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40 CFR Part 80
Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 80

[EPA–HQ–OAR–2012–0546; FRL–9834–5]

RIN 2060–AR43

Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Under section 211(o) of the Clean Air Act, the Environmental Protection Agency is required to set the renewable fuel percentage standards each November for the following year. Today's action sets the annual percentage standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and renewable fuels that apply to all motor vehicle gasoline and diesel produced or imported in the year 2013. In general the standards are designed to ensure that the applicable national volumes of renewable fuel specified in the statute are used. For cellulosic biofuel, the statute specifies that EPA is to project the volume of production and must base the cellulosic biofuel standard on that projected volume if it is less than the applicable volume set forth in the Act. Today EPA is finalizing a cellulosic biofuel volume for 2013 that is below the applicable volume specified in the Act. EPA is also leaving the applicable volumes of advanced biofuel and total renewable fuel at the statutory levels for 2013 based on its assessment of the availability of renewable fuel for compliance purposes.

DATES: This final rule is effective on August 15, 2013.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2012–0546. All documents in the docket are listed in the *www.regulations.gov* index. 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, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

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; Fax number: 734–214–4816; Email address: *macallister.julia@epa.gov*, or the public information line for the Office of Transportation and Air Quality; telephone number (734) 214–4333; Email address *OTAQ@epa.gov.*

SUPPLEMENTARY INFORMATION:

General Information

Does this action apply to me?

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 and biodiesel. Potentially regulated categories include:

Category	NAICS [1] Codes	SIC [2] Codes	Examples of potentially regulated entities
Industry	324110	2911	Petroleum Refineries.
Industry	325193	2869	Ethyl alcohol manufacturing.
Industry	325199	2869	Other basic organic chemical manufacturing.
Industry	424690	5169	Chemical and allied products merchant wholesalers.
Industry	424710	5171	Petroleum bulk stations and terminals.
Industry	424720	5172	Petroleum and petroleum products merchant wholesalers.
Industry	454319	5989	Other fuel dealers.

[1] North American Industry Classification System (NAICS).
[2] Standard Industrial Classification (SIC) system code.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this final action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your activities will be regulated 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 preceding 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) which 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), resulting in the publication of major revisions to the regulatory requirements on March 26, 2010.[1]

The national volumes of renewable fuel to be used under the RFS program each year (absent an adjustment or waiver by EPA) are specified in CAA section 211(o)(2). The volumes for 2013 are shown in Table I–1.

TABLE I–1—REQUIRED APPLICABLE VOLUMES IN THE CLEAN AIR ACT FOR 2013

[Bill gal]

Cellulosic biofuel	[a] 1.0
Biomass-based diesel	[b] ≥1.0
Advanced biofuel	[a] 2.75
Renewable fuel	[a] 16.55

[a] Ethanol-equivalent volume.
[b] Actual volume. The ethanol-equivalent volume would be 1.5 if biodiesel is used to meet this requirement.

Under the RFS program, EPA is required to determine and publish annual percentage standards for each compliance year by November 30 of the previous year.[2] The percentage standards are used by obligated parties (refiners and importers) to calculate their individual compliance obligations. The percentage standards are applied to the volume of gasoline and/or diesel fuel that each obligated party produces or imports during the specified calendar year to determine the volumes of renewable fuel that must be used as transportation fuel, heating oil or qualifying fuel oil, or jet fuel. The percentage standards are calculated so as to ensure use in transportation fuel of the national ''applicable volumes'' of four types of biofuel (cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel) that are either set forth in the Clean Air Act or established by EPA in accordance with the Act's requirements.

The cellulosic biofuel industry is transitioning from research and development (R&D) and pilot scale to commercial scale facilities, leading to increases in production capacity. Construction has begun on several facilities with multiple facilities having progressed to the start-up phase. Based on information from the Energy Information Administration (EIA), detailed information from biofuel production companies and a consideration of various potential uncertainties, as well as the comments we received on the Notice of Proposed Rulemaking (NPRM),[3] we are projecting that 6 million ethanol-equivalent gallons of cellulosic biofuel will be available in 2013.

We have evaluated the types of advanced biofuels that can be produced or imported in 2013, including biodiesel, renewable diesel, biogas, heating oil, sugarcane ethanol, and others. While there is some uncertainty in the projected availability of advanced biofuel in 2013, we have determined that volumes to meet the statutory applicable volume of 2.75 bill gal should be sufficiently available. In addition, the combination of available volumes of advanced and non-advanced biofuel[4] from both domestic and foreign sources, the ability of the transportation sector to consume some quantity of ethanol in blend levels higher than E10, and carryover Renewable Identification numbers (RINs) from 2012 has led us to conclude that the statutory volumes for both advanced biofuel and total renewable fuel can be met in 2013. As a result, we are not reducing the national applicable volumes in the statute for either advanced biofuel or total renewable fuel volume of 16.55 bill gal.

A. Purpose of This Action

EPA is today setting annual percentage requirements for obligated parties for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel for 2013. Table I.A–1 lists the statutory provisions and associated criteria relevant to determining the national applicable volumes used to set the annual percentage standards in today's final rule.

TABLE I.A–1—STATUTORY PROVISIONS FOR DETERMINATION OF APPLICABLE VOLUMES

Applicable volumes	Clean Air Act reference	Criteria provided in statute for determination of applicable volume
Cellulosic biofuel in 2013.	211(o)(7)(D)(i)	Required volume must be lesser of volume specified in CAA 211(o)(2)(B)(i)(III) or EPA's projected volume.

[1] 75 FR 14670

[2] The delay in the release of this final rule is addressed in more detail in Section I.C below.

[3] 78 FR 9282, February 7, 2013.

[4] Non-advanced is composed primarily of corn ethanol, but may also include such things as biodiesel produced in facilities that are grandfathered under § 80.1403.

TABLE I.A–1—STATUTORY PROVISIONS FOR DETERMINATION OF APPLICABLE VOLUMES—Continued

Applicable volumes	Clean Air Act reference	Criteria provided in statute for determination of applicable volume
Advanced biofuel in 2013.	211(o)(7)(D)(i)	If applicable volume of cellulosic biofuel is reduced to the projected volume, EPA may reduce advanced biofuel and total renewable fuel by the same or lesser volume. No other criteria specified.
Total renewable fuel in 2013.	211(o)(7)(D)(i)	If applicable volume of cellulosic biofuel is reduced to the projected volume, EPA may reduce advanced biofuel and total renewable fuel by the same or lesser volume. No other criteria specified.

EPA must 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 of production available during the year. In today's final rule, we present our analysis of cellulosic biofuel production and final projected volume for 2013. The analyses that led to the 2013 applicable volume requirement were based on our evaluation of EIA's projection for 2013, individual producers' production plans and progress to date, and comments received in response to the NPRM.

When we lower the applicable volume of cellulosic biofuel below the volume specified in CAA 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. Today's action includes our consideration of the 2013 volume requirements for these biofuels.

In today's final rule we have also set the annual percentage standards (shown in Section I.B.3 below) that will apply to all producers and importers of gasoline and diesel in 2013. The percentage standards are based on the 2013 applicable volumes for the four types of renewable fuel and a projection of volumes of gasoline and diesel consumption in 2013 from the Energy Information Administration (EIA).

B. Summary of Major Provisions in This Notice

1. Cellulosic Biofuel Volume for 2013

The cellulosic biofuel industry in the United States continues to make advances in its progress towards large scale commercial production. Ongoing research and development work has resulted in increasing product yields, while at the same time lowering enzyme and catalyst costs. New supply chains have been developed, and several companies have reached contract agreements to provide the necessary feedstock for large scale cellulosic biofuel production facilities. Companies are continuing to invest significant sums of money to further refine cellulosic biofuel production technology and to construct the first commercial scale facilities. From 2007 through the second quarter of 2012 over $3.4 billion was invested in advanced biofuel production companies by venture capitalists alone.[5] For more information on the current status of the cellulosic biofuel industry in the United States and the advances being made, see Section II.B.

2013 is also expected to be a year of transition for the cellulosic biofuel industry, as several companies are shifting their focus from technology development to commercialization. This transition began in 2012 with the production of the first cellulosic RINs under the current regulations and the completion of construction at commercial scale production facilities from INEOS Bio and KiOR. KiOR announced the shipment of the first renewable transportation fuel produced from their Columbus, MS facility on March 18, 2013. INEOS Bio is expected to begin producing fuel from their Vero Beach, FL facility in the summer of 2013. Abengoa, one of the largest producers of ethanol in the United States, is planning to begin producing cellulosic ethanol at commercial scale later in 2013 or early 2014. Several others companies, including DuPont and Poet, expect to be constructing their first commercial scale facilities in 2013, with the intention of beginning production in 2014. If these facilities are able to operate as anticipated, it would represent significant further progress in the commercial viability of cellulosic biofuel production.

As part of estimating the volume of cellulosic biofuel that would be made available in the U.S. in 2013, we researched all potential production sources by company and facility. This included sources that were still in the planning stages, those that were under construction, and those that are already producing some volume of cellulosic ethanol, cellulosic diesel, or some other type of cellulosic biofuel. Facilities primarily focused on research and development were not the focus of our assessment as production from these facilities represents very small volumes of cellulosic biofuel, and these facilities typically have not generated RINs for the fuel they have already produced. From this universe of potential cellulosic biofuel sources we identified the subset that could be producing commercial volumes of qualifying cellulosic biofuel for use in 2013. To arrive at a projected volume for each facility, we took into consideration EIA's projections and factors such as the current and expected state of funding, the status of the technology utilized, progress towards construction and production goals, and other significant factors that could potentially impact fuel production or the ability of the produced fuel to qualify for cellulosic biofuel Renewable Identification Numbers (RINs) in 2013. Further discussion of these factors can be found in Section II.B.

In our assessment we focused on domestic sources of cellulosic biofuel. At the time of this final rule no internationally-based cellulosic biofuel production facilities have registered under the RFS program and therefore no volume from international producers has been included in our projections for 2013. Of the domestic sources, we estimated that up to four facilities may produce commercial scale volumes of cellulosic biofuel available for use as renewable fuel in the U.S. in 2013. Two of these four facilities have made sufficient progress to project that commercial scale production from these two facilities will occur in 2013, and we have therefore included production from them in our projected available volume for 2013. All four facilities are listed in Table I.B.1–1 along with our estimate of the projected 2013 volume for each.

[5] Solecki M, Dougherty A, Epstein B. Advanced Biofuel Market Report 2012: Meeting U.S. Fuel Standards. Environmental Entrepreneurs. September 6, 2012. Available Online *http://www.e2.org/ext/doc/E2AdvancedBiofuelMarketReport2012.pdf.*

TABLE I.B.1–1—EPA PROJECTED AVAILABLE CELLULOSIC BIOFUEL PLANT VOLUMES FOR 2013

Company	Location	Fuel type	Capacity (mill gal per year)	First production	Projected 2013 available volume [a]
Abengoa	Hugoton, KS	Ethanol	24	1Q 2014 [b]	0
Fiberight	Blairstown, IA	Ethanol	6	1Q 2014 [b]	0
INEOS Bio	Vero Beach, FL	Ethanol	8	Mid 2013	0–1
KiOR	Columbus, MS	Gasoline and Diesel	11	March 18, 2013	5–6
Total			49		6

[a] Volumes listed in million ethanol-equivalent gallons.
[b] Start-up dates for these facilities are projections.

The EIA projections,[6] variation in expected start-up times, along with the facility production capacities, company production plans, the progress made in the first half or 2013, and a variety of other factors have all been taken into account in predicting the actual volume of cellulosic biofuel that will be available for use in 2013. For more detailed information on our projections of cellulosic biofuel in 2013 and the companies we expect to produce this volume see Section II.

2. Advanced Biofuel and Total Renewable Fuel in 2013

The statute authorizes EPA to reduce the applicable volume of advanced biofuel and total renewable fuel specified in the statute if we reduce the applicable volume of cellulosic biofuel for a given year below the statutory applicable volume specified in Section 211(o)(2)(B)(i)(III). As shown in Table I.B.1–1, for 2013 we have projected cellulosic biofuel production at 6 million ethanol-equivalent gallons, significantly less than the applicable volume of 1.0 bill gal set forth in the statute. Therefore, we have also evaluated whether to lower the applicable volumes for advanced biofuel and total renewable fuel. The statute provides no explicit criteria or direction for making this determination. As in the proposed rule, we have focused our evaluation for this final rule on the availability of renewable fuels that would qualify as advanced biofuel and renewable fuel, the ability of those fuels to be consumed, and carryover RINs from 2012. We also considered the many comments received on our proposed approach, including suggested alternative approaches. Comments related to the advanced biofuel standard and our responses to those comments are discussed in Section III of this preamble.

The CAA specifies an applicable volume of 2.75 bill gal of advanced biofuel for 2013. To determine whether to lower this volume, we considered the sources that are expected to satisfy any advanced biofuel mandate including: cellulosic biofuel, biomass-based diesel, other domestically-produced advanced biofuels, and imported sugarcane ethanol.

As described in Section II, we project that 6 mill gallons of cellulosic biofuel will be available in 2013. This volume will fulfill 0.006 bill gal of the 2.75 bill gal advanced biofuel requirement.

We established an applicable volume of 1.28 bill gal for 2013 biomass-based diesel in a separate action,[7] an increase from the 1.0 bill gal minimum provided in the statute. We expect that this requirement will be fulfilled primarily with biodiesel.[8] Since biodiesel has an Equivalence Value of 1.5, 1.28 billion physical gallons of biodiesel will provide 1.92 billion ethanol-equivalent gallons that can be counted towards the advanced biofuel standard of 2.75 bill gal. Additional volumes of biomass-based diesel are also possible based on our assessment of available feedstocks and production capacity, potentially up to 500 mill gal ethanol-equivalent.

As described in more detail in Section III, we have projected that domestic advanced biofuels are expected to grow steadily through 2013, and would include renewable diesel that does not qualify to be biomass-based diesel,[9] heating oil, biogas used as CNG, and ethanol. We are projecting that up to about 250 mill gal of such domestic advanced biofuels could be available in 2013, which will count towards the 2.75 bill gal advanced biofuel requirement.

After taking into account cellulosic biofuel, biomass-based diesel, and domestic advanced biofuel described above, the volume of imported sugarcane ethanol that will be needed to meet the statutory advanced biofuel volume of 2.75 bill gal could be significantly below the 670 mill gal that we projected would be needed in the NPRM. The U.S. imported a total of 575 mill gal of ethanol in 2012, and most projections indicate that Brazilian sugarcane crop yields will be significantly better in the coming harvest (2013/2014, which began in April 2013) in comparison to the previous harvest. Since there is a high likelihood that the total volume of all advanced biofuels that can be produced or imported in 2013 is above the 2.75 bill gal statutory volume, we do not believe that the advanced biofuel requirement should be reduced.

We believe there will be sufficient volumes of conventional renewable fuel including corn ethanol, combined with advanced biofuel, to satisfy the 16.55 bill gallon applicable volume of total renewable fuel specified in the Act. For instance, current corn ethanol production capacity is 14.5 bill gal, compared to the 13.8 bill gal needed to meet the RFS requirements in 2013.[10] There will also be a significant number of carryover RINs available from 2012 that can be used in lieu of actual volume in 2013 and which are sufficient in number to address limitations in consumption of ethanol blends higher than E10 or limitations in volumes brought about through the 2012 drought. Therefore, as discussed in more detail in Section III below, we are not reducing the advanced biofuel volume requirement of 2.75 bill gal or the total renewable fuel volume requirement of 16.55 bill gal.

[6] EPA received a letter from Adam Sieminski, EIA administrator on October 18, 2012 containing cellulosic biofuel projections for 2013 and a letter updating to these projections from A. Michael Schaal, Director of the office of Petroleum, Natural Gas, and Biofuels Analysis, EIA on May 8, 2013. Both of these letters are discussed in further detail in Section II.

[7] 77 FR 59458, September 27, 2012.

[8] Some quantity of renewable diesel is also likely to be used towards satisfying the biomass based diesel standard

[9] Biomass-based diesel is defined in the statute to exclude renewable fuel that is co-processed with petroleum. Thus, fuel derived from biogenic waste oils or fats that is made through co-processing with petroleum does not qualify as biomass-based diesel but could, assuming other definitional requirements are satisfied, qualify as advanced biofuel.

[10] Based on facilities registered as corn ethanol producers under the RFS program.

However, we believe that delaying the compliance demonstration for the 2013 compliance period would alleviate some of the concerns that obligated parties have regarding the tardiness of the final rule and its effect on their decisions regarding RIN acquisition. Therefore, we are extending the RFS compliance deadline for the 2013 RFS standards from February 28, 2014 to June 30, 2014.

As described in the NPRM, we recognize that ethanol will likely continue to predominate in the renewable fuel pool in the near future, and that for 2014 the ability of the market to consume ethanol as E15–E85 is constrained in a number of ways. We believe that it will be challenging for the market to consume sufficient quantities of ethanol sold in blends greater than E10 and to produce sufficient volumes of non-ethanol biofuels (biodiesel, renewable diesel, biogas, etc.) to reach the mandated 18.15 bill gal for 2014. Given these challenges, EPA anticipates that adjustments to the 2014 volume requirements are likely to be necessary based on the projected circumstances for 2014, taking into account the available supply of cellulosic biofuel, the availability of advanced biofuel, the E10 blendwall, and current infrastructure and market-based limitations to the consumption of ethanol in gasoline-ethanol blends above E10. As discussed in Section III.E below, EPA will discuss options and approaches for addressing these issues, consistent with our statutory authorities, in the forthcoming NPRM for the 2014 standards.

3. Applicable Volumes Used to Set the Annual Percentage Standards for 2013

The renewable fuel standards are expressed as a volume percentage and are used by each refiner, blender or importer to determine its renewable fuel volume obligations. The applicable percentages are set so that if each regulated party meets the percentages, and if EIA projections of gasoline and diesel use for the coming year are accurate, then the amount of renewable fuel, cellulosic biofuel, biomass-based diesel, and advanced biofuel actually used will meet the volumes required on a nationwide basis.

To calculate the percentage standards for 2013, we have used the projected volume of 6 million ethanol-equivalent gallons of cellulosic biofuel and the volume of biomass-based diesel of 1.28 bill gal that we established in a separate action. The applicable volumes used in this final rule for advanced biofuel and total renewable fuel for 2013 are those specified in the statute. These volumes are shown in Table I.B.3–1.

TABLE I.B.3–1—VOLUMES USED TO DETERMINE THE 2013 PERCENTAGE STANDARDS [a]

Cellulosic biofuel	6 mill gal.
Biomass-based diesel	1.28 bill gal.
Advanced biofuel	2.75 bill gal.
Renewable fuel	16.55 bill gal.

[a] All volumes are ethanol-equivalent, except for biomass-based diesel which is actual.

Four separate standards are required under the RFS program, corresponding to the four separate volume requirements shown in Table I.B.3–1. The specific formulas we use in calculating the renewable fuel percentage standards are contained in the regulations at 40 CFR § 80.1405 and repeated in Section IV.B.1. The percentage standards represent the ratio of renewable fuel volume to projected non-renewable gasoline and diesel volume. The projected volume of transportation gasoline and diesel used to calculate the standards in today's rule was derived from EIA projections.[11] EPA has approved a single small refinery/small refiner exemption for 2013, so an adjustment has been made to the standards to account for this exemption. The final standards for 2013 are shown in Table I.B.3–2. Detailed calculations can be found in Section IV, including the projected 2013 gasoline and diesel volumes used.

TABLE I.B.3–2—FINAL PERCENTAGE STANDARDS FOR 2013

	Percent
Cellulosic biofuel	0.004
Biomass-based diesel	1.13
Advanced biofuel	1.62
Renewable fuel	9.74

4. Applicable Percentage Standard for Cellulosic Biofuel in 2012

On January 25, 2013, the United States Court of Appeals for the District of Columbia Circuit responded to a challenge to the 2012 cellulosic biofuel standard. The Court found that in establishing the applicable volume of cellulosic biofuel for 2012, EPA had used a methodology in which ''the risk of overestimation [was] set deliberately to outweigh the risk of underestimation.'' The Court held EPA's action to be inconsistent with the statute because EPA had failed to apply a ''neutral methodology'' aimed at providing a prediction of ''what will actually happen,'' as required by the statute. As a result of this ruling, the court vacated the 2012 cellulosic biofuel standard. In today's final rule we have revised the regulations to eliminate the applicable standard for cellulosic biofuel for 2012 in light of the court's decision and the very small number or cellulosic biofuel RINs produced in 2012. All of the money paid by obligated parties to purchase cellulosic waiver credits to comply with the cellulosic biofuel standard in 2012 has been refunded. This change does not impact any other applicable 2012 standard.

5. Administrative Actions

By November 30 of each year we are required to make several administrative announcements which facilitate program implementation in the following calendar year. These announcements include the cellulosic biofuel waiver credit price and the status of the aggregate compliance approach to land-use restrictions under the definition of renewable biomass for both the U.S. and Canada. Since we did not make these announcements for 2013 by November 30 of 2012, we presented our proposed assessments of these administrative actions in the February 7, 2013 NPRM. In today's action we are providing the final announcements for these administrative actions.

When EPA reduces the applicable volume of cellulosic biofuel for 2013 below the volume specified in the statute, EPA is required to offer biofuel waiver credits to obligated parties that can be purchased in lieu of acquiring cellulosic biofuel RINs. These waiver credits are not allowed to be traded or banked for future use, are only allowed to be used to meet the 2013 cellulosic biofuel standard, and cannot be applied to deficits carried over from 2012. Moreover, unlike cellulosic biofuel RINs, waiver credits may not be used to meet either the advanced biofuel standard or the total renewable fuel standard. For the 2013 compliance period, we have determined that cellulosic biofuel waiver credits can be made available to obligated parties for end-of-year compliance should they need them at a price of $0.42 per credit.

As part of the RFS regulations, EPA established an aggregate compliance approach for renewable fuel producers who use planted crops and crop residue from U.S. agricultural land. This compliance approach relieved such producers (and importers of such fuel) of the individual recordkeeping and reporting requirements otherwise required of producers and importers to verify that such feedstocks used in the

[11] Letter, A. Michael Schaal, Director, Office of Petroleum, Natural Gas, and Biofuels Analysis, U.S. Energy Information Administration, to Christopher Grundler, Director, Office of Transportation and Air Quality, U.S. EPA, May 8, 2013.

production of renewable fuel meet the definition of renewable biomass. EPA determined that 402 million acres of U.S. agricultural land was available in 2007 (the year of EISA enactment) for production of crops and crop residue that would meet the definition of renewable biomass, and determined that as long as this total number of acres is not exceeded, it is unlikely that new land has been devoted to crop production based on historical trends and economic considerations. We indicated that we would conduct an annual evaluation of total U.S. acreage that is cropland, pastureland, or conservation reserve program land, and that if the value exceed 402 million acres, producers using domestically grown crops or crop residue to produce renewable fuel would be subject to individual recordkeeping and reporting to verify that their feedstocks meet the definition of renewable biomass. Based on data provided by the USDA, we have estimated that U.S. agricultural land reached 384 million acres in 2012, and thus did not exceed the 2007 baseline acreage.

On September 29, 2011, EPA approved the use of a similar aggregate compliance approach for planted crops and crop residue grown in Canada. The Government of Canada utilized several types of land use data to demonstrate that the land included in their 124 million acre baseline is cropland, pastureland or land equivalent to U.S. Conservation Reserve Program land that was cleared or cultivated prior to December 19, 2007, and was actively managed or fallow and nonforested on that date (and is therefore RFS2 qualifying land). The total agricultural land in Canada in 2012 is estimated at 120.9 million acres. The total acreage estimate of 120.9 million acres does not exceed the trigger point for further investigation.

C. Effective Date

Under CAA 211(o)(3)(B)(i), EPA must determine and publish the applicable percentage standards for the following year by November 30. EPA did not meet this statutory deadline for the 2013 standards. The NPRM was published on February 7, 2013 and the comment period closed on April 7, 2013. Nevertheless, we believe that the applicable percentage standards we are finalizing in today's rulemaking should apply, as proposed, to all gasoline and diesel produced in 2013, including that produced prior to the effective date of this final rule.

Some commenters asserted that this approach would provide insufficient notice and lead time to obligated parties, and result in prohibited retroactive rulemaking. However, as discussed below, application of the standards to the entire year's production is reasonable given the structure of the statute, advance notice to obligated parties, compliance mechanisms under the program, and sufficiency of lead time for obligated parties to achieve compliance. Moreover, we have considered the alternative approaches suggested by commenters, and have determined that they are inappropriate as they would not satisfy the statutory requirements.

In response to the NPRM, several obligated parties commented that the rulemaking process to establish the applicable 2013 standards should be abandoned due to its tardiness, and instead EPA should focus only on promulgating the applicable standards for 2014. Other commenters requested that we make the applicable 2013 standards apply only to gasoline and diesel produced or imported after the publication of the final rule, thereby effectively reducing the volume of renewable fuel to be used in 2013 by an amount proportional to the months in 2013 prior to the publication date. Alternatively, some commenters suggested that we apply the 2012 standards to 2013. All of these suggested approaches would result in 2013 standards requiring substantially less renewable fuel use than specified in the statute.

Under the statute, the renewable fuel obligations apply on a calendar year basis. The national volumes are established for each calendar year, and EPA's regulations must ensure these national volumes are met on an annual average basis. The renewable volume obligation is based on a projection of gasoline and diesel production for the calendar year, and the renewable fuel obligation for that calendar year is to be expressed as a percentage of the transportation fuel a refiner or importer sells or introduces into commerce for that calendar year.

EPA acknowledges that today's rule is being finalized later than the statutory deadline of November 30, 2012. However, this delay does not deprive EPA of authority to issue standards for calendar year 2013. As the United States Court of Appeals for the District of Columbia Circuit noted in its review of EPA's delayed 2010 RFS standards, the statute does not specify a consequence for a situation where EPA misses the deadline, *NPRM* v. *EPA,* 630 F.3d 145, 152–158 (2010), and courts have declined to treat a statutory direction that an agency ''shall'' act within a specified time period as a jurisdictional limit that precludes action later. Id. at 154 (citing *Barnhart* v. *Peabody Coal,* 537 U.S. 149, 158 (2003)). Moreover, the statute here requires that EPA regulations ''ensure'' that transportation fuel sold or introduced into commerce ''on an annual average basis, contains at least the applicable volume of renewable fuel'' specified in the statute. Id. at 152–153. Therefore EPA believes it has authority to issue RFS standards for calendar year 2013 notwithstanding EPA's delay in issuing this final rule, and that it must issue standards that ''ensure'' that the volumes specified for 2013 are satisfied. EPA has not chosen any of the alternative approaches suggested by commenters, because none of the proffered solutions would ensure that the volumes Congress specified for 2013 would be used.

EPA is mindful that the precise contours of obligated parties' responsibilities for gasoline and diesel fuel produced in 2013 could not be known before issuance of this final rule. However, EPA believes that imposition in the final rule of an obligation related to production of gasoline or diesel that occurred prior to the effective date of this rule is reasonable. First, as noted above, EPA is required under the statute to ensure that applicable volumes specified in the statute for 2013 are satisfied, so it must take action notwithstanding the late date. The statute also provides that the national volumes are to be achieved on ''an annual average basis.'' The standards for obligated parties are based on a projection from the Energy Information Administration of gasoline and diesel use for each calendar year, and the obligation for refiners and importers is to be expressed as an applicable percentage obligation for a calendar year. Thus, applying the standards to production in calendar year 2013 is most consistent with the statute.

Second, obligated parties have been provided reasonable notice that EPA would act in approximately the manner specified in the final rule. EPA established the required volume of biomass-based diesel in a separate rulemaking and, as proposed, has not lowered the applicable volumes of total renewable fuel and advanced biofuel below the applicable volumes specified in the statute. EPA has, as proposed, substantially lowered the required volume of cellulosic fuel below the level specified in the statute. Indeed, EPA's final rule requires use of less cellulosic biofuel than it proposed, so any change between the proposed and final rules in this regard operates to relieve burden on obligated parties. Regulated parties also had the benefit of knowing how EPA

has previously approached standards that are finalized after the beginning of the calendar year. In the March 2010 final rule revising the RFS program regulations, we set the standards for 2010 and made them applicable to all gasoline and diesel produced in 2010 despite the fact that the rulemaking was not published until March 26, 2010. This approach was challenged and upheld in *NPRM* v. *EPA,* 630 F.3d 394 (DC Cir. 2010). Thus, EPA believes that obligated parties had sufficient notice.

Third, the parties have adequate lead time to comply with the 2013 RFS standards notwithstanding EPA's delay in issuing the rule. Because compliance is achieved by obligated parties purchasing an appropriate number of RINs from producers or blenders of the renewable fuel, obligated parties do not need lead time for construction or investment purposes. They are not changing the way they produce gasoline or diesel, do not need to design or install new equipment, or take other actions that require longer lead time. Obtaining the appropriate amount of RINs involves contractual or other arrangements with renewable fuel producers or other holders of RINs. Indeed renewable fuel producers have been generating 2013 RINs since the beginning of the calendar year. Obligated parties have been acquiring RINs since the beginning of 2013 in anticipation of the publication of the final applicable standards in today's rule. There is also a significant quantity of 2012 RINs that can be used for compliance with the 2013 standards. To facilitate compliance, and provide additional lead time, EPA is extending the date by which compliance with the 2013 standards must be demonstrated to June 30, 2014. EPA chose this date both to provide additional time for a compliance demonstration, and because we anticipate issuing a final rule establishing the 2014 RFS standards as soon as possible before that date. Establishing a 2013 compliance deadline on a date that occurs after promulgation of the final rule setting the 2014 standards should allow obligated parties to take their 2014 obligations into consideration as they determine how to utilize RINs for 2013 compliance.

In response to stakeholder concerns about the lateness of this final rule, EPA considered, but rejected, the option of issuing numerically higher percentage standards based on just the 2013 production of gasoline and diesel fuel that took place after issuance of the final rule. Such an approach would not provide for standards allowing compliance on an ''annual average basis,'' based on ''an applicable percentage for a calendar year,'' as envisioned by the statute. Also, EPA believes application of the standards in this manner would be unfair because it could result in some producers or importers having substantially greater or lesser obligations, based on variable production or import volumes over the year, than would be the case if the standards were based on a full year's production. In essence, such an approach would provide a temporal window with no RFS obligation, and some parties might receive either a windfall or a substantially greater burden than they would have if EPA had issued its standards on time. This would be exacerbated by the fact that EPA did not take comment on this alternative, so obligated parties would not have been on notice of this potential approach. EPA rejected this approach for these reasons.

D. Impacts of Final Actions

Analyses for the March 26, 2010 RFS final rule indicated the GHG benefits from cellulosic biofuels compared to the petroleum-based fuels they displace are well above the 60 percent reduction threshold. Therefore, EPA expects that the increase in cellulosic biofuel use that EPA has projected for 2013 over prior year production levels will have directionally beneficial GHG emissions impacts.

For advanced biofuel and total renewable fuel, we are not reducing the applicable volumes below the applicable volumes set forth in the statute. All of the impacts of the biofuel volumes specified in the statute were addressed in the RFS final rule published on March 26, 2010.[12] Today's rulemaking simply sets the percentage standards for obligated parties for 2013 advanced biofuel and total renewable fuel, where the impacts of the national volumes of those fuels were previously analyzed.

II. Projection of Cellulosic Biofuel Volume for 2013

In order to project the national production volume of cellulosic biofuel in 2013, we considered the EIA projections and collected information on individual facilities that have the potential to produce qualifying volumes for use as transportation fuel, heating oil, or jet fuel in the U.S. in 2013. In light of the delay in issuing the standards for 2013 we also sought and received an updated estimate of cellulosic biofuel production from EIA to inform our final standards. We also considered the comments we received in response to the NPRM. This section describes the volumes that we project will be produced or imported in 2013 as well as some of the uncertainties associated with those volumes.

Despite significant advances in cellulosic biofuel production technology in recent years, RIN-generating production of biofuel from cellulosic feedstocks in 2010 and 2011 was zero despite our projections that the industry was positioned to produce about 6 mill gal in each of those years.[13] In 2010 the majority of the cellulosic biofuel shortfall was met through the use of RINs generated under the initial RFS regulations, and since there were excess cellulosic RINs many of these RINs were carried over into the 2011 compliance year. The remaining cellulosic biofuel requirements in 2011 were met through the purchase of cellulosic biofuel waiver credits.[14] A discussion of the reasons for this disparity between our projections and subsequent production is provided in Section II.B below.

In 2012 the first cellulosic RINs were generated under the current RFS regulations at two small pilot facilities. However, cellulosic biofuel production once again fell short of our projections in 2012. The 2012 cellulosic standard was challenged in court and based on the decision in that case the 2012 cellulosic biofuel standard was vacated.[15] This decision is discussed further in the following sections.

A. Statutory Requirements

The national volumes of cellulosic biofuel to be used under the RFS program each year through 2022 are specified in CAA 211(o)(2). For 2013, the statute specifies a cellulosic biofuel applicable volume of 1.0 bill gal. The statute requires that if EPA determines, based on EIA's estimate, that the projected volume of cellulosic biofuel production for the following year is less

[12] 75 FR 14672.

[13] In the first half of 2010 when the initial RFS program was still effective, some cellulosic biomass ethanol was produced and the RINs generated were valid for demonstrating compliance with the 2010 and 2011 RFS cellulosic biofuel standards. However, the cellulosic biomass ethanol that was produced was not made from cellulosic feedstocks, but rather was categorized as cellulosic because it was produced in plants using waste materials to displace 90% or more of fossil fuel use under the then-effective definition of cellulosic biomass ethanol in CAA Section 211(o)(1)(A). See also 40 CFR § 80.1101(a)(2).

[14] 4,248,338 cellulosic waiver credits were purchased for 2011 compliance according to the EPA Moderated Transaction System (EMTS) Web site (information retrieved from the Web site on December 11, 2012) at a cost of $1.13 per credit. The ethanol-equivalent volume of cellulosic biofuel projected for 2011 and used to calculate the percentage standard for that year was 6.0 mill gal.

[15] See *API* v. *EPA,* 706 F.3d 474 (D.C. Cir. 2013).

than the applicable volume shown in Table II.A–1, then EPA is to reduce the applicable volume of cellulosic biofuel to the projected volume available during that calendar year.

In addition, if EPA reduces the required volume of cellulosic biofuel below the level specified in the statute, the Act also indicates that we may reduce the applicable volumes of advanced biofuels and total renewable fuel by the same or a lesser volume. Our consideration of the 2013 volume requirements for advanced biofuels and total renewable fuel is presented in Section III.

The United States Court of Appeals for the District of Columbia Circuit recently interpreted the statutory requirements for EPA's cellulosic biofuel projections, in the context of considering a challenge to the 2012 cellulosic biofuel standard. The Court found that in establishing the applicable volume of cellulosic biofuel for 2012, that EPA had used a methodology in which ''the risk of overestimation [was] set deliberately to outweigh the risk of underestimation.'' The Court held EPA's action to be inconsistent with the statute because this provision required EPA to apply a ''neutral methodology'' aimed at providing a prediction of ''what will actually happen''. In all other respects the Court upheld EPA's methodology for making cellulosic biofuel projections. For example, the Court agreed with EPA that the statute requires that EPA treat the EIA estimate with ''great respect,'' but ''allowing deviation consistent with that respect''. The Court also upheld EPA's reasoned reliance on information provided by prospective cellulosic biofuel producers in formulating its projections. For a further discussion of the changes we have made to our approach in evaluating the information that forms the basis for our projection of cellulosic biofuel see Section C below.

B. Status of the Cellulosic Biofuel Industry

As in previous years, cellulosic biofuel production in the United States in 2012 was limited to small-scale research and development, pilot, and demonstration-scale facilities. Companies such as Abengoa, Blue Sugars, DuPont, KiOR, Poet, and others successfully operated small-scale facilities in 2012. Two of these companies, Blue Sugars and KiOR, generated a small number of RINs for the fuel they produced. Several of these facilities, including all that were part of our 2012 volume projections, are discussed in more detail in Section II.C below. While there were numerous small-scale facilities producing cellulosic biofuel in 2012, the total volume of fuel produced was very small. Two commercial scale facilities that were expected to begin fuel production in 2012 experienced unexpected delays in commissioning, while a third was delayed due to difficulties raising required funds.[16] Although information is not available to EPA to quantify the total volume of cellulosic biofuel produced in 2012 at these research and development, pilot, and demonstration scale facilities if they do not generate RINs, based on generally available information we believe that total production in the United States was likely less than one mill gal across the industry.

While cellulosic biofuel production in the United States remains limited, the industry continues to make significant progress towards producing cellulosic biofuel at prices competitive with petroleum fuels. From 2007 through the second quarter of 2012 venture capitalists invested over $3.4 billion in advanced biofuel companies in North America.[17] Recent advancements in enzyme and catalyst technologies are allowing cellulosic biofuel producers to achieve greater yields of biofuel per ton of feedstock. These advancements have led to lower operational costs as they have driven down the cost for feedstock, energy, and other important inputs on a per gallon basis. For example, the estimated cost of producing cellulosic ethanol using an enzymatic hydrolysis process in 2007 was $4–$8 per gallon.[18] By 2012 the estimated cost of cellulosic ethanol production using the same process had fallen to $2–$3.50 per gallon.[19] The U.S. Department of Energy (DOE) similarly reports that advancements in cellulosic ethanol technology have resulted in a decrease in modeled costs from approximately $4 per gallon (minimum ethanol selling price) in 2007 to approximately $2.50 per gallon in 2011.[20] The same technological advances have also lowered the capital costs of cellulosic biofuel production facilities per gallon of annual fuel production, as more gallons of biofuel can be produced at a facility without additional equipment or increased feedstock requirements.

Another area where significant progress has been made is feedstock supply for commercial scale cellulosic biofuel production facilities. This issue has often been raised as a factor that could hinder the development of the cellulosic biofuel industry as many of the proposed facilities rely on feedstocks, such as agricultural residues or energy crops, for which supply chains have not previously existed. Over the past several years both Abengoa and Poet have been working with farmers in the regions surrounding their first commercial scale facilities to ensure the availability of the necessary feedstock. Because corn cobs and stover are only seasonally available, using them as a feedstock for a cellulosic biofuel production facility would require significant feedstock storage facilities. In the last two years Abengoa and Poet completed construction of large scale feedstock storage facilities to ensure adequate supply to their cellulosic biofuel production facilities throughout the year. Both companies successfully completed fall biomass harvests in 2011 and have contracted with local farmers to provide feedstock for their cellulosic ethanol facilities. This supply chain will not only provide feedstock for their first commercial scale facilities, but also a model that can be re-created at future production facilities.

Several cellulosic biofuel producers are planning to use pre-commercial thinnings, tree residue from tree plantations or the cellulosic portions of yard waste as feedstock.[21] This material has many qualities that make it desirable as a cellulosic biofuel feedstock. It tends to be relatively inexpensive and is readily available in some regions of the United States. It is also available year round rather than seasonally, significantly reducing the need for large scale feedstock storage facilities. Securing a sufficient quantity of this feedstock for a commercial scale facility, however, can be challenging. In the summer of 2011 KiOR announced it had signed a feedstock agreement with Catchlight Energy to provide all the necessary feedstock for their first commercial scale facility. While KiOR plans to transition to planted trees for

[16] For more information see Section II.C below.

[17] Solecki M, Dougherty A, Epstein B. Advanced Biofuel Market Report 2012: Meeting U.S. Fuel Standards. Environmental Entrepreneurs. September 6, 2012. Available Online *http://www.e2.org/ext/doc/E2AdvancedBiofuelMarketReport2012.pdf.*

[18] Nielsen, Peder Holk. ''The Path to Commercialization of Cellulosic Ethanol—A Brighter Future.'' PowerPoint Presentation. Conference Call. February 22, 2012. Available Online *http://www.novozymes.com/en/investor/events-presentations/Documents/Cellic3_conf_call_220212.pdf.*

[19] Nielsen, Peder Holk. ''The Path to Commercialization of Cellulosic Ethanol—A Brighter Future.'' PowerPoint Presentation. Conference Call. February 22, 2012.

[20] Department of Energy. Biomass Multi-Year Program Plan. April 2012. DOE/EE–0702. Available Online *http://www1.eere.energy.gov/biomass/pdfs/mypp_april_2012.pdf.*

[21] Pre-commercial thinnings and tree residue from tree plantations must come from non-federal lands and meet the definition of a renewable biomass definition and be eligible to generate RINs.

future facilities, KiOR now has secured sufficient feedstock such that they can produce cellulosic biofuel and cellulosic RINs using an existing pathway at their first commercial scale facility. INEOS Bio also has a long term agreement with Indian River County to provide separated yard waste which will serve as the feedstock for their first facility.

Another feedstock for cellulosic biofuel production is separated municipal solid waste (MSW). MSW is already being collected and transported to a centralized facility, is consistently available throughout the year, and can be obtained for a very low, or even negative, cost. MSW often contains contaminants, however, that may make it challenging to process for some cellulosic biofuel technologies. EPA also requires that waste separation plans be submitted and approved prior to any company generating RINs using separated MSW as a feedstock. In June 2012 EPA approved the first waste separation plan under the RFS program for Fiberight's facility in Blairstown, Iowa.

In the early years of the cellulosic biofuel industry several small start-up companies announced plans to build large commercial scale facilities that were scheduled to begin production in the past few years. The construction of many of these facilities was dependent on the companies raising additional funding, either from venture capitalists, government grants, or loans backed by government guarantees. So far, few of the companies that made these early announcements have been able to successfully raise the necessary funds and begin construction. Securing this funding proved difficult, and when it did not materialize the projects were delayed or cancelled. However, recently significant progress has also been made by some companies towards funding the construction of their first commercial scale facilities.

The funding profiles of the companies included in our projected volume for 2013, as well as for many of the companies targeting production in 2014, are markedly different than those of the companies that were expected to produce the majority of cellulosic biofuel in 2010 and 2011. Many of these projects have already received, and in several cases have closed on loan guarantees and grants offered by DOE or USDA. Other companies have filed for and successfully executed IPOs. Several cellulosic ethanol projects are being self-financed by large companies such as Abengoa and Poet with significant experience in the biofuel, petrochemical, and specialty chemical markets. This solid financial backing has allowed these companies to proceed with construction. Both of the facilities included in our final volume for 2013 have already completed the construction of their first commercial production facilities. KiOR's facility has begun producing RINs and INEOS Bio announced that it started commercial production on July 31, 2013. There is therefore far less uncertainty as to likely production from these two facilities than has been present for EPA's earlier projections. The next section provides additional details on the funding and construction status of the projects included in our projected cellulosic biofuel production volumes for 2013.

If these first commercial scale cellulosic biofuel production facilities are successful, the potential exists for a rapid expansion of the industry in subsequent years. Having successful commercial scale facilities would not only provide useful information to help maximize the efficiency of future facilities, but would also significantly decrease the technology and scale-up risks associated with cellulosic biofuel production facilities and could lead to increased access to project funding. Fiberight and ZeaChem both plan to build larger-scale facilities (~25 mill gal per year) as soon as they are able to raise the necessary funds. INEOS Bio plans to expand production by building additional units near sources of inexpensive feedstock ranging in size from 8 to 50 mill gal of ethanol per year. They are currently exploring expansion possibilities in the United States and internationally. KiOR has plans for a second commercial scale facility to be built in Natchez, MS, that will be approximately three times larger (~30 mill gal per year) than their Columbus, MS, plant and plans to break ground at their second facility after their first is fully operational. Abengoa currently anticipates construction of additional cellulosic ethanol facilities at multiple locations, likely including co-locating with some of their existing starch facilities in the US. Poet has a similar expansion strategy to build cellulosic ethanol plants at their grain ethanol facilities, license their technology for use at other grain ethanol facilities, and build cellulosic ethanol facilities that use feedstocks such as agricultural residue or energy crops. Poet's goal is to be involved in the production of 3.5 bill gal of cellulosic ethanol per year by 2022. Several other companies are also targeting 2014 for the start-up of cellulosic biofuel production facilities and would likely look to build additional facilities relatively quickly if their first facilities operate successfully. While many of these expansion plans are still in the early stages and are subject to change, they do point to the potential for cellulosic biofuel production to increase very significantly in future years once the initial plants become operational.

C. Cellulosic Biofuel Volume Assessment for 2013

In 2012 the first cellulosic biofuel RINs under the current regulations were generated. Small quantities of RINs, a total of approximately 22,000, were generated by Blue Sugars and KiOR from their respective demonstration facilities. The small volumes of fuel produced from these two facilities are typical for R&D and pilot facilities whose primarily purpose is to prove the technology is viable, provide information for scale-up design, and provide fuel for testing purposes rather than to generate income from commercial volumes of fuel. However, national cellulosic biofuel production once again fell far short of the cellulosic biofuel standards. Two of the companies expected to begin producing fuel in 2012 experienced unexpected difficulties in commissioning their commercial scale production facilities following successful demonstration and pilot scale work, resulting in biofuel production being delayed until 2013. A third commercial facility was unable to secure the funds needed to convert an existing corn ethanol production facility to a cellulosic biofuel production facility, despite having secured a conditional loan guarantee from the United States Department of Agriculture (USDA). The remaining facilities that were included in our projected production volume for 2012 were small demonstration facilities that similarly experienced delays or significantly reduced production volumes for a variety of reasons.

There are several factors indicating that larger volumes of cellulosic biofuel will be produced in 2013. Commercial scale cellulosic biofuel projects from INEOS Bio and KiOR are structurally complete, KiOR's facility began producing cellulosic biofuel in the Spring of 2013, and INEOS Bio announced it began production at the end of July. Both facilities plan to achieve steady state production and achieve production rates at or near their nameplate capacities by the end of 2013. Another commercial scale facility backed by Abengoa, a large company with significant experience in biofuel production, is also scheduled to begin producing cellulosic biofuel in late 2013 or early 2014. These facilities are

indicative of a shift across the cellulosic biofuel industry from small-scale R&D and demonstration facilities often operated by small start-up companies to large commercial scale facilities backed by large companies, many of which have substantial experience in related industries.

In order to project cellulosic biofuel production for 2013, we tracked the progress of more than 100 biofuel production facilities. From this list of facilities we used publicly available information, as well as information provided by DOE, EIA, and USDA, to make a preliminary determination of which facilities are the most likely candidates to produce cellulosic biofuel and generate cellulosic biofuel RINs in 2013. Each of these companies was investigated further in order to determine the current status of their facilities and their likely cellulosic biofuel production and RIN generation volumes for the coming years. Information such as the funding status of these facilities, current status of the production technologies, announced construction and production ramp-up periods, and annual fuel production targets were all considered when we met with senior level representatives of each company to discuss cellulosic biofuel target production levels for 2013. Throughout this process EPA is in regular contact with EIA to discuss relevant information and assessment of potential cellulosic biofuel producers. Our projection of the cellulosic biofuel production in 2013 is based on the estimate we received from EIA, information we received from EIA, DOE, and USDA, the individual production projections that emerged from these discussions, and comments we received on the NPRM. A brief description can be found below for each of the companies we believe will produce cellulosic biofuel and make it commercially available in 2013.

To project the available volume of cellulosic biofuel, we have continued to obtain information from the potential producers of cellulosic biofuels to help inform our annual projection. We have, however, made several changes to the way that we used the information we gather in projecting cellulosic biofuel production to ensure consistency with the ruling of the DC Circuit Court and help ensure a neutral projection that aims at accuracy. Several of the more significant changes are:

- Volumes from pilot and demonstration scale facilities are not included in our projections. Very few of these facilities are registered to generate RINs, and production volumes at those that are historically have been so small that they have no significant impact on our total volume projection for 2013.
- Facilities with start-up dates near the end of the year are not included in our projections. There is a realistic possibility that minor delays could result in no production of cellulosic biofuel from such facilities in 2013, and even if these facilities start up as expected production volumes from the first month of production are expected to be very small.
- Benchmarks for how quickly new facilities ramp up to full production, and for production volumes during this ramp-up period in a best case scenario have been established and used to assess the reasonableness of the production estimates received from producers. Production projections from companies that exceed the volumes calculated using this benchmark are not considered credible, even as the high end of a possible range of production. While we have considered ramp-up rates for cellulosic biofuel production facilities in the past we have added best case scenario benchmarks to assess the reasonableness of the ramp-up schedules we received from potential biofuel producers.
- In considering all factual information and projections we have weighted uncertainty neutrally, with the aim of providing an accurate projection rather than one intended to provide an incentive for growth in the cellulosic biofuel industry.

In our proposed rule we projected 14 million ethanol-equivalent gallons of cellulosic biofuel production in 2013. Since this time we have considered comments received on the proposed rule, updated information from EIA including a new projection of cellulosic biofuel production for 2013,[22] and updated information from the companies expected to produce cellulosic biofuel. The sections that follow discuss the comments we received, the updated information from EIA, and the current status of the cellulosic production facilities that are relevant in setting the cellulosic biofuel standard for 2013. Based on this information we are setting the cellulosic biofuel standard at 6 million ethanol-equivalent gallons (4 million actual gallons) based on our current projection of cellulosic biofuel production in 2013.[23]

[22] Letter from A. Michael Schaal, Director, Office of Petroleum, Natural Gas, and Biofuels Analysis, EIA to Christopher Grundler Director, Office of Transportation and Air Quality, EPA, May 8, 2013.

[23] The difference between actual volume and ethanol-equivalent volume stems from the fact that cellulosic gasoline and diesel fuels generate a greater number of RINs than the actual gallons produced because of their higher energy content. The number of RINs generated per gallon of fuel produced is based on the energy content of the fuel relative to ethanol.

1. Comments on the Proposed Rule

EPA received many comments on the projected available cellulosic biofuel volumes in our proposed rule. Several commenters, including biofuel trade organizations and cellulosic biofuel production companies supported EPA's methodology for projecting available cellulosic biofuel volumes. Some of these commenters further stated that EPA had appropriately assessed the status of the cellulosic biofuel industry and that the projected volume (14 million ethanol-equivalent gallons) was likely to be achieved. Others, while affirming EPA's methodology encouraged EPA to consider new information available since the publication of our proposed rule, particularly delays in the start-up of INEOS Bio and new production guidance from KiOR, and to adjust our projected volume accordingly. EPA has considered this information and believes the volume projected in today's final rule (6 million ethanol-equivalent gallons) accurately represents the volume of cellulosic biofuel likely to be produced in 2013 based on the best available information.

Conversely, EPA also received several comments stating that the projected available volume of cellulosic biofuel should be based on historical production rather that projections of future production. Using this methodology would result in a cellulosic biofuel standard for 2013 near zero. In effect the commenters argued that past production is the best and most sure indicator for future production. Adopting this methodology would be inconsistent with EPA's charge to set the applicable volume for cellulosic biofuel through a neutral projection of the volume projected to be produced that aims at accuracy. Basing this projection solely on past production would not neutrally aim at accuracy, as it would require EPA to ignore significant real world information that is relevant to project production for 2013. It would also require EPA to ignore the production estimates we receive from EIA, which we are required to consider with great respect. Additionally, it would be unusual to base a future projection solely on past performance, effectively assuming no growth in the cellulosic biofuel industry.

Several commenters also stated that the methodology used by EPA in setting the applicable volume for cellulosic biofuel is the same as that used in

previous years and that this is inappropriate in light of the *API* v. *EPA* decision vacating the 2012 cellulosic biofuel standard. The process used by EPA to gather information on the relevant companies and their likely production is indeed similar. We continue to consider information received directly from potential cellulosic biofuel producers and the cellulosic and advanced biofuel trade associations. As noted above, we have made several changes to how we evaluate this information. We work closely with EIA in developing our volume projection and give their production estimate great weight. Indeed, this year we are projecting the same volume of cellulosic biofuel as the most recent estimate provided by EIA.[24] Consistent with the Court's directive, we are not weighing uncertainty in any element of our projection in a manner that favors a higher or a lower volume projection.

EPA believes the information and methods used to project the production of cellulosic biofuel for 2013 described in the preceding sections appropriately takes neutral aim at accuracy. EPA has established a benchmark for the expected production ramp-up timeframe that has been used to assess the reasonableness of production estimates received from companies. We did not receive any comments suggesting that this benchmark was inappropriate. We have appropriately considered the history of delays for the cellulosic industry as a whole and the companies included in our projection in particular in projecting these volumes. We have not included any volumes from pilot or demonstration scale facilities, nor have we included any volume from companies currently lacking a valid pathway to produce cellulosic biofuel—despite their claims that they can and intend to generate cellulosic biofuel RINs in 2013—due to the highly uncertain nature of this production. Given the timing of this final rule this seems particularly appropriate for 2013. Finally, we have not used best case scenarios for the companies considered in determining our volume projection for 2013, and have not attempted to use this process to either promote or impede growth within the cellulosic biofuel industry. Of the seven companies and potential fuel producing pathways listed in Table II.C.6–1 that have the potential to produce cellulosic RINs in 2013 we have only included two in our volume projection. For the two facilities considered we have reduced their projected volume from the maximum possible production calculated from the start-up date and nameplate capacity taking into account expected ramp-up schedules and delays experienced at the two facilities. After using this information to establish projected ranges of production we selected a combined volume that represents production at the mid-point of our established ranges, as a shortfall in expected production from either company can be made up for by the other companies in Table II.C.6–1 exceeding their projected production. We believe our volume projection of 6 million ethanol-equivalent gallons of cellulosic biofuel in 2013 and the methodology utilized to arrive at this projection are our best assessment of production that will actually happen in 2013.

2. Projections From the Energy Information Administration

Section 211(o)(3)(A) of the Clean Air Act 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 us on October 18, 2012.[25] With regard to cellulosic biofuel, the EIA estimated that the available volume in 2013 would be 9.6 million actual gallons (13.1 million ethanol-equivalent gallons). A summary of the commercial scale plants they considered and associated production volumes is shown below in Table II.C.2.

TABLE II.C.2—CELLULOSIC BIOFUEL PLANTS EXPECTED TO GENERATE BIOFUEL RINS FOR 2013

[From EIA]

Mechanical completion	Company	Location	Product	Design capacity	EIA Forecast		
					Utilization (percent)	Actual production (mill gal)	Ethanol-equivalent production (mill gal)
2012	INEOS Bio	Vero Beach, FL	Ethanol	8	50	4.0	4.0
2012	KiOR	Columbus, MS	Liquids	11	50	5.5	9.0
Various	Various Pilot Plants.	Various	Ethanol	1	10	0.1	0.1
Total Capacity and Production for 2013				20	48	9.6	13.1

Several commenters noted a Today in Energy article that appeared on EIA's Web site on February 26, 2013 that stated that cellulosic biofuel production ''could grow to more than 5 mill gal in 2013, as operations ramp up at several plants.'' [26] The commenters stated that as this article was more recent than the letter EPA received in October 2012 it represented an updated volume projection from EIA and that EPA should base our volume projection on this smaller volume (5 million actual gallons). A significant amount of time has passed since we received EIA's initial cellulosic biofuel volume projections and any changes in projected volumes since this time should be considered as we determine the appropriate cellulosic biofuel volume projection. To ensure that we are using the most up to date information EPA requested and received from EIA an updated projection of

[24] In their letter to EPA on May 8, 2013, EIA did not specify an ethanol-equivalent volume projection, nor did they specify production volumes from individual companies that would allow EPA to calculate an ethanol-equivalent volume from their projection of physical gallons. However, the EPA and EIA projection of physical gallons of cellulosic biofuel production for 2013 are identical.

[25] Letter from Adam Sieminski, EIA Administrator to Lisa Jackson, EPA Administrator October 18, 2012.

[26] ''Cellulosic biofuels begin to flow but in lower volumes than foreseen by statutory targets.'' *Today in Energy*. EIA, February 26, 2013. http://www.eia.gov/todayinenergy/detail.cfm?id=10131

cellulosic biofuel production in 2013 on May 8, 2013.[27] In this letter EIA projected that 4 million actual gallons of cellulosic biofuel would be produced in 2013.

EIA's projection of cellulosic biofuel production in 2013 is very similar to EPA's projection discussed above and summarized in Section II.C.6 below. The lists of companies (KiOR and INEOS Bio) that EIA and EPA expect to generate cellulosic biofuel RINs in 2013 are the same. EIA's estimate also no longer includes volumes from pilot facilities due to their highly uncertain production and the fact that these facilities are unlikely to generate RINs in 2013 for any fuel they do produce. While the total volume of cellulosic biofuel that EIA expects will be produced in 2013 is identical to the volume projected by EPA (4 million actual gallons), EIA does not specify how much of this production will be ethanol and how much will be renewable hydrocarbons. Because of this EPA is unable to calculate the ethanol-equivalent volume represented by EIA's projection. Since this volume includes renewable gasoline and diesel produced by KiOR, however, EIA's projection represents an implied ethanol-equivalent volume greater than 4 mill gal and is consistent with EPA's 6 million ethanol-equivalent gallon projection.

The approach we have taken in setting the applicable volume for cellulosic biofuel for 2013 is appropriate. Section CAA 211(o)(7)(D) vests the authority for making the projection with EPA. As described in past rulemakings, the statute provides that the projection is ''determined by the Administrator based on the estimate provided [by EIA].'' Congress did not intend that EPA simply adopt EIA's projection without an independent evaluation. EPA's consideration of EIA's estimate in developing this final rule is consistent with EPA's consideration of EIA's estimate in the past rulemakings involving a reduction of the volume standard for cellulosic biofuel. EPA's interpretation and implementation of the obligation to base its projection on the EIA estimate recently was upheld in *API* v. *EPA,* 706 F.3d at 478 (DC Cir. 2013).

3. Current Status of Cellulosic Biofuel Production Facilities

In the January 9, 2012, final rule that established the applicable volume of cellulosic biofuel for 2012, we identified six production facilities that we projected would produce cellulosic biofuel and make that fuel commercially available in 2012. Five of these production facilities are currently structurally complete and one is planning to retrofit an existing corn ethanol plant with construction beginning in the summer of 2013. The current status of each of these facilities, including target production levels for each facility in 2013, is discussed below. Two additional facilities that are expected to begin producing cellulosic biofuel near the end of 2013 or in early 2014 are also discussed.

API

American Process Inc. (API) is developing a project in Alpena, Michigan capable of producing up to 900,000 gallons of cellulosic ethanol per year from pre-commercial thinnings and tree residue from tree plantations. This facility will use a technology developed by API called GreenPower+™. This technology extracts the hemicellulose portion of woody biomass using hot water and hydrolyzes it into sugars. These sugars are then converted to ethanol or other alcohols, while the remaining portion of the woody biomass, containing mostly cellulose and lignin, is processed into wood paneling at a co-located facility. At future, larger-scale facilities API anticipates burning the residual biomass in a boiler to produce steam and electricity as well as cellulosic biofuel.

In January 2010 API received a grant from DOE for up to $18 million for the construction of their demonstration facility. Construction of the Alpena, Michigan facility began in March 2011 and API began commissioning operations at their facility in the summer of 2012. API encountered several unexpected difficulties in commissioning their facility resulting in production delays; however they anticipate production of cellulosic biofuel from this facility in 2013. EPA has not included production from API in our projections due to the facility's history of delays, uncertain start-up date, and small potential production volume.

Fiberight

Fiberight uses an enzymatic hydrolysis process to convert the biogenic portion of separated MSW and other waste feedstocks into ethanol. They have successfully completed five years of development work on their technology at their small pilot plant in Lawrenceville, Virginia. In 2009 Fiberight purchased an idled corn ethanol plant in Blairstown, Iowa with the intention of making modifications to this facility to allow for the production of 6 mill gal of cellulosic ethanol per year from separated MSW and industrial waste streams. These modifications were scheduled to be completed in 2011, but difficulties in securing funding have resulted in construction at this facility being delayed. In January 2012 Fiberight was offered a $25 million loan guarantee from USDA. Closing on this loan would provide substantially all of the remaining funds required for Fiberight to complete the required modifications at their Blairstown facility. Fiberight plans to begin construction in the second quarter 2013. Fiberight expects that it will take approximately 6 months to complete construction and that fuel production will begin in early 2014. Additionally, Fiberight's waste separation plan for this facility was approved in June 2012 allowing Fiberight to generate RINs for the cellulosic ethanol they produce using separated MSW as a feedstock. Fiberight is also currently developing a second commercial scale project based on their MSW ''hub and spoke'' concept. They anticipate that this facility will produce approximately 25 mill gal of cellulosic ethanol per year when fully built out. Since Fiberight currently does not expect cellulosic biofuel production to begin until 2014 no volume from their facility has been included in EPA's projections.

INEOS Bio

INEOS Bio has developed a process for producing cellulosic ethanol by first gasifying cellulosic feedstocks into a syngas and then using naturally occurring bacteria to ferment the syngas into ethanol. In January 2011 USDA announced a $75 million loan guarantee for the construction of INEOS Bio's first commercial facility to be built in Vero Beach, Florida. This loan was closed in August 2011. This was in addition to the grant of up to $50 million INEOS Bio received from DOE in December 2009. At full capacity, this facility will be capable of producing 8 mill gal of cellulosic biofuel as well as 6 megawatts (gross) of renewable electricity from a variety of feedstocks including yard, agricultural, and wood waste. The facility also plans to use a limited quantity of separated MSW as a feedstock after initial start-up.

On February 9, 2011, INEOS Bio broke ground on this facility. INEOS Bio completed construction on this facility in June 2012 and began full commissioning of the facility. In August 2012 INEOS Bio received approval from EPA for their yard waste separation plan

[27] Letter from A. Michael Schaal, Director, Office of Petroleum, Natural Gas, and Biofuels Analysis, EIA to Christopher Grundler Director, Office of Transportation and Air Quality, EPA, May 8, 2013.

and successfully registered their Vero Beach, FL facility under the RFS program. In September 2012 the facility began producing renewable electricity. In April 2013 comments to the proposed rule INEOS Bio stated that their facility was in the final start-up phase and that they expected to produce cellulosic ethanol at full production rates by the end of the year. The company issued a press release on July 31, 2013, stating that they had begun commercial production. For this final rule we project 0–1 mill gal of cellulosic ethanol from INEOS Bio in 2013. Applying the six month straight-line ramp-up period, which we consider a best case scenario as discussed above, with a start-up date in August results in a projection of approximately 1 mill gal in 2013. EPA believes this is a reasonable benchmark to use as a best case scenario when assessing the ramp-up of cellulosic biofuel facilities. When compared to the expected ramp-up rates of grain ethanol facilities, which are generally 1–2 months this is a conservative benchmark, but one we believe is appropriate given the challenges of scaling up new technologies. Given the uncertainty in the first production from INEOS Bio's facility and the history of delays for this facility, EPA believes a further discount to a projected volume of 0–1 mill gal is warranted. [28] INEOS Bio is also exploring several opportunities for additional cellulosic biofuel production facilities, both in the United States and internationally. INEOS Bio is targeting sources of inexpensive feedstock, primarily waste materials, and sees a market for plants with production capacities ranging from 8 to 50 mill gal per year per facility.

KiOR

KiOR is using a technology that converts biomass to a biocrude using a process they call Biomass Fluid Catalytic Cracking (BFCC). BFCC uses a catalyst developed by KiOR in a process similar to Fluid Catalytic Cracking currently used in the petroleum industry. The first stage of this process produces a renewable crude oil which is then upgraded to produce primarily gasoline, diesel, and jet fuel as well as a small quantity of fuel oil, all of which are nearly identical to those produced from petroleum.

KiOR's first commercial scale facility is located in Columbus, Mississippi and is capable of producing approximately 11 mill gal of gasoline, diesel, and jet fuel per year. Construction on this facility began in May 2011 and was completed in September 2012. This facility is funded, in large part, with funds acquired through private equity and supplemented by KiOR's $150 million IPO in June 2011. KiOR announced that the first renewable transportation fuel produced at this facility was shipped to customers on March 18, 2013. KiOR had intended to begin producing fuel at their Columbus facility in 2012. Unexpected difficulties during the commissioning of this facility, due in large part to an interruption in electricity supply to the facility during commissioning resulted in delays in fuel production. KiOR's current expectations at their Columbus facility are for a start-up period lasting 9–12 months. During this period they estimate fuel production will average 30%–50% of the facility capacity after which they plan to approach full production rates at the facility. KiOR's expected production from their Columbus facility in 2013, recently confirmed in their quarterly update on May 9th, 2013, is between 3 and 5 million actual gallons of cellulosic gasoline and diesel. KiOR has feedstock supply agreements in place to supply all of the required feedstock for their Columbus facility with slash and pre-commercial thinning. They also have off-take agreements with several companies for all of the fuel that will be produced. KiOR has also announced plans to begin work on their second commercial scale biofuel production facility in Natchez, Mississippi upon the successful start-up of their first facility. It is unlikely this second facility will begin production of biofuel in 2013. For 2013 our production projection is for 3–4 million actual gallons (5–6 million ethanol-equivalent gallons) of cellulosic biofuel from KiOR's Columbus facility. This volume is significantly lower than the volume of fuel that would be produced assuming our best case scenario benchmark of a 6 month straight-line ramp-up period starting in mid March (~9 million ethanol-equivalent gallons). However, EPA believes this lower projection is appropriate based on the guidance received from KiOR and the progress achieved at their facility to date.

Blue Sugars

Blue Sugars, formerly KL Energy, has developed a process to convert cellulose and hemicellulose into sugars and ethanol using a combined chemical/thermal-mechanical pretreatment process followed by enzymatic hydrolysis, co-fermentation of C5 and C6 sugars, and distillation to fuel-grade ethanol. This production process is versatile enough to allow for a wide variety of cellulosic feedstocks to be used, including woody biomass and herbaceous biomass such as sugarcane bagasse. In August 2010 Blue Sugars announced a joint development agreement with Petrobras America Inc. As part of the agreement Petrobras has invested $11 million to modify Blue Sugars' 1.5 mill gal per year demonstration facility in Upton, Wyoming to allow it to process bagasse and other biomass feedstocks. The modifications to Blue Sugars' facility were completed in the spring of 2011. In April 2012 Blue Sugars generated approximately 20,000 cellulosic biofuel RINs, the first RINs generated under the RFS program for fuel made from cellulosic feedstock. Blue Sugars has indicated, however, that the cellulosic ethanol they produced was exported to Brazil for promotional efforts at the Rio +20 conference in Brazil. These RINs therefore had to be retired and were not be available to obligated parties to meet their cellulosic biofuel requirements in 2012. In October 2012 Western Biomass Energy LLC, a subsidiary of Blue Sugars that owned the Upton, Wyoming demonstration facility, filed for Chapter 11 bankruptcy. This was changed to Chapter 7 bankruptcy on May 2, 2013 and was followed by a Chapter 7 bankruptcy filing for Blue Sugars on May 10th.

ZeaChem

ZeaChem successfully completed construction of their demonstration-scale facility in Boardman, Oregon, in October 2012, allowing for the production of ethanol from sugars derived from cellulose and hemi-cellulose. On March 12, 2013 they announced that they had successfully produced ethanol from cellulosic feedstocks at their biorefinery, which has a nameplate capacity of 250,000 gallons of cellulosic ethanol per year. ZeaChem's production process uses a combination of biochemical and thermochemical technologies to produce ethanol and other renewable chemicals from cellulosic materials. The feedstock is first fractionated into two separate streams, one containing sugars derived from cellulose and hemicellulose and the other containing lignin. The sugars are fermented into an intermediate chemical, acetic acid, using a naturally occurring acetogen.

[28] Given the recent start-up of the INEOS Bio facility, we do not expect that zero gallons would be produced in 2013. However, we have decided to base our projections (including ranges) in million gallon increments in 2013, since uncertainty does not allow a more precise worst-case projection. Our projection for INEOS Bio, therefore, remains between zero and 1 million gallons, recognizing that zero could only occur in the unlikely event that they chose not to generate RINs for volume already produced.

The acetic acid is then converted into ethyl acetate, which can then be hydrogenated into ethanol. The hydrogen necessary for this process is produced by gasifying the lignin stream from the cellulosic biomass.

ZeaChem's process is flexible and is capable of producing a wide range of renewable chemicals and fuels from many different feedstocks. They plan to use both agricultural residues and pre-commercial thinnings and tree residue from tree plantations at their demonstration facility and have contracts in place for these feedstocks, as well as planted trees from tree plantations, at their first commercial scale facility.[29] In January 2012 ZeaChem announced that they had received a $232.5 million conditional loan guarantee offer from USDA for the construction of their first commercial scale facility, which will have a capacity of at least 25 mill gal per year. ZeaChem currently has agreements in place to provide all of the necessary feedstock for this facility. This facility, however, is not expected to begin producing cellulosic biofuel until late 2014 at the earliest. We therefore have not included any volume for this facility in our 2013 projection.

Abengoa

Abengoa has developed an enzymatic hydrolysis technology to convert corn stover and other agricultural waste feedstocks into ethanol. After successfully testing and refining their technology at a pilot scale facility in York, Nebraska as well as in a demonstration-scale facility in Salamanca, Spain, Abengoa is now working towards the completion of their first commercial scale cellulosic ethanol facility in Hugoton, Kansas. Abengoa has contracts in place to provide the majority of feedstocks necessary for this facility for the next 10 years and successfully completed their first biomass harvest in the fall of 2011. Construction at this facility, which began in September 2011, is expected to take approximately 24 months and be completed in the fourth quarter of 2013. All of the major process equipment for this project has been purchased and all of the required permits for construction have been approved. Abengoa's Hugoton facility is being partially funded by a $132 million Department of Energy (DOE) loan guarantee.

When completed, the Hugoton plant will be capable of processing 700 dry tons of corn stover per day, with an expected annual ethanol production capacity of approximately 24 mill gal. Abengoa plans to begin ramping up production at the facility shortly after completing construction in late 2013 and to be producing fuel at rates near the nameplate capacity in the summer of 2014. After successfully proving their technology at commercial scale in Hugoton, Abengoa currently plans to construct additional similar cellulosic ethanol production facilities, either on greenfield sites or co-locating these new facilities with their currently existing starch ethanol facilities around the United States. While this facility could produce a small volume of cellulosic ethanol in 2013, commissioning of the facility is expected to last through the first quarter of 2014, during which only small volumes of ethanol will be produced. Given the small volume potential and high degree of uncertainty of production from this facility in 2013, we have not included any of this volume in our projected available volume for 2013.

Poet

Poet has also developed an enzymatic hydrolysis process to convert cellulosic biomass into ethanol. Poet has been investing in the development of cellulosic ethanol technology for more than a decade and began producing small volumes of cellulosic ethanol at pilot scale at their plant in Scotland, SD in late 2008. In January 2012, Poet formed a joint venture with Royal DSM of the Netherlands called Poet-DSM Advanced Biofuels to commercialize and license their cellulosic ethanol technology.

The joint venture's first commercial scale facility, called Project LIBERTY, will be located in Emmetsburg, Iowa. This facility is designed to process 770 dry tons of corn cobs, leaves, husks, and some stalk per day into cellulosic ethanol. The facility is projected to have an annual production capacity beginning at approximately 20 mill gal per year, increasing over time to 25 mill gal per year. In anticipation of the start-up of this facility, Poet constructed a 22-acre biomass storage facility and had its first commercial harvest in 2010, collecting 56,000 tons of biomass.

Site prep work for Project LIBERTY began in the summer of 2011, and vertical construction of the facility began in the spring of 2012. Poet was awarded a $105 million loan guarantee offer for this project from DOE in July 2011, but with the joint venture decided to proceed without the loan guarantee. This project is expected to be completed in the first half of 2014. After the completion of Project LIBERTY, Poet plans to build additional cellulosic ethanol facilities at many of their existing corn ethanol plants. They are also planning to license their technology for use at other grain ethanol plants, as well as build additional plants that will process wheat straw, rice hulls, woody biomass or herbaceous energy crops. By 2022 Poet has a goal of producing 3.5 bill gal of cellulosic ethanol per year. Given the projected completion date of 2014 for the Emmetsburg, Iowa facility, we have not included any of this volume ion our projected available volume for 2013.

Other Companies

There are several more companies planning to begin producing cellulosic biofuel from commercial scale facilities in 2014 including Cool Planet Biofuels, DuPont, and Ensyn. Along with the companies discussed above, these facilities represent approximately 100 mill gal of additional cellulosic biofuel production capacity. Most of these companies have already begun to develop plans for their successive facilities to follow after the successful completion of their initial projects.

4. Other Potential Sources of Domestic Cellulosic Biofuel

Each of the companies listed in the previous two sections is planning to generate cellulosic biofuel RINs using one of the valid RIN-generating pathways listed in Table 1 to 40 CFR § 80.1426. To generate RINs, each company must comply with all applicable registration, recordkeeping, and reporting requirements in the RFS regulations, including requirements to verify that the feedstocks used are renewable biomass and are sourced from approved land. EPA is not approving any additional feedstocks or processes in today's rule. We are also aware of several companies that may be in a position to produce cellulosic biofuel in 2013 but intend to use a production pathway that is not currently approved for RIN generation. Pathways that are currently under evaluation by EPA include transportation fuels derived from landfill biogas such as CNG, cellulosic ethanol produced from corn kernel fiber and cellulosic heating oil. If these or other cellulosic biofuel pathways are approved by EPA, they may be used to generate on the order of 3 million cellulosic biofuel RINs in 2013. Because EPA has not yet made a final determination on these pathways no volume of cellulosic fuel from these

[29] EPA has not yet approved planted trees from tree plantations as a RIN generating feedstock. Unless and until EPA approves a pathway using planted trees from tree plantations as a feedstock ZeaChem will be unable to generate RINs for any biofuel produced using this feedstock.

pathways has been included in our 2013 cellulosic biofuel projection.

5. Imports of Cellulosic Biofuel

While domestically produced cellulosic biofuels are the most likely source of cellulosic biofuel available in the United States in 2013, imports of cellulosic biofuel produced in other countries may also generate RINs and participate in the RFS program. While the demand provided by the RFS program provides a financial incentive for companies to import cellulosic biofuels into the United States, the combination of local demand, financial incentives from other governments, and transportation costs for the cellulosic biofuel has resulted in no cellulosic biofuel being imported to the United States thus far. We believe this situation is likely to continue in the near future and have not included any cellulosic biofuel imports in our projections of available volume in 2013.

As in the United States, the production of cellulosic biofuels internationally is mostly limited to small-scale research and development, pilot, and demonstration facilities at this time. This is likely to continue to be the case throughout 2013. Two notable exceptions are facilities built and operated by Beta Renewables and Enerkem. Beta Renewables completed construction of their first commercial scale facility located in Crescentino, Italy in the summer of 2012. This facility is currently in a commissioning phase and is designed to produce approximately 20 mill gal of cellulosic ethanol per year. Beta Renewables uses an enzymatic hydrolysis process to produce ethanol from local agricultural residues and herbaceous energy crops.

Enerkem is also in the process of building their first commercial scale facility in Edmonton, Alberta and plans to begin operations in 2013. Enerkem's facility will use a thermochemical process to produce syngas from MSW and then catalytically convert the syngas to methanol. The methanol can then be sold directly or upgraded to ethanol or other chemical products. At full capacity this facility will be capable of producing 10 mill gal of cellulosic ethanol per year. At this point, neither Beta Renewables nor Enerkem have registered their facilities under the RFS program, a necessary step that must be completed before these companies can generate RINs for any fuel they import into the United States. Both are planning to locate additional plants in the United States in the future and are likely to generate RINs for production from domestic facilities in future years.

6. Summary of Volume Projections

The information we have gathered on cellulosic biofuel producers, described above, allows us to project production volumes for each facility in 2013. For the purposes of this final rulemaking we have focused on commercial scale cellulosic biofuel production facilities. We believe our focus on commercial scale facilities is appropriate as the industry transitions from small-scale R&D and pilot facilities to large scale commercial production. It is likely that several small-scale facilities such as API, DuPont, ZeaChem, and others will also produce some cellulosic biofuel in 2013. While RINs may be generated for any cellulosic biofuel produced from these small R&D and pilot facilities, historically many have chosen not to do so for a variety of reasons. We are therefore not including a volume projection from these facilities.

In 2013 as many as seven cellulosic biofuel companies have the potential to produce fuel at commercial scale. Each of these facilities is discussed above, and the facility production targets for each are summarized in Table II.C.6–1 below. Of the two companies from which we are basing our 2013 cellulosic biofuel projection one has already begun producing cellulosic biofuel at their commercial scale facility and the other is expected to begin production soon. This gives us increased confidence in their production capabilities as they have already achieved significant milestones. The other companies that have the potential to produce cellulosic biofuel in 2013, Abengoa, EdeniQ, Ensyn, Fiberight, and companies producing biogas from landfills for transportation use, either do not yet have a valid RIN generating pathway or are not planning on beginning fuel production until late 2013 or early 2014. Even a small delay in their expected production timeline could result in their failure to produce any cellulosic biofuel in 2013 and any volumes of fuel produced are likely to be very small. For this final rule, therefore, we are not projecting production from these facilities in 2013 consistent with EIA's projection. The fact that our projection only includes volumes from facilities that have already completed construction of commercial scale facilities is in large part due to the delay in finalizing the RFS standards for 2013 and is not intended to set a precedent for future rulemakings. Volumes from facilities that have not yet completed construction may be considered in EPA's volume projections in future rulemakings if appropriate under the circumstances, recognizing that EPA's goal is a projection of what will actually happen in the year at issue, taking a neutral aim at accuracy.

When considering together all the potential sources of cellulosic biofuel, the total projected production volume from commercial scale production facilities in the United States in 2013 is 4 million actual gallons (6 million ethanol-equivalent gallons). This is the mid-point of the range of values projected for the two facilities. This number represents EPA's projection of expected cellulosic RIN production in 2013, taking into account the EIA estimates and the many factors described in detail above.

TABLE II.C.6–1—PROJECTED AVAILABLE CELLULOSIC BIOFUEL FOR 2013

Company name	Location	Feedstock	Fuel	Design capacity (MGY)	First production (projected)	2013 Projected available actual volume (Mill gal)	2013 Projected available volume (million ethanol-equivalent gallons)
Abengoa	Hugoton, KS	Corn Stover	Ethanol	24	1st Quarter 2014[b]	0	0
EdeniQ[a]	Various	Corn Kernel Fiber	Ethanol	10	4th Quarter 2013[b]	0	0
Ensyn[a]	Rhinelander, WI; Ontario, CA.	Woody Biomass	Heating Oil	4	Currently Producing	0	0
Fiberight	Blairstown, IA	MSW	Ethanol	6	1st Quarter 2014[b]	0	0
INEOS Bio	Vero Beach, FL	Vegetative Waste	Ethanol	8	Mid 2013[b]	0–1	0–1
KiOR	Columbus, MS	Wood Waste	Gasoline and Diesel.	11	March 18, 2013	3–4	5–6

TABLE II.C.6–1—PROJECTED AVAILABLE CELLULOSIC BIOFUEL FOR 2013—Continued

Company name	Location	Feedstock	Fuel	Design capacity (MGY)	First production (projected)	2013 Projected available actual volume (Mill gal)	2013 Projected available volume (million ethanol-equivalent gallons)
Various[a]	N/A	Landfill Biogas	Biogas	N/A	Currently Producing	0	0
Various Pilot/ Demo Plants.	Various	Various	Various	Various	Various	0	0
Total ..	.....	.....	.....	49	.....	4	6

[a] Companies do not currently have valid pathways for RIN generation.
[b] Start-up dates for these facilities are projections.

D. Cellulosic Biofuel Volume for 2013

In today's final rule we are setting the applicable volume for cellulosic biofuel for 2013 that is based on EIA's estimate, projected production volumes developed in consultation with the companies expected to produce cellulosic biofuel from commercial scale facilities in 2013, comments we received in response to the NPRM, and EPA's judgment. Many factors have been taken into consideration in developing these projections, such as the EIA estimate, the current status of project funding, the status of the production facility, anticipated construction timelines, the anticipated start-up date and ramp-up schedule, feedstock supply, intent to generate RINs, and many others. Moreover, all of the companies included in our 2013 volume projections have invested a significant amount of time and resources developing their technologies at R&D and demonstration-scale facilities prior to the design and construction of their first commercial scale facilities. The projects have solid financial backing. We believe the sum of these individual projected available volumes (6 million ethanol-equivalent gallons) is a reasonable projection of expected actual production. This projection reflects EPA's best estimate of what will actually happen in 2013.

III. Assessment of Advanced Biofuel and Total Renewable Fuel for 2013

As described in Section I, the volumes of renewable fuel required for use under the RFS program each year (absent an adjustment or waiver by EPA) are generally specified in CAA 211(o)(2) through 2022. For 2013, the applicable volume of advanced biofuel is 2.75 bill gal, and the applicable volume of total renewable fuel is 16.55 bill gal.

In the NPRM, we proposed a reduction in the applicable volume of cellulosic biofuel. Under section 211(o)(7)(D)(i), when EPA reduces the volume of cellulosic biofuel EPA may reduce the applicable volume of total and advanced biofuel by an amount up to the reduction in cellulosic biofuel. We proposed no reduction in the volumes of advanced biofuel and total renewable fuel for 2013. However, we requested comment on whether the advanced biofuel and total renewable fuel requirements should be reduced under section 211(o)(7)(D)(i) to account for uncertainty in availability of advanced biofuel, specifically asking whether a reduction of 200 mill gal would be appropriate. We also requested comment on whether the blendwall [30] would present any difficulty in terms of compliance with the volume requirements in 2013.

No stakeholders supported the specific reduction of 200 mill gal in the advanced biofuel and total renewable fuel volume requirements on which we sought comment in our proposal. Instead, stakeholders were generally in favor of either much larger reductions or no reduction at all. Those requesting much larger reductions most commonly pointed to the authority under the cellulosic waiver authority to reduce advanced biofuel and total renewable fuel by up to the same amount as the reduction in cellulosic biofuel, which was 986 mill gal in the NPRM. Depending on the stakeholder, justifications for such large reductions included cost, availability, and the E10 blendwall. Some went further, suggesting that the required volume of total renewable fuel should be reduced more than 986 mill gal since reductions in advanced biofuel would likely be insufficient to address the E10 blendwall. Of those that cited the E10 blendwall as a reason to reduce the required volumes, most requested that the total volume of ethanol demand created by the standards be no more than 10% of all gasoline, though some conceded that accounting for reasonably achievable volumes of E15–E85 would be appropriate.

Those stakeholders requesting that the applicable standards be based on the statutory volumes without any reductions typically cited sufficiency of available biofuels and opportunities for growth in consumption of E15–E85. Some also pointed to the need to promote growth in the advanced biofuel and non-ethanol markets and expressed concern that any reductions in the standards would jeopardize investments.

A. Statutory Authorities for Reducing Volumes

1. Cellulosic Waiver Authority

Under CAA section 211(o)(7)(D)(i), if EPA determines that the projected volume of cellulosic biofuel production for the following year is less than the applicable volume provided in the statute, then EPA must reduce the applicable volume of cellulosic biofuel to the projected volume available during that calendar year. Under such circumstances, EPA also has the discretion to reduce the applicable volumes of advanced biofuel and total renewable fuel by an amount not to exceed the reduction in cellulosic biofuel.

Section 211(o)(7)(D)(i) provides that ''For any calendar year in which the Administrator makes such a reduction, the Administrator may also reduce the applicable volume of renewable fuel and advanced biofuels requirement established under paragraph (2)(B) by the same or a lesser volume.'' Thus Congress authorized EPA to reduce the

[30] In general, the term ''blendwall'' refers to the total volume of ethanol that can be consumed as either E10 or higher ethanol blends given various constraints.

volume of total renewable fuel ''and'' advanced biofuels. As EPA has discussed before, this indicates a clear Congressional intention that EPA may reduce both the total renewable and advanced biofuel volume together, not one or the other.

As described in the May 2009 NPRM for the RFS regulations, we do not believe it would be appropriate to lower the advanced biofuel standard but not the total renewable standard, as doing so would allow conventional biofuels to effectively be used to meet the standards that Congress specifically set for advanced biofuels. See 74 FR 24914–15. We interpret this provision as authorizing EPA to reduce both total renewable fuel and advanced biofuel, by the same amounts, if EPA reduces the volume of cellulosic biofuel. Using this authority the reductions in total renewable fuel and advanced biofuel can be up to but no more than the amount of reduction in the cellulosic biofuel volume.

The National Biodiesel Board (NBB) commented that the language of CAA 211(o)(7)(D)(i) does not require advanced biofuel and total renewable fuel volumes to be reduced together. NBB cited several other legal decisions to support their assertion that advanced biofuel and total renewable fuel could be reduced by different amounts under the cellulosic waiver authority. While we agree that in some other contexts wording similar to that in 211(o)(7)(D)(i) has taken on a different meaning, in none of those other contexts was there a nested set of requirements such as there are in the RFS program. In the RFS program, cellulosic biofuel is also used to satisfy the advanced biofuel standard and the total renewable fuel standard. Similarly, advanced biofuel is used to satisfy the volume obligation for total renewable fuel. Thus any reductions in the applicable volume of cellulosic biofuel will also simultaneously affect the means through which obligated parties comply with these two other standards, and any reductions in advanced biofuel volume will affect the means through which obligated parties comply with the total renewable fuel volume. Congress structured the volumes such that total renewable fuel volume requirements were increasing in coordination with the increase in advanced biofuel. Congress established the volume requirements for advanced biofuel and total renewable fuel as interrelated standards. Therefore it is appropriate to consider a possible reduction in both the advanced biofuel and total renewable fuel applicable volumes when EPA reduces the cellulosic biofuel volume below the applicable volume for cellulosic biofuel set forth in the statute. Thus to the extent circumstances warrant a reduction in advanced biofuel and total renewable fuel based on the reductions in cellulosic biofuel pursuant to section 211(o)(7)(D)(i), we believe it will best reflect the goals and objectives of the Act for the advanced biofuel and total renewable fuel volumes to both be reduced by the same amount, maintaining the volume relationship between the two renewable fuel categories. In this way, if the circumstances in a specific year warrant not reducing the advanced biofuel and total renewable fuel volumes by the amount that the cellulosic biofuel volume is reduced, then to the extent that the shortfall in cellulosic biofuel production is replaced it would be through advanced biofuel, which comes significantly closer to the GHG reductions achieved by cellulosic biofuel. It is important to note, however, that this discussion does not address whether or under what circumstances the advanced and total volume requirements should be reduced under section 211(o)(7)(D)(i), but solely whether any such reductions would be for both categories of fuel under section 211(o)(7)(D)(i).

NBB also argued that any consideration of a reduction in advanced biofuel should be accompanied by an equivalent reduction in total renewable fuel, but that the reverse was not true. We agree that a reduction in the total renewable fuel requirement that is considered under the general waiver authority at 211(o)(7)(A) need not necessarily be accompanied by an equivalent reduction in the advanced biofuel requirement. It is possible that there could be an inadequate supply of total renewable fuels that would justify a waiver of the total renewable fuel standard, for example, without there also being an inadequate supply of advanced biofuels. However, we are currently setting the annual RFS standard and are not responding to a petition that we assert the general waiver authority.

In 2013, the applicable volume of cellulosic biofuel specified in the statute represents more than a third of the advanced biofuel volume (1.0 bill gal out of 2.75 bill gal), a higher fraction than in any previous year. A substantial reduction in the applicable volume of cellulosic biofuel could potentially also have a substantial impact on the sufficiency of volumes to meet the advanced biofuel and total renewable fuel standards. As described in Section II.D above, we are establishing an available volume of cellulosic biofuel for 2013 of 6 mill ethanol-equivalent gallons, significantly below the statutory applicable volume of 1.0 bill gal. As a result, we have the discretion under CAA section 211(o)(7)(D)(i) to reduce the advanced biofuel and total renewable fuel applicable volumes by up to 994 mill gallons (ethanol-equivalent).

The statute does not provide any explicit criteria that must be met or factors that must be considered when making a determination as to whether and to what degree to reduce the advanced biofuel and total renewable fuel applicable volumes based on a reduction in cellulosic biofuel volumes under CAA section 211(o)(7)(D)(i). In comments on the NPRM, stakeholders differed in their views about which factors EPA should consider when making a determination about whether and to what degree to reduce volumes of advanced biofuel and total renewable fuel under the cellulosic waiver authority. Some indicated that the only factor that should be considered is whether the volumes in question are available. Others indicated that the criteria that apply under the general waiver authority at section 211(o)(7)(A) should also apply to the cellulosic waiver authority at section 211(o)(7)(D)(i). The Clean Air Task Force and the Union of Concerned Scientists both suggested that the criteria in section 211(o)(2)(B)(ii), which are required to be used to determine applicable volumes for years not specified in the statute, should also be considered in the context of the cellulosic waiver authority. The criteria in section 211(o)(2)(B)(ii) are described more fully in Section III.A.3 below.

We agree that nothing in the Act precludes EPA from considering the criteria described in sections 211(o)(2)(B)(ii) and 211(o)(7)(A) in determining appropriate reductions in advanced biofuel and total renewable fuel under the cellulosic waiver authority at section 211(o)(7)(D)(ii). Moreover, it may be appropriate to do so in certain circumstances, as described more fully below. However, we do not believe that there is any legal requirement to apply the criteria of those provisions as binding criteria for purposes of section 211(o)(7)(D)(ii). It is clear that these three statutory provisions are separate and independent provisions, with no cross-references. Congress did not include the criteria in those other waiver provisions in the separate waiver provision for cellulosic biofuel. In the case of the general waiver authority at section 211(o)(7)(A), we do not agree with the comment that it

provides criteria that must be met in order to reduce cellulosic and advanced volumes under 211(o)(7)(D)(i). If it did, the waiver language in 211(o)(7)(D)(i) would be superfluous, since 211(o)(7)(A) would already provide the discretionary authority to reduce advanced biofuel and total renewable fuel in the circumstances where the criteria in 211(o)(7)(A) are satisfied. Moreover, if the criteria in 211(o)(7)(A) apply to the cellulosic waiver authority in 211(o)(7)(D)(i), then it would also logically apply to the biomass-based diesel waiver authority in 211(o)(7)(E)(ii), also rendering that section superfluous. We do not believe that the Act can or should be interpreted in this manner.

We believe that the applicable volumes for total and advanced biofuel identified in the statute should be retained for 2013 as there are reasonably available volumes of renewable fuel to achieve the statutory volumes. EPA has also considered the comments concerning factors other than availability, as discussed below. EPA has determined that under the circumstances discussed below for 2013, it is appropriate to retain the statutory volumes.

One stakeholder suggested that uncertainty in potential imports of sugarcane ethanol from Brazil should not be a factor when projecting the volumes expected to be available to meet the statutory volume requirements for advanced biofuel. The stakeholder pointed to a recent decision from the U.S. Court of Appeals indicating that EPA need not present specific numerical projections of available volumes of advanced biofuel if it did not intend to reduce the required volumes below the volumes specific in the statute. In that case the court stated that:

> Nothing in the text of § 7545(o)(7)(D)(i), or any other applicable provision of the Act, plainly requires EPA to support its decision not to reduce the applicable volume of advanced biofuels with specific numerical projections. This stands in contrast to the Act's explicit instructions that EPA make a numerical projection for cellulosic biofuel. Certainly EPA must provide a reasoned explanation for its actions, but rationality does not always imply a high degree of quantitative specificity.

API v. *EPA,* 706F.3d at 481 (D.C. Cir 2013)

In the 2012 RFS standards rule at issue in the referenced Court decision, EPA did not present individual numeric projections of available volumes of advanced biofuel, but instead described historical data, production capacity, competing publicly-available projections and qualitative information to conclude that sufficient volumes could be produced without lowering the applicable volume set forth in the statute. The Court upheld EPA's approach as reasonable. However, the Court decision does not preclude EPA from deriving and seeking comment on numeric projections where EPA believes it is appropriate to do so. In this case EPA believed it would facilitate its decision-making to derive and seek comment on a numeric projection of sugarcane ethanol imports for 2013. This approach is consistent with the statute and the API opinion.

2. General Waiver Authority

Under CAA 211(o)(7)(A), EPA can reduce the amount of any of the four volume requirements specified in the statute if one of the following determinations is made:

- Implementation of the requirement would severely harm the economy or the environment of a State, a region, or the United States;
- There is an inadequate domestic supply.

In order to make such a reduction in the required volumes, EPA would need to consult with the Secretary of Agriculture and the Secretary of Energy, and would need to provide public notice and opportunity for comment.

3. Modification of Applicable Volumes for 2016 and Beyond

Under certain specified conditions, CAA section 211(o)(7)(F) requires EPA to modify the applicable volume provided in the statute for calendar years 2016 and beyond if EPA has waived a volume requirement using the waiver authorities provided in CAA section 211(o)(7)(A), (D), or (E). This requirement to modify the applicable volumes is triggered when one of the following occurs:

- EPA waives at least 20 percent of the applicable volume requirement for two consecutive years
- EPA waives at least 50 percent of the applicable volume requirement for a single year

This requirement to modify the applicable volumes applies separately for each of the four volume requirements in CAA section 211(o)(2)(B),

Volume modifications made pursuant to CAA 211(o)(7)(F) would differ from waivers in several important ways. First, while waivers leave the statutory volume mandates at CAA 211(o)(2)(B)(i) intact and merely reduce them for the purposes of calculating the applicable annual percentage standards for that year, the volume modifications under 211(o)(7)(F) would instead modify the applicable volumes that are provided in the statute. Once modified, the new volumes would replace those in the statute for the applicable years. Second, waivers are generally determined and applied for one year at a time, while the volume modifications could be done at one time for multiple years after 2015. Third, CAA 211(o)(7)(F) provides explicit direction concerning those factors that EPA must consider in modifying the statutory volumes for 2016 and beyond, incorporating by reference the requirements in CAA section 211(o)(2)(B)(ii):

- 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;
- The impact of renewable fuels on the energy security of the United States;
- The expected annual rate of future commercial production of renewable fuels, including advanced biofuels in each category (cellulosic biofuel and biomass-based diesel);
- 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;
- The impact of the use of renewable fuels on the cost to consumers of transportation fuel and on the cost to transport goods; and
- 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.

To modify the required volumes under 211(o)(7)(F), EPA is also required to coordinate with the Secretary of Energy and the Secretary of Agriculture and review the implementation of the program to date. Any modification under this provision would be made through rulemaking.

In response to the NPRM, one stakeholder requested that EPA use the authority under CAA 211(o)(7)(F) as soon as possible, or by 2014, to modify the required future volumes for cellulosic biofuel as a way of providing more long-term certainty to the market. However, we do not believe that taking action sooner would provide such long-term certainty since the authority under CAA 211(o)(7)(D) would continue to apply and we would still be required to reduce the applicable volume of cellulosic biofuel if the volume

projected to be available for any one calendar year was less than the volumes for that calendar year as modified under CAA 211(o)(7)(F).

B. Available Volumes of Advanced Biofuel in 2013

In the NPRM we discussed the cellulosic waiver authority provided in CAA 211(o)(7)(D)(i), which provides that EPA may reduce the applicable volume of advanced biofuel and total renewable fuel up to the amount of the reduction in required cellulosic biofuel volumes (986 mill gal in the NPRM). We clarified that, if we were to reduce the required volume of advanced biofuel under this statutory authority, we would also reduce the required volume of total renewable fuel by the same amount, with the net effect being that the volume of non-advanced biofuel needed to meet the statutory required volumes would be unchanged. In the NPRM we did not discuss reductions in any of the statutory volume requirements under the general waiver authority.

Our focus in the NPRM was on the availability of advanced biofuel in comparison to the volume needed to meet the statutory volume of 2.75 bill gal in light of the substantial reduction in cellulosic biofuel. Based on our assessment of availability of advanced biofuel, we proposed no reduction in the advanced biofuel and total renewable fuel volumes. We continue to believe that the availability of advanced biofuel is a critical component in determining whether the statutory volume requirement of 2.75 bill gal should be reduced. However, we recognize that we can also consider other factors in this determination. For instance, in response to our request for comment on whether the E10 blendwall might present difficulty in meeting the statutory volume requirements, a number of stakeholders indicated that we should use one of the statutory waiver authorities to reduce the required volumes of advanced biofuel and total renewable fuel to account for limitations in the volume of ethanol that can be consumed. Other stakeholders suggested that we reduce advanced and total volumes because of environmental or cost concerns.

We have the discretion under 211(o)(7)(D)(i) to reduce the advanced biofuel and total renewable fuel volumes by up to the amount we reduce the applicable volume of cellulosic biofuel, and such a reduction would contribute to reducing complications associated with the E10 blendwall. The net effect of such a change would be that the volume of non-advanced biofuel needed to meet the required volumes for total renewable fuel would be unaffected. We discuss the E10 blendwall and the treatment of total renewable fuel in Section III.C below, and we discuss a longer-term strategy for combining considerations of biofuel availability and the ethanol blendwall in Section III.E. In this section we focus on the availability of advanced biofuels in our determination of whether to reduce the advanced biofuel and total renewable fuel volumes using the cellulosic waiver authority.[31]

Renewable fuels that can be used to meet the standard for advanced biofuel include those with Renewable Identification Number (RIN) codes of 3, 4, 5, or 7. Table III.B–1 shows the number of each of these types of RIN that was generated in 2012.

TABLE III.B–1—2012 RINS THAT QUALIFIED TO MEET THE 2012 ADVANCED BIOFUEL STANDARD[32]

[Million ethanol-equivalent gallons]

D code	Category	Ethanol	Biodiesel	Renewable diesel	Biogas and heating oil
3	Cellulosic biofuel	0.02	0	0	0
4	Biomass-based diesel	0	1,579	147	0
5	Advanced biofuel	588	0	20	3
7	Cellulosic diesel	0	0	0	0
Total	2,337				

The total of 2,337 mill ethanol-equivalent gallons is higher than the 2,000 mill gal of advanced biofuel required in 2012. This result supports our projection in the rulemaking setting the 2012 standards[33] that there was no need to reduce the 2012 advanced biofuel requirement despite the significant reduction in the applicable volume of cellulosic biofuel.

The applicable volume in the statute for advanced biofuel in 2013 is 2,750 mill gal, an increase of 750 mill gal over the 2012 requirement of 2,000 mill gal, and 413 mill gal above the volume actually produced or imported in 2012. In order to determine the sufficiency of advanced biofuel volumes to meet a requirement for 2,750 mill gal in 2013, we first accounted for biomass-based diesel and cellulosic biofuels that would be required under the standards we are setting today. As shown in Table III.B–2, the result is that there would need to be 824 mill ethanol-equivalent gallons of other advanced biofuels in order to meet the total advanced biofuel requirement of 2,750 mill gal.

TABLE III.B–2—NECESSARY VOLUME OF ADVANCED BIOFUEL

[Mill gal ethanol-equivalent]

2013 Advanced biofuel applicable volume	2,750
Cellulosic biofuel requirement	6
Biomass-based diesel requirement	[a] 1,920
Necessary volume of additional advanced biofuel	824

[a] We have assumed that the 1.28 bill gal requirement is composed entirely of biodiesel with an equivalence value of 1.5 based on historical production. If significant quantities of renewable diesel, with an equivalence value of 1.6 or 1.7 are used to satisfy the biomass-based diesel requirement this number will be larger.

We have identified a variety of sources of advanced biofuel that could meet the need for 824 mill gal of additional

[31] Any exercise of the general waiver authority requires notice and the opportunity for comment. The NPRM did not propose a waiver under the general waiver authority, and only discussed volume adjustments made under the cellulosic waiver authority. We are not in a position to address in this final rule all of the issues that would be relevant under a notice and comment proceeding under the general waiver provisions. This final rule thus focuses on the exercise of our authority under the cellulosic biofuel waiver provision.

[32] 2012 data from the EPA-Moderated Transaction System (EMTS).

[33] 77 FR 1320, published on January 9, 2012.

advanced biofuel, including the following:

- Biodiesel in excess of that required to meet the volume requirement of 1.28 bill gal
- Domestically produced advanced biofuels such as renewable diesel that does not qualify as biomass-based diesel, biogas from landfills, sewage waste treatment plants, and manure digesters, heating oil, sorghum ethanol produced at dry mill facilities using specified forms of biogas for both process energy and most electricity production, and ethanol and other qualifying renewable fuels from separated food wastes
- Imports of advanced biofuels, including sugarcane ethanol and renewable diesel

Taken together, and as discussed in more detail below, there is the potential for well over 1.0 bill gal of these additional advanced biofuels in 2013. Moreover, there are also a significant number of carryover RINs from 2012 that could be used to fulfill part of the 2013 advanced biofuel requirement. These carryover RINs alone could meet more than 500 mill gal of the 824 mill gal volume shown in Table III.B–2.

TABLE III.B–3—ADVANCED BIOFUEL CARRYOVER RINS FROM 2012 INTO 2013 (MILLION)

	D Code	RINs
Biomass-Based Diesel	4	353
Advanced Biofuel	5	196

1. Biomass-Based Diesel

In a separate action, we have finalized a biomass-based diesel volume of 1.28 bill gal for 2013.[34] [35] However, biomass-based diesel volumes above 1.28 billion physical gallons are possible. As of February 2013, the aggregate production capacity of registered biodiesel plants in the U.S. was 2.8 bill gal per year across 171 facilities.[36] Of this production capacity, 2.4 bill gallons is represented by companies that actually produced some biodiesel in 2012. For all facilities that produced biodiesel at 20% or more of their capacity in 2012, the total production capacity is 1.6 bill gallons.

The biodiesel industry has demonstrated that it can increase production quickly under appropriate circumstances. Total domestic production of biomass-based diesel in 2011 exceeded 1.0 bill gal, compared to a 2010 production of about 380 mill gallons.[37] In response to the NPRM on the 2012 RFS standards that was published on July 1, 2011, some stakeholders expressed doubts that the industry could substantially increase production over historic levels in order to permit compliance with the proposed 2012 advanced biofuel standard of 1.0 bill gal.[38] Nevertheless, the industry responded to RFS mandates with substantial production increases. Based on the single-year increase of more than 600 mill gal in 2011 and the total capacity of existing plants described above, we believe it is possible that the industry could, if the statutory applicable volume of advanced biofuel is not reduced, achieve increases in production above the 280 mill gallon increment that is reflected in the biomass-based diesel requirement for 2013.

Recently, the tax credit for biodiesel was reinstated after having expired at the end of 2011.[39] This tax credit, applicable retroactively to 2012 and through the end of 2013, may provide additional incentive to produce and consume biodiesel volumes in excess of the 1.28 bill gal requirement. While one party commented that the biodiesel tax credit should not be a relevant factor, the existence of a tax credit affects the likelihood that biodiesel volumes in excess of 1.28 bill gal will be produced. Therefore, it is a relevant consideration in determining whether there are likely to be sufficient volumes of advanced biofuel available to meet the statutory volume requirement of 2.75 bill gal.

Because the 2013 volume requirement of 1.28 bill gal for biomass-based diesel was established in a final rulemaking published on September 27, 2012, we did not take comment on this volume in the NPRM. Nevertheless, in their comments on the NPRM, several refiners and their associations requested that the 2013 volume requirement for biomass-based diesel be reduced from 1.28 bill gal to the statutory minimum of 1.0 bill gal. They cited concerns about the industry's ability to produce this volume and pointed to a DOE study indicating that 2012 production was below the 1.0 bill gal requirement.[40] However, according to EMTS [41] the total volume of RIN-generating biodiesel produced in 2012 was 1.05 bill gal.

a. Feedstocks

i. Feedstock Availability

In response to the NPRM, some parties expressed concern that there would not be sufficient feedstocks available for production of biomass-based diesel in excess of 1.28 bill gal in 2013. Recognizing that there was some uncertainty regarding production in excess of 1.28 bill gal, we did not make a specific numerical projection in the NPRM. Nevertheless, we continue to believe that the availability of qualifying feedstocks is not likely to be a hindrance to excess biodiesel production in 2013.

According to EMTS, in 2012 nearly 90% of biomass-based diesel was produced from soybean oil and waste oils/fats/greases.[42]

TABLE III.B.1.A.I–1—FEEDSTOCKS USED TO MAKE BIODIESEL AND RENEWABLE DIESEL IN 2012

	Fraction of 2012 production (percent)
Soybean oil	47
Biogenic waste oils/fats/greases	41
Canola oil	8
Non-food grade corn oil	2
Oil from annual covercrops ..	1
Non-cellulosic portions of separated food wastes	1

Since the supply of waste oils/fats/greases is generally considered to be

[34] 77 FR 59458, September 27, 2012

[35] Assuming most of this volume will be comprised of biodiesel, the required volume of 1.28 bill gal equates to approximately 1.92 bill ethanol-equivalent gallons.

[36] The complete list of biodiesel production companies and their associated production capacities is provided in the docket. It is based on an aggregation of plant lists from the National Biodiesel Board, EIA, and EPA's registration database, and includes both operational facilities and those that are not. For comparison, EIA's data derived from their EIA–22 survey yielded 116 operating biodiesel facilities that are operational with a total capacity of 2.2 billion gallons.

[37] All values from EMTS. 2010 estimate consists of approximately 209 mill gallons as recorded through EMTS for volume produced under the RFS2 regulations in July through December of 2010, and approximately 171 mill gallons as recorded through RIN generation reports submitted by producers for volume produced under the RFS1 regulations in January through June of 2010.

[38] See comments in docket EPA–HQ–OAR–2010–0133 from the American Petroleum Institute, Marathon Petroleum Company, and the National Petrochemical Refiners Association.

[39] ''Congress Votes to Reinstate Biodiesel Tax Incentive,'' January 2, 2013. *http://biodiesel.org/news/biodiesel-news/news-display/2013/01/02/congress-votes-to-reinstate-biodiesel-tax-incentive.*

[40] EIA's ''Monthly Biodiesel Production Report'' published on March 28, 2013 indicates that total 2012 production of biodiesel was 969 mill gal. The same report indicates that 2011 production was 967 mill gal.

[41] EMTS, or EPA's Moderated Transaction System is the system established by EPA to track all RIN generation information and other RIN transactions.

[42] EIA indicates that about 80% of biomass-based diesel was produced from soybean oil and waste oils/fats/greases in 2012, with the majority being from soybean oil. The difference between the EIA and EMTS values is likely due to the categorization of some canola and/or corn oil as waste oils/fats/greases. See EIA Monthly Biodiesel Production Report released on June 27, 2013.

inelastic, it is reasonable to assume that any increases in biomass-based diesel production after 2012 will come from soybean oil. Overall production and use of soybean oil in 2012 is shown below.

TABLE III.B.1.A.I–2—PRODUCTION AND USE OF SOYBEAN OIL IN 2012

[Mill gal]

Domestic production of soy oil	2,471
Net exports of soy oil	254
Soy oil used to make biodiesel	524
Soy oil used for non-biodiesel purposes	1,693

Source: USDA/ERS, Oil Crops Yearbook, Table 5. Assumes 7.68 lb/gal. *http://www.ers.usda.gov/data-products/oil-crops-yearbook.aspx.*

According to USDA, domestic soybean production is expected to increase by 13% in the 2013 soybean marketing year compared to the 2012 marketing year, or about 3% for calendar year 2013.[43] If this occurs, then domestic production of soy oil would increase by about 80 mill gal. Combined with the soy oil that could be diverted from exports to biodiesel production and the fact that biodiesel production in 2012 was 1.05 bill gal, we project that the requirement for 1.28 bill gal of biodiesel in 2013 could be met and exceeded by about 100 mill gal while having essentially no impact on the volume of soy oil used for non-biodiesel purposes.

In addition to soy oil, it is also possible that other qualifying feedstocks could be available to produce biodiesel in excess of 1.28 bill gal in 2013. For instance, while production of non-food grade corn oil has been relatively constant over the last several years, exports have risen over this same time period. In 2012, more than one third of the 320 mill gal of corn oil produced was exported instead of being used domestically. These exports could be diverted to biodiesel production depending on relative prices and other factors. Taken together, the use of both soy oil and corn oil could potentially provide about 300 mill ethanol-equivalent gal of biodiesel in excess of the 1.28 bill gal requirement.

ii. Impacts From Feedstock Use

A number of stakeholders commented that the NPRM overly relies on biofuel production availability as a criterion for setting the standards and fails to consider other criteria and potential impacts. With respect to biodiesel, for example, commenters argued that maintaining the advanced standard at statutory levels could lead to increased production and use of biodiesel for compliance purposes, and that this increased biodiesel would likely be produced from soybean oil. Commenters argued that EPA failed to consider the follow-on, or indirect, effects, namely that world demand for other replacement food-grade oils, particularly for palm oil, would increase.[44] Commenters asserted that the net impact of these indirect impacts would be an increase in lifecycle GHG emissions associated with soy biodiesel production. They further claimed that because EPA failed to assess or properly model such impacts, soy biodiesel shouldn't qualify as an advanced biofuel.

In making this argument, commenters made a number of assertions with respect to the modeling and lifecycle analysis EPA conducted as part of the March 2010 final RFS rulemaking. For example, commenters argued that EPA did not adequately account for substitutions in the vegetable oil markets, and therefore did not fully account for the potential GHG emissions associated with clearing of forests and draining of peat lands in Malaysia or Indonesia. Commenters also asserted that market data suggests the increase in biodiesel production has had more of an impact on global palm oil production than increased U.S. soybean production, as modeled in EPA's March 2010 lifecycle analysis of soybean oil biodiesel.

Commenters further argued that EPA's modeling for the March 2010 final rule was based on volume projections that are inconsistent with the potential growth in advanced biofuels, including biodiesel, should EPA determine that the advanced and total required volumes should not be reduced. As a result, commenters stated, EPA's assessments of the lifecycle GHG emissions associated with various advanced biofuels are flawed, and relying on them is inappropriate. If we were to reassess soybean oil lifecycle impacts, as at least one commenter recommended, commenters argued that such an analysis would show soybean oil biodiesel not meeting the statutory 50 percent reduction threshold in lifecycle GHGs needed to qualify as an advanced biofuel under the RFS program.

With respect to commenters' arguments regarding the GHG impacts of biodiesel, we note that the lifecycle GHG threshold determinations conducted for various categories of biofuels (as required by statute) were completed as part of the March 2010 final RFS rule. We made the determination in that rulemaking that biomass-based diesel from soy oil meets the greenhouse gas reduction threshold for advanced biofuel. We are not revisiting that determination as part of this action. Instead this rulemaking addresses the applicable volume requirements for the various categories of renewable fuels, in the context of applying the provision for a waiver of the cellulosic biofuel volumes. Thus we are not reconsidering or reopening the GHG threshold determinations made in the 2010 RFS final rule. Instead, we are considering this comment solely in the context of exercising our discretion under CAA section 211(o)(7)(D)(i).

We disagree with commenters' assertion that the indirect effects of using biodiesel have not been accurately accounted for in the 2010 lifecycle determination for biomass-based diesel. In response, we first note that we here discuss the 2010 lifecycle GHG emissions analysis for the purpose of assessing the 2013 volume standards; this discussion is not intended for purposes of reexamining the lifecycle analysis that led to the GHG determinations. When conducting our GHG emissions lifecycle analysis in 2010, we used the FAPRI-Iowa State model to examine the impacts that an increase in biomass-based diesel in the U.S. would have on world demand for oils. That analysis specifically allowed for the ability for palm oil production to respond to increased soybean biodiesel demand. Our analysis showed that the increased demand for soybean based biodiesel led primarily to an increase in soybean production, though the results also showed some increase in palm oil production. Taking all the GHG impacts of these effects together, the analysis showed lifecycle GHG emissions associated with soy biodiesel production and use met the 50 percent threshold required for qualifying as an advanced biofuel under the RFS program. The data provided by commenters does not isolate the impact that changes in biodiesel demand have on vegetable oil markets, which are driven by multiple factors, including population growth, changes in eating habits, and economic growth. Commenters do not provide new

[43] Pete Riley, ''Grains and Oilseeds Outlook; 2013 Agricultural Outlook Forum,'' USDA/Farm Service Agency, February 22, 2013. The increased production of soy oil in 2013 is projected on a crop year with the 2013/14 marketing year being October 2013 through September 30, 2014. Consequently, the 13% increase in production would only begin to be available to the market beginning in October 2013.

[44] See comments from Union of Concerned Scientists, International Council on Clean Transportation, Clean Air Task Force, Grocery Manufacturers Association, Actionaid, NRDC and the National Wildlife Federation.

information that would change our lifecycle emissions analysis. The March 2010 analysis captured the long-term market reaction to a sustained higher demand over many years for biomass-based diesel in the U.S., which primarily resulted in an increase in soybean oil biomass-based diesel production. We continue to believe that over the long-term, expansion of soybean production is a realistic reaction to increased demand for biodiesel in the U.S., thus supporting our analysis that soybean biodiesel reduces GHG emissions over the long run.

Commenters also stated that the volumes of advanced biofuels that would be needed to fill the cellulosic void are larger than the volumes EPA modeled in the 2010 lifecycle analysis. EPA notes that we analyzed 1.7 billion gallons of biodiesel in our 2010 analysis, which is within the range of volumes being considered in this annual rule. Commenters also stated that the volumes of advanced biofuels that would be needed to fill the cellulosic void are larger than the volumes EPA modeled in the 2010 lifecycle analysis. EPA notes that we analyzed 1.7 billion gallons of biodiesel in our 2010 analysis, which is within the range of volumes being considered in this annual rule. In addition, commenters suggested that EPA quantify the impacts for the criteria described in section 211 (o)(2)(B)(ii) of the Clean Air Act. However, conducting such a comprehensive quantification was not practical for this rulemaking. We also note that the RFS program is a long-term program aimed at replacing substantial volumes of fossil-based transportation fuels with low-GHG renewable fuels over a multi-year period of time. In that context, the analysis of various impacts conducted for the March 2010 final RFS rule considered the effects of the program over the long term. Specifically, our analysis focused on quantifying the GHG impacts of an increase in biomass-based diesel demand in 2022, when the full volumes of the RFS program would be implemented.

In their comments on the NPRM, the American Cleaning Institute (ACI) expressed concern that demand for biodiesel and/or renewable diesel could adversely affect the oleochemical industry by diverting animal fats away from the production of soaps, detergents, and general cleaning supplies. ACI requested that the advanced biofuel volume requirement be reduced to ensure that such diversion of animals fats does not occur, or alternatively that animal fats be explicitly prohibited as a valid feedstock option for the production of biofuels. In our response to comments from ACI in the final rule setting the required volume biomass-based diesel for 2013,[45] we pointed out that under the statutory definition of renewable biomass, valid feedstocks include animal waste material and animal byproducts. We believe that animal fats fall into these categories, and as a result we do not have the authority to exclude or limit volumes of animal fats that are used for production of biofuel. Moreover, ACI did not provide any information indicating that a reduction in the required volume of biomass-based diesel would result in a reduction in the use of animal fats to produce biodiesel. Indeed, as discussed above, volumes of biodiesel above the 1.0 bill gal minimum established in the statute may be produced from soy oil and corn oil instead of animal fats.

Since the biomass-based diesel volume of 1.28 bill gal was established previously, the NPRM only requested comment on volumes of biomass-based diesel in excess of 1.28 bill gal. Although we believe it is likely that such excess volumes would be produced from soybean oil as described above, it is possible that they could be produced from animal fats. The only way to influence whether or not animal fats would be used to make excess biodiesel above the 1.28 bill gal biomass-based diesel applicable volume would be to reduce the advanced biofuel standard to 1.926 bill gal, which is the ethanol-equivalent sum of the biomass-based diesel and cellulosic biofuel applicable volumes. Even then, it would not prevent animal fats from being used to produce biodiesel.

For the reasons discussed above, we conclude that the volumes of excess biomass-based diesel available for use in 2013 as advanced biofuel are reasonably projected as 300 mill gal or more. In addition, the arguments for reducing the advanced biofuel standard to reduce the reliance on excess biomass-based diesel are not of a nature to warrant changing the conclusions we would draw.

b. Limitations in the Use of Biodiesel

While we are not projecting a specific volume of biodiesel in excess of 1.28 bill gal for 2013, we do acknowledge that there may be potential limitations on biodiesel consumption that could be imposed by manufacturer warranties and cold-weather operation.

Most diesel engines are warranted by their manufacturer to B5. That is, the use of biodiesel in concentrations above 5vol% may void these commercial warranties. While not a legal limitation on the use of biodiesel, it does present a practical limitation. Assuming a total diesel consumption volume of about 50 bill gal for 2013, B5 for the diesel pool as a whole would correspond to a biodiesel volume of 2.5 bill gal.

However, some diesel truck engines have been warranted by their manufacturers to consume B20, starting in 2011. Model-specific sales data for these vehicles was not available, so we could not directly estimate the volume of B20 consumed by these trucks. Nor were we able to assess the ability of the retail and distribution system to supply higher biodiesel blends for a subset of the fleet. But in the extreme, assuming all MY 2011 and newer trucks were designed for operation on B20 and that these trucks could always fuel on B20, it would only account for approximately 30% of the nationwide biodiesel volume in 2012.

At the same time, even B5 blends cannot be utilized year-round due to cold weather constraints. If biodiesel was not used at all in the 20 most northern states from December through March, the nation as a whole could still consume 1.9 bill gal annually.[46] However, this is likely to be a conservative estimate of the volume of biodiesel that can be consumed since infrastructure does exist in many northern states to permit the use of B5 in the winter. Moreover, another estimate of the impact of cold temperatures on biodiesel use can be derived from the cloud point. The cloud point for B5 soy methyl ester (SME) blended with No. 2 diesel is estimated to be approximately 5 °F. Thus, any region wherein temperatures regularly drop below 5 °F would present a difficulty for the use of B5. Assuming that biodiesel cannot be blended in such regions during any month where the temperature falls below 5 °F at least 10% of the time would result in a reduction of the volume of biodiesel that can be consumed annually by only about 3%. Thus, it appears that for 2013, the ability to consume biodiesel in the vehicle fleet does not provide a constraint.

2. Domestic Production of Advanced Biofuel Other Than Biomass-Based Diesel and Cellulosic Biofuel

Generic pathways that have been approved for the generation of RINs are specified in the regulations in Table 1

[45] 77 FR 59463, September 27, 2012.

[46] Jung, Zoltan, ''Estimating Potential Biodiesel Consumption Under Cold Weather Limitations,'' memorandum to docket EPA–HQ–OAR–2012–0546.

to § 80.1426.[47] There are currently six pathways through which advanced biofuel RINs can be generated. These pathways are shown in Table III.B.2–1.

TABLE III.B.2–1—PATHWAYS FOR ADVANCED BIOFUEL

Fuel type	Feedstock	Production process requirements	D-Code
H Biodiesel, renewable diesel, jet fuel and heating oil.	Soy bean oil; Oil from annual covercrops; Trans-Esterification Algal oil; Biogenic waste oils/fats/greases; Non-food grade corn oil Camelina sativa oil	One of the following: Trans-Esterification. Hydrotreating. Includes only processes that co-process renewable biomass and petroleum.	5
I Naphtha, LPG	Camelina sativa oil	Hydrotreating	5
J Ethanol	Sugarcane	Fermentation	5
P Ethanol, renewable diesel, jet fuel, heating oil, and naphtha.	The non-cellulosic portions of separated food waste.	Any	5
Q Biogas	Landfills, sewage waste treatment plants, manure digesters.	Any	5
S Ethanol	Grain Sorghum	Dry mill process, using only biogas from landfills, waste treatment plants, and/or waste digesters for process energy and for on-site production of all electricity used at the site other than up to 0.15 kWh of electricity from the grid per gallon of ethanol produced, calculated on a per batch basis.	5

In the NPRM, we projected that the total volume of other advanced biofuel could be 150 mill gal in 2013. Some stakeholders expressed their belief that this was a reasonable volume to project for domestic advanced biofuel producers for 2013, and Clean Energy Renewable Fuels provided information supporting their view that we had significantly underestimated the potential for biogas. Nevertheless, others expressed concern that 150 mill gal was too aggressive, pointing to the fact that the actual domestic production of other advanced biofuel in 2012 was only 50 mill gal. Consistent with our approach to cellulosic biofuel projections, we do not believe that future projections of advanced biofuel should be based strictly on actual historical production volumes. Nevertheless, we agree with stakeholders that expressed concern that we based our projections in part on information from registered producers that did not submit a Production Outlook Report as required under § 80.1449 for all registered producers. For this final rule, we have not considered production volumes from a specific producer if that producer did not provide a projection for 2013 in a Production Outlook Report.

In order to estimate the volumes of other advanced biofuels that could be produced in 2013, we reviewed the most recent set of Production Outlook Reports. These reports were submitted in the summer of 2012 and contain projections of renewable fuel production for each of the next five years.[48] Based on this review, we identified approximately 30 domestic companies that expect to produce advanced biofuel (with a D code of 5) in 2013. The total projected production volume for these companies in 2013 is 245 million ethanol-equivalent gallons, as shown in Table III.B.2–2.

TABLE III.B.2–2—PROJECTED DOMESTIC PRODUCTION OF ADVANCED BIOFUEL[a] IN 2013

[Million ethanol-equivalent gallons]

Biogas	44
Naphtha	8
Renewable diesel	57
Ethanol	136
Total	245

[a] Includes only volumes that would be assigned a D code of 5.

We recognize that these volumes are higher than the 150 mill gal that we projected in the NPRM. Nevertheless, we believe that they provide a reasonable estimate of the volumes that can be achieved in 2013. Because Production Outlook Reports are provided directly to the EPA and are not made public (except in the aggregate), producers have less incentive to overstate volume projections. These projected volumes also do not account for imports of renewable diesel from foreign producers which have the capacity to produce hundreds of millions of gallons per year. More importantly, the projected volumes in Table III.D.2–2 were made in June 2012. Since that time, we have established additional valid pathways for the generation of advanced biofuel RINs using camelina oil and grain sorghum.[49] Recent annual production of ethanol from grain sorghum was about 350 mill gal, though only a minority of these production facilities might be expected to install the requisite equipment allowing the use of biogas for process energy in 2013, thus allowing them to generate advanced biofuel RINs.

We also investigated a variety of other potential RIN-generating pathways for advanced biofuel that could result in additional volumes in 2013. In addition to potential new pathways for cellulosic biofuel that would also count towards the advanced biofuel volume requirement as discussed in Section II.D, new pathways are also under review that may provide additional advanced biofuel volumes in 2013. These include pathways for renewable diesel from jatropha oil, ethanol from barley and biomass sorghum, and a number of others. We have not yet determined, either through rulemaking or approval of an industry petition, whether these pathways are valid for the

[47] Pathways may also be approved for RIN generation in response to petitions submitted pursuant to 80.1416.

[48] While the individual reports have not been published since they include company-specific information that could impact the competitive nature of the industry, we are providing aggregate results in this NPRM.

[49] 78 FR 14190, March 5, 2013.

generation for advanced biofuel RINs. However, approval of such advanced biofuel pathways could potentially result in the production of more than 50 million ethanol-equivalent gallons in 2013. Insofar as any of these pathways are approved in time to be used in 2013, it would increase the volume of domestically-produced advanced biofuels available for 2013 compliance above the volumes shown in Table III.B.2–2.

3. Imported Sugarcane Ethanol

In the NPRM we projected that the volume of imported sugarcane ethanol in 2013 would need to reach about 670 mill gal in order for the statutory volume of 2.75 bill gal to be met. Given the availability of carryover RINs from 2012, potential for excess biomass-based diesel, and domestic production of other advanced biofuel, the amount of imported sugarcane ethanol needed to reach the statutory volume of 2.75 bill gallons could be significantly below 670 mill gal. Here we evaluate whether the actual 2012 import volume of 580 mill gal could also be imported in 2013.

a. Brazilian Ethanol Export Capacity

Total exports of ethanol from Brazil depend on ethanol production and demand within Brazil and have varied significantly over the last decade. The historical maximum occurred in 2008 when 1.35 bill gal was exported, and ongoing efforts to upgrade distribution infrastructure mean that Brazil has the infrastructure in place to export at least this volume annually.

In response to the NPRM, stakeholders provided widely diverging views on the volumes of imported sugarcane ethanol that could be expected in 2013. Some stakeholders suggested that the advanced biofuel standards should be set based on an assumption that there would be no more than a few hundred mill gal of imported sugarcane ethanol available in 2013, and others indicated that imported sugarcane ethanol should be excluded entirely from consideration. The Brazilian Ministry of Mines and Energy (MME) provided a detailed assessment supporting their view that Brazil can supply at least 670 mill gal to the U.S. in 2013, and the Brazilian sugarcane industry association UNICA likewise indicated that at least 670 mill gal could be expected [50] No stakeholders supported our suggestion that a 200 mill gal reduction in the advanced biofuel requirement might be warranted to account for potential uncertainty in the availability of imported sugarcane ethanol. To assess Brazil's potential export capacity for 2013, we considered multiple factors, including sugarcane and ethanol production capacity, Brazilian domestic ethanol demand, and historical data on sugarcane ethanol exports.

i. Brazilian Sugarcane and Ethanol Production Capacity

From the supply perspective, production of sugarcane in Brazil in the years just preceding 2013 has been lower than normally expected due to two factors. First, adverse weather conditions reduced production.[51] For example, adverse weather conditions are estimated to have reduced cane production by about 4% in the 2011/2012 marketing year.[52] Thus, a return to normal weather conditions in the time frame that this rulemaking considers by itself would restore approximately 4% of production.

Second, the general global economic downturn in recent years made obtaining credit more difficult in the Brazilian sugar cane industry, resulting in delayed replanting of existing fields. Normally sugarcane fields are replanted every five or six years to maximize yield. However, the lack of available credit caused some growers to delay the expense of this replanting, resulting in older fields losing production.[53] Perhaps in part due to easing credit conditions, as noted below, more direct investment in sugar cane production and milling in Brazil is occurring.

In the proposal, EPA cited data from September and December 2012 in estimating that the South Central region, the dominant region for ethanol production in Brazil, would produce a total of 5.56 bill gal for the 2012/13 year.[54] Other regions contributed roughly another 565 mill gal in 2011/12. Based on this production data, we concluded that 6.1 bill gal would be a reasonable conservative estimate for total 2013 production, assuming no growth at all in production outside the South Central region. Subsequent to issuance of the proposal, UNICA released its final report on the 2012/2013 harvest season, which confirmed an increase in the sugarcane harvest relative to 2011/12. That report showed that the 2012/2013 harvest for the South Central region was approximately 8% larger than the 2011/12 harvest.[55]

Some parties expected a more typical trend in sugarcane ethanol production for both the 2012/2013 and 2013/2014 harvest years, with replanted fields beginning to boost sugarcane production in existing plantations and, in response to increased worldwide demand, a growth in the acres planted with sugarcane. Increased production is supported by the Brazilian government which announced in February 2012 support for a plan to invest over $8 billion annually to boost cane and ethanol production.[56] Private investment in Brazil may also be increasing. For example, Usina de Acucar Santa Terezinha, a Brazilian ethanol producer, last year announced plans to invest almost $300 million in a new mill and sugarcane plantation.[57] As stated in the proposal, such information suggested that sugarcane and ethanol production in the 2013/14 harvest year could be higher than production over the last two years.

The 2012/2013 harvest year in Brazil's South Central region has ended, and EPA now has early estimates concerning the 2013/2014 harvest year, which began in April 2013. UNICA now projects an increased 2013/2014 harvest for the South Central region of 10.7% over the 2012/2013 harvest.[58]

With respect to ethanol production, analyses supplied in comment to the proposal by the Brazilian Ministry of Mines and Energy (MME) indicate it is projecting 2013/14 ethanol production to range from 7.2 to 7.5 bill gal, reflecting improvements in yield, additional acres planted and the expected market for sugar from sugarcane. MME's projections are in line with other data sources referenced in MME's comments that projected ethanol

[50] Some portion of Brazilian ethanol exports to the U.S. is non-fuel ethanol (i.e., for industrial use). U.S. Department of Commerce data indicates that of 2012 Brazilian ethanol exports to the U.S., 85% were fuel ethanol. *http://dataweb.usitc.gov./*

[51] Gain Report BR110016, October 3, 2011, USDA Agricultural Service. See *http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Sugar%20Semi-annual_Sao%20Paulo%20ATO_Brazil_10-3-2011.pdf.*

[52] The sugar marketing year in Brazil's center-south sugar-producing region, where the large majority of production occurs, runs from May through April.

[53] On the margin, the high sugar prices may have also encouraged some growers to divert their crop from ethanol production to sugar production. But most cane growers do not have this flexibility with sugarcane mills designed for fixed amounts of refined sugar or ethanol so high sugar prices was likely a contributing factor but not a major cause of reduced sugarcane ethanol production in Brazil.

[54] UNICA, ''Estimate for 2012/2013 Sugarcane Harvest of Brazilian South-Central Region'', September 20, 2012, *http://www.unicadata.com.br/listagem.php?idMn=39.*

[55] UNICA, ''Final Report of 2012/2013 Harvest Season, South-Central Region,'' *http://www.unicadata.com.br/listagem.php?idMn=83.*

[56] See *http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Oil/8987702.*

[57] See *http://www.bloomberg.com/news/2012-03-08/santa-terezinha-invests-283-million-in-brazil-ethanol-projects.html.*

[58] UNICA, ''South-Central brazil cane crush projected at 589.60 million tons for 2013/2014,'' *http://www.unicadata.com.br/listagem.php?idMn=80.*

production for 2013/14 ranging from 7.1 to 7.2 bill gal. These sources include projections by UNICA which in separate comment defended its analysis projecting 7.1 bill gal. This production rate would support the conclusion that enough ethanol should be available to meet Brazil's domestic demand (discussed following) as well as supply 580 mill gal or more to the U.S. during calendar year 2013.

ii. Brazilian Domestic Demand for Ethanol

Brazil's sugarcane ethanol production serves both its domestic market as well as the export market. The government of Brazil sets a minimum ethanol concentration for its gasoline. In 2011, the Brazilian government lowered this concentration to 20%, reflecting in part the decrease in domestic ethanol production. However, given the more optimistic production outlook, Brazil raised the minimum ethanol concentration to 25% effective May 1, 2013.[59] The ability of the Brazilian government to reset the minimum ethanol content introduces some uncertainty in projecting future Brazilian demand. However, historically, adjustments have been infrequent, relatively small in degree (a few percent), and largely been influenced by the price of ethanol (high prices leading to a reduction in the minimum). Since reinvestment in sugarcane stock is already underway, a considerable resurgence in Brazilian ethanol export potential in the 2013 calendar year seems likely. Assuming that the 25% blending rate remains in effect through the 2013/14 sugarcane season, the analyses referenced above by MME and UNICA suggest that more than enough ethanol should be available assuming normal weather patterns to allow for at least 580 mill gallons of exports to the U.S. in 2013.

iii. Additional Market Factors

Aside from production capability and domestic demand within Brazil, market conditions generally determine the amount of sugarcane ethanol imported into the U.S. from Brazil. Approved as an advanced biofuel pathway, ethanol produced from sugarcane benefits from the RIN value associated with advanced biofuel but also has to compete with other sources of ethanol used for blending with gasoline in the U.S., most notably ethanol made from corn starch (which does not qualify as an advanced biofuel). The expiration of the tariff applicable to imported ethanol has helped make imported sugarcane ethanol more cost competitive in the U.S., and any volumes of Brazilian sugarcane ethanol imported into California to meet the requirements of their Low Carbon Fuel Standard (LCFS) would also count towards meeting the requirements of the RFS program.

b. United States-Brazil Ethanol Trade

In both calendar years 2011 and 2012 there was some two-way trade in ethanol between the United States and Brazil. A number of stakeholders raised concerns about this two-way ethanol trade between the U.S. and Brazil. Some suggested that we should adjust the advanced biofuel standard to reduce or eliminate such outcomes.

According to currently available Energy Information Administration (EIA) data, 2013 U.S. fuel ethanol imports from Brazil through May were 75.9 million gallons compared to 36.1 million gallons during the same period in 2012, a 110% rise.[60] The U.S. Department of Commerce also collects data on U.S. imports of Brazilian fuel ethanol. They too report a significant increase in 2013 imports—105 million gallons through May 2013, up from 42.6 million gallons through the same period in 2012, a 147% increase.[61] This increase, combined with the fact that the majority of Brazilian ethanol exports to the United States have historically occurred in the second half of the calendar year, suggests that Brazilian ethanol exports to the U.S. are on a trajectory that would readily enable Brazil to supply 580 million gallons to the U.S. in 2013.[62]

2013 exports of fuel ethanol from the U.S. to Brazil have been relatively small. EIA data indicates that 26 million gallons of fuel ethanol have been exported from the U.S. to Brazil between January 1 and May 31, 2013.

TABLE III.B.3.b–1—U.S. FUEL ETHANOL TRADE WITH BRAZIL

[Mill gal]

	2008	2009	2010	2011	2012
U.S. Fuel Ethanol Imports from Brazil[63]	203	5	0	101	403
U.S. Fuel Ethanol Exports[64]					
Total	N/A	N/A	398	1195	742
To Brazil	N/A	N/A	23	396	86

Both the EIA and U.S. Department of Commerce data consider fuel ethanol that is transported directly from Brazil to the United States. However, significant volumes of fuel ethanol originating from Brazil and imported by the United States pass through Caribbean Basin Initiative (CBI) countries for dehydration before continuing on to the U.S. Such volumes are not included in the Table III.B.3–1. EIA data indicates that the U.S. imported 40 million gallons of fuel ethanol from CBI countries in 2012; most of this originated in Brazil, though determining the specific quantity is difficult.

Comments on this two-way trade focused on associated GHG impacts, both direct impacts from transportation-related emissions, and the indirect GHG impacts resulting from the market dynamics that could potentially result as a consequence of EPA's volume determinations.

i. Direct Transportation Emissions

With respect to direct emissions, commenters noted that GHG emissions occur as a result of shipping sugarcane ethanol to the U.S. and shipment of corn-based ethanol to Brazil. We recognize that there are GHG emissions

[59] Platts, ''Brazil to raise ethanol mix in gasoline to 25% from 20% May 1,'' *http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Oil/8194390.*

[60] EIA, *U.S. Imports from Brazil of Fuel Ethanol. http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mfeim_nus-nbr_1&f=m.*

[61] The data from EIA and the U.S. Department of Commerce are generally consistent, but slight differences may arise due to differences in the survey population, the reporting methodology, the reporting schedules, and the timing of updates.

[62] In 2012, 90% of the 403 million imported gallons occurred in June through December.

[63] EIA, *U.S. Imports from Brazil of Fuel Ethanol.http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mfeim_nus-nbr_1&f=m.*

[64] EIA, *Exports by Destination. http://www.eia.gov/dnav/pet/pet_move_expc_a_EPOOXE_EEX_mbbl_a.htm.*

associated with shipping sugarcane ethanol from Brazil to the U.S. as well as the subsequent emissions associated with distributing this fuel from the port of entry to likely blending locations. These transportation emissions were taken into account as part of the lifecycle assessment of sugarcane ethanol adopted as part of the 2010 final rule, and represent approximately (3%) of total lifecycle emissions for sugarcane ethanol. Regarding the emissions associated with potential shipments of corn ethanol from the U.S. to Brazil, these would be small in magnitude compared to the overall emission reductions from the use of sugarcane ethanol, as the transportation emissions are a small part of the lifecycle emissions, whether the emissions are for fuel imported from Brazil or exported to Brazil. Also, as noted below, the commenter provides no basis for EPA to determine the magnitude of the emissions they are concerned about, given the multiple factors that lead to wide variability in import and export levels of ethanol between the U.S. and Brazil.

ii. Indirect Emissions

Stakeholder's comments regarding sugarcane ethanol and U.S.-Brazil trade concern the annual standard-setting process for 2013 and the indirect GHG impacts associated with the use of imported sugarcane ethanol as an advanced biofuel. Commenters raised two major issues associated with the potential GHG impacts associated with sugarcane ethanol demand in the U.S. (1) In the long-run (e.g., 2022), if EPA were to maintain the full statutory advanced standard while reducing the cellulosic standard to levels seen in recent years based on availability, more than 10 bill gal of imported ethanol would be required to meet the advanced standard. At those volumes, based on studies by the OECD and FAPRI-Missouri, commenters state that it is likely that a majority of the imported ethanol gallons would be diverted from Brazilian consumption of ethanol, and that much of the sugarcane ethanol would be backfilled by corn ethanol imports from the U.S. As a result, commenters argue that imported sugarcane would not meet the 50 percent GHG emissions reductions required for an advanced biofuel. (2) In the short-run, commenters claim that there are limited options for increasing the supply of sugarcane ethanol, many of which would undermine the GHG emission reductions included in EPA's lifecycle analysis. Commenters claim that in the 2013 time period, increased sugarcane ethanol imports to the U.S. could only be supplied if Brazil decreases gasoline consumption, Brazil replaces sugarcane ethanol with fossil gasoline, Brazil replaces sugarcane ethanol with another ethanol (presumably corn), sugar production in Brazil increases, or stocks of sugar are reduced to meet increased demand. Commenters claim that if replacement of sugarcane ethanol is with gasoline or corn ethanol, sugarcane ethanol would not meet the GHG emission reductions required for an advanced biofuel.

Regarding the first issue, it is premature and would be speculation to consider at this time what emissions might result were EPA to maintain the statutory advanced standard over the next several years. That issue is also not relevant for this rulemaking action. For each calendar year, EPA may reduce the required volumes of advanced biofuel and total renewable fuel if it reduces the volume required for cellulosic biofuel. This rulemaking addresses only calendar year 2013, and does not establish or set a precedent for what actions EPA may or may not take for future calendar years. Therefore, we believe the analysis presented by commenters on future scenarios that rely on imported volumes of sugarcane ethanol that exceed current Brazilian production are not relevant to this 2013 rulemaking.[65]

The second issue raised in this context pertains to the question of how the national applicable volume for advanced biofuel influences ethanol production and trade patterns (along with concomitant indirect GHG emissions effects) in a given year. A comprehensive analysis of those effects is challenging, as there are a variety of economic and other factors at play. A thorough analysis of this issue would require complex economic and emissions modeling for multiple market sectors, which is impractical, particularly for a rule that establishes a yearly volume requirement. Furthermore, we do not believe that the data commenters submitted provides an adequate basis for drawing the conclusion, as commenters do, that retaining the statutory 2013 advanced biofuel requirement would result in an overall increase in GHG emissions due to ethanol trade. For example, in the comments submitted by ICCT, no data is provided indicating whether it is more likely that increased sugarcane exports will result in increased petroleum gasoline consumption or increased corn ethanol imports in Brazil, or if the market response will be an increase in sugar production or drawing down sugar stocks.

Each of these different market implications would have significantly different GHG emissions impacts. Multiple reasons exist for the volume of trade between the US and Brazil beyond the RFS program's requirements, including other US demand for sugarcane ethanol (e.g., California's LCFS); seasonal production of sugarcane which results in off-season demand for ethanol; and regional infrastructure constraints in Brazil, which makes it easier for parts of Brazil to import corn ethanol in some regions. As shown by Table III.B.3–1 above, there is no clear correlation at all between corn ethanol exports to Brazil and sugarcane ethanol imports from Brazil. There is no basis to assume that each gallon of sugarcane ethanol imported into the U.S. would be offset by a gallon of corn ethanol exported to Brazil. Furthermore, fluctuations in the sugar markets could lead to increased sugarcane ethanol supply without increasing sugarcane production. As discussed in the UNICA comments, world sugar prices are currently down 36% since 2011, which creates an additional incentive for producers, to the extent possible, to shift from sugar production to ethanol production. In fact, UNICA expects ethanol production to increase by 18–20% in 2013/2014, even though sugarcane production will only increase by 10%. To the extent that the increase in sugarcane ethanol to the U.S. results in increased sugarcane production, decreased sugar production, or a drawdown of sugar stocks, it is not likely that the increase in U.S. imports of sugarcane ethanol would lead to increased exports of corn ethanol to Brazil or a significant change in GHG emissions.

We also note that Congress established the RFS as a long-term program aimed at replacing substantial volumes of fossil-based transportation fuels with low-GHG renewable fuels over time. The annual standard-setting process however involves a decision for a single year, which may not reflect the long-term effects of the program. For example, our emissions analysis conducted for the March 2010 final RFS rule focused not on yearly decisions on standards, but rather the effects of the program over the long term. That analysis did not attempt to answer the question of what the GHG emissions impacts would be of increasing or lowering the volume mandates in any one year. Instead, our analysis focused on quantifying the GHG impacts of an

[65] In addition, as discussed below, in this action EPA is not revisiting or reopening the determination made in the 2010 RFS final rule that imported sugar cane ethanol meets the greenhouse gas reductions threshold for advanced biofuel.

increase in sugarcane ethanol demand in 2022, when the full volumes of the RFS program were implemented. The March 2010 analysis captured the long-term market reaction to a sustained higher demand over many years for sugarcane ethanol in the U.S., which primarily resulted in an increase in Brazilian sugarcane production. We continue to believe that over the long-term, expansion of Brazilian sugarcane production is a realistic reaction to increased demand for sugarcane ethanol in the U.S., thus supporting our analysis that sugarcane ethanol reduces GHG emissions over the long run.

In sum, we believe that the import of sugar cane ethanol as an advanced biofuel in 2013 should produce reductions in GHGs compared to the fossil-based gasoline it will replace, which would not occur if the advanced biofuel standard were reduced. While the points raised by commenters indicate there is some uncertainty about the magnitude of these reductions on a year-by-year basis, the evidence and arguments they present do not warrant a conclusion that there would be any significant change in GHG benefits. In addition, as noted above, the ongoing demand for advanced biofuels is part of a long-term approach to achieving major GHG reductions from the RFS program.

Finally, with respect to commenters' arguments regarding the GHG impacts of imported sugarcane ethanol, we note that the lifecycle threshold determinations conducted for various biofuels pathways (as required by statute) were completed as part of the March 2010 final RFS rule. We made the determination in that rulemaking that imported sugar cane ethanol meets the greenhouse gas reductions threshold for advanced biofuel. We are not revisiting those determinations as part of this action. Instead this rulemaking addresses the applicable volume requirements for the various categories of renewable fuels, in applying the provision for a waiver of the cellulosic biofuel volumes. Thus we are not reconsidering or reopening the GHG threshold determinations made in the 2010 RFS final rule. Instead, we are considering this comment solely in the context of exercising its discretion under CAA section 211(o)(7)(D)(i).

For the reasons discussed above, we conclude that the volumes of sugarcane ethanol that are available for use in 2013 as advanced biofuel are reasonably projected as at least as much as 580 mill gallons. We continue to place primary weight on this factor in determining whether to maintain the statutory levels for advanced biofuel. In addition, the arguments and reasons for reducing the advanced biofuel standard to reduce the reliance on imported sugar cane ethanol are not of a nature to warrant changing the conclusions we would draw based on the available supply of sugarcane ethanol as an advanced biofuel.

C. Compliance With the Total Renewable Fuel Standard in 2013

As described in Section III.B above, the NPRM addressed potential reductions in advanced biofuel and total renewable fuel under the cellulosic waiver authority. In this context, any reduction in advanced biofuel would be matched gallon-for-gallon (on an ethanol-equivalent basis) by reductions in total renewable fuel, effectively having no impact on volumes of non-advanced biofuel such as corn ethanol.

In response to the NPRM, many stakeholders expressed concern about the E10 blendwall and the possibility that the applicable standards for 2013, absent a reduction in the advanced biofuel and total renewable fuel volume requirements, could require the consumption of more volumes of higher ethanol blends (E15–E85) than can reasonably be absorbed by the market.[66] In order to evaluate these concerns, we estimated the volumes of ethanol that could be needed to meet the statutory volume requirements in 2013 and whether or not that volume could reasonably be used.

In the NPRM we proposed a significant reduction in the required volume of cellulosic biofuel. For today's final rule we are adjusting this volume requirement downward to 6 mill gal as described in Section II.D above. We also set a volume requirement for biomass-based diesel of 1.28 bill gal in a separate rulemaking.[67] Table III.C–1 shows what the four volume requirements would be without any reductions in the statutory volumes of advanced biofuel or total renewable fuel.

TABLE III.C–1—VOLUMES OF RENEWABLE FUEL FOR 2013 ABSENT REDUCTIONS IN ADVANCED BIOFUEL AND TOTAL RENEWABLE FUEL

[Million ethanol-equivalent gallons]

	D codes that can be used to meet this standard	Required volume
Cellulosic biofuel	3, 7	6
Biomass-based diesel	4, 7	1,920
Advanced biofuel	3, 4, 5, 7	2,750
Total renewable fuel	3, 4, 5, 6, 7	16,550

Based on these volume requirements, we estimated the volumes of both ethanol and non-ethanol that could be used to satisfy these standards if there were no biomass-based diesel produced in excess of the 1.28 bill gal requirement. As such, these estimates may overstate the volume of ethanol that would have to be consumed because, as discussed above, there is significant capacity for biodiesel production beyond the 1.28 bill gal requirement for 2013. This scenario also does not consider the availability of substantial numbers of carryover RINs from 2012, which is discussed in greater detail below.

TABLE III.C–2—POTENTIAL VOLUMES OF RENEWABLE FUEL FOR 2013

[Million ethanol-equivalent gallons]

	D code	Ethanol	Non-ethanol
Cellulosic biofuel	3	1	5
Biomass-based diesel	4	0	[a] 1,920

[66] In the proposal, we requested comment on the degree to which the E10 blendwall might present a difficulty in meeting the applicable volume requirements in 2013.

[67] 77 FR 59458, September 27, 2012.

TABLE III.C–2—POTENTIAL VOLUMES OF RENEWABLE FUEL FOR 2013—Continued

[Million ethanol-equivalent gallons]

	D code	Ethanol	Non-ethanol
Other advanced biofuel			
—Domestically produced	5	[b] 136	[b] 109
—Imported	.....	[c] 580	0
Conventional Biofuel	6	13,800	0
Total	.....	14,517	2,034

[a] Based on the applicable volume requirement of 1.28 bill gal, and assuming no excess.
[b] From Production Outlook Reports as listed in Table III.B.2–2.
[c] Balance of advanced biofuel standard of 2.75 bill gal that is estimated to come from imported sugarcane ethanol.

In order to determine the volume of ethanol that would need to be consumed in blends higher than E10 in order to meet this standard, we assumed a total 2013 energy consumption for all gasoline-powered vehicles and engines of 14.58 Quadrillion Btu.[68] Based on a denatured ethanol energy content of 77,000 Btu/gal and a gasoline energy content of 115,000 Btu/gal, we determined that the 14.5 bill gal of ethanol shown in Table III.C–2 would require 129.5 bill gal of E10 and 2.1 bill gal of E85.[69] This volume of E85 would contain about 1.6 bill gal of ethanol. By contrast, if no E85 were consumed, the total volume of E10 would be 131.1 bill gal and the maximum volume of ethanol that could be consumed would thus be 13.1 bill gal. As shown in Table III.C–2, the conventional biofuel volume alone exceeds this level. In the absence of carryover RINs from 2012, it would be extremely challenging to meet this standard.

In their comments on the NPRM, a number of refiners contended that E85 is not a viable strategy for consuming volumes of ethanol in excess of the E10 blendwall. Some called for reducing the required volumes of renewable fuel so that ethanol would comprise no more than 10% of the gasoline fuel pool. We agree that, historically, E85 consumption has been very low. In 2012 EIA estimated that E85 consumption was about 40 mill gal, and in prior years it was less.[70] In its Annual Energy Outlook 2013, EIA projects that E85 consumption may increase to 176 mill gal in 2013 under the demand pressure created by the RFS program and without consideration of carryover RINs from 2012, but even so this is still significantly less than the 2.1 bill gal that we estimate would need to be consumed under the limitations of the scenario described above. We expect that consumption of E85, and perhaps blends with other concentrations of ethanol, will grow over time.

While recent consumption of E85 (approximately 40 mill gal in 2012) has been considerably lower than the 2.1 bill gal that would be needed in the scenario outlined above, we note that the price of E85 has historically only been about 15% lower than the price of E10. Since the average volumetric energy content of E85 [71] is about 22% below that of E10, the historical price of E85 has actually been higher than the price of E10 on an energy equivalent basis. Moreover, the price gap between E10 and E85 may be perceived as larger to consumers who might assume that a gallon of E85 will contain 85% ethanol, having an energy content 25% lower than E10. Those flex-fuel vehicle (FFV) owners that have been purchasing E85 have thus been doing so for reasons other than the economic benefit (e.g. personal values or government fleet mandates) or because they are unaware of the extent that E85 contains less energy than E10. If the price of E85 were to fall relative to the price of E10, we would expect consumption of E85 to increase. Significant reductions in the price of E85 could result in higher volumes of E85 consumption, provided there is adequate availability of infrastructure for distribution of E85, availability of FFVs, consumer awareness of the availability of E85, its cost in comparison to E10, and the energy difference between E85 and E10. Such a reduction in the price of E85 could occur with a significant reduction in the price of corn relative to the price of oil. Historically during periods of lower corn prices the desire to maximize profit has resulted in an increase in ethanol blending. With the E10 market saturated, lower corn prices could result in lower E85 prices. At higher corn prices, as described more fully in Section III.D below, a long-term increase in E85 consumption would still need to come through a reduction in the price of E85 relative to E10, which would entail an increase in the price of RINs. Based on this, some increase in volumes of higher ethanol blends could be accomplished, with the extent of the required subsidy to E85 consumers through higher RINs prices depending on E85 infrastructure, consumer acceptance, and the price of corn relative to the price of oil.

There are also mechanisms other than increased volumes of E85 through which obligated parties could comply with the applicable volume requirements in the absence of reductions in the advanced biofuel and total renewable fuel volume requirements. One of those options is carryover RINs from 2012. EMTS was examined after the February 28, 2013 deadline for compliance with the 2012 standards to determine the total number of 2012 RINs that had not been used for compliance in 2012 or retired for any other reason. The totals are shown below.

TABLE III.C–3—CARRYOVER RINS FROM 2012 INTO 2013

[Million]

	D Code	RINs
Biomass-Based Diesel	4	353
Advanced Biofuel	5	196
Conventional Biofuel	6	2,117
Total	.....	2,666

Although the rollover provisions in § 80.1427(a)(5) limit the carryover of RINs to 20% of the next year's volume obligations for individual obligated parties, the values in Table III.C–3 are less than 20% of the values shown in Table III.C–1 for the nation as a whole.

As discussed above, compliance with the statutory volume requirements for advanced biofuel and total renewable fuel in 2013 could in theory be met by the consumption of 2.1 bill gal of E85 containing about 1.6 bill gal of ethanol. However, given that there are over 2.6 bill carryover RINs available, there are more than enough in the market to permit compliance with the 2013 advanced biofuel and total renewable fuel volume requirements even if E85 consumption does not increase in 2013. These carryover RINs are also available to address any potential shortfalls in production of corn-based ethanol that may result from the 2012 drought.[72]

[68] Calculated from EIA Annual Energy Outlook 2013, Transportation Table 37 (converted to lower heating value (LHV)).

[69] To simplify this analysis we have not assumed any other ethanol blend levels and no E0.

[70] EIA, ''U.S. Refinery and Blender Net Production,'' 3/15/13.

[71] E85 in this rulemaking is assumed to contain 74% ethanol on an annual average basis, consistent with EIA. However, this value can vary in-use from 51% to 83%, and greater ethanol content will correspond to lower energy content of E85 in comparison to E10.

[72] Through April 2013 approximately 4.1 billion D6 RINs have been produced. This production rate projected through 2013 would indicate the production of approximately 12.3 billion D6 RINs. In addition, the production rate at ethanol facilities has been increasing. EIA's weekly fuel ethanol production data shows that ethanol production had

Continued

We recognize that in some cases carryover RINs from 2012 may not be available to an individual obligated party that needs them. There are indications from some stakeholders that those who own carryover RINs may opt to not sell them, instead carrying them over to help assure compliance with their own obligations in a future year. There is no way to determine what fraction of carryover RINs may fall into this category. However, we note that the 14.5 bill gal of ethanol that might need to be consumed in 2013 (Table III.C–2) is only 1.4 bill gal above the E10 blendwall. This is significantly less than the number of available carryover RINs available. Thus only about half of the carryover RINs in existence would need to be made available in order for the full statutory volume requirements for advanced biofuel and total renewable fuel to be met in 2013.

In response to the NPRM, one stakeholder indicated that carryover RINs should not be considered in the process of setting standards. Instead, this stakeholder argued, carryover RINs were intended only to provide flexibility to enable companies to remain in compliance in years when circumstances such as drought or other biofuel supply shortage limit the availability of RINs. However, the final rulemaking for the RFS1 program did not describe the purpose of carryover RINs in such narrow terms. Droughts were indeed provided as an example of a market circumstance that could limit the production of renewable fuels, but the RFS1 final rule also described the use of carryover RINs more broadly as a means for protecting against any potential supply shortfalls that could limit the availability of RINs. The rule also put this flexibility in terms of availability of RINs and the potential for waivers:

The availability of excess previous-year RINs would thus provide compliance certainty in the event that the supply of current-year RINs falls below the RFS program requirements and the Agency does not waive any portion of the program requirements. (72 FR 23935, May 1, 2007)

In addition, carryover RINs are a valid compliance mechanism, and they will either be used for compliance purposes or eventually retired. The issue here is estimating the adequacy of the availability and use of ethanol in 2013 for compliance purposes, and the availability of carryover RINs is certainly relevant in analyzing that issue. Therefore, we believe that it is appropriate to consider carryover RINs in the context of evaluating the comments received on the need for further compliance relief to address the E10 blendwall.

Carryover RINs and increased E85 are not the only available mechanisms that obligated parties have for meeting the 2013 standards. There are also additional sources for non-ethanol biofuels that could potentially be used for compliance in 2013 instead of relying on increased volumes of E85. As discussed in Section III.B.1 above, there is unused biodiesel production capacity and sufficient feedstocks available to permit biodiesel production in excess of 1.28 bill gal if demand for it exists. In addition, various feedstocks not currently identified in Table 1 to 80.1426 can be used in facilities that have been grandfathered under § 80.1403 to produce biodiesel that is categorized as renewable fuel, but not advanced biofuel, providing these feedstocks meet the definition of renewable biomass.

Several commenters indicated that the recent rise in D6 RIN prices, from approximately 5 ¢/RIN in early January 2013 to approximately 70 ¢/RIN by March 2013 [73], is evidence that the E10 blendwall had been reached and that obligated parties would have significant difficulty complying with the proposed renewable fuel volumes. We recognize that the approaching E10 blendwall and the related anticipation of future scarcity of RINs in the context of currently high feedstock prices is the primary driver for these price increases, though other factors and market mechanisms may also contribute to the increase in the price of D6 RINs. As discussed previously in this section, however, we project that there will be sufficient RINs available to obligated parties to satisfy their advanced biofuel and total renewable fuel obligations in 2013 despite the challenge represented by the blendwall.

One commenter also suggested that this increase in RIN prices would increase the cost of transportation fuel to U.S. consumers by about $17 billion. We do not believe this is a credible program cost increase resulting from high RIN prices even if it does represent the market value of RINs required for compliance with the RFS program. It is incorrect to assume a direct correlation between the increase in RIN prices and a rise in average transportation fuel costs. The cost of the RFS program is driven by the cost of renewable fuels relative to the petroleum fuels they displace. The effect of increasing RIN prices is not to increase overall transportation fuel costs, but rather to reduce the price of more renewable-fuel intensive fuels (e.g. E85) relative to the price of fuels with a lower renewable content (e.g. E10). Since the cost of renewable fuels did not increase over this time period, we do not believe that recent higher RIN prices have caused a significant increase in the total cost of transportation fuels in 2013.[74]

We recognize, however, that high RIN prices may impact individual fuel market participants differently. For example, high D6 RIN prices are likely to have differing effects on how various levels of gasoline/ethanol blends and diesel fuel are priced. The refining industry has raised concerns that in response to high RIN prices, individual refiners may choose to export fuel, and individual importers may reduce imports in order to reduce their RIN obligations. These actions could increase the cost of transportation fuels if increased exports and/or decreased imports significantly reduce the available supply of transportation fuel in the United States. We believe this is highly unlikely as increased exports or decreased imports by one company would provide the opportunity for another obligated party to increase sales volumes and market share within the U.S. and offset any change in transportation fuel supply. EPA will continue to monitor RIN prices and potential impacts closely.

For all of the reasons discussed above, we conclude that for 2013 adequate volumes of renewable fuel and carryover RINs are available to meet the requirements for total and advanced biofuel, and that the E10 blendwall is not a barrier to compliance with these volumes given the various alternative methods to comply besides the blending of ethanol as E10. This conclusion is specific to the circumstances present for 2013.

D. Final Applicable Volume Requirements for 2013

As shown in Table III.B–2, in order for an advanced biofuel requirement of 2.75 bill gal to be met, there would need to be 824 mill gal of advanced biofuels in addition to the volumes that would

dropped to 770, 000 barrels per day in late January but had recovered to 875,000 barrels per day by the third week of May. This later number projects to an annual production rate of approximately 13.4 bill gal of ethanol per year. When considered together with the estimated 2.1 billion carry over RINs we project there will be sufficient D6 RINs to satisfy the unadjusted total renewable fuel standard.

[73] RIN prices continued to rise after the comment period for the NPRM closed.

[74] See also: Irwin, Scott and Good, Darrel. ''High Gasoline and Ethanol RINs Prices: Is There a Connection?'' *Farmdoc Daily.* Department of Agricultural and Consumer Economics, University of Illinois-Champaign. 27 March 2013. Web. 15 June 2013.

need to be produced or imported to meet the biomass-based diesel and cellulosic biofuel requirements. After reviewing the projected availability of advanced biofuel volumes from various sources, we have determined that it is likely that there will be sufficient volumes available to produce or import this 824 mill gal. First, we have determined that there are more than 500 million advanced biofuel carryover RINs from 2012 that can be used for compliance in 2013. With regard to excess biodiesel, we have determined that there could potentially be up to 100 mill gal of excess soy oil and up to 100 mill gal of excess corn oil available, which together could provide 300 million or more advanced biofuel RINs. With regard to other advanced biofuels, we project that up to 245 mill gal could be produced, and another 50 mill gal if pathways under consideration are approved in enough time for them to be used by producers in 2013. Finally, we project that the volume of imported sugarcane ethanol from Brazil can reach the actual import volumes in 2012, which was 580 mill gal, and potentially considerably more. It is clear that, in the aggregate, these sources of advanced biofuel RINs are substantially more than what is needed to meet the advanced biofuel requirement of 2.75 bill gal. Therefore, we do not believe that there is a compelling reason to reduce the required volume of 2.75 bill gal advanced biofuel for 2013. Moreover, we do not believe that the blendwall will represent an impediment to compliance in 2013 due to the availability of carryover RINs from 2012, opportunities for some increase in consumption of E85, and opportunities for non-ethanol biofuels.

E. Volume Requirements for 2014

As described in the NPRM, we recognize that ethanol will likely continue to predominate the renewable fuel pool in the near future, and that for 2014 the ability of the market to consume ethanol in higher blends such as E85 is constrained as a result of infrastructure- and market-related factors. Most stakeholders that submitted comments in response to the NPRM made reference to the impending E10 blendwall, though they differed on how EPA should address it. A number of obligated parties and other stakeholders have communicated to EPA that while the E10 blendwall may be manageable in 2013, in 2014 compliance is expected to become significantly more difficult. We agree with that assessment. In 2014 the applicable volume of total renewable fuel set forth in the statute rises to 18.15 billion ethanol-equivalent gallons, of which 14.4 bill gal would be non-advanced biofuel comprised primarily of corn-ethanol, and 3.75 bill gal would be advanced biofuel. A significant portion of the fuel available to meet the advanced biofuel requirement would also likely be ethanol, including domestically produced cellulosic and advanced ethanol, along with advanced ethanol imported from Brazil. However, the maximum volume of ethanol that could be consumed as E10 in 2014 is projected to be just 13.2 bill gal.[75] Given the history of the market and relevant constraints, EPA does not currently foresee a scenario in which the market could consume enough ethanol sold in blends greater than E10, and/or produce sufficient volumes of non-ethanol biofuels (biodiesel, renewable diesel, biogas, etc.), to meet the volumes of total renewable fuel and advanced biofuel stated in the statute.

Given these challenges, EPA anticipates that in the 2014 proposed rule, we will propose adjustments to the 2014 volume requirements, including to both the advanced biofuel and total renewable fuel categories. We expect that in preparing the 2014 proposed rule, we will estimate the available supply of cellulosic and advanced biofuel, assess the E10 blendwall and current infrastructure and market-based limitations to the consumption of ethanol in gasoline-ethanol blends above E10, and then propose to establish volume requirements that are reasonably attainable in light of these considerations and others as appropriate. EPA believes that the statute provides EPA with the authorities and tools needed to make appropriate adjustments in the national volume requirements to address these challenges. We are currently evaluating a variety of options and approaches consistent with our statutory authorities for use in establishing RFS requirements for 2014. We will discuss these options in detail in the forthcoming NPRM for the 2014 standards and expect to utilize the notice and comment process to fully engage the public in consideration of a reasonable path forward that appropriately addresses the blendwall and other constraints.

We received a number of comments suggesting that because EPA was late in issuing these final RFS standards for 2013, and in light of concerns over the blendwall and RIN prices, that the Agency should take action to relieve or reduce burdens associated with RFS compliance in 2013. While we do not believe that it would be appropriate to remove or further reduce the statutory volume obligations for 2013 as some suggested, we do agree with the commenter who suggested that EPA provide additional time for obligated parties to demonstrate compliance with the 2013 standards. Knowledge of the volume requirements for 2014 is crucial to the strategies that obligated parties may implement when purchasing RINs and wet gallons of fuel for compliance with their individual 2013 RVOs. Given this, EPA's view is that delaying the compliance demonstration for the 2013 compliance period would alleviate some of the uncertainty and concerns that obligated parties have regarding the tardiness of the final rule and its effect on their decisions regarding RIN acquisition.

Therefore, we are extending the RFS compliance deadline for the calendar year 2013 RFS standards to June 30, 2014. This change affects § 80.1451(a)(1) and adds a new paragraph (a)(1)(xiv). In addition to providing obligated parties with more time to demonstrate compliance, we believe that this extension will allow obligated parties to implement various purchasing and allocation strategies that help them comply on an individual basis given the tardiness of this final rule. The compliance demonstration deadline extension is for the 2013 compliance year only, and does not extend the compliance demonstration deadline in any subsequent year. Additionally, given the extension of the compliance demonstration deadline for the 2013 compliance period, we are extending the deadline for submitting reports for the attest engagement requirement for the corresponding compliance year until September 30, 2014. This change affects § 80.1464(d) and adds a new paragraph (g). The attest engagement deadline extension is likewise for the 2013 compliance year only, and does not extend the deadline in any subsequent year.

IV. Applicable Percentage Standards for 2013

A. Background

The renewable fuel standards are expressed as volume percentages and are used by each refiner, blender, or importer to determine their renewable volume obligations (RVO). Since there are four separate standards under the RFS2 program, there are likewise four separate RVOs applicable to each obligated party. Each standard applies to the sum of all gasoline and diesel

[75] This volume is calculated using EIA's 2013 Annual Energy Outlook assuming ethanol represents 10% of total motor gasoline consumption by volume.

produced or imported. The applicable percentage standards are set so that if every obligated party meets the percentages, then the amount of renewable fuel, cellulosic biofuel, biomass-based diesel, and advanced biofuel used will meet the volumes required on a nationwide basis.

As discussed in Section II.D, we are projecting a volume of cellulosic biofuel for 2013 of 4 million gallons (6 million ethanol-equivalent gallons). This is the volume we have used as the basis for setting the percentage standard for cellulosic biofuel for 2013. We are maintaining the advanced biofuel and total renewable fuel volumes at the applicable volumes specified in the statute. The biomass-based diesel volume for 2013 has been established at 1.28 billion gallons through a separate rulemaking. The volumes used to determine the four final percentage standards are shown in Table IV.A–1.

TABLE IV.A–1—FINAL VOLUMES FOR USE IN SETTING THE APPLICABLE PERCENTAGE STANDARDS FOR 2013 [a]

Cellulosic biofuel	6 mill gal.
Biomass-based diesel	1.28 bill gal.
Advanced biofuel	2.75 bill gal.
Renewable fuel	16.55 bill gal.

[a] Due to the manner in which the percentage standards are calculated, all volumes are given in terms of ethanol-equivalent except for biomass-based diesel which is given in terms of physical volume

As with previous years' renewable fuels standards determinations, the formulas used in deriving the annual standards are based in part on estimates of the volumes of gasoline and diesel fuel, for both highway and nonroad uses, that are projected to be used in the year in which the standards will apply. Producers of other transportation fuels, such as natural gas, propane, and electricity from fossil fuels, are not subject to the standards, and volumes of such fuels are not used in calculating the annual standards. Since the standards apply to producers and importers of gasoline and diesel, these are the transportation fuels used to set the standards, and then again to determine the annual volume obligations of an individual gasoline or diesel producer or importer.

B. Calculation of Standards

1. How are the standards calculated?

The following formulas are used to calculate the four percentage standards applicable to producers and importers of gasoline and diesel (see § 80.1405):

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

$$Std_{BBD,i} = 100\% \times \frac{RFV_{BBD,i} \times 1.5}{(G_i - RG_i) + (GS_i - RGS_i) - GE_i + (D_i - RD_i) + (DS_i - RDS_i) - DE_i}$$

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

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

Where:

$Std_{CB,i}$ = The cellulosic biofuel standard for year i, in percent.

$Std_{BBD,i}$ = The biomass-based diesel standard (ethanol-equivalent basis) for year i, in percent.

$Std_{AB,i}$ = The advanced biofuel standard for year i, in percent.

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

$RFV_{CB,i}$ = Annual volume of cellulosic biofuel required by section 211(o) of the Clean Air Act for year i, in gallons.

$RFV_{BBD,i}$ = Annual volume of biomass-based diesel required by section 211(o) of the Clean Air Act for year i, in gallons.

$RFV_{AB,i}$ = Annual volume of advanced biofuel required by section 211(o) of the Clean Air Act for year i, in gallons.

$RFV_{RF,i}$ = Annual volume of renewable fuel required by section 211(o) of the Clean Air Act 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. This value excludes diesel used in ocean-going vessels.

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 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 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 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 = 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, respectively. For 2013, this value is non-zero. See further discussion in Section IV.B.2 below.

DE_i = Amount of diesel 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, respectively. For 2013, this value is non-zero. See further discussion in Section IV.B.2 below.

The Act requires EPA to base the standards on an EIA estimate of the amount of gasoline and diesel that will be sold or introduced into commerce for that year. The four separate renewable fuel standards for 2013 are based on the gasoline, ethanol, diesel, and biodiesel consumption volumes projected by EIA.[76] We adjusted these nationwide values to represent the 49 states that participate in the RFS program (neither Alaska nor any U.S. territory participates).

2. Small Refineries and Small Refiners

In CAA section 211(o)(9), enacted as part of the Energy Policy Act of 2005, Congress provided a temporary exemption to small refineries (those refineries with a crude throughput of no more than 75,000 barrels of crude per day) through December 31, 2010. In our initial rulemaking to implement the new RFS program,[77] we exercised our discretion under section 211(o)(3)(B) and extended this temporary exemption to the few remaining small refiners that met the Small Business Administration's (SBA) definition of a small business (1,500 employees or less company-wide) but did not meet the statutory small refinery definition as noted above. 40 CFR 80.1141, 80.1142. Because EISA did not alter the small refinery exemption in any way, the RFS2 program regulations maintained the exemptions for gasoline and diesel produced by small refineries and small refiners through 2010 (unless the exemption was waived). See 40 CFR 80.1441, 80.1442.

Congress provided two ways that small refineries can receive a temporary extension of the exemption beyond 2010. One is based on the results of a study conducted by the Department of Energy (DOE) to determine whether small refineries would face a disproportionate economic hardship under the RFS program. The other is based on EPA determination of disproportionate economic hardship on a case-by-case basis in response to refiner petitions.

In January 2009, DOE issued a study which did not find that small refineries would face a disproportionate economic hardship under the RFS program.[78] The conclusions were based in part on the expected robust availability of RINs and EPA's ability to grant relief on a case-by-case basis. As a result, beginning in 2011 small refiners and small refineries were required to participate in the RFS program as obligated parties, and there was no small refiner/refinery volume adjustment to the 2011 standards as there was for the 2010 standards.

Following the release of DOE's 2009 small refinery study, Congress directed DOE to complete a reassessment and issue a revised report. In March of 2011, DOE re-evaluated the impacts of the RFS program on small entities and concluded that some small refineries would suffer a disproportionate hardship.[79] As a result, EPA exempted these refineries from being obligated parties for two additional years, 2011 and 2012.[80] The 2012 standards established in the January 9, 2012, final rulemaking reflected the exemption of these refineries.

EPA may also extend the exemption for individual small refineries or small refiners on a case-by-case basis if they demonstrate disproportionate economic hardship. 40 CFR §§ 80.1441(e)(2), 80.1442(h). EPA has granted some exemptions pursuant to this process that apply in 2011 and 2012. EPA has granted one exemption for 2013. However, any requests for exemption that are approved after the release of today's final rulemaking will not affect the 2013 standards. As stated in the final rule establishing the 2011 standards, ''EPA believes 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 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.'' Thus, any additional exemptions for small refineries or small refiners that are issued after today will not affect the 2013 standards.

EPA requested comment on two areas related to small refiner/refinery exemptions. The first was whether it would be appropriate to extend the two year exemption for small refineries. Two commenters stated that EPA should not provide such an extension to small refineries. Both referenced the number of years the program has been in place, leading to the conclusion that small entities have had time to prepare to meet the standards. One of the commenters also stated that small refiners likely have been blending renewable fuel for years given market incentives. One of these commenters stated that the relief provided was meant to be temporary and not ''on-going.'' A third commenter suggested that EPA not only continue to provide hardship waivers, but extend the opportunity for waivers to mid-size refiners, on the basis that these refiners, like small refiners, do not own ethanol facilities and have little control of the RIN and ethanol markets. In addition, the location of several small and mid-size refineries prohibits the export of gasoline, thus reducing their compliance options in the face of limited RIN availability. However, it is the limited financial resources of such entities that provide overarching hardship to such entities, according to the commenter. This commenter also stated that EPA's granting of hardship relief is based on whether the refinery cannot remain economically viable without said relief. The commenter believes the decision point should be based on whether the refiner suffers disproportionately to others in the industry.

The Act specifically provides for a temporary RFS exemption for small refineries, and for the possibility of extensions of those temporary exemptions. EPA used its discretion in the RFS1 program regulations, and again in the RFS2 regulations, to extend the temporary exemption (and possibility of extensions) to a few small refiners meeting criteria established in prior EPA fuels rules based on general authority to provide appropriate lead time in establishing implementing regulations and based on the language in section 211(o) directing EPA to apply RFS requirements to refineries, blenders, distributors, and importers ''as appropriate.'' Regarding EPA's use of ''economic viability'' (in the commenter's words) as a decision point, the Agency has interpreted this to be a

[76] Letter, A. Michael Schaal, Director, Office of Petroleum, Natural Gas, and Biofuels Analysis, U.S. Energy Information Administration, to Christopher Grundler, Director, Office of Transportation and Air Quality, U.S. EPA, May 8, 2013.

[77] 72 FR 23900, May 1, 2007.

[78] DOE report ''EPACT 2005 Section 1501 Small Refineries Exemption Study'', (January, 2009).

[79] ''Small Refinery Exemption Study: An Investigation into Disproportionate Economic Hardship,'' U.S. Department of Energy, March 2011.

[80] Since the standards are applied on an annual basis, the exemptions are likewise on an annual basis even though the determination of which refineries would receive an extension to their exemption did not occur until after January 1, 2011.

severe impact—large enough to create a hardship and threaten the viability of the company. Thus, absent such hardship, the agency does not believe it is appropriate to extend the exemption for small refineries.

EPA also requested comment on whether it is appropriate for the agency to change the standards if small refiner exemptions are granted after the final rule is issued. As discussed above, EPA has heretofore considered and rejected this option for the primary reason of wanting to provide certainty to obligated parties regarding the levels of the standards. One commenter stated that, though they were opposed to further extending exemptions to small entities, that—lawfully, the standards must be adjusted whenever a waiver is granted. In the rule establishing the 2011 standards, we stated that ''EPA believes the Act is best interpreted to require issuance of a single annual standard . . . thereby providing advance notice and certainty to obligated parties . . .'' The Agency continues to believe that this is the single best approach; the commenter did not provide new information to cause us to re-evaluate this position.

3. Final Standards

As specified in the March 26, 2010 RFS2 final rule,[81] 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 biomass-based diesel standard based on biodiesel equivalence. However, all RIN generation is based on ethanol-equivalence. More specifically, the RFS2 regulations provide that production or import of a gallon of qualifying biodiesel will lead to the generation of 1.5 RINs. In order to ensure that demand for 1.28 billion physical gallons of biomass-based diesel will be created in 2013, the calculation of the biomass-based diesel standard provides that the required volume be multiplied by 1.5. The net result is a biomass-based diesel gallon being worth 1.0 gallon toward the biomass-based diesel standard, but worth 1.5 gallons toward the other standards.

The levels of the percentage standards would be reduced if Alaska or a U.S. territory chooses to participate in the RFS2 program, as gasoline and diesel produced in or imported into that state or territory would then be subject to the standard. Neither Alaska nor any U.S. territory has chosen to participate in the RFS2 program at this time, and thus the value of the related terms in the calculation of the standards is zero.

Note that because the gasoline and diesel volumes estimated by EIA include renewable fuel use, we must subtract the total renewable fuel volumes from the total gasoline and diesel volumes to get total non-renewable gasoline and diesel volumes. The values of the variables described above are shown in Table IV.B.3–1.[82] Terms not included in this table have a value of zero.

TABLE IV.B.3–1—VALUES FOR TERMS IN CALCULATION OF THE STANDARDS

[Bill gal]

Term	Value
$RFV_{CB,2013}$	0.006.
$RFV_{BBD,2013}$	1.28.
$RFV_{AB,2013}$	2.75.
$RFV_{RF,2013}$	16.55.
G_{2013}	132.80.
D_{2013}	51.76.
RG_{2013}	13.31.
RD_{2013}	1.23.
GE_i	Confidential.[a]
DE_i	Confidential.[a]

[a] This information is not published because it reflects an exemption for a single entity and publishing such information would reveal confidential business information.

Using the volumes shown in Table IV.B.3–1, we have calculated the final percentage standards for 2013 as shown in Table IV.B.3–2.

TABLE IV.B.3–2—FINAL PERCENTAGE STANDARDS FOR 2013

	Percent
Cellulosic biofuel	0.004
Biomass-based diesel	1.13
Advanced biofuel	1.62
Renewable fuel	9.74

V. Annual Administrative Announcements

In the RFS2 final rule, we stated our intent to make two announcements each year:

- Set the price for cellulosic biofuel waiver credits that will be made available to obligated parties in the event that we reduce the volume of cellulosic biofuel below the applicable volume specified in the Clean Air Act (CAA), and
- Announce the results of our annual assessment of the aggregate compliance approach for U.S. planted crops and crop residue.

The biofuel waiver credit price being announced today was calculated in accordance with the specifications in § 80.1456(d). The manner in which EPA calculates the waiver credit price is precisely set forth in EPA regulations, and EPA's assessment of the aggregate compliance approach is based on data sources, methodology, and criteria that were identified and explained in the preamble to the RFS2 final rule. For these reasons we would not typically include these administrative announcements in a Notice of Proposed Rulemaking. However, given that the NPRM for the 2013 standards was not published prior to 2013, we determined that regulated parties would benefit from knowing the waiver credit price and our conclusions regarding the aggregate compliance approach as soon as possible. Therefore, the February 7, 2013 NPRM included both of these administrative announcements. In today's rulemaking we are finalizing both announcements, and responding to a number of comments we received on the aggregate compliance approach.

A. 2013 Price for Cellulosic Biofuel Waiver Credits

Section 211(o)(7)(D) of the CAA requires that whenever EPA sets the applicable volume of cellulosic biofuel at a level lower than that specified in the Act, EPA is to provide a number of cellulosic credits for sale that is no more than the EPA-determined applicable volume. Congress also specified the formula for calculating the price for such waiver credits: adjusted for inflation, the credits must be offered at the price of the higher of 25 cents per gallon or the amount by which $3.00 per gallon exceeds the average wholesale price of a gallon of gasoline in the United States. The inflation adjustment is for years after 2008. EPA regulations provide that the inflation adjustment is calculated by comparing the most recent Consumer Price Index for All Urban Consumers (CPI–U) for the ''All Items'' expenditure category as provided by the Bureau of Labor Statistics that is available at the time EPA sets the cellulosic biofuel standard to the comparable value that was reported soonest after December 31, 2008.

In contrast to its directions to EPA for setting the price of a cellulosic biofuel waiver credit, Congress afforded the Agency considerable flexibility in designing regulations specifying the

[81] 75 FR 14716, March 26, 2010.

[82] To determine the 49-state values for gasoline and diesel, the amounts of these fuels used in Alaska is subtracted from the totals provided by DOE. The Alaska fractions are determined from the most recent (2011) EIA State Energy Data, Transportation Sector Energy Consumption Estimates. The gasoline and transportation distillate fuel oil fractions are approximately 0.2% and 0.7%, respectively. Ethanol use in Alaska is estimated at 11.2% of its gasoline consumption (based on the same State data), and biodiesel use is assumed to be zero.

permissible uses of the credits. The CAA states that EPA regulations ''shall include such provisions, including limiting the credits' uses and useful life, as the Administrator deems appropriate to assist market liquidity and transparency, to provide appropriate certainty for regulated entities and renewable fuel producers, and to limit any potential misuse of cellulosic biofuel credits to reduce the use of other renewable fuels, and for such other purposes as the Administrator determines will help achieve the goals of this subsection.'' The final RFS2 regulations provide a detailed discussion of how we designed the provisions for cellulosic biofuel waiver credits in keeping with the statutory language. In short, 2013 cellulosic biofuel waiver credits (or''waiver credits'') are only available for the 2013 compliance year. Waiver credits will only be made available to obligated parties, and they are nontransferable and nonrefundable. Further, obligated parties may only purchase waiver credits up to the level of their cellulosic biofuel RVO less the number of cellulosic biofuel RINs that they own. A company owning cellulosic biofuel RINs and cellulosic waiver credits may use both types of credits if desired to meet their RVOs, but unlike RINs, waiver credits may not be carried over for use in the next calendar year. Obligated parties may not use waiver credits to meet a prior year deficit obligation. Finally, unlike cellulosic biofuel RINs which may also be used to meet an obligated party's advanced and total renewable fuel obligations, waiver credits may only be used to meet a cellulosic biofuel RVO. An obligated party will still need to additionally and separately acquire RINs to meet their advanced biofuel and total renewable fuel obligations.

For the 2013 compliance period, since the applicable volume of cellulosic biofuel used to set the annual cellulosic biofuel standard is lower than the volume for 2013 specified in the CAA, we are making cellulosic waiver credits available to obligated parties for end-of-year compliance should they need them at a price of $0.42 per credit. To calculate this price, EPA first determined the average wholesale (refinery gate) price of gasoline using the most recent 12 months of data available from the EIA Web site on September 30, 2012. Based on this data, we calculated an average price of gasoline for the period July 2011 to June 2012 of $2.85. In accordance with the Act, we then calculated the difference of the inflation-adjusted value of $3.00, or $3.27, and $2.85, which yielded $0.42. Next, we compared the value of $0.42 to the inflation-adjusted value of $0.25, or $0.27. The Act requires EPA to use the greater of these two values as the price for cellulosic biofuel waiver credits.

The derivation of this value is more fully explained in a memorandum submitted to the docket for this rulemaking, and a more complete description of the statutory requirements and their application can be found in the RFS2 final rule.

B. Assessment of the Domestic Aggregate Compliance Approach

The RFS2 regulations contain a provision for renewable fuel producers who use planted crops and crop residue from U.S. agricultural land that relieves them of the individual recordkeeping and reporting requirements concerning the specific land from which their feedstocks were harvested. To enable this approach, 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. We therefore provided that renewable fuel producers using planted crops or crop residue from the U.S. as feedstock in renewable fuel production need not comply with the individual recordkeeping and reporting requirements related to documenting that their feedstocks are renewable biomass, unless EPA determines through one of its annual evaluations that the 2007 baseline acreage of agricultural land has been exceeded.

In the final RFS2 regulations, 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 that their feedstocks are renewable biomass.

In response to the NPRM, we received two comments criticizing the aggregate compliance approach, including a comment questioning transparency surrounding the data and methodology. EPA continues to believe that USDA cropland and reserve program acreage data are the most appropriate and applicable sources of data on which to base our annual evaluation for whether the 2007 baseline has been exceeded for aggregate compliance. The USDA data along with a description of our evaluation has been provided in the rulemaking dockets for each annual RFS standard.

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 384 million acres in 2012, and thus did not exceed the 2007 baseline acreage. This acreage estimate is based on the same methodology used to set the 2007 baseline acreage for U.S. agricultural land in the RFS2 final rulemaking. Specifically, we started with FSA crop history data for 2012, from which we derived a total estimated acreage of 384 million acres. We then subtracted the amount of land estimated to be participating in the Grasslands Reserve Program (GRP) and Wetlands Reserve Program (WRP) by the end of Fiscal Year 2012, 230,550 acres, to yield an estimate of approximately 384 million acres of U.S. agricultural land in 2012. The USDA data used to make this calculation can be found in the docket to this rule.

C. Assessment of the Canadian Aggregate Compliance Approach

On March 15, 2011, EPA issued a notice of receipt of and solicited public comment on a petition for EPA to authorize the use of an aggregate approach for compliance with the Renewable Fuel Standard renewable biomass requirements, submitted by the Government of Canada. The petition requested that EPA determine that an aggregate compliance approach will provide reasonable assurance that planted crops and crop residue from Canada meet the definition of renewable biomass. After thorough consideration of the petition, all supporting documentation provided and the public comments received, EPA determined that the criteria for approval of the petition were satisfied and approved the use of an aggregate compliance approach to renewable biomass verification for planted crops and crop residue grown in Canada.

The Government of Canada utilized several types of land use data to demonstrate that the land included in their 124 million acre baseline is cropland, pastureland or land equivalent to U.S. Conservation Reserve Program land that was cleared or cultivated prior to December 19, 2007, and was actively managed or fallow and nonforested on that date (and is therefore RFS2 qualifying land). The total agricultural land in Canada in 2012

is estimated at 120.9 million acres. This total agricultural land area includes 97.3 million acres of cropland and summer fallow, 13.8 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 the RFS2 response to petition. The data used to make this calculation can be found in the docket to this rule.

D. Vacatur of 2012 Cellulosic Biofuel Standard

On January 25, 2013 a DC circuit court ruled that the EPA's projection of cellulosic biofuel production was in excess of the agency's statutory authority and vacated the cellulosic biofuel standards.[83] Very few cellulosic biofuel RINs were generated in 2012 and of those that were the majority of these RINs were required to be retired when the cellulosic biofuel they represented was exported. EPA is therefore eliminating the cellulosic biofuel requirement for 2012 in accordance with the order from the DC circuit court. Cellulosic biofuel RINs generated in 2012 may still be used to satisfy up to 20% of an obligated party's cellulosic biofuel obligation in 2013.

VI. Comments Outside the Scope of This Rulemaking

In their comments responding to the NPRM, a number of parties used the opportunity to raise concerns that were not directly related to the issues and provisions we were addressing in the NPRM, namely the determination of the applicable volume requirements and associated percentage standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel. Instead, they addressed issues associated with the following:

- EPA's petition process in § 80.1416 for approving new fuel pathways and requests that the review of certain pathways be expedited
- Requests for clarification regarding whether certain feedstocks qualify as renewable biomass
- Requests for new EPA initiatives to promote FFVs and blender pumps
- Possible legislative changes to the RFS program
- E15 waivers and EPA policy on E15
- Requests for new or revised lifecycle GHG assessments
- Impacts of ethanol on small engines
- Impacts of ethanol on air quality and use of corn for food
- Comments on specific regulatory provisions in 40 CFR Part 80, Subpart M
- Comments on the 1.28 bill gal volume requirement for biomass-based diesel

We also received some comments addressing the impacts of ethanol on air quality and the use of corn for food. These issues were addressed in the RFS2 final rule released in 2010 and were not revisited in the February 7, 2013 NPRM.

While we are taking these comments under consideration as we continue to implement the RFS2 program, these comments are outside the scope of today's action, and we are not providing substantive responses to them at this time. With regard to comments on the 1.28 bill gal requirement for biomass-based diesel, we will take them into consideration in the context of our response to the petition for reconsideration submitted by the American Fuels and Petrochemical Manufacturers.

VII. 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 February 7, 2013 (78 FR 9282), and we also held a public hearing on March 8, 2013 at which a number of parties provided both verbal and written testimony. All comments received, both verbal and written, are available in EPA docket EPA–HQ–OAR–2012–0546 and we considered these comments in developing the final rule. Public comments and EPA responses are discussed throughout this preamble.

VIII. Statutory and Executive Order Reviews

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

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action'' because it raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

The economic impacts of the RFS2 program on regulated parties, including the impacts of the required volumes of renewable fuel, were already addressed in the RFS2 final rule promulgated on March 26, 2010 (75 FR 14670). With the exception of cellulosic biofuel, this action proposes the percentage standards applicable in 2013 based on the volumes that were analyzed in the RFS2 final rule.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. Burden is defined at 5 CFR 1320.3(b). This final rule does not impose any additional reporting requirements on regulated parties beyond those already required under the RFS program; therefore, there will not be any additional reporting burdens on entities impacted by this regulation. This action merely establishes the RFS annual standards for 2013 as required by section 211(o) of the Clean Air Act.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

Today's rule is an annual rulemaking implementing a long-term program that was finalized in 2010. Under that program small refiners and small refineries were already granted two years of relief that could be extended upon demonstration of ongoing hardship. EPA, with the assistance of DOE, has continued to implement these provisions and provide relief when warranted.

[83] See *API* v. *EPA,* No. 12–1139, slip op. at 5–9 (D.C. Cir. January 25, 2013)

After considering the economic impacts of today's final rule on small entities, we certify that this action will not have a significant economic impact on a substantial number of small entities. This rule sets the annual standard for cellulosic biofuel for 2013 at 6 mill gal. Since small refiners and small refineries collectively comprise about 11.9% of gasoline and 15.2% of diesel production [84], for an average of 12.9% for the entire gasoline + diesel pool, small refiners and small refineries would only be required to collectively meet a cellulosic biofuel requirement of about 0.8 mill gal (6 × 12.9%). At the cellulosic biofuel waiver credit price of $0.42, established in this rule for 2013, the cost of complying with this requirement would total about $0.33 million for the approximately 60 obligated parties that would be affected, or about $5,500 per facility on average.

The impacts of the RFS2 program on small entities were already addressed in the RFS2 final rule promulgated on March 26, 2010 (75 FR 14670), and this final rule will not impose any additional requirements on small entities.

D. Unfunded Mandates Reform Act

This final action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531–1538 for State, local, or tribal governments or the private sector. This action implements mandate(s) specifically and explicitly set forth by the Congress in Clean Air Act section 211(o) without the exercise of any policy discretion by EPA. Therefore, this action is not subject to the requirements of sections 202 or 205 of the UMRA.

This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This final rule only applies to gasoline, diesel, and renewable fuel producers, importers, distributors and marketers and merely sets the 2013 annual standards for the RFS program.

E. 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, as specified in Executive Order 13132. This action sets the 2013 annual standards for the RFS program and only applies to gasoline, diesel, and renewable fuel producers, importers, distributors and marketers. Thus, Executive Order 13132 does not apply to this rule.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This final rule 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 would be affected only to the extent they purchase and use regulated fuels. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it does not establish an environmental standard intended to mitigate health or safety risks and because it implements specific standards established by Congress in statutes (section 211(o) of the Clean Air Act).

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

This action is not a ''significant energy action'' as defined in Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action simply sets the annual standards for renewable fuel under the RFS program for 2013.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This final rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. This action does not relax the control measures on sources regulated by the RFS regulations and therefore will not cause emissions increases from these source.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). Therefore, this rule will be effective on the date of publication.

[84] Estimates from RFS2 final rule, 75 FR 14867.

IX. Statutory Authority

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

List of Subjects in 40 CFR Part 80

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

Dated: August 6, 2013.

Gina McCarthy,

Administrator.

For the reasons set forth in the preamble, 40 CFR part 80 is amended as follows:

PART 80—REGULATION OF FUELS AND FUEL ADDITIVES

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

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

■ 2. Section 80.1405 is amended by removing and reserving paragraph (a)(3)(i) and by adding paragraphs (a)(4) and (d)(4) to read as follows:

§ 80.1405 What are the Renewable Fuel Standards?

(a) * * *

(4) *Renewable Fuel Standards for 2013.*

(i) The value of the cellulosic biofuel standard for 2013 shall be 0.004 percent.

(ii) The value of the biomass-based diesel standard for 2013 shall be 1.13 percent.

(iii) The value of the advanced biofuel standard for 2013 shall be 1.62 percent.

(iv) The value of the renewable fuel standard for 2013 shall be 9.74 percent.

* * * * *

(d) * * *

(4) The 2013 price for cellulosic biofuel waiver credits is $0.42 per waiver credit.

■ 3. Section 80.1451 is amended by revising paragraph (a)(1) introductory text and by adding paragraph (a)(1)(xiv) to read as follows:

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

(a) * * *

(1) Annual compliance reports for the previous compliance period shall be submitted by February 28 of each year except as provided in paragraph (xiv) below, and shall include all of the following information:

* * * * *

(xiv) For the 2013 compliance year, annual compliance reports shall be submitted by June 30, 2014.

* * * * *

■ 4. Section 80.1464 is amended by revising paragraph (d) and by adding paragraph (g) to read as follows:

§ 80.1464 What are the attest engagement requirements under the RFS program?

(d) For each compliance year, each party subject to the attest engagement requirements under this section shall cause the reports required under this section to be submitted to EPA by May 31 of the year following the compliance year, except as provided in paragraph (g) below.

* * * * *

(g) For the 2013 compliance year, reports required under this section shall be submitted to EPA by September 30, 2014.

[FR Doc. 2013–19557 Filed 8–14–13; 8:45 am]

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