBD,'' and ''BBD RINs retired, Non-compliance reason'' are projected based on data through September 2019.

In reviewing historical BBD RIN generation and use, we see that the number of RINs available for compliance purposes exceeded the volume required to meet the BBD standard in 2011–13 and 2016–19.[129] Additional production and use of biodiesel was likely driven by a number of factors, including demand to satisfy the advanced biofuel and total renewable fuels standards, the biodiesel tax credit,[130] and various other State and local incentives and mandates allowing for favorable blending economics. Moreover, additional production of BBD, beyond the volumes shown in the above table, was exported.

The prices paid for advanced biofuel and BBD RINs beginning in early 2013 through September 2019 (the last month for which data is available) also support the conclusion that the advanced biofuel, and in some periods the total renewable fuel standards, provide a sufficient incentive for additional biodiesel volume beyond what is required by the BBD standard. Because the BBD standard is nested within the advanced biofuel and total renewable fuel standards, and therefore can help to satisfy three RVOs, we would expect the price of BBD RINs to exceed that of advanced and conventional renewable RINs.[131] If, however, BBD RINs are being used (or are expected to be used) by obligated parties to satisfy their advanced biofuel obligations, above and beyond the BBD standard, we would expect the prices of advanced biofuel and BBD RINs to converge.[132] Further, if BBD RINs are being used (or are expected to be used) to satisfy obligated parties' total renewable fuel obligation, above and beyond their BBD and advanced biofuel requirements, we would expect the price for all three RIN types to converge.

When examining RIN price data from 2011 through September 2019, shown in Figure VI.B.2–1, we see that beginning in early 2013 and through September 2019 the advanced RIN (D5) price and BBD (D4) RIN prices were approximately equal. Similarly, from early 2013 through late 2016 the conventional renewable fuel (D6) RIN and BBD RIN prices were approximately equal. This demonstrates that the advanced biofuel standard, and in some periods the total renewable fuel standard, are capable of incentivizing increased BBD volumes beyond the BBD standard. The advanced biofuel standard has incentivized additional volumes of BBD since 2013, while the total standard had incentivized additional volumes of BBD from 2013 through 2016.[133] We do note, however,

[128] Available BBD RINs Generated, Exported BBD RINs, and BBD RINs Retired for Non-Compliance Reasons information from EMTs.

[129] The number of RINs available in 2014 and 2015 was approximately equal to the number required for compliance in those years, as the standards for these years were finalized at the end of November 2015 and EPA's intent at that time was to set the standards for 2014 and 2015 to reflect actual BBD use. See 80 FR 77490–92, 77495 (December 14, 2015).

[130] The biodiesel tax credit was reauthorized in January 2013. It applied retroactively for 2012 and for the remainder of 2013. It was once again extended in December 2014 and applied retroactively to all of 2014 as well as to the remaining weeks of 2014. In December 2015 the biodiesel tax credit was authorized and applied retroactively for all of 2015 as well as through the end of 2016. In February 2018 the biodiesel tax credit was authorized and applied retroactively for all of 2017. The biodiesel tax credit is not currently in place for 2018, 2019, or 2020.

[131] This is because when an obligated party retires a BBD RIN (D4) to help satisfy their BBD obligation, the nested nature of the BBD standard means that this RIN also counts towards satisfying their advanced and total renewable fuel obligations. Advanced RINs (D5) count towards both the advanced and total renewable fuel obligations, while conventional RINs (D6) count towards only the total renewable fuel obligation.

[132] We would still expect D4 RINs to be valued at a slight premium to D5 and D6 RINs in this case (and D5 RINs at a slight premium to D6 RINs) to reflect the greater flexibility of the D4 RINs to be used towards the BBD, advanced biofuel, and total renewable fuel standard. This pricing has been observed over the past several years.

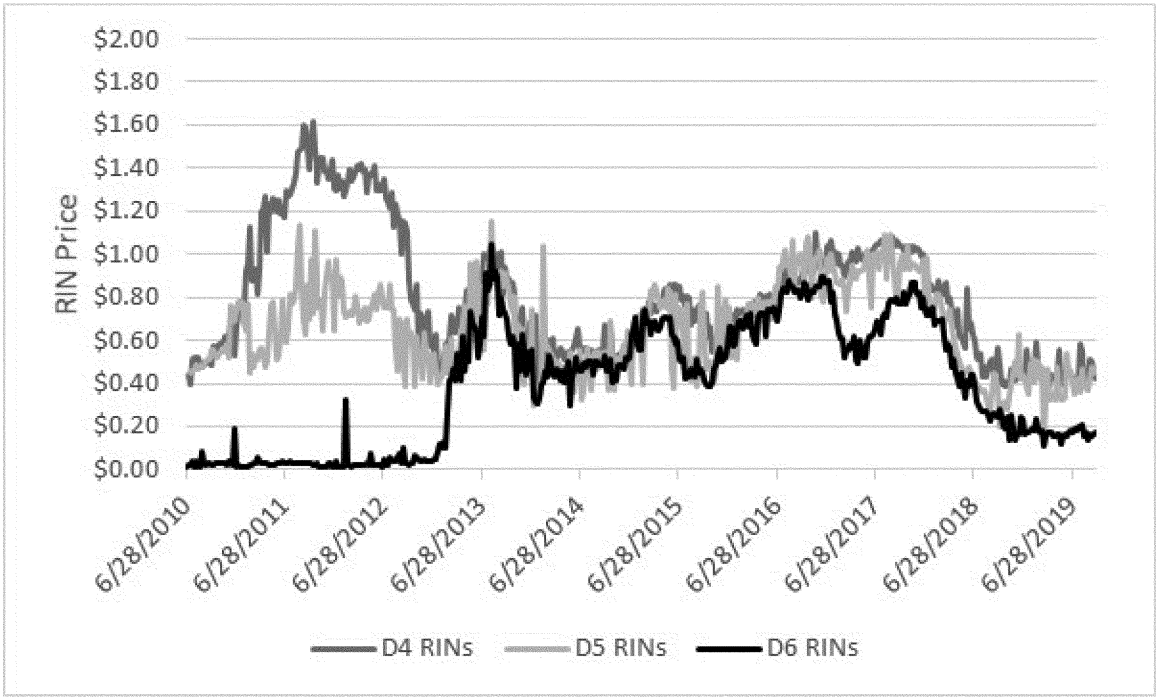
[133] Although we did not issue a rule establishing the final 2013 standards until August of 2013, we believe that the market anticipated the final standards, based on EPA's July 2011 proposal and the volume targets for advanced and total renewable fuel established in the statute. (76 FR 38844, 38843 July 1, 2011). Similarly, for 2014 and 2015, although we issued the final standards in late 2015, the proposed rule incentivized the market to use

Continued

that in 2011–2012 the BBD RIN price was significantly higher than both the advanced biofuel and conventional renewable fuel RIN prices. At this time, the E10 blendwall had not yet been reached, and it was likely more cost effective for most obligated parties to satisfy the portion of the advanced biofuel requirement that exceeded the BBD and cellulosic biofuel requirements with advanced ethanol.

Figure VI.B.2-1

D4, D5, and D6 RIN Prices (July 2010 – September 2019)




RIN Price Source: EMTS Data

We also examined the opportunity for advanced biofuels other than BBD and cellulosic biofuels, as shown in Table VI.B.1–2. We believe it is important to preserve this opportunity for other advanced biofuels, and we are conscious of public comments claiming that BBD volume requirements that are a significant portion of the advanced volume requirements effectively disincentivize the future development of other promising advanced biofuel pathways.[134] A variety of different types of advanced biofuels, rather than a single type such as BBD, would increase energy security (*e.g.,* by increasing the diversity of feedstock sources used to make biofuels, thereby reducing the impacts associated with a shortfall in a particular type of feedstock) and increase the likelihood of the development of lower cost advanced biofuels that meet the same GHG reduction threshold as BBD.[135]

TABLE VI.B.1–2—OPPORTUNITY FOR AND RIN GENERATION OF "OTHER" ADVANCED BIOFUELS

[Million RINs]

| | Opportunity for "other" advanced biofuels [a] | Available advanced (D5) RINs | Available BBD (D4) RINs in excess of the BBD equirement [b] |
|---|---|---|---|
| 2011 | 150 | 223 | 342 |
| 2012 | 500 | 597 | 45 |
| 2013 | 829 | 548 | 594 |
| 2014 [c] | 147 | 143 | −13 |
| 2015 [c] | 102 | 147 | −49 |
| 2016 | 530 | 98 | 835 |

BBD volumes exceeding the proposed BBD standard to help satisfy the proposed advanced and total standards. See 80 FR 33100 (2014–16 standards proposed June 10, 2015); 78 FR 71732 (2014 standards proposed Nov. 29, 2013).

[134] See, *e.g.,* Comments from Advanced Biofuel Association, available in EPA docket EPA–HQ–OAR–2018–0167–1277.

[135] All types of advanced biofuel, including BBD, must achieve lifecycle GHG reductions of at least 50 percent. See CAA section 211(o)(1)(B)(i), (D).

TABLE VI.B.1–2—OPPORTUNITY FOR AND RIN GENERATION OF ''OTHER'' ADVANCED BIOFUELS—Continued

[Million RINs]

| | Opportunity for ''other'' advanced biofuels [a] | Available advanced (D5) RINs | Available BBD (D4) RINs in excess of the BBD equirement [b] |
|---|---|---|---|
| 2017 | 969 | 144 | 477 |
| 2018 | 852 | 178 | 415 |
| 2019 [d] | 1,352 | 310 | 1,048 |

[a] The opportunity for ''other'' advanced biofuel is calculated by subtracting the number of cellulosic biofuel and BBD RINs required each year from the number of advanced biofuel RINs required. This portion of the advanced standard can be satisfied by advanced (D5) RINs, BBD RINs in excess of those required by the BBD standard, or cellulosic RINs in excess of those required by the cellulosic standard.

[b] The available BBD (D4) RINs in excess of the BBD requirement is calculated by subtracting the required BBD volume (multiplied by 1.5 to account for the equivalence value of biodiesel) required each year from the number of BBD RINs available for compliance in that year. This number does not include carryover RINs, nor do we account for factors that may impact the number of BBD RINs that must be retired for compliance, such as differences between the projected and actual volume of obligated gasoline and diesel. The required BBD volume has not been retroactively adjusted for subsequent events, such as differences between projected and actual gasoline and diesel use and exempted small refinery volumes.

[c] The 2014 and 2015 volume requirements were established in November 2015 and were set equal to the number of RINs projected to be available for each year.

[d] Available advanced RINs and available D4 RINs in excess of the BBD requirement are projected based on data through September 2019.

In each year since 2016, there has been a significant gap for other advanced biofuels, but this gap has nonetheless been dominated by BBD. While the RFS volumes created the opportunity for up to 530 million, 969 million, 852 million, and 1,352 million gallons of ''other'' advanced for 2016, 2017, 2018, and 2019 respectively to be used to satisfy the advanced biofuel obligation, only 98 million, 144 million, 178 million, and 310 million gallons of ''other'' advanced biofuels were generated. This is significantly less than the volumes of ''other'' advanced available in 2012–2013. Despite creating space within the advanced biofuel standard for ''other'' advanced, in recent years, only a small fraction of that space has been filled with ''other'' advanced, and BBD continues to fill most of the gap between the BBD standard and the advanced standard. Thus, there does not appear to be a compelling reason to increase the ''space'' maintained for ''other'' advanced biofuel volumes.

This conclusion is consistent with our approach in the 2019 final rule, when we established the 2019 advanced biofuel volume and the 2020 BBD volume. The overall volume of non-cellulosic advanced biofuel increased by 500 million gallons for 2019. For the 2020 BBD volume, we determined that it was appropriate to also increase the BBD volume by the same energy-equivalent amount (330 million physical gallons) as it would preserve the space already available for other advanced biofuels to compete in 2018 (850 million RINs). This space is many times the amount of other advanced biofuels used in each year starting from 2016.

In this action, we are maintaining the implied non-cellulosic advanced biofuel standard for 2021 that is presented in the statute, and that is equivalent to the implied non-cellulosic advanced biofuel standard for 2020. For the 2021 BBD volume, we thus find that it is appropriate to maintain the BBD volume for 2021 at 2.43 billion gallons. Even in an optimistic scenario, we do not believe that the use of other advanced biofuels will approach 850 million gallons by 2021. We recognize, however, the dynamic nature of the fuels marketplace, and the impact that the BBD blender's tax credit can have on the relative economics of BBD versus other advanced biofuels, so going forward we intend to assess the appropriate space for other advanced biofuels in subsequent rules setting BBD volumes.

At the same time, the rationale for preserving the ''space'' for ''other'' advanced biofuels remains. We note that the BBD industry in the U.S. and abroad has matured since EPA first increased the required volume of BBD beyond the statutory minimum in 2013.[136] To assess the maturity of the biodiesel industry, EPA compared information on BBD RIN generation by company in 2012 and 2018 (the most recent year for which complete RIN generation by company is available). In 2012, the annual average RIN generation per company producing BBD was about 11 million RINs (about 7.3 million gallons) with approximately 50 percent of companies producing less than 1 million gallons of BBD a year.[137] Since that time, the BBD industry has matured in a number of critical areas, including growth in the size of companies, the consolidation of the industry, and more stable funding and access to capital. By 2018, the average BBD RIN generation per company had climbed to over 36 million RINs (23.7 million gallons) annually, more than a 3-fold increase. Only 20 percent of the companies produced less than 1 million gallons of BBD in 2017.[138]

We recognize that the space for other advanced biofuels in 2021 will ultimately depend on the 2021 advanced biofuel volume. While EPA is not establishing the advanced biofuel volume for 2021 in this action, we anticipate that the non-cellulosic advanced biofuel volume for 2021, when established, will be greater than 3.65 billion gallons (equivalent to 2.43 billion gallons of BBD, after applying the 1.5 equivalence ratio). This expectation is consistent with our actions in previous years. Accordingly, we expect that the 2021 advanced biofuel volume, together with the 2021 BBD volume established today, will continue to preserve a considerable portion of the advanced biofuel volume that could be satisfied by either additional gallons of BBD or by other unspecified and potentially less costly types of qualifying advanced biofuels.

### *C. Consideration of Statutory Factors in CAA Section 211(o)(2)(B)(ii)(I)–(VI) for 2021 and Determination of the 2021 Biomass-Based Diesel Volume*

As in past annual standard-setting rulemakings, we find that additional volumes of BBD would displace other advanced biofuel, due to the nested

[136] See also generally 84 FR 36794–95 (further explaining our approach in establishing the 2013 BBD volume and our experience since that time).

[137] ''BBD RIN Generation by Company in 2012 and 2018,'' available in EPA docket EPA–HQ–OAR–2019–0136.

[138] Id.

nature of the standards,[139] as opposed to petroleum fuels. More specifically, for a given advanced biofuel standard, greater or lesser BBD volume requirements generally do not change the amount of advanced biofuel used to displace petroleum fuels; the total volume of advanced biofuels is unchanged regardless of the BBD volume requirement. Thus increasing the BBD volume requirement would result in the displacement of other types of advanced biofuels that could have been used to meet the advanced biofuels volume requirement.

As a result, as in past assessments of the factors articulated in CAA 211(o)(2)(B)(ii)(I)–(VI), we consider BBD in comparison to other advanced biofuels, and not in comparison to petroleum diesel. Our primary assessment of the statutory factors is that because the BBD requirement is nested within the advanced biofuel volume requirement, we expect that the 2021 advanced volume requirement will determine the level of BBD use, production, and imports that occur in 2021. Therefore, we continue to believe that approximately the same overall volume of BBD would likely be supplied in 2021 regardless of the 2021 BBD volume requirement. In the long-term, however, leaving adequate room for growth of other advanced biofuels could have a beneficial impact on certain statutory factors. Notably, this incentivizes the development of other advanced biofuels with potentially superior cost, climate, environmental, and other characteristics, relative to BBD. We present a detailed analysis of the statutory factors for the BBD volume requirement in a memorandum to the docket.[140]

### *D. BBD Volume Requirement for 2021*

Based on the above analysis, we are setting the applicable volume of BBD at 2.43 billion gallons for 2021. We believe this volume sets the appropriate floor for BBD, and that the volume of BBD actually used in 2021 will be driven by the level of the advanced biofuel and potentially the total renewable fuel standards that the Agency will establish for 2021. In addition, despite providing a significant degree of space for ''other'' advanced biofuels in recent years, far smaller volumes of ''other'' advanced have been utilized to meet the advanced standard. The BBD volume we are finalizing today continues to preserve the existing gap between the advanced biofuel volume and the sum of the cellulosic biofuel and BBD volumes. We believe this provides sufficient incentive to producers of ''other'' advanced biofuels, while also acknowledging that the advanced standard has been met predominantly with biomass-based diesel. Namely, this would allow other advanced biofuels to continue to compete with excess volumes of BBD for market share under the advanced biofuel standard. This would provide significant long term certainty for investments in other advanced biofuels that over time could compete with BBD to fill the advanced biofuel standard. In sum, our assessment of the statutory factors and the implementation of the program supports a volume of 2.43 billion gallons.

## VII. Percentage Standards for 2020

The renewable fuel standards are expressed as volume percentages and are used by each obligated party to determine their Renewable Volume Obligations (RVOs). Since there are four separate standards under the RFS program, there are likewise four separate RVOs applicable to each obligated party. Each standard applies to the sum of all non-renewable gasoline and diesel produced or imported.

Sections II through IV provide our rationale and basis for the final volume requirements for 2020.[141] The volumes used to determine the final percentage standards are shown in Table VII–1.

TABLE VII–1—VOLUMES FOR USE IN DETERMINING THE FINAL 2020 APPLICABLE PERCENTAGE STANDARDS

[Billion gallons]

| | |
|---|---|
| Cellulosic biofuel | 0.59 |
| Biomass-based diesel | 2.43 |
| Advanced biofuel | 5.09 |
| Renewable fuel | 20.09 |

For the purposes of converting these volumes into percentage standards, we generally use two decimal places to be consistent with the volume targets as given in the statute, and similarly two decimal places in the percentage standards. In past years we have used three decimal places for cellulosic biofuel in both the volume requirement and percentage standards to more precisely capture the smaller volume projections and the unique methodology that in some cases results in estimates of only a few million gallons for a group of cellulosic biofuel producers (see Section III for a further discussion of the methodology for projecting cellulosic biofuel production and our decision to round the projected volume of cellulosic biofuel to the nearest 10 million gallons). However, the volume requirements for cellulosic biofuel have increased over time. We have therefore determined that volume requirements and percentage standards for cellulosic biofuel will now use two decimal places.

In this section, we also discuss our regulatory change to the percent standard formulas to account for a projection of the aggregate volume for SREs that we expect to grant for the 2020 compliance year. This section also provides our rationale for that projection of exempt gasoline and diesel volume. Additionally, we also provide our approach for evaluating SREs going forward, including for the currently pending 2019 petitions and for 2020 petitions we receive in the future.

### *A. Calculation of Percentage Standards*

The formulas used to calculate the percentage standards applicable to producers and importers of gasoline and diesel are provided in 40 CFR 80.1405. The formulas rely on estimates of the volumes of gasoline and diesel fuel, for both highway and nonroad uses, which are projected to be used in the year in which the standards will apply. The projected gasoline and diesel volumes are provided by EIA and include projections of ethanol and biomass-based diesel used in transportation fuel.[142] Since the percentage standards apply only to the non-renewable gasoline and diesel produced or imported, the volumes of renewable fuel are subtracted out of the EIA projections of gasoline and diesel.

Transportation fuels other than gasoline or diesel, such as natural gas, propane, and electricity from fossil fuels, are not currently subject to the standards, and volumes of such fuels are not used in calculating the annual percentage standards. Since under the regulations the standards apply only to producers and importers of gasoline and diesel, these are the transportation fuels

[139] The BBD volume requirement is nested within the advanced biofuel requirement, and the advanced biofuel requirement is, in turn, nested within the total renewable fuel volume requirement. See CAA section 211(o)(2)(B)(i)(IV), (II). This means that any BBD produced can be used to satisfy both these other applicable volume requirements even beyond the BBD volume requirement.

[140] ''Memorandum to docket: Statutory Factors Assessment for the 2021 Biomass-Based Diesel (BBD) Applicable Volumes.'' See Docket EPA–HQ–OAR–2019–0136.

[141] The 2020 volume requirement for BBD was established in the 2019 standards final rule (83 FR 63704, December 11, 2018)

[142] Letter from Linda Capuano, EIA Administrator to Andrew Wheeler, EPA Administrator. October 9, 2019. Available in docket EPA–HQ–OAR–2019–0136.

used to set the percentage standards, as well as to determine the annual volume obligations of an individual gasoline or diesel producer or importer under 40 CFR 80.1407.

As specified in the RFS2 final rule,[143] the percentage standards are based on energy-equivalent gallons of renewable fuel, with the cellulosic biofuel, advanced biofuel, and total renewable fuel standards based on ethanol equivalence and the BBD standard based on biodiesel equivalence. However, all RIN generation is based on ethanol-equivalence. For example, the RFS regulations provide that production or import of a gallon of qualifying biodiesel will lead to the generation of 1.5 RINs. The formula specified in the regulations for calculation of the BBD percentage standard is based on biodiesel-equivalence, and thus assumes that all BBD used to satisfy the BBD standard is biodiesel and requires that the applicable volume requirement be multiplied by 1.5 in order to calculate a percentage standard that is on the same basis (*i.e.,* ethanol-equivalent) as the other three standards. However, BBD often contains some renewable diesel, and a gallon of renewable diesel typically generates 1.7 RINs.[144] In addition, there is often some renewable diesel in the conventional renewable fuel pool. As a result, the actual number of RINs generated by biodiesel and renewable diesel is used in the context of our assessment of the applicable volume requirements and associated percentage standards for advanced biofuel and total renewable fuel, and likewise in obligated parties' determination of compliance with any of the applicable standards. While there is a difference in the treatment of biodiesel and renewable diesel in the context of determining the percentage standard for BBD versus determining the percentage standard for advanced biofuel and total renewable fuel, it is not a significant one given our approach to determining the BBD volume requirement. Our intent in setting the BBD applicable volume is to provide a level of guaranteed volume for BBD, but as described in Section VII.B of the 2019 standards final rule, we do not expect the BBD standard to be binding in 2020.[145] That is, we expect that actual supply of BBD, as well as supply of conventional biodiesel and renewable diesel, will be driven by the advanced biofuel and total renewable fuel standards and will exceed the BBD standard.

*B. Small Refineries and Small Refiners*

In CAA section 211(o)(9), enacted as part of the EPAct, and amended by EISA, Congress provided a temporary exemption to small refineries [146] through December 31, 2010. Congress provided that small refineries could receive a temporary extension of the exemption beyond 2010 based either on the results of a required DOE study, or for the reason of ''disproportionate economic hardship'' in response to small refinery petitions submitted ''at any time.'' CAA section 211(o)(9)(B)(i).

Pursuant to this petition process, EPA often granted SREs for a given compliance year after the applicable percentage standards for that compliance year had been established. Under our prior approach to calculating the percentage standards, we did not account for these exemptions in establishing the percentage standards.[147] We only accounted for exemptions already granted at the time of the final annual rule.[148]

In the October 28 proposal, we proposed to modify the regulations at 40 CFR 80.1405(c) to account for a projection of the total exempted volume of gasoline and diesel produced at small refineries, including for those exemptions granted after the final annual rule.[149] We are finalizing the change as proposed. The result is that our calculation of the applicable percentage standards for 2020 takes into account a projection of the total exempted volume of gasoline and diesel produced by small refineries in 2020.

1. Changes to the Projected Volume of Gasoline and Diesel for Exempt Small Refineries

The formulas used to calculate the percentage standards applicable to producers and importers of gasoline and diesel are provided in 40 CFR 80.1405(c). The formula for the percentage standard calculation for total renewable fuel, including the definitions of the terms prior to this action, is shown below. The formulas for the other three percentage standards follow the same format, with the numerator of the fraction replaced with the annual volume of cellulosic biofuel, biomass-based diesel, and advanced biofuel, respectively. In this action we are only modifying the definitions of the terms $GE_i$ and $DE_i$, which previously referred to the amount of gasoline and diesel projected to be produced by exempt small refineries, to now refer to the amount of gasoline and diesel projected to be exempt. All other terms remain in the same and were not reexamined in this rulemaking.

$$Std_{RF,i} = 100 \times \frac{RFV_{RF,i}}{(G_i - RG_i) + (GS_i - RGS_i) - GE_i + (D_i - RD_i) + (DS_i - RDS_i) - DE_i}$$

Where:

$Std_{RF,i}$ = The renewable fuel standard for year i, in percent.

$RFV_{RF,i}$ = Annual volume of renewable fuel required by 42 U.S.C. 7545(o)(2)(B) for year i, in gallons.

$G_i$ = Amount of gasoline projected to be used in the 48 contiguous states and Hawaii, in year i, in gallons.

$D_i$ = Amount of diesel projected to be used in the 48 contiguous states and Hawaii, in year i, in gallons.

$RG_i$ = Amount of renewable fuel blended into gasoline that is projected to be consumed in the 48 contiguous states and Hawaii, in year i, in gallons.

$RD_i$ = Amount of renewable fuel blended into diesel that is projected to be consumed in the 48 contiguous states and Hawaii, in year i, in gallons.

$GS_i$ = Amount of gasoline projected to be used in Alaska or a U.S. territory, in year i, if the state or territory has opted-in or opts-in, in gallons.

$RGS_i$ = Amount of renewable fuel blended into gasoline that is projected to be consumed in Alaska or a U.S. territory,

[143] See 75 FR 14670 (March 26, 2010).

[144] Under 40 CFR 80.1415(b)(4), renewable diesel with a lower heating value of at least 123,500 Btu/gallon is assigned an equivalence value of 1.7. A minority of renewable diesel has a lower heating value below 123,500 BTU/gallon and is therefore assigned an equivalence value of 1.5 or 1.6 based on applications submitted under 40 CFR 80.1415(c)(2).

[145] 83 FR 63704 (December 11, 2018).

[146] A small refiner that meets the requirements of 40 CFR 80.1442 may also be eligible for an exemption.

[147] We adopted this interpretation of our regulations in the 2011 final rule. 75 FR 76804. We reaffirmed it in annual rulemakings since then, including most recently in the 2019 final rule. 83 FR 63740; see also, *e.g.,* 77 FR 1320, 1340; 78 FR 49794, 49825–49826; 80 FR 77420, 77511. We also proposed to follow this interpretation in the July 29 proposal for this final rule. 84 FR 36797 (July 29, 2019).

[148] See, *e.g.,* 80 FR 77420, 77511 (December 14, 2015).

[149] 84 FR 57677.

in year i, if the state or territory opts-in, in gallons.

$DS_i$ = Amount of diesel projected to be used in Alaska or a U.S. territory, in year i, if the state or territory has opted-in or opts-in, in gallons.

$RDS_i$ = Amount of renewable fuel blended into diesel that is projected to be consumed in Alaska or a U.S. territory, in year i, if the state or territory opts-in, in gallons.

$GE_i$ = The amount of gasoline projected to be produced by exempt small refineries and small refiners, in year i, in gallons in any year they are exempt per §§ 80.1441 and 80.1442.

$DE_i$ = The amount of diesel fuel projected to be produced by exempt small refineries and small refiners in year i, in gallons, in any year they are exempt per §§ 80.1441 and 80.1442.

Historically, EPA has interpreted the terms $GE_i$ and $DE_i$ to refer to the amount of gasoline and diesel projected to be produced by small refineries that have already been granted exemptions from their RFS obligations prior to our issuing the final rule for the relevant compliance year.[150] As a result of this interpretation, any SREs granted after we issued the annual rule containing the percentage standards for that year effectively reduced the required volume of renewable fuel for that year. For example, in August 2019 we granted 31 SREs for the 2018 compliance year after the percentage standards for 2018 had been established.[151] These SREs reduced the obligated volume of gasoline and diesel for 2018 by 13.42 billion gallons, effectively reducing the required volume of total renewable fuel for 2018 by 1.43 billion RINs.

In comments on the July 29 proposal, many commenters requested that EPA adopt a different interpretation of the terms for the amount of gasoline and diesel projected to be produced by exempt small refineries in the existing percentage standard formula.[152] Many commenters requested that these terms refer to a projection of the exempted volume of gasoline and diesel produced by small refineries, regardless of whether EPA had already adjudicated such exemption petitions by the time of the final rule. These commenters argued that this interpretation of the regulations is reasonable and better implements the statutory requirement that EPA must ''ensure'' the renewable fuel volumes are met. Some commenters suggested that adjusting the percentage standards formula is more important now than in earlier years of the program as we have recently granted exemptions for more significant volumes of gasoline and diesel, potentially resulting in more significant volumes that are not being met at the time of compliance.[153] A petition for administrative reconsideration raised similar issues, asking EPA to reconsider our approach for accounting for exempted volumes through the formula at 40 CFR 80.1405(c).[154] In the October 28 proposal, EPA undertook a process to revisit this issue, albeit under our inherent authority to revise or amend a rulemaking, rather than as an exercise of our reconsideration authority under CAA section 307(d)(7)(B).[155]

In the October 28 proposal we proposed to change the definitions of the two relevant terms in the percentage standard formula at 40 CFR 80.1405(c), $GE_i$ and $DE_i$. We proposed that these terms represent a projection of the exempted volume of gasoline and diesel, regardless of whether we had adjudicated exemptions for that year by the time of the final rule establishing the percentage standards. We are finalizing these changes, and in turn, also completing the process of revisiting this issue that we undertook as described above in response to the above-noted administrative petition. The term ''$GE_i$'', representing the volume of exempt gasoline, is now defined as ''the total amount of gasoline projected to be exempt in year i, in gallons, per §§ 80.1441 and 80.1442.'' Similarly, the term ''$DE_i$'', representing the volume of exempt diesel, is now defined as ''the total amount of diesel projected to be exempt in year i, in gallons, per §§ 80.1441 and 80.1442.''

We begin by explaining our legal authority to adopt the new definitions, as well as our rationale for the change in our policy. While the statute does not specifically require EPA to redistribute exempted volumes in this manner, we believe that this is a reasonable interpretation of our authority under *Chevron* v. *NRDC.*[156] Indeed, making this projection harmonizes various statutory provisions. The statute authorizes small refineries to petition for and EPA to grant an exemption based on disproportionate economic hardship ''at any time,'' [157] while also directing EPA to promulgate standards by November 30 of the prior year to ''ensure[]'' that the renewable fuel volumes are met.[158] In other words, small refineries may seek and EPA may grant hardship exemptions at any time, including after the percentage standards are established. Meanwhile, EPA may account for a projection of these exemptions in the annual rule to ''ensure'' the renewable fuel volumes.[159]

In more concrete terms, should EPA grant SREs without accounting for them in the percentage formula, those exemptions would effectively reduce the volumes of renewable fuel required by the RFS program, potentially impacting renewable fuel use in the U.S.[160] By contrast, under our new approach, the percentage standard for each category of renewable fuel would increase to account for a projection of the exempted volume. These higher percentage standards would have the effect of ensuring that the required volumes of renewable fuel are met when small refineries are granted exemptions from their 2020 obligations after the issuance of the final rule, provided EPA's projection of the exempted volume is accurate.

This new approach entails a change in policy.[161] We previously did not account for exemptions granted after the annual rule, and at times we even suggested that doing so was improper.[162] We believe our changed approach is appropriate and largely avoids the problems we previously identified. First, we had previously stated that ''the Act is best interpreted to require issuance of a single annual standard in November that is applicable in the following calendar year, thereby providing advance notice and certainty to obligated parties regarding their

[150] *See, e.g.,* 84 FR 36797 (July 29, 2019).

[151] The percentage standards for 2018 were established in December 2017 (82 FR 58486, December 12, 2017).

[152] See, *e.g.,* comments from the Renewable Fuels Association (Docket Item No. EPA–HQ–OAR–2019–0136–0281).

[153] See, *e.g.,* comments from Growth Energy (Docket Item No. EPA–HQ–OAR–2019–0136–0312).

[154] ''Petition for Reconsideration of 40 CFR 80.1405(c), EPA Docket No. EPA–HQ–OAR–2005–0161, promulgated in 75 FR 14670 (Mar. 26, 2010); Petition for Reconsideration of Periodic Reviews for the Renewable Fuel Standard Program, 82 FR 58364 (Dec. 12, 2017)'' (June 4, 2018).

[155] See 84 FR 57680 & n.13 (explaining in greater detail the basis for EPA's reconsideration of this issue).

[156] *Chevron, U.S.A., Inc.* v. *Nat. Res. Def. Council, Inc.,* 467 U.S. 837, 842–44 (1984).

[157] CAA section 211(o)(9)(B)(i).

[158] CAA section 211(o)(3)(B)(i); see also CAA section 211(o)(2)(A)(i), (2)(A)(iii)(I), CAA section 301(a). This projection, moreover, is hardly unique in the RFS program as Congress required numerous projections in the implementation of the program. *See, e.g.,* CAA section 211(o)(7)(D) (projection of the volume of cellulosic biofuel production); (o)(3)(A) (projection of the volumes of transportation fuel, biomass-based diesel, and cellulosic biofuel).

[159] See CAA section 211(o)(2)(A)(i), (2)(A)(iii)(I), (3)(B)(i); see also CAA section 301(a).

[160] We note that there are other factors, besides the RFS program, that affect renewable fuel use. See, *e.g.,* ''Endangered Species Act No Effect Finding for the 2020 Final Rule,'' available in the docket for this action.

[161] *FCC* v. *Fox Television Stations, Inc.,* 556 U.S. 502, 515 (2009).

[162] See 78 FR 49825–49826; 77 FR 1340; EPA's Br., Doc No. 1757157, D.C. Cir. No. 17–1258, *AFPM* v. *EPA* (Oct. 25, 2018) (''EPA Br. in *AFPM*'').

regulatory requirements. Periodic revisions to the standards to reflect waivers issued to small refineries or refiners would be inconsistent with the statutory text, and would introduce an undesirable level of uncertainty for obligated parties.'' [163] Today's changes are consistent with these views. By projecting exempted volumes in advance of issuing annual standards, we can issue a single set of standards for each year without the need for periodic revisions and the associated uncertainty for obligated parties.

Second, we also had previously noted that ''Congress allowed for some imprecision to exist in the actual volumes of renewable fuel that are consumed as a result of the percentage standards that we set each November. . . .'' [164] Relatedly, we had noted the inherent difficulties of projecting exempted small refinery volumes.[165] We still agree that Congress allowed for some imprecision to exist in the actual required volumes of renewable fuel, and that projecting future exempted volumes involves some uncertainty.

But several recent developments persuade us to reach a different conclusion in accounting for a projection of exempted small refinery volumes. For one, we are projecting the *aggregate* exempted volume in 2020. We thus need not wrestle with the difficulties of predicting precisely which refineries will apply or the economic circumstances of specific refineries in 2020. We only need to estimate the total exempted volume. Moreover, we have the benefit of additional experience administering the RFS program and knowledge of the relatively high levels of exempted volumes in recent years, where exempted volumes associated with SREs granted after the annual percentage standards were established have constituted a significant portion of the total volume of obligated fuel, resulting in fewer RINs being used to comply with the RFS standards.

Finally, in recent annual rulemakings, EPA has not articulated its prospective policy to adjudicating SRE petitions for those compliance years. For instance, in the 2018 final rule, we did not state our policy to adjudicating 2018 SRE petitions. Instead we articulated that policy in a separate memorandum issued after the annual rule.[166] Since EPA's policy to adjudicating SRE petitions affects the exempted volume, not having established this policy at the time of the annual rule made it very challenging to project the exempted volume. In today's rule, by contrast, we are articulating our prospective policy to adjudicating SRE petitions (beginning with the 2019 SRE petitions and including the 2020 SRE petitions) concurrently with issuing this final rule. Doing so augments our ability to reasonably project the exempted volume for 2020. We explain this policy further below.

2. Projecting the Exempted Volume of Gasoline and Diesel in 2020

As already noted, we acknowledge the inherent uncertainty in projecting the exempted volume. More concretely, an imprecise projection has consequences on the actual required volume of renewable fuel. If we over-project the volume of gasoline and diesel produced by exempt small refineries in 2020, the actual required volumes of renewable fuel will be higher than the volumes used in calculating the percentage standards. By contrast, if we under-project the volume of exempted gasoline and diesel, the actual required volumes of renewable fuel will be lower than the volumes used in calculating the percentage standards. If we project the volume correctly, we will ensure that, as far as exempted small refinery volumes are concerned, the actual required volume is equal to the volume established in this final rule.[167]

In selecting the methodology for projecting the exempted volume, we thus aim to make a neutral projection of exemptions based on the information now before us. As proposed, we are finalizing a projection methodology based on a 2016–18 annual average of exempted volumes had EPA strictly followed DOE recommendations in those years, including by granting 50 percent relief where DOE recommended 50 percent relief. We explain why we do so below, beginning with our decision to base the projection on DOE recommendations and then our decision to use a 2016–18 annual average. Finally, we state the projected exempt volumes of gasoline and diesel based on this approach and the corresponding number of RINs.

First, we choose to base the projection of exempted volumes on DOE's recommendations for two reasons, one prospective and one retrospective. Prospectively, this is our general approach to adjudicating SRE petitions going forward, beginning with 2019 SRE petitions and including 2020 SRE petitions. Our approach to evaluating SREs going forward is to follow DOE's recommendations, including granting partial (*i.e.,* 50 percent) exemptions, where appropriate. The statute authorizes EPA to evaluate petitions for SREs considering DOE's study, recommendation, and other economic factors. While final decisions on 2020 SREs must await EPA's receipt and adjudication of those petitions, we generally have the statutory authority to issue a final decision consistent with DOE's recommendation.[168] This reading of the statute is consistent with congressional guidance to DOE [169] and EPA.[170]

We acknowledge that on August 9, 2019, we took final agency action on 36 then-pending small refinery petitions for the 2018 compliance year (''August 9 Memorandum Decision''),[171] and stated that the ''best interpretation'' of the statute was that EPA should either grant or deny petitions in full, and ''not

[163] 77 FR 1340.

[164] 77 FR 1340 (January 9, 2012).

[165] EPA Br. in *AFPM* 72–77.

[166] ''Decision on 2018 Small Refinery Exemption Petitions,'' Memorandum from Anne Idsal, Acting Assistant Administrator, Office of Air and Radiation to Sarah Dunham, Director, Office of Transportation and Air Quality. August 9, 2019.

[167] The actual required volume is subject to other uncertainties besides small refinery exemptions, such as unexpected changes in gasoline and diesel use.

[168] Other factors, such as judicial resolution of pending decisions or subsequent Congressional direction, could potentially affect EPA's SRE policy going forward.

[169] *See* Consolidated Appropriations Act, 2016, Public Law 114–113 (2015), Explanatory Statement to Senate amendment to H.R. 2029 Military Construction and Veterans Affairs and Related Agencies Appropriations Act, 2016, Division D—Energy and Water Development and Related Agencies Appropriations Act, 2016, *available at https://docs.house.gov/meetings/RU/RU00/20151216/104298/HMTG-114-RU00-20151216-SD005.pdf.* Congress in this Statement directed DOE, under certain circumstances, ''to recommend to the EPA Administrator a 50 percent waiver of RFS requirements for the [small refinery] petitioner.'' *Id.* at 35. Consistent with that guidance and since 2014, DOE has recommended 50 percent exemptions as it deemed appropriate.

[170] S. Rep. 114–281. Congress in this Report provided that ''[w]hen making decisions about small refinery exemptions under the RFS program, the Agency is directed to follow DOE's recommendations.'' See also Consolidated Appropriations Act, 2019, Public Law No. 116–6 (2019), H. Rep. 116–9 at 741, continuing the directive contained in Senate Report 114–281. See also Sen. Rep. 116–123, Department of the Interior, Environment, and Related Agencies Appropriations Bill, 2020, Report Accompanying Sen. 2580, at 87–88 (Sept. 26, 2019) (again ''continu[ing] the directive contained in Senate Report 114–281 related to small refinery relief''), *available at https://www.congress.gov/116/crpt/srpt123/CRPT-116srpt123.pdf.* This guidance, read together with that discussed in the previous footnote, supports the interpretation that DOE has authority to recommend partial exemptions for particular small refineries, and that EPA has discretion to follow that recommendation and grant a partial exemption.

[171] ''Decision on 2018 Small Refinery Exemption Petitions,'' Memorandum from Anne Idsal, Acting Assistant Administrator, Office of Air and Radiation to Sarah Dunham, Director, Office of Transportation and Air Quality. August 9, 2019 (''August 9 Memorandum Decision'').

grant partial relief.'' Specifically, we observed that the statute provided for exemptions as an ''extension of the exemption under subparagraph (A)'', where subparagraph (A) stated that the RFS program requirements ''shall not apply to small refineries under calendar year 2011.'' [172] We had implemented the ''subparagraph (A)'' pre-2011 exemption as a full exemption for all qualifying small refineries. Consistent with this interpretation, we concluded that ''when Congress authorized the Administrator to provide an 'extension' of that exemption for the reason of [disproportionate economic hardship], Congress intended that extension to be a full, and not partial, exemption.'' [173]

We believe, however, that this is not the only reasonable way to adjudicate exemption petitions. Had Congress spoken directly to the issue of the amount of relief EPA could provide to small refineries, EPA would be bound by that directive. However, the statute is silent with respect to EPA's authority to issue partial exemptions. Nothing in the statute directly addresses this issue. No statutory language exists characterizing the scope of an exemption; there are no terms employed such as ''partial'' or ''full,'' or ''50%'' or ''100%.'' Moreover, nothing in the statute obligates EPA to provide full relief where we find that only partial relief is warranted.

We think there is another reasonable reading of this provision of the statute: EPA may issue partial exemptions. Notably, EPA may determine that only partial relief is warranted based on a particular small refinery's circumstances. In that case, it is reasonable for the level of relief that EPA grants to reflect that determination. For purposes of making the projection of the aggregate exempted volume of gasoline and diesel in 2020, and going forward, we are adopting this interpretation of the statute,[174] and thereby depart from the interpretation taken in the August 9 Memorandum Decision, under which EPA ''shall either grant or deny petitions for small refinery hardship in full, and not grant partial relief.'' [175] We adopt this new approach for several reasons, consistent with *FCC* v. *Fox Television Stations, Inc.*[176]

As already noted, this new policy would allow EPA to ensure that the level of relief that it grants appropriately reflects the particular small refinery's disproportionate economic hardship. This allows EPA to more precisely calibrate its RFS policy, and to strike an appropriate balance between furthering the production and use of renewable fuels while granting relief to small refineries that meet the statutory criteria. This balance, moreover, is also appropriate in light of the above-cited recent Congressional direction.[177]

Even independent of our prospective SRE policy, we believe this approach is a reasonable estimate of the aggregate exempted volume based on a retrospective review of EPA's past SRE policies. In prior years, EPA has taken different approaches in evaluating small refinery petitions. As noted above, in the August 9 Memorandum Decision, we granted full exemptions to petitioners where DOE either recommended full or 50 percent relief. That is, in cases where DOE found a small refinery experienced either disproportionate impacts or viability impairment, EPA found the small refinery experienced disproportionate economic hardship and granted a full exemption. By contrast, in earlier years of the program, we denied petitions and provided no exemption in certain cases where DOE recommended a 50 percent exemption, finding that disproportionate economic hardship existed only where the small refinery experienced both disproportionate impacts and viability impairment.[178] Our approach to projection, then, takes a middle ground between these prior approaches, and is a reasonable estimate of the aggregate exempted volume in 2020.

We now turn to our decision to use the 2016–18 annual average under this methodology. As we have not yet received SRE petitions for 2020, we must estimate the aggregate amount of DOE recommended relief for that year. To do so, it is instructive to look back at what the exempted volumes of gasoline and diesel in previous years would have been had EPA followed DOE's recommendations, including granting partial exemptions. These volumes, along with the Renewable Volume Obligation (RVO) that would have been exempted, are shown in Table VII.B–1.

TABLE VII.B–1—ESTIMATED EXEMPTED VOLUME OF GASOLINE AND DIESEL AND ESTIMATED RVO EXEMPTED BY COMPLIANCE YEAR FOLLOWING DOE'S RECOMMENDATIONS

| Compliance year | Estimated exempted volume of gasoline (million gallons) | Estimated exempted volume of diesel (million gallons) | Estimated RVO exempted (million RINs) |
|---|---|---|---|
| 2016 | 2,450 | 1,930 | 440 |
| 2017 | 5,650 | 3,870 | 1020 |
| 2018 | 4,620 | 3,270 | 840 |

As demonstrated in Table VII.B–1, the volume of gasoline and diesel that would have been exempted if EPA had followed DOE's recommendations has varied significantly in previous years.[179] This is because there are many factors that affect the number of SREs that are granted in a given year and the aggregate exempted volume. We believe that it is appropriate to use an average volume of the gasoline and diesel that would have been exempted over a three-year period as our projection of gasoline and diesel that will be exempted in 2020, rather than the volume of gasoline and diesel that would have been exempted in any single year. This approach averages out the effects of unique events or market circumstances that occurred in individual past years that may or may not occur in 2020. Given that the last year for which we have data on small refinery exemptions is 2018,[180] we take the average exempted volume from 2016–18.

The average volume of these fuels that would have been exempted in 2016–18

[172] CAA section 211(o)(9)(B), (o)(9)(A).

[173] August 9 Memorandum Decision at 2.

[174] *See Chevron,* 467 U.S. at 842–44.

[175] August 9 Memorandum Decision at 2.

[176] See generally *FCC,* 556 U.S. at 515.

[177] *See supra* notes 20 and 21.

[178] *See, e.g., Hermes Consol., LLC* v. *EPA,* 787 F.3d 568, 575 (D.C. Cir. 2015).

[179] Information about the number of SREs granted and the volume of RINs not required to be retired as a result of those exemptions can be found at: *https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rfs-small-refinery-exemptions.*

[180] To date, we have adjudicated all 2018 small refinery exemption petitions submitted to us. EPA has not yet adjudicated any small refinery exemptions for the 2019 or 2020 compliance years.

if EPA had followed DOE's recommendations is 4,240 and 3,020 million gallons, for gasoline and diesel fuel, respectively. We use these values for $GE_i$ and $DE_i$, respectively, in calculating the percentage standards for each of the renewable fuel types. We also note that these exempted volumes would have resulted in an average reduction to the RVO of approximately 770 million RINs.

*C. Final Standards*

The formulas in 40 CFR 80.1405 for the calculation of the percentage standards require the specification of a total of 14 variables covering factors such as the renewable fuel volume requirements, projected gasoline and diesel demand for all states and territories where the RFS program applies, renewable fuels projected by EIA to be included in the gasoline and diesel demand, and projected gasoline and diesel volumes from exempt small refineries. The values of all the variables used for this final rule are shown in Table VII.C–1 for the applicable 2020 standards.[181]

TABLE VII.C–1—VALUES FOR TERMS IN CALCULATION OF THE FINAL 2020 STANDARDS[182]

(billion gallons)

| Term | Description | Value for 2020 standards |
|---|---|---|
| $RFV_{CB}$ | Required volume of cellulosic biofuel | 0.59 |
| $RFV_{BBD}$ | Required volume of biomass-based diesel[a] | 2.43 |
| $RFV_{AB}$ | Required volume of advanced biofuel | 5.09 |
| $RFV_{RF}$ | Required volume of renewable fuel | 20.09 |
| G | Projected volume of gasoline | 142.68 |
| D | Projected volume of diesel | 55.30 |
| RG | Projected volume of renewables in gasoline | 14.42 |
| RD | Projected volume of renewables in diesel | 2.48 |
| GS | Projected volume of gasoline for opt-in areas | 0 |
| RGS | Projected volume of renewables in gasoline for opt-in areas | 0 |
| DS | Projected volume of diesel for opt-in areas | 0 |
| RDS | Projected volume of renewables in diesel for opt-in areas | 0 |
| GE | Projected volume of gasoline for exempt small refineries | 4.24 |
| DE | Projected volume of diesel for exempt small refineries | 3.02 |

[a] The BBD volume used in the formula represents physical gallons. The formula contains a 1.5 multiplier to convert this physical volume to ethanol-equivalent volume.

Projected volumes of gasoline and diesel, and the renewable fuels contained within them, were provided by EIA in a letter to EPA that is required under the statute, and represent consumption values from the October 2019 version of EIA's Short-Term Energy Outlook.[183] An estimate of fuel consumed in Alaska, derived from the June 28, 2019 release of EIA's State Energy Data System (SEDS) and based on the 2017 volumes contained therein, was subtracted from the nationwide volumes.

Using the volumes shown in Table VII.C–1, we have calculated the final percentage standards for 2020 as shown in Table VII.C–2.

TABLE VII.C–2—FINAL PERCENTAGE STANDARDS FOR 2020

| | |
|---|---|
| Cellulosic biofuel | 0.34% |
| Biomass-based diesel | [a] 2.10% |
| Advanced biofuel | 2.93% |
| Renewable fuel | 11.56% |

[a] Based on the ethanol-equivalent volume of BBD.

## VIII. Administrative Actions

*A. Assessment of the Domestic Aggregate Compliance Approach*

The RFS regulations specify an ''aggregate compliance'' approach for demonstrating that planted crops and crop residue from the U.S. complies with the ''renewable biomass'' requirements that address lands from which qualifying feedstocks may be harvested.[184] In the 2010 RFS2 rulemaking, EPA established a baseline number of acres for U.S. agricultural land in 2007 (the year of EISA enactment) and determined that as long as this baseline number of acres was not exceeded, it was unlikely that new land outside of the 2007 baseline would be devoted to crop production based on historical trends and economic considerations. The regulations specify, therefore, that renewable fuel producers using planted crops or crop residue from the U.S. as feedstock in renewable fuel production need not undertake individual recordkeeping and reporting related to documenting that their feedstocks come from qualifying lands, unless EPA determines through one of its annual evaluations that the 2007 baseline acreage of 402 million acres agricultural land has been exceeded.

In the 2010 RFS2 rulemaking, EPA committed to make an annual finding concerning whether the 2007 baseline amount of U.S. agricultural land has been exceeded in a given year. If the baseline is found to have been exceeded, then producers using U.S. planted crops and crop residue as feedstocks for renewable fuel production would be required to comply with individual recordkeeping and reporting requirements to verify

[181] To determine the 49-state values for gasoline and diesel, the amount of these fuels used in Alaska is subtracted from the totals provided by EIA because petroleum based fuels used in Alaska do not incur RFS obligations. The Alaska fractions are determined from the June 28, 2019 EIA State Energy Data System (SEDS), Energy Consumption Estimates.

[182] See ''Calculation of final % standards for 2020'' in docket EPA–HQ–OAR–2019–0136.

[183] ''EIA letter to EPA with 2020 volume projections 10–9–2019,'' available in docket EPA–HQ–OAR–2019–0136.

[184] 40 CFR 80.1454(g). EPA has applied this ''aggregate compliance'' approach for the United States in annual RFS rulemakings since establishing it in the 2010 RFS2 rule. See 75 FR 14701–04. In this annual rulemaking, we have not reexamined or reopened this policy, including the regulations at 80.1454(g) and 80.1457. Similarly, as further explained below, we have applied this approach for Canada since our approval of Canada's petition to use aggregate compliance in 2011. In this rulemaking, we have also not reexamined or reopened our decision on that petition. Any comments on these issues are beyond the scope of this rulemaking.

that their feedstocks are renewable biomass.

Based on data provided by the USDA Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS), we have estimated that U.S. agricultural land reached approximately 379.8 million acres in 2019 and thus did not exceed the 2007 baseline acreage of 402 million acres. The USDA data used to make this derivation can be found in the docket to this rule.[185]

### *B. Assessment of the Canadian Aggregate Compliance Approach*

The RFS regulations specify a petition process through which EPA may approve the use of an aggregate compliance approach for planted crops and crop residue from foreign countries.[186] On September 29, 2011, EPA approved such a petition from the Government of Canada.[187]

The total agricultural land in Canada in 2019 is estimated at 118.1 million acres. This total agricultural land area includes 95.9 million acres of cropland and summer fallow, 12.4 million acres of pastureland and 9.8 million acres of agricultural land under conservation practices. This acreage estimate is based on the same methodology used to set the 2007 baseline acreage for Canadian agricultural land in EPA's response to Canada's petition. The data used to make this calculation can be found in the docket to this rule. This acreage does not exceed the 2007 baseline acreage of 122.1 million acres.

## IX. Amendments to the RFS and Fuels Program Regulations

In implementing the RFS program, we have identified several changes to the program that will assist with implementation in future years. These regulatory changes include both revisions we proposed in the July 29 proposal—clarification of diesel RVO calculations, pathway petition conditions, a biodiesel esterification pretreatment pathway, distillers corn oil and distillers sorghum oil pathways, and renewable fuel exporter provisions—and certain provisions of the 2016 REGS rule proposal that we are finalizing here.[188] These regulatory changes are described in this section. Comments on these regulatory revisions from both the 2016 REGS and 2020 RVO proposals, as well as EPA's responses, are contained in the response to comments (RTC) document in the docket for this action.[189]

### *A. Clarification of Diesel RVO Calculations*

#### 1. Overview

We are finalizing certain provisions regarding clarification of diesel RVO calculations. Specifically, we are finalizing the ''primary approach'' proposed in the July 29 proposal, with some modifications based on comments received. We are not finalizing either of the two alternative approaches presented in the July 29 proposal, after consideration of negative comments on these two approaches.

Historically, home heating oil (HO) and diesel fuel were virtually indistinguishable because both contained the same distillation range of hydrocarbons and high level of sulfur. EPA's diesel fuel sulfur regulations resulted in a distinction in the marketplace beginning in the 1990s and concluding in 2010 with the phase-in of the ultra-low sulfur diesel regulations for diesel fuel used in motor vehicles and motor vehicle engines (MV diesel fuel). Similarly, beginning in 2004, EPA promulgated requirements for diesel fuel used in nonroad, locomotive, and marine vehicles and engines (NRLM diesel fuel) that concluded phasing in at the end of 2014. Thus, all diesel fuel for use in motor vehicles and motor vehicle engines, and nonroad, locomotive, and marine vehicles and engines, is currently required to meet a 15 ppm sulfur per-gallon standard, under regulations set out in 40 CFR part 80, subpart I[190] (For purposes of subpart I, such diesel fuel is also now collectively known as MVNRLM diesel fuel). We did not set standards for HO under subpart I, with the result that it remained high in sulfur content and cost less to produce than MVNRLM diesel fuel. As such, subpart I also requires all parties in the distribution system to ensure that diesel fuel containing 15 ppm sulfur or less (referred to as 15 ppm diesel fuel, ultra-low sulfur diesel fuel, or ULSD) remains segregated from higher sulfur fuels and to take measures to prevent sulfur contamination of ULSD.[191]

The RFS regulations, which place an RVO on the production and importation of diesel transportation fuel, but not on the production or importation of HO, were promulgated in 2010 and, similar to subpart I regulations, made the same presumption that HO and MVNRLM diesel fuel would be segregated. The RFS regulations did not anticipate that these fuels would become indistinguishable, have the same value in the marketplace (apart from their RFS compliance cost), and be commingled in the fuel distribution system. For example, 40 CFR 80.1407 set forth requirements for obligated parties to include all products meeting the definition of MVNRLM diesel fuel, collectively called ''diesel fuel,'' at 40 CFR 80.2(qqq) that are produced or imported during a compliance period in the volume used to calculate their RVOs unless the diesel fuel is not transportation fuel.[192] Under definitions of MV and NRLM diesel fuel, these products include diesel fuel that is ''made available'' for use in motor vehicles and motor vehicle engines, and nonroad, locomotive, or marine vehicles and engines.[193]

When the RFS regulations were promulgated in 2010, the lower production cost of HO relative to diesel fuel provided economic incentive for refiners, pipelines, and terminals to produce and distribute HO separately from diesel fuel. After we promulgated the RFS regulations, however, many states began implementing programs designed to reduce the sulfur content of HO to 15 ppm or less (15 ppm HO). Currently, the majority of HO is required to meet a 15 ppm sulfur standard under numerous state and city programs in the Northeast and Mid-Atlantic,[194] making HO once again indistinguishable from ULSD and of the same economic value as MVNRLM

[185] USDA also provided EPA with 2019 data from the discontinued Grassland Reserve Program (GRP) and Wetlands Reserve Program (WRP). Given this data, EPA estimated the total U.S. agricultural land both including and omitting the GRP and WRP acreage. In 2019, combined land under GRP and WRP totaled 2,974,573 acres. Subtracting the GRP, WRP, and Agriculture Conservation Easement Program acreage yields an estimate of 376,853,632 acres or approximately 376.9 million total acres of U.S. agricultural land in 2019. Omitting the GRP and WRP data yields approximately 379.8 million acres of U.S. agricultural land in 2019.

[186] 40 CFR 80.1457.

[187] See ''EPA Decision on Canadian Aggregate Compliance Approach Petition'' available in docket EPA–HQ–OAR–2019–0136.

[188] See 81 FR 80828 (November 16, 2016).

[189] All comments submitted on the REGS proposal can be found in Docket No. EPA–HQ–OAR–2016–0041. Specific comments relevant to the provisions that were under consideration for finalization in this action have also been added to the docket for this action (Docket Item No. EPA–HQ–OAR–2019–0136–0002). We are only responding to comments from the REGS proposal on the provisions that are being finalized in this action. Comments on the remaining provisions in the REGS proposal, as well as those on provisions listed in the July 29 proposal but that are not being finalized here, remain under consideration. We are not responding to them in this action.

[190] Subpart I includes an exception to this requirement that allows diesel fuel used in locomotive or marine engines to meet a 500 ppm sulfur standard if the fuel is produced from transmix processors and distributed under an approved compliance plan.

[191] See, *e.g.,* 40 CFR 80.610(g).

[192] See 40 CFR 80.1407(e) and (f).

[193] See 40 CFR 80.2(y) and (nnn).

[194] Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, the District of Columbia, and the city of Philadelphia.

diesel fuel.[195] Further, in 2015, additional regulations became effective that required marine diesel fuel used in Emissions Control Areas (ECA marine fuel) to contain 1,000 ppm sulfur or less.[196] In response, many companies have opted to produce and distribute ECA marine fuel containing 15 ppm sulfur or less (15 ppm ECA marine fuel) fungibly with 15 ppm diesel fuel, rather than invest in infrastructure to distribute and segregate higher-sulfur ECA marine fuel. Since HO, ECA marine fuel, and other non-transportation fuels that meet a 15 ppm sulfur standard are essentially identical in the marketplace, we believe that some parties in the fuel distribution system are distributing them together—*i.e.,* commingling MVNRLM diesel fuel with 15 ppm HO and 15 ppm ECA marine fuel.

The regulations in 40 CFR part 80, subpart I, do not prohibit parties from commingling MVNRLM diesel fuel with other 15 ppm distillate fuel (*i.e.,* distillate fuel that contains 15 ppm sulfur or less) that is designated for non-transportation purposes. However, commingled fuel must meet all of the applicable requirements in subpart I because the resulting fuel is ''made available'' for use in motor vehicles, or nonroad, locomotive, or marine vehicles and engines.[197] This means that any refiner or importer that produces or imports 15 ppm distillate fuel that is designated for non-transportation purposes and is commingled with MVNRLM diesel fuel must also certify the fuel as meeting the sampling, testing, reporting, and recordkeeping requirements in subpart I.[198]

Although this approach does not create compliance issues relating to subpart I requirements, at proposal we explained that we were concerned that some obligated parties (*e.g.,* refiners and importers) under the RFS program may be calculating RVOs without accounting for all of their 15 ppm distillate fuel that is ultimately sold for use as MVNRLM diesel fuel. Specifically, obligated parties may be excluding 15 ppm HO or 15 ppm ECA marine fuel from their RVO calculations, and downstream parties may be re-designating this fuel as MVNRLM diesel fuel and not incurring an RVO.[199]

We also explained that with the convergence of the MVNRLM diesel fuel, HO, and ECA marine fuel sulfur standards, some stakeholders had expressed confusion to EPA on accounting for 15 ppm distillate fuel that leaves the obligated party's gate designated as HO, ECA marine fuel, or other non-transportation fuels, but is subsequently re-designated as either MVNRLM diesel fuel or ultimately used as MVNRLM diesel fuel by a downstream entity. Specifically, some obligated parties had asked whether they are required to add re-designated MVNRLM diesel fuel back to their RVO calculations while some downstream entities had asked whether they are required to incur an RVO for MVNRLM diesel fuel they re-designate from non-transportation fuel to transportation fuel.

We further explained in the July 29 proposal that we intended for any diesel fuel not used as transportation fuel, such as HO or ECA marine fuel, to be excluded from RVO calculations in keeping with statutory requirements.[200] We also intended for all diesel fuel ultimately used as transportation fuel to incur an RVO, even 15 ppm distillate fuel that is initially designated as non-transportation fuel and subsequently re-designated as transportation fuel by downstream parties.[201] Thus, existing regulations allow downstream parties who are registered as refiners and who comply with all sampling, testing, recordkeeping, and other refiner requirements to ''produce'' MVNRLM diesel fuel from HO, ECA marine fuel, and other non-transportation fuels. These refiners incur RVOs for all MVNRLM diesel fuel that they ''produce'' from the non-transportation fuel. However, we believe that stakeholder confusion over who should account for re-designated fuel in their RVO may be causing the omission of some re-designated MVNRLM diesel fuel from RVO calculations altogether. Therefore, we are revising the RFS regulations to more clearly specify how volumes of re-designated MVNRLM diesel fuel are accounted for in obligated parties' RVO calculations in order to ensure that the RFS mandates continue to be met.

Consistent with our proposal, we are clarifying the requirement for refiners and importers to include distillate fuel in their RVO compliance calculations and providing exceptions for the following three additional categories of fuel:

- Distillate fuel, such as HO or ECA marine fuel, with a sulfur content greater than 15 ppm that is clearly designated for a use other than transportation fuel.
- Distillate fuel that meets the 15 ppm sulfur standard, that is designated for non-transportation use, and that remains completely segregated from MVNRLM diesel fuel from the point of production through to the point of use for a non-transportation purpose.
- Distillate fuel that meets the 15 ppm diesel sulfur standard, that is ultimately used for non-transportation purposes, and that does not remain completely segregated from MVNRLM diesel fuel.

As also explained in the July 29 proposal, since the first two categories of distillate fuel above are completely segregated from MVNRLM diesel fuel, we do not believe that they would be used as transportation fuel and are therefore not finalizing any additional requirements for these fuels to be excluded from a refiner or importer's RVO compliance calculations. However, consistent with the July 29 proposal, and as described below, because the third category of distillate fuel is not completely segregated and is indistinguishable from MVNRLM diesel fuel, we are finalizing additional requirements for this type of distillate fuel to be excluded from a refiner or importer's RVO compliance calculations.

2. Downstream Re-Designation of Certified Non-Transportation 15 ppm Distillate Fuel to MVNRLM Diesel Fuel

Consistent with the July 29 proposal, and in order to allow refiners and importers to exclude distillate fuel that that meets the 15 ppm diesel sulfur standard, is ultimately used for non-transportation purposes, and does not remain completely segregated from MVNRLM diesel fuel from their RVO calculations, we are establishing a new category of distillate fuel: Certified non-transportation 15 ppm distillate fuel (''certified NTDF''). We are defining certified NTDF as distillate fuel that meets all of the following requirements:

- Fuel that is certified as complying with the 15 ppm sulfur standard, cetane/aromatics standard, and all applicable sampling, testing, and

[195] See the New England Fuel Institute's (NEFI) ''State Sulfur & Bioheat Requirements for No. 2 Heating Oil in the Northeast & Mid-Atlantic States,'' available in the docket for this action.

[196] See 40 CFR 80.610(e)(6). ECA marine fuel is not transportation fuel under the RFS regulations. Therefore, refiners and importers do not incur an RVO for ECA marine fuel that they produce or import.

[197] See 40 CFR 80.2(y) and (nnn).

[198] We have received requests from a number of regulated parties asking the agency to amend the fuels regulations to allow parties to more easily mix and fungibly ship HO, ECA marine fuel, and MVNRLM fuel that meet the 15 ppm sulfur standard. In a separate action, we intend to propose additional amendments that would significantly streamline these regulations (see RIN 2060–AT31 in EPA's Regulatory Agenda).

[199] A similar situation exists with respect to #1 diesel fuel, which is used/blended in the winter due to cold temperature constraints and its often-identical counterparts of kerosene and jet fuel.

[200] See 40 CFR 80.1407(f)(8).

[201] With the other exceptions listed in 40 CFR 80.1407(f).

recordkeeping requirements of 40 CFR part 80, subpart I.

• Fuel that is designated on the product transfer document as 15 ppm HO, 15 ppm ECA marine fuel, or other non-transportation fuel (*e.g.,* jet fuel, kerosene, No. 4 fuel, or distillate fuel for export only) with a notation that the fuel is ''15 ppm sulfur (maximum) certified NTDF—This fuel is designated for non-transportation use.'' with no designation as MVNRLM diesel fuel.

Some commenters noted that our proposed PTD language stating, ''This fuel meets all MVNRLM diesel fuel standards'' could potentially cause confusion as to whether the fuel qualified as MVNRLM diesel fuel or not. We are therefore finalizing PTD language similar to that suggested by commenters, which avoids any reference to MVNRLM diesel fuel.

In order to prevent refiners and importers from circumventing the requirement to incur an RVO for all transportation fuel by simply designating transportation fuel as non-transportation fuel, we had proposed that refiners or importers must have a reasonable expectation that their NTDF will be used as HO, ECA marine fuel, or another non-transportation purpose in order to exclude it from their RVO calculations. We proposed that refiners or importers would need to meet the following three criteria to demonstrate they have a reasonable expectation that NTDF will not be used as transportation fuel:

• The refiner or importer supplies areas that use HO, ECA marine fuel, or 15 ppm distillate fuel for non-transportation purposes in the quantities being supplied by the refiner or importer.

• The refiner or importer has entered into a contractual arrangement that prohibits the buyer from selling the fuel as MVNRLM diesel fuel.

• The volume of fuel designated as HO, ECA marine fuel, or other non-transportation purposes is consistent with the refiner's or importer's past practices or reflect changed market conditions.

We also noted that EPA may consider any other relevant information in assessing whether a refiner or importer has a reasonable expectation that the fuel was used for non-transportation purposes.

We received comments indicating that it would be complex and disruptive to require refiners and importers to enter into contractual arrangements that prohibit the buyers from selling NTDF as MVNRLM diesel fuel. We agree with these comments and have eliminated this criterion. In light of these comments and in order to simplify the proposed regulations, we have also consolidated the first and third criterion into one sentence that states ''[t]o establish a reasonable expectation that the fuel will be used for non-transportation purposes, a refiner or importer must, at a minimum, be able to demonstrate that they supply areas that use heating oil, ECA marine fuel, or 15 ppm distillate fuel for non-transportation purposes in quantities that are consistent with past practices or changed circumstances.'' With these changes, we are finalizing the requirement that refiners or importers may only exclude NTDF from their compliance calculations if they have a reasonable expectation that the fuel will be used for non-transportation purposes.

Some commenters also noted that there is normally a noticeable price difference between fuel sold for transportation fuel and non-transportation fuel, and that this price difference is a relevant consideration for determining if the fuel was intended to be sold as transportation fuel or non-transportation fuel. We agree with this comment and the final rule explicitly identifies price as relevant information that EPA may consider in evaluating whether a refiner or importer had a reasonable expectation that the fuel will be sold for non-transportation purposes.

As previously noted, our intent is to ensure that all fuel ultimately used as MVNRLM diesel fuel incurs an RVO. In order to achieve this goal, we are also finalizing requirements that will allow parties in the fuel distribution system (*e.g.,* downstream of the original refinery or import facility) to sell certified NTDF as MVNRLM diesel fuel without incurring an RVO if the total volume of MVNRLM diesel fuel delivered during each compliance period does not exceed the amount of MVNRLM diesel fuel received during that compliance period. Any party who re-designates certified NTDF as MVNRLM diesel fuel is a refiner for purposes of the RFS program and is therefore required to register as a refiner. They will also be required to calculate whether the volume of MVNRLM diesel fuel that they deliver exceeds the volume of MVNRLM diesel fuel that they receive, during an annual compliance period. If a downstream party delivers a volume of MVNRLM diesel fuel that exceeds the volume of MVNRLM diesel fuel they received during a compliance period, they are required to treat the difference as diesel fuel that they ''produced'' and incur an RVO on this volume. This will enable proper accounting for the aggregate volume of non-transportation fuel that is re-designated as MVNRLM diesel fuel under the RFS program. This one-sided test allows MVNRLM diesel fuel to be sold as HO or ECA marine fuel but prevents the erosion of the renewable fuel mandate. These parties will also be subject to recordkeeping requirements to ensure the enforceability of this program.

We received several comments recommending modifications and clarifications to the proposed volume balance provisions, and are finalizing the following changes in response to these comments:

• We are adding an equation to the regulations that provides specific guidance on how to calculate the volume balance. This is in response to a comment suggesting that EPA should include a balance equation for diesel fuel, similar to the heating oil balance in 40 CFR 80.599(c)(3) and (4). The new balance equation accounts for changes in diesel inventory, in addition to diesel volumes in and out.

• We are clarifying that the volume balance requirement applies to each facility that is registered as a diesel refinery. This is in response to comments suggesting that EPA clarify whether the volume balances were applicable on a facility basis or an aggregated basis. Our intent was that the balances apply on a facility basis and have clarified this in the final regulations.

One commenter also recommended that the new provisions for redesignation of certified NTDF to MVNRLM diesel fuel should apply to the owner of the certified NTDF at the time of redesignation and not the custody holder of the certified NTDF, or the original refiner of the NTDF. We agree with this recommendation and have included final rule requirements that reflect this recommendation. Since the owner of certified NTDF would be responsible for making any decisions regarding redesignation of NTDF to MVNRLM diesel fuel, we intend for the owner of the certified NTDF to meet the regulatory requirements associated with redesignation, such as registration, reporting, and incurring an RVO.

We are also finalizing corresponding reporting requirements, including requiring refiners and importers to report the volume of MVNRLM diesel fuel they produce or import, the volume of distillate fuel they produce or import that is not transportation fuel, and the volume of distillate fuel they produce or import that is certified NTDF. We are also requiring some downstream parties who redesignate NTDF as MVNRLM diesel fuel to submit reports to EPA identifying the volume of MVNRLM

diesel fuel received, the volume of MVNRLM diesel fuel delivered, the volume of fuel re-designated from certified NTDF to MVNRLM diesel fuel, and the volume of MVNRLM diesel fuel redesignated to non-transportation use. Further, for purposes of evaluating compliance, we are also:

- Requiring parties who re-designate certified NTDF to MVNRLM diesel fuel to keep all records relating to these transactions.
- Prohibiting a party from exceeding its balance requirements without incurring an RVO.
- Ensuring that the attest auditors review relevant information to ensure compliance with applicable RFS program requirements.

Some commenters stated that it was not necessary to require that volume balance reports and attest engagements be submitted by all parties who redesignate certified NTDF to MVNRLM diesel fuel, and that EPA should only require reports from those parties who redesignated a net positive volume of certified NTDF to MVNRLM diesel fuel (*i.e.,* incurred an RVO). We agree with these comments and are finalizing provisions to require parties that only incur an RVO through redesignation of certified NTDF to MVNRLM diesel fuel to submit volume balance reports and meet the required attest engagements. Obligated parties that would otherwise have an attest engagement performed (*e.g.,* because they produced gasoline or diesel fuel, exported renewable fuels, etc.) would now have the attest auditor perform the additional attest engagement procedures for the obligated party. We believe that the types of reports and records attest auditors review for obligated parties annual attest engagements would already include much of the information we are requiring and would therefore represent a minimal increase in burden for these obligated parties. Parties that redesignate certified NTDF to MVNRLM diesel fuel during a compliance period but did not incur an RVO (because they redesignated an equivalent or greater volume of MVNRLM diesel fuel to non-transportation fuel during the compliance period) are required to submit a short report stating that they redesignated certified NTDF to MVNRLM diesel fuel, but did not incur an RVO. We are also not finalizing the proposed requirement for quarterly reports, since compliance will be on an annual basis and can be demonstrated through annual reports.

Lastly, implementation of these new provisions will be delayed until January 1, 2021, to allow time for updates to product codes and tracking software used by distillate distributors. Some commenters suggested that this would be helpful for them to avoid implementing the new regulations in the middle of a compliance period, and we agree with these commenters.

*B. Pathway Petition Conditions*

We are clarifying our authority to enforce conditions created by requirements included in an approval document for a facility-specific pathway petition submitted under 40 CFR 80.1416. Since December 2010, we have approved over 100 facility-specific pathway petitions. To qualify for the generation of RINs under an approved pathway petition, the fuel produced under that pathway must also meet the conditions and applicable regulatory provisions specified in EPA's petition approval document and the other definitional and regulatory requirements for renewable fuel specified in the CAA and EPA implementing regulations, including for RIN generation, registration, reporting, and recordkeeping. Common conditions include, but are not limited to, compliance monitoring plans detailing how parties will accurately and reliably measure and record the energy and material inputs and outputs required to ensure fuels are produced consistent with the specifications evaluated in the lifecycle analysis, process flow diagrams showing the energy used for feedstock, fuel, and co-product operations, and certifications signed by responsible corporate officers (RCOs).

We have authority to bring an enforcement action of these conditions under 40 CFR 80.1460(a), which prohibits producing or importing a renewable fuel without complying with the RIN generation and assignment requirements. The RFS regulations provide that RINs may only be generated if the fuel qualifies for a D code pursuant to 40 CFR 80.1426(f) or an approved petition submitted under 40 CFR 80.1416.[202] If any of the conditions required by an approval document for a pathway petition are not met, then the fuel does not qualify for a D code per the terms of the approval, and RINs may not be generated. These conditions are also enforceable under 40 CFR 80.1460(b)(2), which prohibits creating a RIN that is invalid; a RIN is invalid if it was improperly generated.[203] As stated above, a RIN is improperly generated if the fuel representing the RIN does not qualify for a D code, which is the case if a fuel producer does not follow all of the required conditions in the pathway petition approval document.

We are adding a provision at 40 CFR 80.1426(a)(1)(iii) to clarify that renewable fuel that qualifies for a D code pursuant to an approved petition submitted under 40 CFR 80.1416 must be produced in compliance with all conditions set forth in the petition approval document (in addition to the applicable statutory requirements and requirements of subpart M). We are also adding a prohibited act at 40 CFR 80.1460(b)(7) for generating a RIN for fuel that fails to meet all the conditions set forth in a petition approval document for a pathway petition submitted under 40 CFR 80.1416 in order to provide more clarity regarding our ability to bring enforcement actions for failure to meet such conditions.

*C. Esterification Pretreatment Pathway*

We are revising rows F and H of Table 1 to 40 CFR 80.1426 by changing the existing approved production process ''Trans-Esterification'' to be ''Transesterification with or without esterification pretreatment.'' We are finalizing these revisions to rows F and H without modifying the feedstocks listed in those rows, as these changes do not make any additional feedstocks eligible beyond those already listed in rows F and H. Table 1 to 40 CFR 80.1426 includes pathways for the production of biodiesel using specified feedstocks and the production process transesterification.[204]

Transesterification is the most commonly used method to produce biodiesel and involves reacting triglycerides with methanol, typically under the presence of a base catalyst.[205] While the main component of oils, fats, and grease feedstocks are typically triglycerides, other components, such as free fatty acids (FFAs), can also exist. Removal or conversion of the FFAs is important where the traditional base-catalyzed transesterification production process is used; if they are not removed or converted prior to this process, FFAs will react with base catalysts to produce soaps that inhibit the transesterification reaction.

One of the most widely used methods for treating biodiesel feedstocks with a higher FFA content is acid catalysis. Acid catalysis typically uses a strong

[202] See 40 CFR 80.1426(a)(1)(i).

[203] See 40 CFR 80.1431(a)(ix).

[204] While we expect these pathways to be used predominately for biodiesel, they may also be used for heating oil and jet fuel. Renewable diesel is excluded because it is by definition ''not a mono-alkyl ester'' (40 CFR 80.1401) and that is what transesterification produces.

[205] Commonly used base catalysts include sodium hydroxide (NaOH), potassium hydroxide (KOH) and sodium methoxide ($NaOCH_3$).

acid, such as sulfuric acid, to catalyze the esterification of the FFAs prior to the transesterification of the triglycerides as a pre-treatment step. Acid esterification can be applied to feedstocks with FFA contents above 5 percent to produce biodiesel. Because the transesterification of triglycerides is slow under acid catalysis, a technique commonly used to overcome the reaction rate issue is to first convert the FFAs through an acid esterification (also known as an acid ''pretreatment'' step), and then follow-up with the traditional base-catalyzed transesterification of triglycerides.

Under the RFS2 final rule, biodiesel from biogenic waste oils/fats/greases qualifies for D-codes 4 or 5 using a transesterification process. This conclusion was based on the analysis of yellow grease as a feedstock, where there was an acid pretreatment of the FFAs contained in the feedstock. In fact, one of the material inputs assumed in the modeling for the final RFS2 rule yellow grease pathway was sulfuric acid, which is the catalyst commonly used for acid esterification.[206] As we had not stipulated transesterification with esterification pretreatment as a qualified production process in rows F and H to Table 1 to 40 CFR 80.1426, we are revising these entries to include ''transesterification with or without esterification pre-treatment'' as a production process requirement so that RINs may be generated for biodiesel produced by the esterification pretreatment, as well as for the biodiesel produced through transesterification.[207]

In the July 29 proposal, we also proposed to add a standalone esterification pathway to rows F and H to Table 1 to 40 CFR 80.1426, which would allow parties who have processing units that can take feedstocks listed in rows F and H of Table 1 to 40 CFR 80.1426 that have high-FFA content and separate the FFAs and triglycerides for chemical processing in separate standalone esterification and transesterification units to generate RINs for the biodiesel produced. However, we are not at this time finalizing the proposed standalone esterification pathway. It remains under consideration and may be finalized in a future action.

*D. Distillers Corn Oil and Distillers Sorghum Oil Pathways*

We are adding distillers corn oil and commingled distillers corn oil and sorghum oil as feedstocks to row I of Table 1 to 40 CFR 80.1426. While the lifecycle GHG emissions associated with using a very similar feedstock—distillers sorghum oil—as part of this pathway were evaluated in the grain sorghum oil pathway final rule (''sorghum oil rule''),[208] these two feedstocks were not added to row I as part of that rulemaking. This section discusses the addition of distillers corn oil and commingled distillers corn oil and sorghum oil as feedstocks to row I and presents the lifecycle GHG emissions associated with these pathways. We also explain why the most likely effect of adding these pathways will be to reduce the number of petitions submitted pursuant to 40 CFR 80.1416.

The March 2010 RFS2 rule included pathways for biodiesel and renewable diesel produced from non-food grade corn oil. The March 2013 Pathways I rule added pathways for heating oil and jet fuel from non-food grade corn oil in rows F and H of Table 1 to 40 CFR 80.1426, and added pathways for naphtha and LPG from *Camelina sativa* oil in row I.[209] The sorghum oil rule amended the RFS regulations to add a new definition of distillers sorghum oil and to replace existing references to non-food grade corn oil with the newly defined term ''distillers corn oil.'' That rule also added a number of pathways to rows F and H of Table 1 to 40 CFR 80.1426 for biodiesel, renewable diesel, jet fuel, and heating oil produced from distillers sorghum oil and commingled distillers sorghum and corn oil. Pathways for naphtha and LPG produced from distillers sorghum oil via a hydrotreating process were also added to row I of Table 1 to 40 CFR 80.1426.

Commingled distillers corn oil and sorghum oil was added as a feedstock to rows F and H of Table 1 to 40 CFR 80.1426 because distillers sorghum oil is often co-produced with distillers corn oil at ethanol plants using a combination of grain sorghum and corn as feedstocks for ethanol production. Due to the recovery process of the oils from the distillers grains and solubles (DGS), where the ethanol plant is using a feedstock that combines grain sorghum and corn, it is not possible to physically separate the distillers sorghum and corn oils into two streams, nor is it possible to account for the volume of sorghum oil or corn oil in this mixture. For these and other reasons,[210] after concluding that distillers sorghum oil satisfies the 50 percent GHG reduction threshold required for the advanced biofuel and biomass-based diesel, we added both distillers sorghum oil and ''commingled distillers corn oil and sorghum oil'' to rows F and H of Table 1 to 40 CFR 80.1426 in the sorghum oil rule. However, unlike rows F and H, row I did not include a pathway using ''non-food grade corn oil'' prior to that final rule, nor did we propose to add ''distillers corn oil'' to that row in the December 2017 sorghum oil proposed rule.[211] Thus, in the absence of an assessment of lifecycle emissions showing that distillers corn oil also meets the GHG reduction threshold required for the pathways therein, in the sorghum oil rule we decided ''it would be premature for EPA to add either distillers corn oil or commingled distillers corn and sorghum oil as feedstocks in row I.'' [212] Currently, in order to generate D-code 5 RINs for naphtha and/or LPG produced from distillers corn oil and/or commingled distillers corn and sorghum oil, a fuel producer would first need to petition EPA pursuant to 40 CFR 80.1416, have EPA review and approve their requested pathway, and then submit and have EPA accept the registration for the new pathway. Adding these feedstocks to row I eliminates the need for these petitions.

Table IX.D–1 shows the lifecycle GHG emissions associated with renewable diesel, jet fuel, naphtha, and LPG produced from distillers sorghum oil. These results are based on the analysis completed for the sorghum oil rule.[213] The lifecycle GHG emissions associated with the statutory baseline fuels, 2005 average diesel and gasoline, are shown for comparison. Based on the distillers sorghum oil results, as explained below we have concluded that naphtha and LPG produced from distillers corn oil and commingled distillers corn and sorghum oil also satisfy the 50 percent lifecycle GHG reduction requirement at CAA section 211(o)(1)(B), relative to the

[206] Section 2.4.7.3.3 of the Regulatory Impact Analysis for the March 2010 final rule describes the material inputs evaluated for biodiesel production. For conversion of yellow grease to biodiesel, sulfuric acid accounted for 4.7 percent of the material inputs on a mass basis (0.02 kg per gallon of biodiesel).

[207] In 2012, we issued a direct final rule and a parallel proposed rule (see 77 FR 700 and 77 FR 462, respectively; January 5, 2012) that would have determined that, among other regulatory changes, biodiesel produced from esterification met the GHG reduction requirements. Because we received adverse comment, we withdrew the direct final rule in its entirety (see 77 FR 13009, March 5, 2012). In the 2013 final rule based on the parallel proposal (78 FR 14190, March 5, 2013), we decided not to finalize a determination at that time on biodiesel produced from esterification and noted that we would instead make a final determination at a later time.

[208] See 83 FR 37735 (August 2, 2018).

[209] See 78 FR 14190 (March 5, 2013).

[210] For the other reasons discussed in the sorghum oil rule preamble, see 83 FR 37737–39 (August 2, 2018).

[211] See 82 FR 61205 (December 27, 2017).

[212] See 83 FR 37738 (August 2, 2018).

[213] See Table III.4 of the sorghum oil rule preamble (83 FR 37743, August 2, 2018).

statutory petroleum baseline, to be eligible for advanced biofuel RINs.

TABLE IX.D-1—LIFECYCLE GHG EMISSIONS ASSOCIATED WITH BIOFUELS PRODUCED FROM DISTILLERS SORGHUM OIL

[$kgCO_2$-eq/mmBtu]

| Fuel | Renewable diesel, jet fuel | Naphtha | LPG | 2005 Diesel baseline | 2005 Gasoline baseline |
|---|---|---|---|---|---|
| Production Process | Hydrotreating | | | Refining | |
| Livestock Sector Impacts | 19.4 | 19.4 | 19.4 | | |
| Feedstock Production | 6.2 | 6.2 | 6.2 | 18.0 | 19.2 |
| Feedstock Transport | 0.3 | 0.3 | 0.3 | | |
| Feedstock Pretreatment | 0.0 | 0.0 | 0.0 | | |
| Fuel Production | 8.0 | 8.0 | 8.0 | | |
| Fuel Distribution | 0.8 | 0.8 | 0.8 | | |
| Fuel Use | 0.7 | 1.7 | 1.5 | 79.0 | 79.0 |
| Total | 35.4 | 36.4 | 36.2 | 97.0 | 98.2 |
| Percent Reduction | 64% | 63% | 63% | | |

Although the lifecycle GHG analysis for the sorghum oil rule focused on distillers sorghum oil, we believe it is also applicable to distillers corn oil and commingled distillers corn oil and sorghum oil for purposes of determining whether these satisfy the 50 percent GHG reduction requirement. For the sorghum oil rule, we estimated the livestock sector impacts associated with distillers sorghum oil based on a set of assumptions about the type of feed that would need to backfill for the reduction in mass of de-oiled DGS as compared to full-oil DGS. For that analysis we calculated a substitution rate for how much corn would be needed to backfill in livestock feed for every pound of grain sorghum oil diverted to biofuel production, by livestock type. The amounts of corn needed to replace each pound of extracted sorghum oil were largely based on studies that evaluated the nutritional values of regular and reduced-oil distillers grains produced as a co-product of corn starch ethanol.[214] Given that the underlying data for our distillers sorghum oil assessment was largely based on studies conducted on corn ethanol co-products, we believe it is appropriate to apply the same results to similar pathways using distillers corn oil feedstock. Based on the similarities between the two products and how they are produced (*i.e.,* co-produced at ethanol plants), we are also assuming that the lifecycle GHG emission for distillers corn oil and distillers sorghum oil are the same for the other lifecycle stages evaluated (*e.g.,* feedstock production, fuel production).

One difference between distillers corn oil and sorghum oil is the rate of oil recovered per pound of corn versus grain sorghum processed. The distillers sorghum oil petition submitted by the National Sorghum Producers reported that 0.67 pounds of distillers sorghum oil are recovered per bushel of grain sorghum processed to ethanol, whereas 0.84 pounds of distillers corn oil is extracted per bushel of corn.[215] Adjusting for this difference results in slightly lower livestock sector GHG emissions associated with naphtha and LPG produced from distillers corn oil.[216] Based on this adjustment the results in Table IX.D–1 change from a 63 percent GHG reduction for naphtha and LPG produced from distillers sorghum oil to a 64 percent reduction for naphtha and LPG production from distillers corn oil. We have therefore concluded that these pathways satisfy the 50 percent GHG reduction requirement to qualify as advanced biofuel under the RFS program and are adding ''distillers corn oil'' and ''commingled distillers corn oil and sorghum oil'' as feedstocks in row I to Table 1 to 40 CFR 80.1426.

### *E. Clarification of the Definition of Renewable Fuel Exporter and Associated Provisions*

We are finalizing our proposed clarification of the definition of ''exporter of renewable fuel.'' These changes are meant to ensure appropriate flexibility for market participants to meet export obligations and to ensure RINs are properly retired, as well to as to clarify exporter obligations for parties who transfer renewable fuel between the 48 states or Hawaii and an approved opt-in area (*i.e.,* Alaska or the U.S. territories were any of them to opt-in).

The RFS regulations require an exporter of renewable fuel to acquire sufficient RINs to comply with all applicable RVOs incurred from the volumes of the renewable fuel exported.[217] We previously defined ''exporter of renewable fuel'' in 40 CFR 80.1401 as: ''(1) A person that transfers any renewable fuel from a location within the contiguous 48 states or Hawaii to a location outside the contiguous 48 states and Hawaii; and (2) A person that transfers any renewable fuel from a location in the contiguous 48 states or Hawaii to Alaska or a United

[214] See Table III.2 (Full-Oil and Reduced-Oil Sorghum Distillers Grains with Solubles Displacement Ratios) of the sorghum oil rule (83 FR 37741, August 2, 2018) and accompanying footnote number 36, which lists the sources for the data in that table.

[215] See Table 4 of ''Grain Sorghum Oil Pathway Petition,'' Docket Item No. EPA–HQ–OAR–2017–0655–0005.

[216] The source of the difference is the amount of corn needed to replace one pound of full-oil versus reduced-oiled DDGS in beef cattle diets. In our analysis for the sorghum oil rule, we assumed, based on the best available data provided by NSP, USDA, and commenters, that reduced-oil DDGS are replaced at a lower rate (1.173 lbs corn per lbs DDGS) than full-oil DDGS (1.196 lbs corn per lbs DDGS). Increasing the rate of oil extraction produces less de-oiled DDGS and requires corn replacement at the lower rate of 1.173. Thus, all else equal, higher rates of oil extraction result in lower GHG emissions per pound of oil extracted. It is possible this effect would disappear if we had higher resolution data on corn displacement ratios for DDGS with different oil contents, but such data are currently not available.

[217] In this rulemaking, we did not reexamine our well-settled policy of exporter RVOs, which generally require exporters to retire RINs for biofuels they export. We established this policy when we promulgated the regulations implementing the RFS1 and RFS2 programs in 2007 and 2010. See 72 FR 23936 (May 1, 2007); 75 FR 14724 (March 26, 2010). We did not reexamine this issue in this rulemaking, and comments on it are beyond the scope of the rulemaking. We are not making any substantive changes to the relevant provisions, particularly those at 40 CFR 80.1430(a) or (b). Consistent with our long-standing policy, exporters of renewable fuel must continue to acquire sufficient RINs to comply with all applicable RVOs.

States territory, unless that state or territory has received an approval from the Administrator to opt in to the renewable fuel program pursuant to § 80.1443.'' [218]

We are revising these regulations for two key reasons. First, during implementation of the RFS program, we have observed contract structuring practices that may have eroded compliance assurance. Notably, we have observed instances of export transactions in which parties have sold renewable fuel for export to entities purporting to accept RIN retirement obligations that were then not fulfilled by the buyer. These instances demonstrate that the RFS program could benefit from regulatory changes designed to ensure that exporter obligations are fulfilled. Therefore, we are revising the definition to resolve any potential ambiguity and clarify which parties may and may not be liable for exporter obligations in order to ensure exporter obligations are fulfilled.

Second, the previous definition could have been construed to include parties who transfer renewable fuel from the contiguous 48 states and Hawaii, to an area (either Alaska or a U.S. territory) that has received an approval to opt-in to the RFS program. We did not intend to impose a RIN retirement obligation on these parties. We are therefore clarifying how exporter obligations apply to renewable fuel transferred between the 48 states and Hawaii, and opt-in areas.

To achieve these goals when we developed the proposal, we initially considered whether to amend the RFS program regulations consistent with the Foreign Trade Regulations (FTR) and other federal export-related regulations, such as United States Principal Party in Interest (USPPI) and Foreign Principal Party in Interest (FPPI).[219] While there were some commenters that suggested adopting those terms, we chose not to do so for the following reasons. The FTR and other export-related obligations in other federal programs use a traditional definition of ''export'' where exported goods leave the U.S. The RFS program addresses obligations incurred through the transfer of renewable fuel from areas covered by the program to both domestic and foreign areas not covered by the program. For instance, the transport of goods from Oregon to Alaska would not qualify as export under most federal export regulations, but the transport of biofuel from Oregon, a covered area, to Alaska, a non-covered area (unless Alaska chooses to opt in), would qualify as export under the RFS program. In addition, if we merely adopted the FTR approach to allow allocation of exporter obligations among parties to an export transaction, we have concerns that a party that is insolvent or lacking assets in the U.S. could undertake those obligations, and enforcement efforts could become overly resource intensive where the fuel has left the country. For these reasons, we do not believe it would be appropriate to amend the RFS program regulations to define an exporter as the USPPI or the FPPI.

In reviewing the FTR, we also considered the concept of routed export transactions and the associated flexibility for parties to an export transaction to structure that transaction to place some responsibilities with an FPPI.[220] We believe that this framework is reflective of market custom, practice, and capability to contractually allocate liabilities and indemnities among parties to a commercial transaction. We prefer regulations that accommodate these flexibilities, while also balancing the need to protect RFS program integrity. Specifically, we want to allow parties to an export transaction to allocate RFS program exporter obligations as they see fit among themselves, but we also want to protect against contract structuring that may erode compliance assurance.

Therefore, we are revising the definition of ''exporter of renewable fuel'' to mean ''all buyers, sellers, and owners of the renewable fuel in any transaction that results in renewable fuel being transferred from a covered location to a destination outside of the covered locations.'' In conjunction with this revision, we are creating a definition of ''covered location'' as ''the contiguous 48 states, Hawaii, and any state or territory that has received an approval from the Administrator to opt-in to the RFS program under § 80.1443.'' As described above, this revised definition permits contract flexibilities frequently employed in export transactions with respect to export obligations under other regulatory programs, such as the FTR. All buyers, sellers, and owners of the renewable fuel in a transaction that results in renewable fuel being transferred from a covered location to a destination outside of any covered location may contractually allocate RFS program obligations, indemnities, and pricing as they see fit in light of the regulatory requirements. At the same time, the revised definition provides enhanced compliance assurance so as to maintain a level playing field among would-be exporters and ensures RIN retirement so as to maintain the integrity of that market in accordance with the regulatory requirements. Ultimately, the revised definition contributes to satisfying Congress's mandate that EPA promulgate regulations that ''ensure'' the nationally-applicable renewable fuel volumes are met.[221] We note, moreover, that the existing RFS regulations provide that ''[n]o person shall cause another person to commit an act in violation of any prohibited act under this section.'' [222] We believe that this prohibition coupled with the revised definitions will deter parties from engaging in sham transactions to evade RIN retirement obligations by transferring ownership of renewable fuels to undercapitalized entities that do not meet their RIN retirement obligations. This includes the specific earlier-described practices we have already observed. The revised definition also clarifies how exporter obligations apply to transfers to and from the contiguous 48 states and Hawaii, and opt-in areas (*i.e.,* Alaska and U.S. territories were they to opt-in). Notably, it avoids imposing exporter obligations on biofuels transferred from the 48 states and Hawaii to an opt-in area.

Under the revised definition, multiple parties may meet the definition of an exporter of renewable fuel for the same volume of renewable fuel. In addition, although the definition uses the term ''transaction,'' in many cases there may be more than one discrete exchange or interaction that results in a volume of renewable fuel being exported. We intend the regulatory term ''transaction'' to cover all those exchanges and interactions in which the buyers, sellers, and owners know or have reason to know will result in renewable fuel being transferred from a covered location to a destination outside of any covered location.[223] For instance, a person holding title to renewable fuel in the U.S. may sell renewable fuel to another person (either inside or outside of the

[218] 75 FR 14865 (March 26, 2010).

[219] See, *e.g.,* 15 CFR 772.1 (defining exporter as ''[t]he person in the United States who has the authority of a principal party in interest to determine and control the sending of items out of the United States''). We also considered and rejected other alternatives, which we discuss further in the RTC document in the docket for this action.

[220] Routed export transaction is the term used to describe an export transaction in which an FPPI directs the movement of goods out of the U.S. and authorizes a U.S. agent to file certain information required by the FTR.

[221] CAA section 211(o)(2)(A)(i); see also CAA section 301(a).

[222] See 40 CFR 80.1460(c).

[223] To clarify this point, we have revised the regulatory text from the proposed ''a transaction'' to ''any transaction'' in this final rulemaking.

covered areas) and cause the renewable fuel to leave the covered areas. Further, that buyer and seller may have a third party hold title to the renewable fuel during transit out of the covered areas. In this case, the buyer and the seller, both of whom are also owners of the renewable fuel, and the third-party holding company, as another owner of the renewable fuel in the transaction, would be jointly-and-severally liable for complying with the exporter provisions.[224]

However, our revised regulations create broad flexibility for parties to assign responsibilities as they see fit among themselves in structuring an export transaction. These parties may contractually allocate RIN retirement, and associated registration, reporting, and attest engagement obligations, to any one of the parties that meets the definition of an exporter of renewable fuel. The party undertaking these requirements would then register as an exporter of renewable fuel as set forth in 40 CFR 80.1450(a). This approach is also consistent with our approach to the term ''refiner,'' under which multiple parties could be considered the refiner of a batch of fuel. In such instances, we have stated that each party meeting the definition of refiner will be held jointly-and-severally liable for refiner requirements, and we are adopting a consistent approach for exporters of renewable fuel.[225] However, our revised regulations create broad flexibility for parties to assign responsibilities as they see fit among themselves in structuring an export transaction. These parties may contractually allocate RIN retirement, and associated registration, reporting, and attest engagement obligations, to any one of the parties that meets the definition of an exporter of renewable fuel. The party undertaking these requirements would then register as an exporter of renewable fuel as set forth in 40 CFR 80.1450(a). This approach is also consistent with our approach to the term ''refiner,'' under which multiple parties could be considered the refiner of a batch of fuel. In such instances, we have stated that each party meeting the definition of refiner will be held jointly-and-severally liable for refiner requirements, and we are adopting a consistent approach for exporters of renewable fuel.[226]

EPA does not consider a person to be an exporter of renewable fuel if that person does not know and does not have reason to know that the renewable fuel will be exported. For instance, a renewable fuel producer who produces a batch of fuel, generates RINs, and sells the renewable fuel with attached RINs into the fungible fuel distribution system would not be considered an exporter of renewable fuel under the revised definition unless they know or have reason to know that the batch of fuel would be exported. More specifically, the mere fact that a producer introduces renewable fuels into the stream of commerce, coupled with the fact that a significant portion of domestically produced biofuel is exported, does not make the producer an exporter of renewable fuel.

We are also finalizing minor, non-substantive changes throughout the RFS regulations to more consistently use the term ''exporter of renewable fuel'' rather than the term ''exporter.'' These clarifying edits reflect that the ''exporter of renewable fuel'' may be different than the ''exporter'' under other state and federal regulatory programs.

### *F. REGS Rule Provisions*

We are finalizing a number of changes to the RFS and fuels programs that were previously proposed in the REGS rule,[227] and that we listed in the preamble to July 29 proposal as candidates for finalization in this action.[228] In reaching our final decisions on these provisions we considered relevant comments on both the 2016 REGS proposal and the July 29 proposal. As noted in the July 29 proposal, we believe these provisions to be relatively straightforward and would reduce the burden of RFS program implementation. Commenters were generally supportive of these provisions and we are largely finalizing them as proposed; changes to the final provisions relative to the 2016 REGS proposal are discussed in detail in the following sections.

#### 1. Flexibilities for Renewable Fuel Blending for Military Use

We are amending 40 CFR 80.1440 to provide new flexibilities for parties that blend renewable fuel to produce fuels for use as transportation fuel, heating oil, or jet fuel under a national security exemption or that sell neat renewable fuel for use in vehicles, engines, and equipment that have a national security exemption for emissions certification. Specifically, these parties will be able to delegate to an upstream party the RIN-related responsibilities (*i.e.,* RIN separation, reporting, recordkeeping, and attest engagement requirements) associated with the renewable fuel. These parties could include the U.S. Military itself, or contractors working for the U.S. Military. The RFS program has a provision that allows blenders that handle and blend small volumes of renewable fuel per year (less than 250,000 gallons per year) to delegate RIN-related responsibilities to an upstream party. We have received a number of inquiries from parties that have wished to provide renewable fuel, either neat or blended into transportation fuel, for use by the U.S. Military as part of Department of Defense (DOD) renewable military initiatives. One obstacle to this use of renewable fuel by the DOD is that, unlike other EPA fuels programs, there were no exemptions related to national security uses in the RFS regulatory program.

We believe that it is appropriate to allow DOD or its contractors to delegate RFS RIN responsibilities to upstream parties; doing so removes a potential obstacle to the use of renewable fuels by DOD and will promote use of renewable fuel by the military. Therefore, we are finalizing similar upstream delegation provisions for neat and blended renewable fuels supplied to DOD under a national security exemption as those already in place for small renewable fuel blenders.

#### 2. Heating Oil Used for Cooling

We are expanding the definition of heating oil in 40 CFR 80.1401 to include fuels that differ from those meeting the current definition only because they are used to cool, rather than heat, interior spaces of homes or buildings. The first

[224] This example is meant to be a stylized illustration of how our regulations could apply. It is not meant to exhaustively detail the entities that could meet the definition of exporter of renewable fuel in this type of transaction. To the extent that other parties meet the definition of exporter of renewable fuel, they would also be subject to the exporter provisions.

[225] See ''Consolidated List of Reformulated Gasoline and Anti-Dumping Questions and Answers: July 1, 1994 through November 10, 1997,'' EPA420–R–03–009, at 256 (July 2003) (discussing a scenario in which two parties would be considered refiners and would be independently responsible for all refinery requirements, which would only need to be met once).

[226] See ''Consolidated List of Reformulated Gasoline and Anti-Dumping Questions and Answers: July 1, 1994 through November 10, 1997,'' EPA420–R–03–009, at 256 (July 2003) (discussing a scenario in which two parties would be considered refiners and would be independently responsible for all refinery requirements, which would only need to be met once).

[227] See 81 FR 80828 (November 16, 2016).

[228] We are not taking final action at this time on several changes from the REGS proposal that were listed in the July 29 proposal (Allowing Production of Biomass-Based Diesel From Separated Food Waste (REGS Section VIII.C), RFS Facility Ownership Changes (REGS Section VIII.H), Public Access to Information (REGS Section VIII.O), and Redesignation of Renewable Fuel on a PTD for Non-Qualifying Uses (REGS Section VIII.R), and certain portions of Other Revisions to the Fuels Program (REGS Section IX), primarily related to test methods). These provisions, along with the other provisions in the REGS proposal that are not being finalized here, remain under consideration and may be finalized in a future action.

sentence of the definition of heating oil thus now reads: ''A fuel oil that is used to heat or cool interior spaces of homes or buildings to control ambient climate for human comfort.'' We are also making minor modifications to the registration, reporting, PTD, and recordkeeping requirements for renewable heating oil to correspond with this change. We had received questions related to the use of renewable heating oil in equipment that cools interior spaces and believe that displacing the use of petroleum based fuel oil with renewable heating oil for cooling is consistent with CAA section 211(o)'s provision for home heating oil to be treated as additional renewable fuel and should be allowed.

3. Separated Food Waste Plans

We are amending the RFS registration procedures for separated food waste plans at 40 CFR 80.1450(b)(1)(vii)(B) and the recordkeeping requirements for separated food waste at 40 CFR 80.1454(j). We are also adding requirements for renewable fuel produced from biogenic waste oils/fats/greases at 40 CFR 80.1450(b)(1)(vii)(B) and 80.1454(d)(4) and (j).

The RFS regulations promulgated in the RFS2 rulemaking required that separated food waste plans include: ''(1) The location of any municipal waste facility or other facility from which the waste stream consisting solely of separated food waste is collected; and (2) A plan documenting how the waste will be collected, how the cellulosic and non-cellulosic portions of the waste will be quantified, and for ongoing verification that such waste consists only of food waste (and incidental other components such as paper and plastics) that is kept separate since generation from other waste materials.'' [229] In addition to the initial submission of separated food waste plans during RFS registration, we also required that renewable fuel producers using separated food waste feedstock update the registration information whenever there was a change to the plan, including to the location(s) of establishments from which the separated food waste is collected, and in some cases the newly updated plan must have been reviewed by a third-party engineer in accordance with EPA registration procedures. We have received numerous company updates for production facilities with separated food waste plans, and some parties noted that the requirement to identify and update suppliers of feedstocks through a plan was overly burdensome.

Recognizing that business relationships for recovery of food wastes evolve and that a renewable fuel producer may elect over time to purchase feedstocks from different or multiple parties, we are removing the requirement to provide the location of every facility from which separated food waste feedstock is collected as part of the information required for registration. Removing this registration requirement alleviates the need for numerous company registration updates as a facility's feedstock supplier list evolves, as well as makes it easier for EPA to review renewable fuel producers' separated food waste plans in a timely manner. However, the recordkeeping section of the regulations requires renewable fuel producers to keep documents associated with feedstock purchases and transfers that identify where the feedstocks were produced; these documents must be sufficient to verify that the feedstocks meet the definition of renewable biomass.[230] Thus, renewable fuel producers will still be required to maintain records that demonstrate that they used a qualifying feedstock to produce renewable fuels for the generation of RINs pursuant to the recordkeeping requirements at 40 CFR 80.1454(d)(4) and (j). We are also adding a provision at 40 CFR 80.1454(j)(1)(ii) that will require renewable fuel producers to maintain records demonstrating the location of any establishment from which the waste stream is collected. Since many renewable fuel producers receive wastes used as feedstocks from an aggregator, we interpret the term ''location'' to mean the physical address that the aggregator obtained the wastes used as feedstocks from, not the physical or company address of the aggregator.

In addition to removing the registration requirement to provide the locations of establishments from which separated food waste is collected, we are also modifying the registration regulations to require that separated food waste plans identify the type(s) of separated food waste(s) to be used and the type(s) of establishment(s) the waste will be collected from. For instance, CAA section 211(o) identifies ''recycled cooking and trap grease'' as a type of separated food waste. Examples of types of establishments could be restaurants, slaughterhouses, or specific food production plants (the kind of food production should be provided). We believe this information is necessary for EPA to determine at registration whether a renewable fuel producer can make fuel from its proposed feedstock under currently approved separated food waste pathways. Without this information, we would not know what the specific feedstock is (*e.g.,* tallow, yellow grease, etc.) or whether it qualifies as a separated food waste.

We are also requiring under 40 CFR 80.1450(b)(1)(vii)(B) that producers of renewable fuels made from biogenic waste oils/fats/greases that are not separated food waste submit a plan at registration with the same requirements as the plan for producers of renewable fuels made from separated food waste. We are henceforth referring to such plans as ''waste oils/fats/greases feedstock plans.'' There is significant overlap between the two categories of feedstock, with a considerable quantity of biogenic waste oils/fats/greases qualifying as renewable biomass as a result of its additional qualification as separated food waste. For these reasons, as a matter of practice we have required parties intending to use biogenic waste oils/fats/greases as a renewable fuel feedstock to submit separated food waste plans at registration. In addition to helping EPA determine if the feedstock in question meets renewable biomass requirements, we have found that the plans help us assess whether the feedstocks specified by a prospective producer qualify as biogenic waste oils/fats/greases. This assessment is made on a case-by-case basis. This amendment conforms the regulations to EPA's current practice. A party fully describing its feedstock in a separated food waste plan will not be required to submit an additional waste oils/fats/greases plan. Since most, if not all, producers of renewable fuel from biogenic waste oils/fats/greases have submitted a separated food waste plan at registration, we do not believe that this revision will add much, if any, burden to existing registered facilities. Those few registered producers using biogenic waste oils/fats/greases that have not previously submitted a separated food waste plan at registration or in a subsequent registration update will be required to do so as part of their next periodic registration update.

In addition to adding the registration requirement for a waste oils/fats/greases feedstock plan to 40 CFR 80.1540(b)(1)(vii)(B), we are also adding the same recordkeeping requirements for biogenic oils/fats/greases as for separated food waste at 40 CFR 80.1454(d)(4) and (j), and providing further clarity that the locations from which separated food waste or biogenic oils/fats/greases was sourced is a recordkeeping requirement.

[229] See 40 CFR 80.1450(b)(1)(vii)(B).

[230] See 40 CFR 80.1454(d)(4) and (j).

4. Additional Registration Deactivation Justifications

We are adding additional circumstances in which EPA may deactivate the registration of any party required to register under 40 CFR 80.1450. These amendments will help parties better understand when EPA intends to restrict a party's participation in the RFS program as well as the procedures that will be used in such circumstances.

In July 2014, we finalized requirements that described circumstances under which EPA may deactivate a company registration and an administrative process to initiate deactivation that provides companies an opportunity to respond to and/or submit the required information in a timely manner.[231] Since finalizing these requirements, we have identified a number of other cases in which it is appropriate to deactivate the registration of a company. In addition, we believe the provisions should be extended to cover deactivation of registrations for any party required to register with EPA under 40 CFR 80.1450 (*e.g.,* third-party auditors).[232] Specifically, we are amending 40 CFR 80.1450(h)(1) to provide that EPA may deactivate registrations of a party for the following reasons in addition to those previously listed:

- The party fails to comply with the registration requirements of 40 CFR 80.1450.
- The party fails to submit any required report within thirty days of the required submission date.
- The party fails to pay a penalty or to perform any requirements under the terms of a court order, administrative order, consent decree, or administrative settlement agreement between the party and EPA.
- The party submits false or incomplete information.
- The party denies EPA access or prevents EPA from completing authorized activities under CAA section 114 despite our presenting a warrant or court order. This includes a failure to provide reasonable assistance.
- The party fails to keep or provide EPA with the records required in 40 CFR part 80, subpart M.
- The party otherwise circumvents the intent of the CAA or 40 CFR part 80, subpart M.

These deactivation circumstances are consistent with cases where EPA may deny or revoke a certificate of conformity under 40 CFR 1051.255(c) and 86.442–78 for engines and vehicles manufactured in or imported into the U.S. In addition, we are finalizing requirements that state that in instances of willful violation of an applicable requirement or those in which public health, interest, or safety requires otherwise, EPA may also deactivate the registration of a party without providing notice to the party prior to deactivation and will send written notification to the RCO describing the reasons for the deactivation. Parties can still submit new registrations after appropriate actions are taken by the party to remedy the deficiency.

5. New RIN Retirement Section

We are creating a new section in the RFS regulations for RIN retirements. The regulations have specific sections that address when and how parties may generate and separate RINs. However, the cases where parties must retire RINs were identified in various sections throughout the regulations. The new section of the RFS regulations for RIN retirements, 40 CFR 80.1434, simply organizes these current sections into one place and will provide beneficial clarification by enumerating the specific instances in which a party must retire RINs in a new section of the regulations and by making those retirements consistent with how parties administratively retire RINs in EMTS. We are aware of some confusion for some parties causing those parties to improperly retire RINs or fail to retire RINs when they have a responsibility to do so under the regulations. Improper retirements can lead to a time-consuming remediation process, both for EPA and responsible parties. This new section organizes these requirements into one location in the regulations to make the circumstances under which RINs must be retired simpler to locate and understand. The section also includes new regulatory language for cases requiring RIN retirement that are identified in EMTS, but may not be clear in the regulations, given their current organization (*e.g.,* in the case of contaminated or spoiled fuel). Our intent is not to add additional burden on parties that must retire RINs under the RFS program, but rather to make the regulations consistent with how parties already retire RINs in EMTS and help reduce potential confusion regarding the situations in which parties must retire RINs.

We are finalizing the elements of the new RIN retirement section at 40 CFR 80.1434 as proposed, with the exception of the provisions for expired RINs and redesignated renewable fuel, which we are not finalizing because we have determined they are not necessary for program implementation at this time.

6. New Pathway for Co-Processing Biomass With Petroleum To Produce Co-Processed Cellulosic Diesel, Jet Fuel, and Heating Oil

We are creating a new definition of ''co-processed cellulosic diesel'' to refer to biodiesel or non-ester renewable diesel fuels that meet the definition for cellulosic biofuel but not the definition of biomass-based diesel. We are also finalizing new pathways that allow co-processed cellulosic diesel, jet fuel, and heating oil that are derived from co-processing biomass with petroleum to qualify as cellulosic biofuel and generate cellulosic (D-code 3) RINs, provided certain production process requirements are satisfied. Fuels that meet the cellulosic diesel definition will continue to be able to generate D7 RINs, while fuels that meet the co-processed cellulosic diesel definition but not the cellulosic diesel definition due to co-processing with petroleum will be able to generate D3 RINs. Fuels produced through co-processing with petroleum will also be required to meet, among other requirements, the requirements of 40 CFR 80.1426(f)(4) to determine the number of RINs that can be generated.

While pathways existed for renewable gasoline and gasoline blendstock (row M in Table 1 to 40 CFR 80.1426) and naphtha (row N in Table 1 to 40 CFR 80.1426) produced from cellulosic biomass that is co-processed with petroleum, there was no pathway for diesel, jet fuel, or heating oil produced in this manner. The pathway for cellulosic diesel, jet fuel, and heating oil (Pathway L in Table 1 to 40 CFR 80.1426) excludes processes that co-process renewable biomass and petroleum. To qualify as cellulosic diesel, a fuel must meet the requirements for both cellulosic biofuel and biomass-based diesel. The definition of biomass-based diesel explicitly excludes renewable fuels that are derived from co-processing biomass with petroleum, and therefore a process that produced diesel, jet fuel, or heating oil by co-processing renewable biomass with petroleum could not qualify as biomass-based diesel or cellulosic diesel under Pathway L in Table 1 to 40 CFR 80.1426. However, cellulosic biofuels other than cellulosic diesel are not

[231] Under this administrative process, the party has 14 calendar days from the date of the notification to correct the deficiencies identified or explain why there is no need for corrective action. See 40 CFR 80.1450(h)(2)(i).

[232] In the REGS proposal, we proposed to use the term ''company, third-party auditor, or third-party engineer'' in the registration deactivation provisions; however, we are now using the term ''party'' to refer more generally to any person that may be required to register with EPA.

prohibited from being derived from biomass co-processed with petroleum.

In the 2016 REGS proposed rule, we proposed to add a new row U to Table 1 to 40 CFR 80.1426 that would have allowed for cellulosic diesel, jet fuel and heating oil produced from any of the feedstocks listed in row L via any process that co-processes renewable biomass with petroleum and converts cellulosic biomass to fuel to qualify for cellulosic biofuel (D-code 3) RINs.[233] While most commenters supported this proposed addition, several commenters disagreed. The dissenting commenters stated that EPA had not conducted a sufficient lifecycle GHG analysis to support the pathways proposed for row U. After reviewing these comments, we have decided to finalize a narrower set of pathways for co-processed cellulosic diesel. Instead of adding a new row U to Table 1 to 40 CFR 80.1426, we are instead adding ''Co-Processed Cellulosic Diesel, Jet Fuel, and Heating Oil'' as fuel types in row M. Thus, as we had proposed, we are finalizing new pathways for co-processed cellulosic diesel, jet fuel, and heating oil, but for a narrower set of feedstocks and production process requirements. Compared to the proposed row U, row M contains the same feedstocks except that it does not include any energy grasses (*i.e.,* switchgrass, miscanthus, energy cane, Arundo donax, Pennisetum purpureum), and row M contains a more narrowly defined set of production process requirements. Note that the energy grass feedstocks are the only ones in the proposed row U that include significant indirect land use change emissions based on EPA's lifecycle GHG analysis of switchgrass for the March 2010 RFS2 rule. Finalizing this narrower set of pathways addresses the commenters concerns about insufficient analysis because approval of these pathways is supported by the extensive analyses that we conducted for a previous rule.

The pathways in row M were approved in the March 2013 Pathways I rule and may include fuels produced through the co-processing renewable biomass and petroleum.[234] The analysis supporting that rulemaking found that the pathways evaluated for corn stover feedstock reduced lifecycle GHG emissions by at least 65 to 129 percent compared to the statutory petroleum baseline, and the results for corn stover were extended to the other feedstocks listed in row M. We are now extending those results to cover co-processed cellulosic diesel, jet fuel, and heating oil produced from the same feedstocks and processes listed in row M. The analysis for the March 2013 Pathways I rule did not explicitly evaluate co-processing but the upgrading processes were modeled as using the same types of equipment and processes as petroleum refining.[235] Indeed, the analysis was largely based on a report that evaluated processes that co-produce gasoline and diesel products.[236] The most likely processes in row M to include co-processing are the ones that have upgrading as the final step, as upgrading is a common part of petroleum refining. Our analysis for the March 2013 Pathways I rule estimated a 67 percent GHG reduction compared to conventional gasoline for renewable gasoline and renewable gasoline blendstock produced from corn stover through catalytic pyrolysis and upgrading. Producing cellulosic diesel instead of renewable gasoline through this same pathway would produce similar results satisfying the 60 percent GHG reduction threshold. When energy allocation is used for GHG accounting, which is the approach we have used for co-produced RIN generating fuels,[237] co-produced gasoline and diesel products will have the same, or nearly the same GHG emissions per unit of energy. Studies looking at petroleum refining have also found that upgrading to diesel fuel is less GHG-intensive than upgrading to gasoline.[238] Based on these assessments we conclude that the lifecycle GHG emissions associated with the new pathways being added to row M satisfy the statutory 60 percent GHG reduction requirement to qualify as cellulosic biofuel. In summary, the analyses conducted for the March 2013 Pathways I rule support the addition of ''co-processed cellulosic diesel, jet fuel and heating oil'' as feedstocks to row M of Table 1 to 40 CFR 80.1426, and commenters did not provide sufficient data or information to support a different conclusion.

The 2016 REGS proposal also included a revised definition for ''cellulosic diesel'' and a new term, ''cellulosic biomass-based diesel.'' [239] These proposed revisions would have, among other things, removed the requirement for ''cellulosic diesel'' to meet the definitions of both cellulosic biofuel and biomass-based diesel. The new term, ''cellulosic biomass-based diesel,'' would have effectively replaced ''cellulosic diesel'' and would have required that the renewable fuel meet both definitions. However, after considering the implementation issues associated with revising an existing definition within EPA's IT systems (*e.g.,* changing existing registrations), we have decided not to finalize either of the definitional changes proposed in the 2016 REGS rule. Instead, we are accomplishing the same result by leaving the definition of ''cellulosic diesel'' as-is and are adding a new term, ''co-processed cellulosic diesel,'' which is, among other things, a renewable fuel that meets the definitions of cellulosic biofuel and either biodiesel or non-ester renewable diesel.[240] Importantly, co-processed cellulosic diesel can be produced as a result of co-processing cellulosic feedstocks with petroleum and is eligible for D-code 3 RINs, but not D-code 7 RINs. It is thus ''co-processed cellulosic diesel, jet fuel, and heating oil'' that we are adding to row M of Table 1 to 40 CFR 80.14626.

7. Other Revisions to the Fuels Program

a. Testing Revisions

We are removing the requirement for periodic resubmitting of non-voluntary consensus standard body (non-VCSB) test methods that have not been approved by VCSBs in 40 CFR 80.585(d)(4). Currently, non-VCSB test methods are required to resubmit accuracy and precision qualification information every 5 years if the non-VCSB test method has not been approved by a VCSB organization. At this time, VCSBs, such as ASTM, have yet to qualify any non-VCSB test methods for measuring the sulfur content in diesel, gasoline, or butane. Moreover, we require minimal statistical quality control requirements on every

[233] Another part of the 2016 REGS proposal, which we are not finalizing here, would have amended the definition of ''cellulosic diesel'' so that it no longer required that such fuel meet the definition of biomass-based diesel.

[234] See 78 FR 14190 (March 5, 2013).

[235] Kinchin, Christopher. Catalytic Fast Pyrolysis with Upgrading to Gasoline and Diesel Blendstocks. National Renewable Energy Laboratory (NREL). 2011. EPA–HQ–OAR–2011–0542–0007

[236] Id.

[237] See for example discussion of hydrotreated camelina oil in that March 2013 Pathways I rule at 78 FR 14198.

[238] For example, for the 2010 RFS2 rule EPA estimated slightly lower refining emissions (9.2 gCO2e/MJ) for 2005 average U.S. gasoline than for 2005 U.S. average diesel (9.0 gCO2e/MJ). Other studies have found an even larger reduction for refining diesel as compared to gasoline. See for example: Cooney, G., et al. (2017). ''Updating the U.S. Life Cycle GHG Petroleum Baseline to 2014 with Projections to 2040 Using Open-Source Engineering-Based Models.'' Environmental Science & Technology 51(2): 977–987. While this may be different when biogenic feedstocks are used, it is reasonable to conclude that any differences would not be large enough to disqualify the fuel from satisfying the 60 percent GHG reduction threshold.

[239] 81 FR 80927 (November 16, 2016).

[240] This new definition for ''co-processed cellulosic diesel'' is essentially the same as the revised definition of ''cellulosic diesel'' that we proposed in the 2016 REGS proposal; creating a new term rather than revising an existing definition allows us to avoid legacy issues within our IT system.

type test method approved under the diesel sulfur accuracy and precision requirements [241] to ensure proper test method instrumentation use is as intended in practice. We are, therefore, amending the regulatory requirement by eliminating the provision for non-VCSB test methods to re-submit accuracy and precision qualification information every 5 years.

We are also removing the sunset date for designated primary test methods in 40 CFR 80.47. EPA fuels regulations exempted those designated primary test methods that were in use prior to October 28, 2013, from meeting the accuracy and precision qualification requirements.[242] We provided this sunset exemption date in the Tier 3 final rule because we were confident that test facilities were utilizing designated primary test methods prior to this date. However, since the statistical quality control (SQC) requirements at 40 CFR 80.47 are intended to ensure proper utilization of designated primary test methods in practice, we are removing this sunset exemption date. This action exempts all designated primary test methods from the accuracy and precision requirements of 40 CFR 80.47.

b. Oxygenate Added Downstream in Tier 3

After the Tier 3 final rule was published,[243] we received several questions concerning the language at 40 CFR 80.1603(d) about accounting for downstream oxygenate blending in refiners' and importers' average annual sulfur calculations. Specifically, some refiners asked whether 40 CFR 80.1603(d) is consistent with the related reformulated gasoline (RFG) provisions for downstream oxygenate blending in 40 CFR 80.69. Currently, refiners may certify RFG after the addition of oxygenate to the reformulated blendstock for oxygenate blending (RBOB) sample at the refinery lab (creating a so-called ''hand blend''), as allowed in 40 CFR 80.69(a). The Tier 3 regulations at 40 CFR 80.1603(d) require that refiners and importers account for downstream oxygenate blending to any gasoline or blendstock for oxygenate blending (BOB) by volume weighting the sulfur content of the gasoline or BOB with the sulfur content of the added oxygenate. Under the Tier 3 regulations, refiners and importers may either rely upon test results of batches of oxygenate supplied by the producer of the oxygenate or use an assumed value of 5.00 ppm added at 10 volume percent ethanol concentration if actual sulfur results are not available. These refiners and importers suggested that the regulatory language at 40 CFR 80.1603(d) may be interpreted to continue to allow the use of hand-blended RBOB samples for determining oxygenate sulfur content added downstream by arguing that the language at 40 CFR 80.1603(d) only applied to conventional gasoline and conventional blendstock for oxygenate blending (CBOB).

We intended for the downstream oxygenate blending regulations at 40 CFR 80.1603(d) to apply to all gasoline and BOBs, not just conventional gasoline and CBOB. In the preamble to the Tier 3 final rule, we explained that the ''final rule requires that in determining their compliance with today's sulfur standards, refiners and importers must either use the actual sulfur content of the denatured fuel ethanol (DFE) established through testing of the DFE actually blended or assume a 5 ppm sulfur content for the DFE added downstream. To prevent potential bias, a refiner or importer must choose to use only one method during each annual compliance period.'' [244] The regulations at 40 CFR 80.101(d)(4) set forth the criteria that a refiner must meet to include downstream ethanol in their conventional gasoline compliance calculations, and 40 CFR 80.69 sets forth the criteria a refiner must meet to include downstream ethanol in their RFG or RBOB compliance calculations. If a refiner satisfies these criteria, 40 CFR 80.1603(d) sets forth the mechanism for accounting for downstream ethanol in annual compliance calculations for all gasoline and BOBs. This section of the regulations was designed to ensure that all refiners calculate their annual average sulfur levels by including the ethanol that is actually added to their gasoline or BOBs, or to use the default value of 5 ppm sulfur content. This would alleviate the need for refiners to use hand blends prepared with ethanol that has less sulfur than is actually blended with the refiner's gasoline or BOB for their compliance calculations.

Although we believe that 40 CFR 80.1603(d) clearly applies to all gasoline and BOBs, not just RFG or RBOB, we are making minor amendments to ensure that these requirements are as clear as possible to the regulated community. We are also making minor amendments to the Tier 3 sulfur reporting requirements at 40 CFR 80.1652 to better accommodate the inclusion of downstream oxygenate blending in annual average sulfur compliance demonstrations. These added requirements will help align the reported batch information with the annual average compliance report and is necessary to ensure that refiners met both the per-gallon and annual average sulfur standards.

c. Technical Corrections and Clarifications

We are making numerous technical corrections to EPA's fuels programs. These amendments are being made to correct inaccuracies and oversights in the current regulations. These changes are described in Table IX.F.7–2 below.

TABLE IX.F.7–2—MISCELLANEOUS TECHNICAL CORRECTIONS AND CLARIFICATIONS TO TITLE 40

| Part and section of Title 40 | Description of revision |
|---|---|
| 79.51(f)(6)(iii), 79.59(a)(1), 80.27(e)(1)(i), 80.69(a)(11)(viii)(C), 80.93(d)(4), 80.174(b), 80.174(c), 80.235(b), 80.290(b), 80.533(b), 80.574(b), 80.595(b), 80.607(a), 80.855(c)(2), 80.1285(b), 80.1340(b), 80.1415(c)(4), 80.1441(h), 80.1442(i), 80.1443(d)(2), 80.1449(d), 80.1454(h)(6)(iii), 80.1501(b)(5)(i), 80.1501(b)(5)(ii), 80.1622(g), 80.1625(c)(2), and 80.1656(h). | Redirecting the mailing addresses to the new address section in 80.10. |
| 80.10 | Adding a new address section that reflects the address change. |
| 80.27(b) | Clarifying the Performance-Based Analytical Test Method Approach (PBATMA) implementation for Reid vapor pressure (RVP) compliance assurance measurements. |

[241] See 40 CFR 80.584.

[242] See, *e.g.,* 40 CFR 80.47(j)(2).

[243] See 79 FR 23414 (April 28, 2014).

[244] See 79 FR 23544 (April 28, 2014).

TABLE IX.F.7–2—MISCELLANEOUS TECHNICAL CORRECTIONS AND CLARIFICATIONS TO TITLE 40—Continued

| Part and section of Title 40 | Description of revision |
|---|---|
| 80.46 | Clarifying that the PBATMA requirements in 80.47 are now effective, removing the VCSB alternative analytical test methods from 80.46, as the VCSB analytical test methods in 80.46 must now meet the requirements in 80.47. |
| 80.47(b)(2)(i) and 80.47(b)(2)(ii) | Clarifying accuracy criterion for sulfur in gasoline by adding examples with accuracy criterion. |
| 80.47(b)(3), 80.47(c)(3), 80.47(d)(2), 80.47(e)(2), 80.47(f)(2), 80.47(g)(2), 80.47(h)(2), 80.47(i)(2), 80.47(j)(2), and 80.47(l)(4). | Removing the reference to the October 28, 2013, date and making the designated primary test methods exempt from the applicable accuracy and precision requirements of 40 CFR 80.47, given that there are SQC requirements for these methods that will verify if they are being carried out properly. |
| 80.47(c)(2)(i) and 80.47(c)(2)(ii) | Clarifying accuracy criterion for sulfur in butane by adding examples with accuracy criterion. |
| 80.47(l)(2)(i) | Clarifying that test facilities meet applicable precision requirements for VCSB method defined and non-VCSB absolute fuel parameters. |
| 80.47(n)(1)(i), 80.47(o)(1)(i), 80.47(p)(1)(i), and 80.47(p)(2)(i) | Removing the accuracy SQC requirement for pre-treatment and assessment of results from the check standard testing after at least 15 testing occasions as described in section 8.2 of ASTM D6299. |
| 80.47(n)(1)(ii), 80.47(o)(1)(ii), and 80.47(p)(1)(ii) | Clarifying the expanded uncertainty of the accepted reference value of consensus named fuels shall be included in the accuracy SQC qualification criterion. |
| 80.47(o)(1)(i) | Clarifying participation in a commercially available Inter Laboratory Crosscheck Program (ILCP) at least three times a year meeting the ASTM D6299 requirements for ILCP check standards that meet the requirements for absolute differences between test results and the accepted reference value of the check standard based on the designated primary test method obtained through participation in the ILCP satisfies the accuracy SQC requirement as well as appropriate calculation for adherence to SQC criteria. Also clarifying the accuracy SQC criteria is 0.75 times the published reproducibility of the applicable designated primary test method for each method defined fuel parameter to be consistent with non-VCSB method defined fuel parameter accuracy SQC requirements. |
| 80.47(n)(2)(i), 80.47(o)(2)(i), and 80.47(p)(3)(i) | Clarification in Precision SQC requirements that the test facility's long term precision standard deviation, as demonstrated by control charts, is expected to meet applicable precision criterion for the test method. |
| 80.585(d)(1) and (2) | Removing reference to expired provisions related to approval of test methods approved by VCSBs. |
| 80.1240(a)(1)(i) and 80.1603(f)(1) | Clarifying that gasoline benzene and sulfur credits must be used for compliance purposes (*i.e.,* retired) instead of simply being obtained. |
| 80.1401 | Adding definition of foreign renewable fuel producer, non-renewable feedstock, non-RIN-generating foreign producer, and RIN-generating foreign producer; amended by revising the definition of foreign ethanol producer and renewable fuel. |
| 80.1426(a)(2), 80.1426(c)(4)-(5), 80.1450(b), 80.1450(d)(1), 80.1451(b), 80.1451(b)(1)(ii)(D), 80.1451(g)(1)(ii)(D), 80.1454(q), 80.1466, 80.1472(b)(3)(i), 80.1472(b)(3)(ii)(B), and 80.1472(b)(3)(iii). | Applying the new and revised definitions in 80.1401. |
| 80.1440 | Adding a new paragraph related to RIN responsibilities for renewable fuel used for purposes subject to national security exemptions. |
| 80.1450(b)(1)(ix)(A), 80.1451(b)(1)(ii)(I), 80.1451(g)(1)(ii)(I), 80.1452(b)(11), and 80.1464(b)(1)(ii). | Clarifying the term ''denaturant'' to mean ''ethanol denaturant.'' |
| 80.1450(g)(9) | Clarifying the third-party auditor registration updates language to make QAP updates consistent with registration updates. |
| 80.1466(d)(3)(ii) | Revising erroneous reference for third-party independence requirements from 80.65(e)(2)(iii) to 80.65(f)(2)(iii). |
| 80.1469(f)(1) | Clarifying to clearly link updates to quality assurance plans with updates to a third-party auditor's registration under 80.1450(g)(9). |
| 80.1501(b)(3)(i) | Clarifying that the word ''ATTENTION'' should be in black font, not orange. |
| 80.1600 | Removing the duplicative definition of ''Ethanol denaturant,'' which is already defined in 80.2(iiii). |
| 80.1609(a) | Revising cross-reference to 80.1603(d)(3). |
| 80.1616(c)(3) | Clarifying that Tier 2 credits generated from January 1, 2017 through December 31, 2019, must be used between January 1, 2017 and December 31, 2019. |
| 80.1650(b)(3) | Clarifying that the oxygenate blender registration dates also apply to persons who blend oxygenate into CBOB and conventional gasoline. |
| 80.1650(e)(1)(iii)(A) and 80.1650(g)(1)(iii)(A) | Clarifying that records are kept at the oxygenate production ''facility'' (instead of the oxygenate production ''refinery''). |

## X. Public Participation

Many interested parties participated in the rulemaking process that culminates with this final rule. This process provided opportunity for submitting written public comments following the proposal that we published on July 29, 2019 (84 FR 36762) and the supplemental notice of proposed rulemaking published on October 28, 2019. We also held public hearings on July 31, 2019 and October 30, 2019, at which many parties provided both verbal and written testimony. All comments received, both verbal and written, are available in Docket ID No. EPA–HQ–OAR–2019–0136 and we considered these comments in developing the final rule. Public comments and EPA responses are discussed throughout this preamble and in the accompanying RTC document, which is available in the docket for this action.

## XI. 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. EPA prepared an analysis of illustrative costs associated with the 2020 percentage standards. This analysis is presented in Section V.

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

This action is considered an Executive Order 13771 regulatory action. Details on the estimated costs of the 2020 percentage standards can be found in EPA's analysis of the illustrative costs. This analysis is presented in Section V.

### *C. Paperwork Reduction Act (PRA)*

The existing Information Collection Request (ICR) covering the RFS program is entitled ''Recordkeeping and Reporting for the Renewable Fuel Standard Program,'' EPA ICR No. 2546.01, OMB Control Number 2060–0725; expires August 31, 2022. The existing RFS ICR covers registration, recordkeeping, and reporting requirements currently in 40 CFR part 80, subpart M. The changes affecting RVO calculations will not change the recordkeeping and reporting burdens vis-à-vis the existing collection. However, certain of the amendments in this action will result in an additional burden. The information collection activities related to the amendments to the RFS regulations in this rule have been submitted for approval to the Office of Management and Budget (OMB) under the PRA. You can find a copy of the ICR in the docket for this rule, identified by EPA ICR Number 2595.02, OMB Control Number 2060–NEW, and it is briefly summarized here. The parties for whom we anticipate an increase in burden are generally described as RIN generators (specifically, those who are producers of renewable fuel) due the amendments related to pathways, and those who are generally described as obligated parties (specifically, those who are refiners and importers) due to the provisions for certified NTDF. The supporting statement clearly indicates the amendments and includes detailed tables with regulatory burden laid out by type of party, regulatory citation, description of information to be collected, estimated burden in hours and dollars, and reporting form or format. Certain amendments in this action are related to non-RFS fuels programs, but these amendments are mostly technical corrections (*e.g.,* address corrections) and do not impose any additional recordkeeping and reporting burden.

The Following Summarizes the Burden

*Respondents/affected entities:* The respondents to this information collection are RIN generators and obligated parties under the RFS program, and 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:* 6,042.

*Total number of responses:* 357,512.

*Frequency of response:* Annually and occasionally.

*Total estimated burden:* 32,548 hours (per year). Burden is defined at 5 CFR 1320.3(b).

*Total estimated cost:* $3,511,813 (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. When OMB approves this ICR, EPA will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this 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 amendments to the RFS regulations and other fuels programs, this action makes relatively minor corrections and modifications to those regulations, and we do not anticipate that there will be any significant adverse economic impact on directly regulated small entities.

The small entities directly regulated by the annual percentage standards associated with the RFS volumes are small refiners, which are defined at 13 CFR 121.201. With respect to the 2020 percentage standards, we have evaluated the impacts on small entities from two perspectives: As if the standards were a standalone action or if they are a part of the overall impacts of the RFS program as a whole.

When evaluating the standards as if they were a standalone action separate and apart from the original rulemaking that established the RFS2 program, the standards could be viewed as increasing the cellulosic biofuel, advanced biofuel, and total renewable fuel volume requirements by 170 million gallons between 2019 and 2020. To evaluate the impacts of the volume requirements on small entities relative to 2019, we have conducted a screening analysis [245] 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. Currently available information shows that the impact on small entities from implementation of this rule will not be significant. We have reviewed and

[245] ''Screening Analysis for the Final Renewable Fuel Standards for 2020,'' memorandum from Dallas Burkholder and Nick Parsons to EPA Air Docket EPA–HQ–OAR–2018–0205.

assessed the available information, which shows that obligated parties, including small entities, are generally able to recover the cost of acquiring the RINs necessary for compliance with the RFS standards through higher sales prices of the petroleum products they sell than would be expected in the absence of the RFS program.[246] This is true whether they acquire RINs by purchasing renewable fuels with attached RINs or purchase separated RINs. The costs of the RFS program are thus generally being passed on to consumers in the highly competitive marketplace. Even if we were to assume that the cost of acquiring RINs was not recovered by obligated parties, and we used the maximum values of the costs discussed in Section V and the gasoline and diesel fuel volume projections and wholesale prices from the October 2019 version of EIA's Short Term Energy Outlook, along with current wholesale biofuel prices, a cost-to-sales ratio test shows that the costs to small entities of the RFS standards are far less than 1 percent of the value of their sales.

While the screening analysis described above supports a certification that this rule will not have a significant economic impact on small refiners, we continue to believe that it is more appropriate to consider the standards as a part of our ongoing implementation of the overall RFS program. When considered this way, the impacts of the RFS program as a whole on small entities were addressed in the RFS2 final rule, which was the rule that implemented the entire program as required by EISA 2007.[247] As such, the Small Business Regulatory Enforcement Fairness Act (SBREFA) panel process that took place prior to the 2010 rule was also for the entire RFS program and looked at impacts on small refiners through 2022.

For the SBREFA process for the RFS2 final rule, we conducted outreach, fact-finding, and analysis of the potential impacts of the program on small refiners, which are all described in the Final Regulatory Flexibility Analysis, located in the rulemaking docket (EPA–HQ–OAR–2005–0161). This analysis looked at impacts to all refiners, including small refiners, through the year 2022 and found that the program would not have a significant economic impact on a substantial number of small entities, and that this impact was expected to decrease over time, even as the standards increased. For gasoline and/or diesel small refiners subject to the standards, the analysis included a cost-to-sales ratio test, a ratio of the estimated annualized compliance costs to the value of sales per company. From this test, we estimated that all directly regulated small entities would have compliance costs that are less than one percent of their sales over the life of the program (75 FR 14862, March 26, 2010).

We have determined that this final rule will not impose any additional requirements on small entities beyond those already analyzed, since the impacts of this rule are not greater or fundamentally different than those already considered in the analysis for the RFS2 final rule assuming full implementation of the RFS program. This rule increases the 2020 cellulosic biofuel, advanced biofuel, and total renewable fuel volume requirements by 170 million gallons relative to the 2019 volume requirements, but those volumes remain significantly below the statutory volume targets analyzed in the RFS2 final rule. Compared to the burden that would be imposed under the volumes that we assessed in the screening analysis for the RFS2 final rule (*i.e.,* the volumes specified in the Clean Air Act), the volume requirements in this rule reduce burden on small entities. Regarding the BBD standard, we are maintaining the volume requirement for 2021 at the same level as the 2020 volume requirement we finalized in the 2019 final rule.[248] While this volume is an increase over the statutory minimum value of 1 billion gallons, the BBD standard is a nested standard within the advanced biofuel category, which we are significantly reducing from the statutory volume targets. As discussed in Section VI, the BBD volume requirement is below what is anticipated to be produced and used to satisfy the advanced biofuel requirement. The net result of the standards being finalized in this action is a reduction in burden as compared to implementation of the statutory volume targets assumed in the RFS2 final rule analysis.

While the rule will not have a significant economic impact on a substantial number of small entities, there are compliance flexibilities in the program that can help to reduce impacts on small entities. These flexibilities include being able to comply through RIN trading rather than renewable fuel blending, 20 percent RIN rollover allowance (up to 20 percent of an obligated party's RVO can be met using previous-year RINs), and deficit carry-forward (the ability to carry over a deficit from a given year into the following year, provided that the deficit is satisfied together with the next year's RVO). In the RFS2 final rule, we discussed other potential small entity flexibilities that had been suggested by the SBREFA panel or through comments, but we did not adopt them, in part because we had serious concerns regarding our authority to do so.

Additionally, we realize that there may be cases in which a small entity may be in a difficult financial situation and the level of assistance afforded by the program flexibilities is insufficient. For such circumstances, the program provides hardship relief provisions for small entities (small refiners), as well as for small refineries.[249] As required by the statute, the RFS regulations include a hardship relief provision (at 40 CFR 80.1441(e)(2)) that allows for a small refinery to petition for an extension of its small refinery exemption at any time based on a showing that the refinery is experiencing a ''disproportionate economic hardship.'' EPA regulations provide similar relief to small refiners that are not eligible for small refinery relief (see 40 CFR 80.1442(h)). We have currently identified a total of 9 small refiners that own 11 refineries subject to the RFS program, all of which are also small refineries.

We evaluate these petitions on a case-by-case basis and may approve such petitions if it finds that a disproportionate economic hardship exists. In evaluating such petitions, we consult with the U.S. Department of Energy and consider the findings of DOE's 2011 Small Refinery Study and other economic factors. To date, EPA has adjudicated petitions for exemption from 37 small refineries for the 2018 RFS standards (10 of which are owned by a small refiner).[250] We have not yet

[246] For a further discussion of the ability of obligated parties to recover the cost of RINs see ''Denial of Petitions for Rulemaking to Change the RFS Point of Obligation,'' EPA–420–R–17–008, November 2017.

[247] 75 FR 14670 (March 26, 2010).

[248] Moreover, we note that the 2021 BBD volume only establishes the maximum BBD volume for that year and may be adjusted in subsequent actions. This volume does not directly regulate any entity. We intend to translate this volume, subject to any appropriate adjustments, into a percentage standard in the 2021 annual rulemaking. We also acknowledge that today's action does impose the 2020 BBD percentage standard. As we explain in Section VI and in the preamble to the 2019 final rule, this percentage standard is not practically binding, as we expect obligated parties to rely on BBD RINs, in excess of this standard, to satisfy the 2020 advanced biofuel standard. Thus, any impact on directly regulated entities from the 2020 BBD percentage standard is subsumed into the impact of the 2020 advanced biofuel standard. As we explain in this section and the screening memo, we find that the 2020 advanced biofuel standard will not have a significant economic impact on a substantial number of small entities under the RFA.

[249] See CAA section 211(o)(9)(B).

[250] Information about the number of SREs granted can be found at: *https://www.epa.gov/fuels-*

adjudicated any small refinery exemption petitions for the 2019 or 2020 RFS standards.

In sum, this final rule will not change the compliance flexibilities currently offered to small entities under the RFS program (including the small refinery hardship provisions we continue to implement) and available information shows that the impact on small entities from implementation of this rule will not be significant viewed either from the perspective of it being a standalone action or a part of the overall RFS program. We have therefore concluded that this action will not have any significant adverse economic impact on 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 section 211(o) 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. This action will be implemented at the Federal level and affects transportation fuel refiners, blenders, marketers, distributors, importers, exporters, and renewable fuel producers and importers. Tribal governments will be affected only to the extent they produce, purchase, or use regulated fuels. Thus, Executive Order 13175 does not apply to this action.

*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 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 implements specific standards established by Congress in statutes (CAA section 211(o)) and 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. This action establishes the required renewable fuel content of the transportation fuel supply for 2020, consistent with the CAA and waiver authorities provided therein. The RFS program and this rule are designed to achieve positive effects on the nation's transportation fuel supply, by increasing energy independence and security and lowering lifecycle GHG emissions of transportation fuel.

*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 regulatory action does not affect the level of protection provided to human health or the environment by applicable air quality standards. This action does not relax the control measures on sources regulated by the RFS and other fuels regulations.

*L. Congressional Review Act (CRA)*

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is a ''major rule'' as defined by 5 U.S.C. 804(2).

**XII. Statutory Authority**

Statutory authority for this action comes from sections 114, 203–05, 208, 211, and 301 of the Clean Air Act, 42 U.S.C. 7414, 7522–24, 7542, 7545, and 7601.

**List of Subjects**

*40 CFR Part 79*

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

*40 CFR Part 80*

Environmental protection, Administrative practice and procedure, Air pollution control, Diesel fuel, Fuel additives, Gasoline, Imports, Oil imports, Petroleum, Renewable fuel.

Dated: December 19, 2019.

**Andrew R. Wheeler,**

*Administrator.*

For the reasons set forth in the preamble, EPA amends 40 CFR parts 79 and 80 as follows:

## PART 79—REGISTRATION OF FUEL AND FUEL ADDITIVES

■ 1. The authority citation for part 79 continues to read as follows:

**Authority:** 42 U.S.C. 7414, 7524, 7545 and 7601.

### Subpart F—Testing Requirements for Registration

■ 2. Section 79.51 is amended by revising the last sentence of paragraph (f)(6)(iii) to read as follows:

**§ 79.51 General requirements and provisions.**

* * * * *

(f) * * *

(6) * * *

(iii) * * * The registrants' communications should be sent to the following address: Attn: Fuel/Additives Registration, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Mail Code 6405A, Washington, DC 20460.

* * * * *

■ 3. Section 79.59 is amended by revising the last sentence of paragraph (a)(1) introductory text to read as follows:

**§ 79.59 Reporting requirements.**

(a) * * *

(1) * * * Forms for submitting this data may be obtained from EPA at the following address: Attn: Fuel/Additives Registration, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Mail Code 6405A, Washington, DC 20460.

* * * * *

*registration-reporting-and-compliance-help/rfs-small-refinery-exemptions.*

## PART 80—REGULATION OF FUELS AND FUEL ADDITIVES

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

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

### Subpart A—General Provisions

■ 5. Section 80.10 is added to read as follows:

**§ 80.10 Addresses.**

(a) For submitting notifications, applications, petitions, or other communications with EPA, use one of the following addresses for mailing:

(1) For U.S. Mail: Attn: [TITLE AS DIRECTED], U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Mail Code 6405A, Washington, DC 20460.

(2) For commercial service: Attn: [TITLE AS DIRECTED], U.S. Environmental Protection Agency, William Jefferson Clinton Building North, Mail Code 6405A, Room 6520V, 1200 Pennsylvania Ave. NW, Washington, DC 20004; Phone: 1–800–385–6164.

(b) [Reserved]

### Subpart B—Controls and Prohibitions

■ 6. Section 80.27 is amended by revising paragraphs (b) and (e)(1)(i) to read as follows:

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

* * * * *

(b) *Determination of compliance.* Compliance with the standards listed in paragraph (a) of this section shall be determined by the use of the sampling methodologies specified in § 80.8 and the testing methodology specified in § 80.46(c) until December 31, 2015, and § 80.47 beginning January 1, 2016.

* * * * *

(e) * * *

(1) * * *

(i) Any person may request a testing exemption by submitting an application that includes all the information listed in paragraphs (e)(3) through (6) of this section to the attention of ''Test Exemptions'' to the address in § 80.10(a).

* * * * *

### Subpart D—Reformulated Gasoline

■ 7. Section 80.46 is amended by:

■ a. Revising paragraphs (a), (b), (d), (e), (f), and (g); and

■ b. Removing and reserving paragraphs (h)(1)(iv), (v), (vii), (viii), (x), (xiii), (xv), and (xvi).

The revisions read as follows:

**§ 80.46 Measurement of reformulated gasoline and conventional gasoline fuel parameters.**

(a) *Sulfur.* Sulfur content of gasoline and butane must be determined by use of the following methods:

(1)(i) Through December 31, 2015, the sulfur content of gasoline must be determined by ASTM D2622.

(ii) Beginning January 1, 2016, the sulfur content of gasoline must be determined by a test method approved under § 80.47.

(2)(i) Through December 31, 2015, the sulfur content of butane must be determined by ASTM D6667.

(ii) Beginning January 1, 2016, the sulfur content of butane must be determined by a test method approved under § 80.47.

(b) *Olefins.* Olefin content must be determined by use of the following methods:

(1) Through December 31, 2015, olefin content must be determined using ASTM D1319.

(2) Beginning January 1, 2016, olefin content must be determined by a test method approved under § 80.47.

* * * * *

(d) *Distillation.* Distillation parameters must be determined by use of the following test methods:

(1) Through December 31, 2015, distillation parameters must be determined using ASTM D86.

(2) Beginning January 1, 2016, distillation parameters must be determined by a test method approved under § 80.47. (Note: The precision estimates for reproducibility in ASTM D86–12 do not apply; see § 80.47(h).)

(e) *Benzene.* Benzene content must be determined by use of the following test methods:

(1) Through December 31, 2015, benzene content must be determined using ASTM D3606, except that instrument parameters shall be adjusted to ensure complete resolution of the benzene, ethanol, and methanol peaks because ethanol and methanol may cause interference with ASTM D3606 when present.

(2) Beginning January 1, 2016, benzene content must be determined by a test method approved under § 80.47.

(f) *Aromatic content.* Aromatic content must be determined by use of the following methods:

(1) Through December 31, 2015, aromatic content must be determined using ASTM D5769, except the sample chilling requirements in section 8 of this standard method are optional.

(2) Beginning January 1, 2016, aromatic content must be determined by a test method approved under § 80.47.

(g) *Oxygen and oxygenate content analysis.* Oxygen and oxygenate content must be determined by use of the following methods:

(1) Through December 31, 2015, oxygen and oxygenate content must be determined using ASTM D5599.

(2) Beginning January 1, 2016, oxygen and oxygenate content must be determined by a test method approved under § 80.47.

* * * * *

■ 8. Section 80.47 is amended by revising paragraphs (b), (c)(2)(i) and (ii), (c)(3), (d)(2), (e)(2), (f)(2), (g)(2), (h)(2), (i)(2), (j)(2), (l)(2)(i), (l)(4), (n)(1), (n)(2)(i), (o)(1), (o)(2)(i), (p)(1), (p)(2)(i), and (p)(3)(i) to read as follows:

**§ 80.47 Performance-based Analytical Test Method Approach.**

* * * * *

(b) *Precision and accuracy criteria for approval for the absolute fuel parameter of gasoline sulfur*—(1) *Precision.* Beginning January 1, 2016, for motor vehicle gasoline, gasoline blendstock, and gasoline fuel additives subject to the gasoline sulfur standard at §§ 80.195 and 80.1603, the maximum allowable standard deviation computed from the results of a minimum of 20 tests made over 20 days (tests may be arranged into no fewer than five batches of four or fewer tests each, with only one such batch allowed per day over the minimum of 20 days) on samples using good laboratory practices taken from a single homogeneous commercially available gasoline must be less than or equal to 1.5 times the repeatability ''r'' divided by 2.77, where ''r'' equals the ASTM repeatability of ASTM D7039 (Example: A 10 ppm sulfur gasoline sample: Maximum allowable standard deviation of 20 tests≤1.5*(1.73ppm/2.77) = 0.94 ppm). The 20 results must be a series of tests with a sequential record of analysis and no omissions. A laboratory facility may exclude a given sample or test result only if the exclusion is for a valid reason under good laboratory practices and it maintains records regarding the sample and test results and the reason for excluding them.

(2) *Accuracy.* Beginning January 1, 2016, for motor vehicle gasoline, gasoline blendstock, and gasoline fuel additives subject to the gasoline sulfur standard at §§ 80.195 and 80.1603:

(i) The arithmetic average of a continuous series of at least 10 tests performed using good laboratory practices on a commercially available gravimetric sulfur standard in the range of 1–10 ppm shall not differ from the accepted reference value (ARV) of the standard by more than 0.47 ppm sulfur,

where the accuracy criteria is 0.75*(1.5*r/2.77), where ''r'' is the repeatability for ARV of the commercially available gravimetric sulfur standard (Example: 0.75*(1.5*1.15ppm/2.77) = 0.47 ppm);

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

(iii) In applying the tests of paragraphs (b)(2)(i) and (ii) of this section, individual test results shall be compensated for any known chemical interferences using good laboratory practices.

(3) The test method specified at § 80.46(a)(1) is exempt from the requirements of paragraphs (b)(1) and (2) of this section.

(c) * * *

(2) * * *

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

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

* * * * *

(3) The test method specified at § 80.46(a)(2) is exempt from the requirements of paragraphs (c)(1) and (2) of this section.

(d) * * *

(2) The test method specified at § 80.46(b)(1) is exempt from the requirements of paragraph (d)(1) of this section.

(e) * * *

(2) The test method specified at § 80.46(f)(1) is exempt from the requirements of paragraph (e)(1) of this section.

(f) * * *

(2) The test method specified at § 80.46(g)(1) is exempt from the requirements of paragraph (f)(1) of this section.

(g) * * *

(2) The test method specified at § 80.46(c)(1) is exempt from the requirements of paragraph (g)(1) of this section.

(h) * * *

(2) The test method specified at § 80.46(d)(1) is exempt from the requirements of paragraph (h)(1) of this section.

(i) * * *

(2) The test methods specified at § 80.46(e)(1) are exempt from the requirements of paragraph (i)(1) of this section.

(j) * * *

(2) The test method specified at § 80.2(z) is exempt from the requirements of paragraph (j)(1) of this section.

* * * * *

(l) * * *

(2)(i) The test facility demonstrates that the test method meets the applicable precision information for the method-defined or non-VCSB absolute fuel parameter as described in this section.

* * * * *

(4) The test methods specified at §§ 80.2(z) and 80.46(a)(1), (a)(2), (b)(1), (c)(1), (d)(1), (e)(1), (f)(1), and (g)(1) are exempt from the requirements of paragraphs (l)(1) through (3) of this section.

* * * * *

(n) * * *

(1)(i) *Accuracy SQC.* Every facility shall conduct tests on every instrument with a commercially available gravimetric reference material, or check standard as defined in ASTM D6299 at least three times a year using good laboratory practices. The facility must construct ''MR'' and ''I'' charts with control lines as described in section 8.4 and appropriate Annex sections of this standard practice. In circumstances where the absolute difference between the mean of multiple back-to-back tests of the standard reference material and the ARV of the standard reference material is greater than 0.75 times the published reproducibility of the test method, the cause of such difference must be investigated by the facility. Records of the standard reference materials measurements as well as any investigations into any exceedance of these criteria must be kept for a period of five years.

(ii) The expanded uncertainty of the ARV of consensus named fuels shall be included in the following accuracy qualification criterion: Accuracy qualification criterion = square root [(0.75R)^2 + (0.75R)^2/L], where L = the number of single results obtained from different labs used to calculate the consensus ARV.

(2)(i) *Precision SQC.* Every facility shall conduct tests of every instrument with a quality control material as defined in paragraph 3.2.8 in ASTM D6299 either once per week or once per every 20 production tests, whichever is more frequent. The facility must construct and maintain an ''I'' chart as described in section 8 and section A1.5.1 and a ''MR'' chart as described in section A1.5.4. Any violations of control limit(s) shall be investigated by personnel of the facility and records kept for a period of five years. The test facility's long term site precision standard deviation, as demonstrated by the ''I'' chart and ''M'' chart, must meet the applicable precision criterion as described in paragraph (b)(1) or (c)(1) of this section.

* * * * *

(o) * * *

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

standard based on the designated primary test method is greater than 0.75 times the published reproducibility of the designated primary test method, the cause of such difference must be investigated by the facility. Participation in a VCSB ILCP or a commercially available ILCP meeting the ASTM D6299 requirements for ILCP check standards, based on the designated primary test method, at least three times a year, and, meeting the requirements in this section for absolute differences between the test results and the ARV of the check standard based on the designated primary test method of less than 0.75 times the published reproducibility of the designated primary test method obtained through participation in the ILCP satisfies this Accuracy SQC requirement (Examples of VCSB ILCPs: ASTM Reformulated Gasoline ILCP or ASTM motor gasoline ILCP). Records of the standard reference materials measurements as well as any investigations into any exceedance of these criteria must be kept for a period of five years.

(ii) The expanded uncertainty of the ARV of consensus named fuels shall be included in the following accuracy qualification criterion: Accuracy qualification criterion = square root [(0.75R)^2 + (0.75R)^2/L], where L = the number of single results obtained from different labs used to calculate the consensus ARV.

(2)(i) *Precision SQC.* Every facility shall conduct tests of every instrument with a quality control material as defined in paragraph 3.2.8 in ASTM D6299 either once per week or once per every 20 production tests, whichever is more frequent. The facility must construct and maintain an ''I'' chart as described in section 8 and section A1.5.1 and a ''MR'' chart as described in section A1.5.4. Any violations of control limit(s) shall be investigated by personnel of the facility and records kept for a period of five years. The test facility's long term site precision standard deviation, as demonstrated by the ''I'' chart and ''M'' chart, must meet the applicable precision criterion as described in paragraph (d)(1), (e)(1), (f)(1), (g)(1), (h)(1), (i)(1), or (j)(1) of this section.

* * * * *

(p) * * *

(1)(i) *Accuracy SQC for Non-VCSB Method-Defined test methods with minimal matrix effects.* Every facility shall conduct tests on every instrument with a commercially available check standard as defined in the ASTM D6299 at least three times a year using good laboratory practices. The check standard must be an ordinary fuel with levels of the fuel parameter of interest close to either the applicable regulatory standard or the average level of use for the facility. Facilities using a Non-VCSB alternative method defined test method must use the ARV of the check standard as determined in either a VCSB Inter Laboratory Crosscheck Program (ILCP) or a commercially available ILCP following the guidelines of ASTM D6299. If the ARV is not provided in the ILCP, accuracy must be assessed based upon the respective EPA designated test method using appropriate production samples. The facility must construct ''MR'' and ''I'' charts with control lines as described in section 8.4 and appropriate Annex sections of this standard practice. In circumstances where the absolute difference between the mean of multiple back-to-back tests of the standard reference material and the ARV of the standard reference material is greater than 0.75 times the published reproducibility of the fuel parameter's respective designated test method, the cause of such difference must be investigated by the facility. Records of the standard reference materials measurements as well as any investigations into any exceedance of these criteria must be kept for a period of five years.

(ii) The expanded uncertainty of the ARV of consensus named fuels shall be included in the following accuracy qualification criterion: Accuracy qualification criterion = square root [(0.75R)^2 + (0.75R)^2/L], where L = the number of single results obtained from different labs used to calculate the consensus ARV.

(2)(i) *Accuracy SQC for Non-VCSB Method-Defined test methods with high sensitivity to matrix effects.* Every facility shall conduct tests on every instrument with a production fuel on at least a quarterly basis using good laboratory practices. The production fuel must be representative of the production fuels that are routinely analyzed by the facility. The ARV of the production fuel must be determined by the respective reference installation of the designated test method for the fuel parameter following the guidelines of ASTM D6299. The facility must construct ''MR'' and ''I'' charts with control lines as described in section 8.4 and appropriate Annex sections of this standard practice. In circumstances where the absolute difference between the mean of multiple back-to-back tests of the standard reference material and the ARV of the standard reference material is greater than 0.75 times the published reproducibility of the test method must be investigated by the facility. Documentation on the identity of the reference installation and its control status must be maintained on the premises of the method-defined alternative test method. Records of the standard reference materials measurements as well as any investigations into any exceedances of this criterion must be kept for a period of five years.

* * * * *

(3)(i) *Precision SQC.* Every facility shall conduct tests of every instrument with a quality control material as defined in paragraph 3.2.8 in ASTM D6299 either once per week or once per every 20 production tests, whichever is more frequent. The facility must construct and maintain an ''I'' chart as described in section 8 and section A1.5.1 and a ''MR'' chart as described in section A1.5.4. Any violations of control limit(s) shall be investigated by personnel of the facility and records kept for a period of five years. The test facility's long term site precision standard deviation, as demonstrated by the ''I'' chart and ''M'' chart, must meet the applicable precision criterion as described in paragraph (b)(1), (c)(1), (d)(1), (e)(1), (f)(1), (g)(1), (h)(1), (i)(1), or (j)(1) of this section.

* * * * *

■ 9. Section 80.69 is amended by revising paragraph (a)(11)(viii)(C) to read as follows:

**§ 80.69 Requirements for downstream oxygenate blending.**

(a) * * *

(11) * * *

(viii) * * *

(C) The survey plan must be sent to the attention of ''RFG Program (Survey Plan)'' to the address in § 80.10(a);

* * * * *

## Subpart E—Anti-Dumping

■ 10. Section 80.93 is amended by revising paragraph (d)(4) to read as follows:

**§ 80.93 Individual baseline submission and approval.**

* * * * *

(d) * * *

(4) For U.S. Postal delivery, the petition shall be sent to the attention of ''RFG Program (Baseline Petition)'' to the address in § 80.10(a).

* * * * *

## Subpart G—Detergent Gasoline

■ 11. Section 80.174 is amended by revising paragraphs (b) and (c) to read as follows:

**§ 80.174 Addresses.**

* * * * *

(b) Other detergent registration and certification data, and certain other information which may be specified in this subpart, shall be sent to the attention of ''Detergent Additive Certification'' to the address in § 80.10(a).

(c) Notifications to EPA regarding program exemptions, detergent dilution and commingling, and certain other information which may be specified in this subpart, shall be sent to the attention of ''Detergent Enforcement Program'' to the address in § 80.10(a).

## Subpart H—Gasoline Sulfur

■ 12. Section 80.235 is amended by revising paragraph (b) to read as follows:

**§ 80.235 How does a refiner obtain approval as a small refiner?**

* * * * *

(b) Applications for small refiner status must be sent to the attention of ''Gasoline Sulfur Program (Small Refiner)'' to the address in § 80.10(a).

* * * * *

■ 13. Section 80.290 is amended by revising paragraph (b) to read as follows:

**§ 80.290 How does a refiner apply for a sulfur baseline?**

* * * * *

(b) The sulfur baseline request must be sent to the attention of ''Gasoline Sulfur Program (Sulfur Baseline)'' to the address in § 80.10(a).

* * * * *

## Subpart I—Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel

■ 14. Section 80.533 is amended by revising paragraph (b) as follows:

**§ 80.533 How does a refiner or importer apply for a motor vehicle or non-highway baseline for the generation of NRLM credits or the use of the NRLM small refiner compliance options?**

* * * * *

(b) The baseline must be sent to the attention of ''Nonroad Rule Diesel Fuel Baseline'' to the address in § 80.10(a).

* * * * *

■ 15. Section 80.574 is amended by revising paragraph (b) as follows:

**§ 80.574 What labeling requirements apply to retailers and wholesale purchaser-consumers of ECA marine fuel beginning June 1, 2014?**

* * * * *

(b) Alternative labels to those specified in paragraph (a) of this section may be used as approved by EPA. Send requests to the attention of ''ECA Marine Fuel Alternative Label Request'' to the address in § 80.10(a).

■ 16. Section 80.585 is amended:

■ a. In paragraph (d)(1), by removing ''paragraph (a) or (b)'' and adding ''paragraph (b)'' in its place;

■ b. In the first sentence of paragraph (d)(2), by removing ''paragraph (a) or (b)'' and adding ''paragraph (b)'' in its place; and

■ c. By revising paragraph (d)(4).

The revision reads as follows:

**§ 80.585 What is the process for approval of a test method for determining the sulfur content of diesel or ECA marine fuel?**

* * * * *

(d) * * *

(4) The approval of any test method under paragraph (b) of this section shall be valid from the date of approval from the Administrator.

* * * * *

■ 17. Section 80.595 is amended by revising paragraph (b) to read as follows:

**§ 80.595 How does a small or GPA refiner apply for a motor vehicle diesel fuel volume baseline for the purpose of extending their gasoline sulfur standards?**

* * * * *

(b) The volume baseline must be sent via certified mail with return receipt or express mail with return receipt to the attention of ''Diesel Baseline'' to the address in § 80.10(a).

* * * * *

■ 18. Section 80.607 is amended by revising paragraph (a) to read as follows:

**§ 80.607 What are the requirements for obtaining an exemption for diesel fuel used for research, development or testing purposes?**

(a) *Written request for a research and development exemption.* Any person may receive an exemption from the provisions of this subpart for diesel fuel or ECA marine fuel used for research, development, or testing purposes by submitting the information listed in paragraph (c) of this section to the attention of ''Diesel Program (Diesel Exemption Request)'' to the address in § 80.10(a).

* * * * *

■ Subpart J—Gasoline Toxics

■ 19. Section 80.855 is amended by revising paragraph (c)(2) to read as follows:

**§ 80.855 What is the compliance baseline for refineries or importers with insufficient data?**

* * * * *

(c) * * *

(2) *Application process.* Applications must be submitted to the attention of ''Anti-Dumping Compliance Period'' to the address in § 80.10(a).

* * * * *

## Subpart L—Gasoline Benzene

■ 20. Section 80.1240 is amended in paragraph (a)(1)(i) in the equation by revising the definition ''OC'' to read as follows:

**§ 80.1240 How is a refinery's or importer's compliance with the gasoline benzene requirements of this subpart determined?**

(a) * * *

(1)(i) * * *

OC = Benzene credits used by the refinery or importer to show compliance (gallons benzene).

* * * * *

■ 21. Section 80.1285 is amended by revising paragraph (b) to read as follows:

**§ 80.1285 How does a refiner apply for a benzene baseline?**

* * * * *

(b) For U.S. Postal delivery, the benzene baseline application shall be sent to the attention of ''MSAT2 Benzene'' to the address in § 80.10(a).

* * * * *

■ 22. Section 80.1340 is amended by revising paragraph (b) to read as follows:

**§ 80.1340 How does a refiner obtain approval as a small refiner?**

* * * * *

(b) Applications for small refiner status must be sent to the attention of ''MSAT2 Benzene'' to the address in § 80.10(a).

* * * * *

## Subpart M—Renewable Fuel Standard

■ 23. Section 80.1401 is amended by:

■ a. Adding in alphabetical order definitions for ''Certified non-transportation 15 ppm distillate fuel,'' ''Co-processed cellulosic diesel,'' and ''Covered location'';

■ b. Revising the definition of ''Exporter of renewable fuel'' and ''Foreign ethanol producer'';

■ c. Adding in alphabetical order a definition for ''Foreign renewable fuel producer'';

■ d. Revising paragraph (2) in the definition of ''Heating oil'';

■ e. Adding in alphabetical order definitions for ''Non-renewable feedstock'' and ''Non-RIN-generating foreign producer'';

■ f. Revising paragraph (2) in the definition of ''Renewable fuel''; and

■ g. Adding in alphabetical order a definition for ''RIN-generating foreign producer''. The additions and revisions read as follows:

**§ 80.1401 Definitions**

* * * * *

*Certified non-transportation 15 ppm distillate fuel* or *certified NTDF* means distillate fuel that meets all of the following:

(1) It has been certified as complying with the 15 ppm sulfur standard, cetane/aromatics standard, and all applicable sampling, testing, and recordkeeping requirements of subpart I of this part.

(2) It has been designated as 15 ppm heating oil, 15 ppm ECA marine fuel, or other non-transportation fuel (*e.g.,* jet fuel, kerosene, heating oil, or No. 4 fuel) on its product transfer document and has not been designated as MVNRLM diesel fuel.

(3) The PTD for the distillate fuel meets the requirements in § 80.1453(e).

* * * * *

*Co-processed cellulosic diesel* is any renewable fuel that meets the definition of cellulosic biofuel, as defined in this section 80.1401, and meets all of the requirements of paragraph (1) of this definition:

(1)(i) Is a transportation fuel, transportation fuel additive, heating oil, or jet fuel.

(ii) Meets the definition of either biodiesel or non-ester renewable diesel.

(iii) Is registered as a motor vehicle fuel or fuel additive under 40 CFR part 79, if the fuel or fuel additive is intended for use in a motor vehicle.

(2) Co-processed cellulosic diesel includes heating oil and jet fuel made from cellulosic feedstocks and cellulosic biofuel produced as a result of co-processing cellulosic feedstocks with petroleum.

* * * * *

*Covered location* means the contiguous 48 states, Hawaii, and any state or territory that has received an approval from the Administrator to opt-in to the RFS program under § 80.1443.

* * * * *

*Exporter of renewable fuel* means all buyers, sellers, and owners of the renewable fuel in any transaction that results in renewable fuel being transferred from a covered location to a destination outside of the covered locations.

* * * * *

*Foreign ethanol producer* means a foreign renewable fuel producer who produces ethanol for use in transportation fuel, heating oil, or jet fuel but who does not add ethanol denaturant to their product as described in paragraph (2) of the definition of ''renewable fuel'' in this section.

*Foreign renewable fuel producer* means a person from a foreign country or from an area outside the covered locations who produces renewable fuel (including neat (undenatured) ethanol for use in transportation fuel, heating oil, or jet fuel).

* * * * *

*Heating oil* * * *

(2) A fuel oil that is used to heat or cool interior spaces of homes or buildings to control ambient climate for human comfort. The fuel oil must be liquid at 60 degrees Fahrenheit and 1 atmosphere of pressure, and contain no more than 2.5% mass solids.

* * * * *

*Non-renewable feedstock* means a feedstock that does not meet the definition of renewable biomass.

*Non-RIN-generating foreign producer* means a foreign renewable fuel producer that has been registered by EPA to produce renewable fuel for which RINs have not been generated.

* * * * *

*Renewable fuel* * * *

(2) Ethanol covered by this definition shall be denatured using an ethanol denaturant as required in 27 CFR parts 19 through 21. Any volume of ethanol denaturant added to the undenatured ethanol by a producer or importer in excess of 2 volume percent shall not be included in the volume of ethanol for purposes of determining compliance with the requirements under this subpart.

* * * * *

*RIN-generating foreign producer* means a foreign renewable fuel producer that has been registered by EPA to generate RINs for renewable fuel it produces.

* * * * *

■ 24. Section 80.1405 is amended by adding paragraph (a)(11) and revising the definitions of $GE_i$ and $DE_i$ in the equation in paragraph (c) to read as follows:

**§ 80.1405 What are the Renewable Fuel Standards?**

(a) * * *

(11) *Renewable Fuel Standards for 2020.* (i) The value of the cellulosic biofuel standard for 2020 shall be 0.34 percent.

(ii) The value of the biomass-based diesel standard for 2020 shall be 2.10 percent.

(iii) The value of the advanced biofuel standard for 2020 shall be 2.93 percent.

(iv) The value of the renewable fuel standard for 2020 shall be 11.56 percent.

* * * * *

(c) * * *

$GE_i$ = The total amount of gasoline projected to be exempt in year i, in gallons, per §§ 80.1441 and 80.1442.

$DE_i$ = The total amount of diesel fuel projected to be exempt in year i, in gallons, per §§ 80.1441 and 80.1442.

* * * * *

■ 25. Section 80.1407 is amended by adding paragraphs (f)(9) through (11) to read as follows:

**§ 80.1407. How are the Renewable Volume Obligations calculated?**

* * * * *

(f) * * *

(9) Distillate fuel with a sulfur content greater than 15 ppm that is clearly designated for a use other than transportation fuel, such as heating oil or ECA marine fuel.

(10) Distillate fuel that meets a 15 ppm sulfur standard, is designated for non-transportation use, and that remains completely segregated from MVNRLM diesel fuel from the point of production through to the point of use for a non-transportation purpose, such as heating oil or ECA marine fuel.

(11) Certified NTDF, if the refiner or importer has a reasonable expectation that the fuel will be used for non-transportation purposes. To establish a reasonable expectation that the fuel will be used for non-transportation purposes, a refiner or importer must, at a minimum, be able to demonstrate that they supply areas that use heating oil, ECA marine fuel, or 15 ppm distillate fuel for non-transportation purposes in quantities that are consistent with past practices or changed circumstances. EPA may consider any other relevant information, including the price of the fuel, in assessing whether a refiner or importer has a reasonable expectation that the fuel will be used for non-transportation purposes.

■ 26. Section 80.1408 is added to read as follows:

**§ 80.1408. What are the requirements for parties that own and redesignate certified NTDF as MVNRLM diesel fuel?**

(a) Beginning January 1, 2021, a party that owns certified NTDF, and only a party that owns certified NTDF, may redesignate NTDF as MVNRLM diesel fuel if they meet all of the following requirements:

(1) Register as a refiner and register each facility where redesignation occurs as a refinery under § 80.76. NTDF may only be redesignated as MVNRLM diesel fuel at a facility registered as a refinery.

(2) At each facility, calculate a balance of MVNRLM diesel fuel during each annual compliance period according to the following equation:

$$MVNRLM_{BAL} = MVNRLM_{O} + MVNRLM_{INVCHG} - MVNRLM_{I}$$

Where:

$MVNRLM_{BAL}$ = the balance for MVNRLM diesel fuel for the compliance period.
$MVNRLM_I$ = the total volume of all batches of fuel designated as MVNRLM diesel fuel owned when the fuel was received at the facility and acquired at the facility during the compliance period. Any MVNRLM diesel fuel produced (apart from redesignation of NTDF to MVNRLM diesel fuel) or imported into the facility must also be included in this volume.
$MVNRLM_O$ = the total volume of all batches of fuel designated as MVNRLM diesel fuel owned and sold or transferred to other parties at the facility during the compliance period.
$MVNRLM_{INVCHG}$ = the volume of MVNRLM diesel fuel owned at the end of the compliance period minus the volume of MVNRLM diesel fuel owned at the beginning of the compliance period, including accounting for any corrections in inventory due to volume swell or shrinkage, difference in measurement calibration between receiving and delivering meters, and similar matters, where corrections that increase inventory are defined as positive.

(i) If $MVNRLM_{BAL}$ is greater than 0, an RVO is incurred by the redesignating party for the volume of diesel fuel equal to MVNRLM. The redesignating party must also comply with all of the following:

(A) The reporting requirements of § 80.1451(a)(1)(xix).

(B) The recordkeeping requirements of § 80.1454(t).

(C) The attest engagement requirements of §§ 80.1464 and 80.1475, as applicable.

(ii) If $MVNRLM_{BAL}$ is less than or equal to 0, no RVO is incurred by the redesignating party for any redesignated certified NTDF. These parties must comply with all of the following:

(A) The reporting requirements of § 80.1451(i).

(B) The recordkeeping requirements of § 80.1454(t).

(b) Parties that incur an RVO under paragraph (a)(2)(i) of this section must comply with all applicable requirements for obligated parties under this subpart.

(c) The provisions of this section do not apply to gasoline or diesel fuel that is designated for export.

■ 27. Section 80.1415 is amended by revising paragraph (c)(4) to read as follows:

**§ 80.1415 How are equivalence values assigned to renewable fuel?**

* * * * *

(c) * * *

(4) Applications for equivalence values must be sent to the attention of ''RFS2 Program (Equivalence Value Application)'' to the address in § 80.10(a).

* * * * *

■ 28. Section 80.1426 is amended:

■ a. By revising the section heading and paragraphs (a)(1)(iii), (a)(2), and (c)(4) and (5); and

■ b. In paragraph (f)(1), in Table 1 to § 80.1426, by revising the entries F, H, I, and M.

The revisions read as follows:

**§ 80.1426 How are RINs generated and assigned to batches of renewable fuel?**

(a) * * *

(1) * * *

(iii) The fuel was produced in compliance with the registration requirements of § 80.1450, the reporting requirements of § 80.1451, the recordkeeping requirements of § 80.1454, all conditions set forth in an approval document for a pathway petition submitted under § 80.1416, and all other applicable regulations of this subpart M.

* * * * *

(2) To generate RINs for imported renewable fuel, including any renewable fuel contained in imported transportation fuel, heating oil, or jet fuel, importers must obtain information from a non-RIN-generating foreign renewable fuel producer that is registered pursuant to § 80.1450 sufficient to make the appropriate determination regarding the applicable D code and compliance with the renewable biomass definition for each imported batch for which RINs are generated.

* * * * *

(c) * * *

(4) Importers shall not generate RINs for renewable fuel imported from a non-RIN-generating foreign renewable fuel producer unless the foreign renewable fuel producer is registered with EPA as required in § 80.1450.

(5) Importers shall not generate RINs for renewable fuel that has already been assigned RINs by a RIN-generating foreign renewable fuel producer.

* * * * *

(f) * * *

(1) * * *

TABLE 1 TO § 80.1426—APPLICABLE D CODES FOR EACH FUEL PATHWAY FOR USE IN GENERATING RINS

| Fuel type | | Feedstock | Production process requirements | D-code |
|---|---|---|---|---|
| * | * | * | * | * |
| F | Biodiesel, renewable diesel, jet fuel and heating oil. | Soy bean oil; Oil from annual covercrops; Oil from algae grown photosynthetically; Biogenic waste oils/fats/greases; *Camelina sativa* oil; Distillers corn oil; Distillers sorghum oil; Commingled distillers corn oil and sorghum oil. | One of the following: Transesterification with or without esterification pre-treatment, or Hydrotreating; excludes processes that co-process renewable biomass and petroleum. | 4 |
| * | * | * | * | * |
| H | Biodiesel, renewable diesel, jet fuel and heating oil. | Soy bean oil; Oil from annual covercrops; Oil from algae grown photosynthetically; Biogenic waste oils/fats/greases; *Camelina sativa* oil; Distillers corn oil; Distillers sorghum oil; Commingled distillers corn oil and sorghum oil. | One of the following: Transesterification with or without esterification pre-treatment, or Hydrotreating; includes only processes that co-process renewable biomass and petroleum. | 5 |
| I | Naphtha, LPG | *Camelina sativa* oil; Distillers sorghum oil; Distillers corn oil; Commingled distillers corn oil and distillers sorghum oil. | Hydrotreating | 5 |

TABLE 1 TO § 80.1426—APPLICABLE D CODES FOR EACH FUEL PATHWAY FOR USE IN GENERATING RINS—Continued

| Fuel type | Feedstock | Production process requirements | D-code |
|---|---|---|---|
| * * | * * | * * * | * |
| M ..... Renewable Gasoline and Renewable Gasoline Blendstock; Co-Processed Cellulosic Diesel, Jet Fuel, and Heating Oil. | Crop residue, slash, pre-commercial thinnings, tree residue, and separated yard waste; biogenic components of separated MSW; cellulosic components of separated food waste; and cellulosic components of annual cover crops. | Catalytic Pyrolysis and Upgrading, Gasification and Upgrading, Thermo-Catalytic Hydrodeoxygenation and Upgrading, Direct Biological Conversion, Biological Conversion and Upgrading utilizing natural gas, biogas, and/or biomass as the only process energy sources providing that process used converts cellulosic biomass to fuel; any process utilizing biogas and/or biomass as the only process energy sources which converts cellulosic biomass to fuel. | 3 |
| * * | * * | * * * | * |

* * * * *

■ 29. Section 80.1427 is amended by revising the definition of ''$RVO_i$'' in paragraph (b)(2) and by revising paragraph (c)(2) to read as follows:

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

* * * * *

(b) * * *

(2) * * *

$RVO_i$ = The Renewable Volume Obligation for the obligated party or exporter of renewable fuel for calendar year i, in gallons.

* * * * *

(c) * * *

(2) In fulfillment of its ERVOs, each exporter of renewable fuel is subject to the provisions of paragraphs (a)(2), (3), (6), and (8) of this section.

* * * * *

■ 30. Section 80.1429 is amended by revising paragraph (b)(3) to read as follows:

**§ 80.1429 Requirements for separating RINs from volumes of renewable fuel.**

* * * * *

(b) * * *

(3) Any exporter of renewable fuel must separate any RINs that have been assigned to the exported renewable fuel volume. An exporter of renewable fuel may separate up to 2.5 RINs per gallon of exported renewable fuel.

* * * * *

■ 31. Section 80.1430 is amended by paragraph (a), the definition of ''k'' in paragraph (b)(1), and paragraphs (c), (d)(1), and (e) introductory text and adding paragraph (h) to read as follows:

**§ 80.1430 Requirements for exporters of renewable fuels.**

(a) Any exporter of renewable fuel, whether in its neat form or blended shall acquire sufficient RINs to comply with all applicable Renewable Volume Obligations under paragraphs (b) through (e) of this section representing the exported renewable fuel. No provision of this section applies to renewable fuel purchased directly from the renewable fuel producer and for which the exporter of renewable fuel can demonstrate that no RINs were generated through the recordkeeping requirements of § 80.1454(a)(6).

(b) * * *

(1) * * *

k = A discrete volume of renewable fuel that the exporter of renewable fuel knows or has reason to know is cellulosic biofuel that is exported in a single shipment.

* * * * *

(c) If the exporter of renewable fuel knows or has reason to know that a volume of exported renewable fuel is cellulosic diesel, the exporter of renewable fuel must treat the exported volume as either cellulosic biofuel or biomass-based diesel when determining his Renewable Volume Obligations pursuant to paragraph (b) of this section.

(d) * * *

(1) If the equivalence value for a volume of exported renewable fuel can be determined pursuant to § 80.1415 based on its composition, then the appropriate equivalence value shall be used in the calculation of the exporter of renewable fuel's Renewable Volume Obligations under paragraph (b) of this section.

* * * * *

(e) For renewable fuels that are in the form of a blend at the time of export, the exporter of renewable fuel shall determine the volume of exported renewable fuel based on one of the following:

* * * * *

(h) Each person meeting the definition of exporter of renewable fuel for a particular export transaction is jointly and severally liable for completion of the requirements of this section and all associated RIN retirement demonstration, registration, reporting, and attest engagement obligations under this subpart. However, these requirements for exporters of renewable fuel must be met only once for any export transaction.

■ 32. Section 80.1431 is amended by revising paragraph (b)(2) to read as follows:

**§ 80.1431 Treatment of invalid RINs.**

* * * * *

(b) * * *

(2) Invalid RINs cannot be used to achieve compliance with the Renewable Volume Obligations of an obligated party or exporter of renewable fuel, regardless of the party's good faith belief that the RINs were valid at the time they were acquired.

* * * * *

■ 33. Section 80.1434 is added to read as follows:

**§ 80.1434 RIN retirement.**

(a) A RIN must be retired in any of the following cases:

(1) *Demonstrate annual compliance.* Except as specified in paragraph (b) of this section or § 80.1456, each party that is an obligated party under § 80.1406 and is obligated to meet the RVO under § 80.1407 must retire a sufficient number of RINs to demonstrate compliance with an applicable RVO.

(2) *Exported renewable fuel.* Any exporter of renewable fuel that incurs an ERVO as described in § 80.1430(a) shall retire RINs pursuant to §§ 80.1430(b) through (g) and 80.1427(c).

(3) *Volume error correction.* A RIN must be retired when it was based on incorrect volumes or volumes that have not been standardized to 60 °F as described in § 80.1426(f)(8).

(4) *Import volume correction.* Where the port of entry volume is the lesser of the two volumes in § 80.1466(e)(1)(i), the importer shall calculate the

difference between the number of RINs originally assigned by the foreign producer and the number of RINs calculated under § 80.1426 for the volume of renewable fuel as measured at the port of entry, and retire that amount of RINs in accordance with § 80.1466(k)(4).

(5) *Spillage or disposal of renewable fuels.* Except as provided in § 80.1432(c), in the event that a reported spillage or disposal of any volume of renewable fuel, the owner of the renewable fuel must notify any holder or holders of the attached RINs and retire a number of gallon-RINs corresponding to the volume of spilled or disposed of renewable fuel multiplied by its equivalence value in accordance with § 80.1432(b).

(6) *Contaminated or spoiled fuel.* In the event that contamination or spoliation of any volume of renewable fuel is reported, the owner of the renewable fuel must notify any holder or holders of the attached RINs and retire a number of gallon-RINs corresponding to the volume of contaminated or spoiled renewable fuel multiplied by its equivalence value.

(i) If the equivalence value for the contaminated or spoiled volume may be determined pursuant to § 80.1415 based on its composition, then the appropriate equivalence value shall be used.

(ii) If the equivalence value for a contaminated or spoiled volume of renewable fuel cannot be determined, the equivalence value shall be 1.0.

(iii) If the owner of a volume of renewable fuel that is contaminated or spoiled and reported establishes that no RINs were generated to represent the volume, then no gallon-RINs shall be retired.

(7) *Delayed RIN generation.* In the event that a party generated a delayed RIN as described in § 80.1426(g)(1) through (4), parties must retire RINs as described in accordance with § 80.1426(g)(5) and (6).

(8) *Invalid RIN.* In the case that a RIN is invalid as described in § 80.1431(a), the RIN will be considered invalid and must be retired as described in § 80.1431(b).

(9) *Potentially invalid RINs.* In the case that a RIN is identified as a PIR under § 80.1474(b)(1), the PIRs or replacement RINs must be retired as described in § 80.1474(b)(2) through (5).

(10) *Replacement.* As required by § 80.1431(b) or § 80.1474, any party that must replace an invalid RIN or PIR that was used for compliance must retire valid RINs to replace the invalid RINs originally used for any RVO.

(11) *Other.* Any other instance identified by EPA.

(b) In the case that retirement of a RIN is necessary, the following provisions apply:

(1) Any party affected by such retirement must keep copies and adjust its records, reports, and compliance calculations in which the retired RIN was used.

(2) The retired RIN must be reported in the applicable reports under § 80.1451.

(3) The retired RIN must be reported in the EPA Moderated Transaction System pursuant to § 80.1452(c).

(4) Where the importer of renewable fuel is required to retire RINs under paragraph (a)(5) of this section, the importer must report the retired RINs in the applicable reports under §§ 80.1451, 80.1466(k), and 80.1466(m).

■ 34. Section 80.1440 is amended by revising the section heading and paragraph (a) and adding paragraph (f) to read as follows:

**§ 80.1440 What are the provisions for blenders who handle and blend less than 250,000 gallons of renewable fuel per year or who handle renewable fuel blended for fuels under a national security exemption?**

(a)(1) Renewable fuel blenders who handle and blend less than 250,000 gallons of renewable fuel per year, and who do not have one or more reported or unreported Renewable Volume Obligations, are permitted to delegate their RIN-related responsibilities to the party directly upstream of them who supplied the renewable fuel for blending.

(2) Renewable fuel blenders who handle and blend renewable fuel for parties that have a national security exemption under paragraph (f) of this section, or a national security exemption under any other subpart of 40 CFR part 80 (*e.g.,* §§ 80.606, 80.1655), and who do not have one or more reported or unreported Renewable Volume Obligations, are permitted to delegate their RIN-related responsibilities to the party directly upstream of them who supplied the renewable fuel for blending.

* * * * *

(f) The requirements described in paragraph (b) of this section may be delegated directly upstream for renewable fuel (neat or blended) that is produced, imported, sold, offered for sale, supplied, offered for supply, stored, dispensed, or transported for use in any of the following:

(1) Tactical military vehicles, engines, or equipment having an EPA national security exemption from emission standards under 40 CFR 85.1708, 89.908, 92.908, 94.908, 1042.635, or 1068.225.

(2) Tactical military vehicles, engines, or equipment that are not subject to a national security exemption from vehicle or engine emissions standards as described in paragraph (f)(1) of this section but, for national security purposes (for purposes of readiness for deployment overseas), need to be fueled on the same transportation fuel, heating oil, or jet fuel as the vehicles, engines, or equipment for which EPA has granted such a national security exemption.

■ 35. Section 80.1441 is amended by revising paragraph (h) to read as follows:

**§ 80.1441 Small refinery exemption.**

* * * * *

(h) Verification letters under paragraph (b) of this section, petitions for small refinery hardship extensions under paragraph (e) of this section, and small refinery exemption waiver notices under paragraph (f) of this section shall be sent to the attention of ''RFS Program'' to the address in § 80.10(a).

■ 36. Section 80.1442 is amended by revising paragraph (i) to read as follows:

**§ 80.1442 What are the provisions for small refiners under the RFS program?**

* * * * *

(i) Small refiner status verification letters, small refiner exemption waivers, or applications for extensions of the small refiner temporary exemption under this section must be sent to the attention of ''RFS Program'' to the address in § 80.10(a).

■ 37. Section 80.1443 is amended by revising paragraph (d)(2) to read as follows:

**§ 80.1443 What are the opt-in provisions for noncontiguous states and territories?**

* * * * *

(d) * * *

(2) A petition submitted under this section should be sent to the attention of ''RFS Program'' to the address in § 80.10(a).

* * * * *

■ 38. Section 80.1449 is amended by revising paragraph (d) to read as follows:

**§ 80.1449 What are the Production Outlook Report requirements?**

* * * * *

(d) Production outlook reports shall be sent to the attention of ''RFS Program (Production Output Reports)'' to the address in § 80.10(a).

* * * * *

■ 39. Section 80.1450 is amended by revising paragraphs (b) introductory text, (b)(1)(vii)(A)(*1*), (b)(1)(vii)(B), (b)(1)(viii)(A), (b)(1)(ix)(A) introductory

text, (b)(1)(xi)(A) and (B), the first sentence of paragraph (d)(1), and paragraphs (g)(9) and (h) to read as follows:

**§ 80.1450 What are the registration requirements under the RFS program?**

* * * * *

(b) *Producers.* Any RIN-generating foreign producer, any non-RIN-generating foreign producer, or any domestic renewable fuel producer that generates RINs must provide EPA the information specified under § 80.76 if such information has not already been provided under the provisions of this part, and must receive EPA-issued company and facility identification numbers prior to the generation of any RINs for their fuel or for fuel made with their ethanol. Unless otherwise specifically indicated, all the following registration information must be submitted and accepted by EPA by July 1, 2010, or 60 days prior to the generation of RINs, whichever date comes later, subject to this subpart:

(1) * * *

(vii) * * *

(A) * * *

(*1*) The location of any establishment from which the waste stream consisting solely of separated yard waste is collected.

* * * * *

(B) For a producer of renewable fuel or a foreign producer of ethanol made from separated food waste per § 80.1426(f)(5)(i)(B) or from biogenic waste oils/fats/greases:

(*1*) A plan documenting the type(s) of separated food waste or biogenic waste oils/fats/greases, the type(s) of establishment from which the waste is collected, how the waste will be collected, a description of ongoing verification measures that demonstrate such waste consists only of food waste (and an incidental amount of other components such as paper and plastics) or biogenic waste oils/fats/greases that is kept separate from other waste materials, and if applicable, how the cellulosic and non-cellulosic portions of the waste will be quantified.

(*2*) [Reserved]

* * * * *

(viii) * * *

(A) The location of the municipal waste establishment(s) from which the separated municipal solid waste is collected or from which material is collected that will be processed to produce separated municipal solid waste.

* * * * *

(ix) * * *

(A) For a producer of ethanol from grain sorghum or a foreign ethanol producer making product from grain sorghum and seeking to have it sold as renewable fuel after addition of ethanol denaturant, provide a plan that has been submitted and accepted by U.S. EPA that includes the following information:

* * * * *

(xi) * * *

(A) An affidavit from the producer of the fuel oil meeting paragraph (2) of the definition of ''heating oil'' in § 80.1401 stating that the fuel oil for which RINs have been generated will be sold for the purposes of heating or cooling interior spaces of homes or buildings to control ambient climate for human comfort, and no other purpose.

(B) Affidavits from the final end user or users of the fuel oil stating that the fuel oil meeting paragraph (2) of the definition of ''heating oil'' in § 80.1401 is being used or will be used for purposes of heating or cooling interior spaces of homes or buildings to control ambient climate for human comfort, and no other purpose, and acknowledging that any other use of the fuel oil would violate EPA regulations and subject the user to civil and/or criminal penalties under the Clean Air Act.

* * * * *

(d) * * *

(1) Any producer of renewable fuel or any foreign ethanol producer that makes changes to their facility that will allow them to produce renewable fuel that is not reflected in the producer's registration information on file with EPA must update their registration information and submit a copy of an updated independent third-party engineering review on file with EPA at least 60 days prior to producing the new type of renewable fuel. * * *

* * * * *

(g) * * *

(9) *Registration updates.* (i) Any independent third-party auditor who makes changes to its quality assurance plan(s) that will allow it to audit new renewable fuel production facilities, as defined in § 80.1401, that is not reflected in the independent third-party auditor's registration information on file with EPA must update its registration information and submit a copy of an updated QAP on file with EPA at least 60 days prior to auditing new renewable fuel production facilities.

(ii) Any independent third-party auditor who makes any changes other than those specified in paragraphs (g)(9)(i), (iii), and (iv) of this section that will affect the third-party auditor's registration information must update its registration information 7 days prior to the change.

(iii) Independent third-party auditors must update their QAPs at least 60 days prior to verifying RINs generated by a renewable fuel facility for a pathway not covered in the independent third-party auditor's QAPs.

(iv) Independent third-party auditors must update their QAPs at least 60 days prior to verifying RINs generated by any renewable fuel facility not identified in the independent third-party auditor's existing registration.

* * * * *

(h) *Deactivation of registration.* (1) EPA may deactivate the registration of any party required to register under this section § 80.1450, using the process in paragraph (h)(2) of this section, if any of the following criteria are met:

(i) The party has reported no activity in EMTS for twenty-four consecutive months.

(ii) The party has failed to comply with the registration requirements of this section.

(iii) The party has failed to submit any required notification or report within 30 days of the required submission date under § 80.1451.

(iv) The attest engagement required under § 80.1464 has not been received within 30 days of the required submission date.

(v) The party fails to pay a penalty or to perform any requirements under the terms of a court order, administrative order, consent decree, or administrative settlement between the party and EPA.

(vi) The party submits false or incomplete information.

(vii) The party denies EPA access or prevents EPA from completing authorized activities under sections 114 or 208 of the Clean Air Act despite presenting a warrant or court order. This includes a failure to provide reasonable assistance.

(viii) The party fails to keep or provide the records required by this subpart.

(ix) The party otherwise circumvents the intent of the Clean Air Act or of this subpart.

(2) Except as provided in paragraph (h)(3) of this section, EPA will use the following process whenever it decides to deactivate the registration of a party:

(i) EPA will provide written notification to the responsible corporate officer identifying the reasons or deficiencies for which EPA intends to deactivate the party's registration. The party will have fourteen calendar days from the date of the notification to correct the deficiencies identified or explain why there is no need for corrective action.

(ii) If the basis for EPA's notice of intent to deactivate registration is the

absence of EMTS activity under paragraph (h)(1)(i) of this section, a stated intent to engage in activity reported through EMTS will be sufficient to avoid deactivation of registration.

(iii) If the party does not correct identified deficiencies under paragraphs (h)(1)(ii) through (ix) of this section, or does not provide an adequate explanation regarding why such correction is not necessary within the time allotted for response, EPA may deactivate the party's registration without further notice to the party.

(3) In instances of willfulness or those in which public health, interest, or safety requires otherwise, EPA may deactivate the registration of the party without any notice to the party. EPA will provide written notification to the responsible corporate officer identifying the reasons EPA deactivated the registration of the party.

(4) Impact of registration deactivation:

(i) A party whose registration is deactivated shall still be liable for violation of any requirements of this subpart.

(ii) A party whose registration is deactivated will not be listed on any public list of actively registered parties that is maintained by EPA.

(iii) A party whose registration is deactivated will not have access to any of the electronic reporting systems associated with the renewable fuel standard program, including the EPA Moderated Transaction System (EMTS).

(iv) A party whose registration is deactivated must submit any corrections of deficiencies to EPA on forms, and following policies, established by EPA.

(v) If a party whose registration has been deactivated wishes to re-register, they may seek to do so by submitting a new registration pursuant to the requirements in paragraphs (a) through (c), (e), and (g) of this section, as applicable.

* * * * *

■ 40. Section 80.1451 is amended by:

■ a. Revising paragraphs (a)(1)(i) and (v);

■ b. Adding paragraph (a)(1)(xix);

■ c. Revising paragraphs (a)(4), (b) introductory text, (b)(1)(ii)(D) and (I), (g)(1)(ii)(D) and (I);

■ d. Redesignating paragraphs (i) and (j) as paragraphs (j) and (k); and

■ e. Adding new paragraph (i). The revisions and additions read as follows:

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

(a) * * *

(1) * * *

(i) The obligated party's or exporter of renewable fuel's name.

* * * * *

(v)(A) For the 2010 through 2019 compliance periods, the production volume and import volume of all of the products listed in § 80.1407(c) and (e) for the compliance period.

(B) For the 2020 compliance period, separately, the production volume and import volume of all of the gasoline products listed in § 80.1407(c), the production volume and import volume of all of the MVNRLM diesel fuel products listed in § 80.1407(e), and the combined volume of all gasoline products and MVNRLM diesel fuel listed in § 80.1407(c) and (e) for the compliance period.

(C) Beginning with the 2021 compliance period, separately, the production volume and import volume for the compliance period of all of the following:

(*1*) All of the gasoline products listed in § 80.1407(c).

(*2*) All of the MVNRLM diesel fuel products listed in § 80.1407(e).

(*3*) The combined production volume of all gasoline products and MVNRLM diesel fuel.

(*4*) Distillate fuel that is not transportation fuel.

(*5*) Distillate fuel that is certified NTDF.

* * * * *

(xix) For parties that redesignate certified NTDF as MVNRLM diesel fuel under § 80.1408 at any time during the compliance period, the volumes $MVNRLM_{BAL}$, $MVNRLM_{O}$, $MVNRLM_{INVCHG}$, and $MVNRLM_{I}$ as calculated in § 80.1408(a)(2).

* * * * *

(4) Reports required under this paragraph (a) must be signed and certified as meeting all the applicable requirements of this subpart by the owner or a responsible corporate officer of the obligated party or exporter of renewable fuel.

(b) *Renewable fuel producers (domestic and foreign) and importers.* Any domestic producer or importer of renewable fuel who generates RINs, or any RIN-generating foreign producer must submit to EPA reports according to the schedule, and containing all of the following information:

(1) * * *

(ii) * * *

(D) The importer EPA facility registration number and foreign renewable fuel producer company registration number, if applicable.

* * * * *

(I) The volume of ethanol denaturant and applicable equivalence value of each batch.

* * * * *

(g) * * *

(1) * * *

(ii) * * *

(D) The importer EPA facility registration number and foreign renewable fuel producer company registration number, if applicable.

* * * * *

(I) The volume of ethanol denaturant and applicable equivalence value of each verified batch.

* * * * *

(i) Parties that redesignate certified NTDF as MVNRLM diesel fuel under § 80.1408 at any time during the compliance period, but do not incur an RVO under § 80.1408(a)(2)(i), must submit a report to EPA stating that they redesignated certified NTDF to MVNRLM diesel fuel during the compliance period, but that their net redesignated volume was less than or equal to zero, and they therefore did not incur an RVO for the compliance period.

* * * * *

■ 41. Section 80.1452 is amended by revising paragraph (b)(11) and the last sentence in paragraph (c) introductory text to read as follows:

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

* * * * *

(b) * * *

(11) The volume of ethanol denaturant and applicable equivalence value of each batch.

* * * * *

(c) * * * The reportable event for a RIN separation or retirement occurs on the date of separation or retirement as described in § 80.1429 or § 80.1434.

* * * * *

■ 42. Section 80.1453 is amended by revising paragraphs (b) and (d) and adding paragraph (e) to read as follows:

**§ 80.1453 What are the product transfer document (PTD) requirements for the RFS program?**

* * * * *

(b) Except for transfers to truck carriers, retailers, or wholesale purchaser-consumers, product codes may be used to convey the information required under paragraphs (a)(1) through (11) and (e) of this section if such codes are clearly understood by each transferee.

* * * * *

(d) For fuel oil meeting paragraph (2) of the definition of ''heating oil'' in § 80.1401, the PTD of the fuel oil shall state: ''This volume of renewable fuel oil is designated and intended to be used to heat or cool interior spaces of homes or buildings to control ambient

climate for human comfort. Do NOT use for process heat or cooling or any other purpose, as these uses are prohibited pursuant to 40 CFR 80.1460(g).''.

(e) Beginning January 1, 2021, on each occasion when any party transfers custody or ownership of certified NTDF, except when such fuel is dispensed into motor vehicles or nonroad vehicles, engines, or equipment, the transferor must provide to the transferee documents that include all the following information, as applicable:

(1) The transferor of certified NTDF must list all applicable required information as specified at § 80.590 and, if the distillate fuel contains renewable fuel, all applicable required information in paragraphs (a), (b), and (d) of this section.

(2) The transferor must include the following statement on the PTD: ''15 ppm sulfur (maximum) certified NTDF—This fuel is designated for non-transportation use.''

■ 43. Section 80.1454 is amended by:

■ a. Revising paragraphs (a) introductory text, (a)(1), (d)(4), (h)(6)(iii), (j) introductory text, (j)(1), and (j)(2) introductory text;

■ b. Removing vacant paragraph (k) designation;

■ c. Revising paragraphs (n) and (q);

■ d. Redesignating paragraph (t) as paragraph (w); and

■ e. Adding new paragraph (t).

The revisions and addition reads as follows:

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

(a) *Requirements for obligated parties and exporters of renewable fuel.* Beginning July 1, 2010, any obligated party (as described at § 80.1406) or exporter of renewable fuel (as described at § 80.1430) must keep all of the following records:

(1) Product transfer documents consistent with § 80.1453 and associated with the obligated party's or exporter of renewable fuel's activity, if any, as transferor or transferee of renewable fuel or separated RINs.

* * * * *

(d) * * *

(4) Domestic producers of renewable fuel made from any other type of renewable biomass must have documents from their feedstock supplier certifying that the feedstock qualifies as renewable biomass as defined in § 80.1401, describing the feedstock. Separated yard and food waste, biogenic oils/fats/greases, and separated municipal solid waste are also subject to the requirements in paragraph (j) of this section.

* * * * *

(h) * * *

(6) * * *

(iii) The survey plan must be sent to the attention of ''RFS Program'' to the address in § 80.10(a).

* * * * *

(j) A renewable fuel producer that produces fuel from separated yard waste (as described in § 80.1426(f)(5)(i)(A)), separated food waste (as described in § 80.1426(f)(5)(i)(B)), separated municipal solid waste (as described in § 80.1426(f)(5)(i)(C)), or biogenic waste oils/fats/greases must keep all the following additional records:

(1) For separated yard waste, separated food waste, and biogenic waste oils/fats/greases:

(i) Documents demonstrating the amounts, by weight, purchased of separated yard waste, separated food waste, or biogenic waste oils/fats/greases for use as a feedstock in producing renewable fuel.

(ii) Documents demonstrating the location of any establishment(s) from which the waste stream consisting solely of separated yard waste, separated food waste, or biogenic waste oils/fats/greases is collected.

(iii) Such other records as may be requested by the Administrator.

(2) For separated municipal solid waste:

* * * * *

(n) The records required under paragraphs (a) through (d), (f) through (l), and (t) of this section and under § 80.1453 shall be kept for five years from the date they were created, except that records related to transactions involving RINs shall be kept for five years from the date of the RIN transaction.

* * * * *

(q) The records required in paragraphs (b)(3) and (c)(1) of this section must be transferred with any renewable fuel sent to the importer of that renewable fuel by any non-RIN-generating foreign producer.

* * * * *

(t) *Requirements for parties that redesignate certified NTDF as MVNRLM diesel fuel.* Parties that redesignate certified NTDF as MVNRLM diesel fuel under § 80.1408 must keep all of the following additional records:

(1) Records related to all transactions in which certified NTDF is redesignated as MVNRLM diesel fuel.

(2) Records related to all transactions in which MVNRLM diesel fuel is redesignated to a non-transportation use.

(3) Records related to the volume of MVNRLM diesel fuel received.

(4) Records related to the volume of MVNRLM diesel fuel delivered.

(5) Records related to the volume of certified NTDF received.

(6) Records related to the volume of certified NTDF delivered.

* * * * *

■ 44. Section 80.1460 is amended by adding paragraph (b)(7), revising paragraph (g), and adding paragraph (j) to read as follows:

**§ 80.1460 What acts are prohibited under the RFS program?**

* * * * *

(b) * * *

(7) Generate a RIN for fuel that fails to meet all the conditions set forth in an approval document for a pathway petition submitted under § 80.1416.

* * * * *

(g) *Failing to use a renewable fuel oil for its intended use.* No person shall use fuel oil that meets paragraph (2) of the definition of ''heating oil'' in § 80.1401 and for which RINs have been generated in an application other than to heat or cool interior spaces of homes or buildings to control ambient climate for human comfort.

* * * * *

(j) *Redesignation violations.* No person may exceed the balance requirements at § 80.1408(a)(2)(i) without incurring an RVO.

■ 45. Section 80.1461 is amended by revising paragraphs (a)(1) and (2) to read as follows:

**§ 80.1461. Who is liable for violations under the RFS program?**

(a) * * *

(1) Any person who violates a prohibition under § 80.1460(a) through (d) or § 80.1460(g) through (j) is liable for the violation of that prohibition.

(2) Any person who causes another person to violate a prohibition under § 80.1460(a) through (d) or § 80.1460(g) through (j) is liable for a violation of § 80.1460(e).

* * * * *

■ 46. Section 80.1463 is amended by revising paragraph (d) to read as follows:

**§ 80.1463 What penalties apply under the RFS program?**

* * * * *

(d) Any person liable under § 80.1461(a) for a violation of § 80.1460(b)(1) through (4), (6), or (7) is subject to a separate day of violation for each day that an invalid RIN remains available for an obligated party or exporter of renewable fuel to demonstrate compliance with the RFS program.

■ 47. Section 80.1464 is amended by revising paragraphs (a) introductory text, (a)(1)(i)(A), (a)(1)(iii), (a)(1)(iv)

introductory text, (a)(1)(iv)(A) and (D), and (a)(1)(v), adding paragraph (a)(1)(vii), and revising the first sentence of paragraph (b)(1)(ii) to read as follows:

**§ 80.1464 What are the attest engagement requirements under the RFS program?**

* * * * *

(a) *Obligated parties and exporters of renewable fuel.* The following attest procedures shall be completed for any obligated party (as described at § 80.1406(a)) or exporter of renewable fuel (as described at § 80.1430):

(1) * * *

(i) * * *

(A) The obligated party's volume of all products listed in § 80.1407(c) and (e), or the exporter of renewable fuel's volume of each category of exported renewable fuel identified in § 80.1430(b)(1) through (b)(4).

* * * * *

(iii) For obligated parties, compare the volumes of products listed in § 80.1407(c), (e), and (f) reported to EPA in the report required under § 80.1451(a)(1) 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.

(iv) For exporters of renewable fuel, perform all of the following:

(A) Obtain the database, spreadsheet, or other documentation that the exporter of renewable fuel maintains for all exported renewable fuel.

* * * * *

(D) Select sample batches in accordance with the guidelines in § 80.127 from each separate category of renewable fuel exported and identified in § 80.1451(a); obtain invoices, bills of lading and other documentation for the representative samples; state whether any of these documents refer to the exported fuel as advanced biofuel or cellulosic biofuel; and report as a finding whether or not the exporter of renewable fuel calculated an advanced biofuel or cellulosic biofuel RVO for these fuels pursuant to § 80.1430(b)(1) or (3).

(v) Compute and report as a finding the RVOs for the obligated party or exporter of renewable fuel, and any deficit RVOs carried over from the previous year or carried into the subsequent year, and verify that the values agree with the values reported to EPA.

* * * * *

(vii) For obligated parties that redesignate certified NTDF as MVNRLM diesel fuel under § 80.1408, perform the additional attest engagement procedures described at § 80.1475 and report any findings in the report described in paragraph (d) of this section. Parties that do not incur an RVO under § 80.1408(a)(2)(i) and do not otherwise need to complete an attest engagement under this paragraph (a) do not need to arrange for the additional attest engagement procedures under § 80.1475 to be performed.

* * * * *

(b) * * *

(1) * * *

(ii) Obtain production data for each renewable fuel batch by type of renewable fuel that was produced or imported during the year being reviewed; compute the RIN numbers, production dates, types, volumes of ethanol denaturant and applicable equivalence values, and production volumes for each batch; report the total RINs generated during the year being reviewed; and state whether this information agrees with the party's reports to EPA. * * *

* * * * *

■ 48. Section 80.1466 is amended by:

■ a. Revising the section heading, paragraphs (a) and (b), the paragraph (c) subject heading, paragraphs (c)(1), (d)(1)(iii) and (v), (d)(1)(vi)(B), (d)(3)(ii), (e)(2)(ii), (f) introductory text, (f)(1) introductory text, (f)(1)(ii)(C), (f)(1)(v)(A) and (C), (f)(1)(vii), (f)(2), (f)(4) through (8), (g), and (h) introductory text;

■ b. In the equation in paragraph (h)(1) revising the definition ''G'';

■ c. Revising paragraphs (h)(3)(iii), (h)(4), (i), (j)(2) through (4), (k)(1), (k)(2)(ii), (k)(4)(ii), the paragraph (l) subject heading, paragraphs (l)(1) introductory text, (l)(2)(i), (l)(3), (m)(3)(ii), (m)(6)(i), (n) introductory text, (n)(1), (3), and (4), (o) introductory text, and (o)(2); and

■ d. Adding paragraph (p).

The revisions and addition read as follows:

**§ 80.1466 What are the additional requirements under this subpart for foreign renewable fuel producers and importers of renewable fuels?**

(a) *Applicability.* This section only applies to foreign renewable fuel producers that are located outside the United States, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands (collectively referred to in this section as ''the United States'').

(b) *General requirements.* A registered foreign renewable fuel producer under this section must meet all requirements that apply to renewable fuel producers under this subpart.

(c) *Designation, RIN-generating foreign producer certification, and product transfer documents.* (1) Any registered foreign renewable fuel producer must designate each batch of such renewable fuel as ''RFS–FRRF'' at the time the renewable fuel is produced.

* * * * *

(d) * * *

(1) * * *

(iii) Obtain the EPA-assigned registration number of the foreign renewable fuel producer.

* * * * *

(v) Determine the date and time the vessel departs the port serving the RIN-generating foreign producer.

(vi) * * *

(B) That the RFS–FRRF remained segregated from Non-RFS–FRRF and other RFS–FRRF produced by a different foreign producer.

* * * * *

(3) * * *

(ii) Be independent under the criteria specified in § 80.65(f)(2)(iii); and

* * * * *

(e) * * *

(2) * * *

(ii) Where the port of entry volume is the lesser of the two volumes in paragraph (e)(1)(i) of this section, the importer shall calculate the difference between the number of RINs originally assigned by the RIN-generating foreign producer and the number of RINs calculated under § 80.1426 for the volume of renewable fuel as measured at the port of entry, and acquire and retire that amount of RINs in accordance with paragraph (k)(3) of this section.

(f) *Foreign producer commitments.* Any foreign renewable fuel producer shall commit to and comply with the following provisions as a condition to being registered as a foreign renewable fuel producer under this subpart:

(1) Any EPA inspector or auditor must be given full, complete, and immediate access to conduct inspections and audits of the foreign renewable fuel producer facility.

* * * * *

(ii) * * *

(C) Renewable fuel is stored or transported between the foreign renewable fuel producer and the United States, including storage tanks, vessels and pipelines.

* * * * *

(v) * * *

(A) The volume of renewable fuel.

* * * * *

(C) Transfers of title or custody to renewable fuel.

* * * * *

(vii) Any employee of the foreign renewable fuel producer must be made available for interview by the EPA inspector or auditor, on request, within a reasonable time period.

* * * * *

(2) An agent for service of process located in the District of Columbia shall be named, and service on this agent constitutes service on the foreign renewable fuel producer or any employee of the foreign renewable fuel producer for any action by EPA or otherwise by the United States related to the requirements of this subpart.

* * * * *

(4) United States substantive and procedural laws shall apply to any civil or criminal enforcement action against the foreign renewable fuel producer or any employee of the foreign renewable fuel producer related to the provisions of this section.

(5) Applying to be an approved foreign renewable fuel producer under this section, or producing or exporting renewable fuel under such approval, and all other actions to comply with the requirements of this subpart relating to such approval constitute actions or activities covered by and within the meaning of the provisions of 28 U.S.C. 1605(a)(2), but solely with respect to actions instituted against the foreign renewable fuel producer, its agents and employees in any court or other tribunal in the United States for conduct that violates the requirements applicable to the foreign renewable fuel producer under this subpart, including conduct that violates the False Statements Accountability Act of 1996 (18 U.S.C. 1001) and section 113(c)(2) of the Clean Air Act (42 U.S.C. 7413).

(6) The foreign renewable fuel producer, or its agents or employees, will not seek to detain or to impose civil or criminal remedies against EPA inspectors or auditors for actions performed within the scope of EPA employment or contract related to the provisions of this section.

(7) The commitment required by this paragraph shall be signed by the owner or president of the foreign renewable fuel producer company.

(8) In any case where renewable fuel produced at a foreign renewable fuel production facility is stored or transported by another company between the production facility and the vessel that transports the renewable fuel to the United States, the foreign renewable fuel producer shall obtain from each such other company a commitment that meets the requirements specified in paragraphs (f)(1) through (7) of this section, and these commitments shall be included in the foreign renewable fuel producer's application to be an approved foreign renewable fuel producer under this subpart.

(g) *Sovereign immunity.* By submitting an application to be an approved foreign renewable fuel producer under this subpart, or by producing and exporting renewable fuel to the United States under such approval, the foreign renewable fuel producer, and its agents and employees, without exception, become subject to the full operation of the administrative and judicial enforcement powers and provisions of the United States without limitation based on sovereign immunity, with respect to actions instituted against the foreign renewable fuel producer, its agents and employees in any court or other tribunal in the United States for conduct that violates the requirements applicable to the foreign renewable fuel producer under this subpart, including conduct that violates the False Statements Accountability Act of 1996 (18 U.S.C. 1001) and section 113(c)(2) of the Clean Air Act (42 U.S.C. 7413).

(h) *Bond posting.* Any RIN-generating foreign producer shall meet the following requirements as a condition to approval as a RIN-generating foreign producer under this subpart:

(1) * * *

G = the greater of: the largest volume of renewable fuel produced by the RIN-generating foreign producer and exported to the United States, in gallons, during a single calendar year among the five preceding calendar years, or the largest volume of renewable fuel that the Rin-generating foreign producers expects to export to the United States during any calendar year identified in the Production Outlook Report required by § 80.1449. If the volume of renewable fuel exported to the United States increases above the largest volume identified in the Production Outlook Report during any calendar year, the RIN-generating foreign producer shall increase the bond to cover the shortfall within 90 days.

* * * * *

(3) * * *

(iii) Include a commitment that the bond will remain in effect for at least five years following the end of latest annual reporting period that the RIN-generating foreign producer produces renewable fuel pursuant to the requirements of this subpart.

(4) On any occasion a RIN-generating foreign producer bond is used to satisfy any judgment, the RIN-generating foreign producer shall increase the bond to cover the amount used within 90 days of the date the bond is used.

(i) *English language reports.* Any document submitted to EPA by a foreign renewable fuel producer shall be in English, or shall include an English language translation.

(j) * * *

(2) No foreign renewable fuel producer or other person may cause another person to commit an action prohibited in paragraph (j)(1) of this section, or that otherwise violates the requirements of this section.

(3) No foreign renewable fuel producer or importer may generate RINs for the same volume of renewable fuel.

(4) A foreign renewable fuel producer is prohibited from generating RINs in excess of the number for which the bond requirements of this section have been satisfied.

(k) * * *

(1) Renewable fuel shall be classified as RFS–FRRF according to the designation by the RIN-generating foreign producer if this designation is supported by product transfer documents prepared by the foreign producer as required in paragraph (c) of this section.

(2) * * *

(ii) Use the RIN-generating foreign producer's RFS–FRRF certification to determine the name and EPA-assigned registration number of the RIN-generating foreign producer that produced the RFS–FRRF.

* * * * *

(4) * * *

(ii) The RIN-generating foreign producer, containing the information determined under paragraph (k)(2)(i) of this section, and including identification of the port at which the product was offloaded, and any RINs retired under paragraph (e)(2) of this section.

* * * * *

(l) *Truck imports of RFS–FRRF produced by a RIN-generating foreign producer.* (1) Any RIN-generating foreign producer whose RFS–FRRF is transported into the United States by truck may petition EPA to use alternative procedures to meet all the following requirements:

* * * * *

(2) * * *

(i) Contracts with any facilities that receive and/or transport RFS–FRRF that prohibit the commingling of RFS–FRRF with Non-RFS–FRRF or RFS–FRRF from other foreign renewable fuel producers.

* * * * *

(3) The petition described in this section must be submitted to EPA along

with the application for approval as a RIN-generating foreign producer under this subpart.

(m) * * *

(3) * * *

(ii) Obtain the documents used by the independent third party to determine transportation and storage of the RFS–FRRF from the RIN-generating foreign producer's facility to the load port, under paragraph (d) of this section. Obtain tank activity records for any storage tank where the RFS–FRRF is stored, and activity records for any mode of transportation used to transport the RFS–FRRF prior to being loaded onto the vessel. Use these records to determine whether the RFS–FRRF was produced at the RIN-generating foreign producer's facility that is the subject of the attest engagement, and whether the RFS–FRRF was mixed with any Non-RFS–FRRF or any RFS–FRRF produced at a different facility.

* * * * *

(6) * * *

(i) Be independent of the RIN-generating foreign producer;

* * * * *

(n) *Withdrawal or suspension of foreign renewable fuel producer approval.* EPA may withdraw or suspend a foreign renewable fuel producer's approval where any of the following occur:

(1) A foreign renewable fuel producer fails to meet any requirement of this section.

* * * * *

(3) A foreign renewable fuel producer asserts a claim of, or a right to claim, sovereign immunity in an action to enforce the requirements in this subpart.

(4) A foreign renewable fuel producer fails to pay a civil or criminal penalty that is not satisfied using the foreign renewable fuel producer bond specified in paragraph (h) of this section.

(o) *Additional requirements for applications, reports, and certificates.* Any application for approval as a foreign renewable fuel producer, alternative procedures under paragraph (l) of this section, any report, certification, or other submission required under this section shall be:

* * * * *

(2) Signed by the president or owner of the foreign renewable fuel producer company, or by that person's immediate designee, and shall contain the following declarations:

(i) ''I hereby certify:

(A) That I have actual authority to sign on behalf of and to bind [NAME OF FOREIGN RENEWABLE FUEL PRODUCER] with regard to all statements contained herein;

(B) That I am aware that the information contained herein is being Certified, or submitted to the United States Environmental Protection Agency, under the requirements of 40 CFR part 80, subpart M, and that the information is material for determining compliance under these regulations; and

(C) That I have read and understand the information being Certified or submitted, and this information is true, complete and correct to the best of my knowledge and belief after I have taken reasonable and appropriate steps to verify the accuracy thereof.''

(ii) ''I affirm that I have read and understand the provisions of 40 CFR part 80, subpart M, including 40 CFR 80.1465 apply to [NAME OF FOREIGN RENEWABLE FUEL PRODUCER]. Pursuant to Clean Air Act section 113(c) and 18 U.S.C. 1001, the penalty for furnishing false, incomplete or misleading information in this certification or submission is a fine of up to $10,000 U.S., and/or imprisonment for up to five years.''.

(p) *Requirements for non-RIN-generating foreign producer.* Any non-RIN-generating foreign producer must comply with the requirements of this section beginning on the effective date of the final rule or prior to EPA acceptance, whichever is later.

■ 49. Section 80.1469 is amended by revising paragraphs (c)(1)(ii) and (f)(1) introductory text to read as follows:

**§ 80.1469 Requirements for Quality Assurance Plans.**

* * * * *

(c) * * *

(1) * * *

(ii) If applicable, plans under § 80.1426(f)(5)(ii) are accepted and up to date.

* * * * *

(f) * * *

(1) A new QAP shall be submitted to EPA according to paragraph (e) of this section and the third-party auditor shall update their registration according to § 80.1450(g)(9) whenever any of the following changes occur at a production facility audited by a third-party independent auditor and the auditor does not possess an appropriate pathway-specific QAP that encompasses the changes:

* * * * *

■ 50. Section 80.1472 is amended by revising paragraphs (b)(3)(i) introductory text, (b)(3)(ii)(B), and (b)(3)(iii) to read as follows:

**§ 80.1472 Requirements for quality assurance audits.**

* * * * *

(b) * * *

(3) * * *

(i) The independent third-party auditor shall conduct an on-site visit at the renewable fuel production facility or foreign ethanol production facility:

* * * * *

(ii) * * *

(B) 380 days after the previous on-site visit if a previously approved (by EPA) remote monitoring system is in place at the renewable fuel production facility or foreign ethanol production facility, as applicable. The 380-day period shall start the day after the previous on-site visit ends.

(iii) An on-site visit shall include verification of all QAP elements that require inspection or evaluation of the physical attributes of the renewable fuel production facility or foreign ethanol production facility.

* * * * *

■ 51. Section 80.1475 is added as follows:

**§ 80.1475 What are the additional attest engagement requirements for parties that redesignate certified NTDF as MVNRLM diesel fuel?**

(a) *General requirements.* (1) In addition to the attest engagement requirements under § 80.1464, all obligated parties required to arrange for additional attest engagement procedures under § 80.1464(a)(1)(vii) must have an annual attest engagement conducted by an auditor using the minimum attest procedures specified in this section.

(2) All applicable requirements and procedures outlined in §§ 80.125 through 80.127 and § 80.130 apply to the auditors and attest engagement procedures specified in this section.

(3) Obligated parties must include any additional information required under this section in the attest engagement report under § 80.1464(d).

(4) Report as a finding if the party failed to either incur or satisfy an RVO if required.

(b) *EPA reports.* Auditors must perform the following:

(1) Obtain and read a copy of the obligated party's reports filed with EPA as required by § 80.1451(a)(1)(xix) for the reporting period.

(2) In the case of an obligated party's report to EPA that represents aggregate calculations for more than one facility, obtain the facility-specific volume and property information that was used by the refiner to prepare the aggregate report. Foot and crossfoot the facility-specific totals and agree to the values in the aggregate report. The procedures in paragraphs (b) and (c) of this section are then performed separately for each facility.

(3) Obtain a written representation from a company representative that the report copies are complete and accurate copies of the reports filed with EPA.

(4) Identify, and report as a finding, the name of the commercial computer program used by the refiner or importer to track the data required by the regulations in this part, if any.

(c) *Inventory reconciliation analysis.* Auditors must perform the following:

(1) Obtain an inventory reconciliation analysis for the facility for the reporting period for each of the following and perform the procedures at paragraphs (c)(2) through (4) of this section separately for each of the following products:

(i) The volume of certified NTDF that was redesignated as MVNRLM diesel fuel.

(ii) The volume of MVNRLM diesel fuel that was redesignated to a non-transportation use.

(iii) The volume of MVNRLM diesel fuel owned when the fuel was received at the facility and acquired at the facility during the compliance period.

(iv) The volume of MVNRLM diesel fuel owned and sold or transferred to other parties at the facility during the compliance period.

(v) The volume of certified NTDF received.

(vi) The volume of certified NTDF delivered.

(2) Foot and crossfoot the volume totals reflected in the analysis.

(3) Agree the beginning and ending inventory amounts in the analysis to the facility's inventory records.

(4) If the obligated party delivered more MVNRLM diesel fuel than received, agree the annual balance with the reports obtained at § 80.1475(b)(1) and verify whether the obligated party incurred and satisfied its RVO under § 80.1408(a)(2)(i).

(5) Report as a finding each of the volume totals along with any discrepancies.

(d) *Listing of tenders.* Auditors must perform the following:

(1) For each of the volumes listed in paragraphs (b)(1)(iii) through (b)(1)(vi) of this section, obtain a separate listing of all tenders from the refiner or importer for the reporting period. Each listing should provide for each tender the volume shipped and other information as needed to distinguish tenders.

(2) Foot to the volume totals per the listings.

(3) Agree the volume totals on the listing to the tender volume total in the inventory reconciliation analysis obtained in paragraph (b) of this section.

(4) For each of the listings select a representative sample of the tenders in accordance with the guidelines in § 80.127, and for each tender selected perform the following:

(i) Obtain product transfer documents associated with the tender and agree the volume on the tender listing to the volume on the product transfer documents.

(ii) Note whether the product transfer documents include the information required by § 80.590 and, for tenders involving the transfer of certified NTDF, the information required by § 80.1453(e).

(5) Report as a finding any discrepancies.

## Subpart N—Additional Requirements for Gasoline-Ethanol Blends

■ 52. Section 80.1501 is amended by revising the section heading and paragraphs (b)(3)(i) and (b)(5)(i) and removing and reserving paragraph (b)(5)(ii). The revisions read as follows:

### § 80.1501 Labeling requirements that apply to retailers and wholesale purchaser-consumers of gasoline that contains greater than 10 volume percent ethanol and not more than 15 volume percent ethanol.

* * * * *

(b) * * *

(3) * * *

(i) The word ''ATTENTION'' shall be capitalized in 20-point, black, Helvetica Neue LT 77 Bold Condensed font, and shall be placed in the top 1.25 inches of the label as further described in paragraph (b)(4)(iii) of this section.

* * * * *

(5) * * *

(i) A request for approval of an alternative label shall be sent to the attention of ''E15 Alternative Label Request'' to the address in § 80.10(a).

* * * * *

## Subpart O—Gasoline Sulfur

### § 80.1600 [Amended]

■ 53. Section 80.1600 is amended by removing the definition for ''Ethanol denaturant''.

■ 54. Section 80.1603 is amended by:

■ a. Revising paragraph (d)(1);

■ b. Redesignating paragraph (d)(2) as paragraph (d)(3) and adding a new paragraph (d)(2); and

■ c. In the equation in paragraph (f)(1) revising the definition of ''OC''. The revisions and addition read as follows:

### § 80.1603 Gasoline sulfur standards for refiners and importers.

* * * * *

(d) * * *

(1) The refiner or importer shall calculate the sulfur content of the batch by volume weighting the sulfur content of the gasoline or BOB and the sulfur content of the added oxygenate pursuant to one of the methods listed in paragraphs (d)(1)(i) and (ii) of this section. A refiner or importer must choose to use only one method during each annual compliance period.

(i) Testing the sulfur content of a sample of the oxygenate pursuant to § 80.46 or § 80.47, as applicable. The refiner or importer must demonstrate through records relating to sampling, testing, and blending that the test result was derived from a representative sample of the oxygenate that was blended with the batch of gasoline or BOB.

(ii) If the oxygenate is denatured fuel ethanol, and the sulfur content has not been tested under paragraph (d)(1)(i) of this section, then the sulfur content must be assumed to be 5.00 ppm.

(2) For denatured fuel ethanol, the refiner or importer may assume that the denatured fuel ethanol was blended with gasoline or BOB at a concentration of 10 volume percent, unless the refiner or importer can demonstrate that a different amount of denatured fuel ethanol was actually blended with a batch of gasoline or BOB.

(i) The refiner or importer of conventional gasoline or CBOB must comply with the requirements of § 80.101(d)(4)(ii).

(ii) The refiner or importer of reformulated gasoline or RBOB must comply with the requirements of § 80.69(a).

(iii) Any gasoline or BOB must meet the per-gallon sulfur standard of paragraph (a)(2) of this section prior to calculating any dilution from the oxygenate added downstream.

(iv) The reported volume of the batch is the combined volume of the reformulated gasoline, RBOB, conventional gasoline, or CBOB and the downstream added oxygenate.

* * * * *

(f) * * *

(1) * * *

OC = Sulfur credits used by the refinery or importer to show compliance, in ppm-gallons.

* * * * *

■ 55. Section 80.1609 is amended by revising the last sentence of paragraph (a) to read as follows:

### § 80.1609 Oxygenate blender requirements.

(a) * * * Such oxygenate blenders are subject to the requirements of paragraph (b) of this section, the requirements and prohibitions applicable to downstream parties, the requirements of

§ 80.1603(d)(3), and the prohibition specified in § 80.1660(e).

* * * * *

■ 56. Section 80.1616 is amended by revising paragraph (c)(3) to read as follows:

**§ 80.1616 Credit use and transfer.**

* * * * *

(c) * * *

(3) $CR_{T2}$ credits generated under § 80.1615(d) from January 1, 2017, through December 31, 2019, may only be traded to and ultimately used from January 1, 2017, through December 31, 2019, by small refiners and small volume refineries approved under § 80.1622.

■ 57. Section 80.1622 is amended by revising paragraph (g) to read as follows:

**§ 80.1622 Approval for small refiner and small volume refinery status.**

* * * * *

(g) Small refiner and small volume refinery status applications, and any other correspondence required by this section, § 80.1620, or § 80.1621 shall be sent to the attention of ''Tier 3 Program (Small Refiner/Small Volume Refinery Application)'' to the address in § 80.10(a).

■ 58. Section 80.1625 is amended by revising paragraph (c)(2) to read as follows:

**§ 80.1625 Hardship provisions.**

* * * * *

(c) * * *

(2) Hardship applications under this section must be sent to the attention of ''Tier 3 Program (Hardship Application)'' to the address in § 80.10(a).

■ 59. Section 80.1650 is amended by revising paragraphs (b)(3), (e)(1)(iii)(A), and (g)(1)(iii)(A) to read as follows:

**§ 80.1650 Registration.**

* * * * *

(b) * * *

(3) Any oxygenate blender required to register shall do so by November 1, 2016, or at least 90 days in advance of the first date that such person will blend oxygenate into gasoline, RBOB, or CBOB where the resulting gasoline is subject to the gasoline sulfur standards under this subpart O.

* * * * *

(e) * * *

(1) * * *

(iii) * * *

(A) Whether records are kept on-site or off-site of the facility.

* * * * *

(g) * * *

(1) * * *

(iii) * * *

(A) Whether records are kept on-site or off-site of the facility.

* * * * *

■ 60. Section 80.1652 is amended by revising paragraph (a)(7) introductory text and adding paragraphs (a)(7)(v) and (vi) to read as follows:

**§ 80.1652 Reporting requirements for gasoline refiners, gasoline importers, oxygenate producers, and oxygenate importers.**

* * * * *

(a) * * *

(7) For each batch of BOB or gasoline produced or imported during the averaging period, all the following:

* * * * *

(v) The type and amount of oxygenate, along with identification of the method used to determine the type and amount of oxygenate content of the batch, as determined under § 80.1603(d).

(vi) The sulfur content of the oxygenate, reported to two decimal places, along with identification of the method used to determine the sulfur content of the oxygenate, as determined under § 80.1603(d).

* * * * *

■ 61. Section 80.1656 is amended by revising paragraph (h) to read as follows:

**§ 80.1656 Exemptions for gasoline used for research, development, or testing purposes.**

* * * * *

(h) *Submission.* Requests for research and development exemptions shall be sent to the attention of ''Tier 3 Program (R&D Exemption Request)'' to the address in § 80.10(a).

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