Denial of AFPM Petition for Partial Waiver of 2023 Cellulosic Biofuel Standard

This document responds to the request from the American Fuel & Petrochemical Manufacturers ("AFPM"), on behalf of its U.S. refining members who are obligated parties under the Renewable Fuel Standard ("RFS") program, to waive a portion of the 2023 cellulosic biofuel standard.[1] After consultation with the Secretary of Agriculture and the Secretary of Energy, under Clean Air Act ("CAA") section 211(o)(7)(A), EPA has determined that a partial waiver of the 2023 cellulosic biofuel standard is not warranted and is therefore denying the AFPM Petition.

I. Regulatory and Petition Background

On July 12, 2023, EPA promulgated a rule establishing the RFS applicable volumes and percentage standards for 2023–2025 (the "Set Rule").[2] As part of that rulemaking, EPA projected that 840 million gallons of cellulosic biofuel would be produced in 2023 and established the cellulosic biofuel percentage standard for 2023 based on this projection.

On December 22, 2023, AFPM requested that EPA "waive a portion of the Renewable Fuel Standards for the 2023 compliance year . . . to address a significant shortfall in cellulosic biofuel production."[3] AFPM asserted that approximately 759 million gallons of cellulosic biofuel were produced in 2023, which would be approximately 81 million gallons short of the 840 million gallons assumed necessary for compliance with the 2023 cellulosic biofuel standard.[4] AFPM also argued that a waiver is further justified because there are no cellulosic waiver credits ("CWCs") for obligated parties to use for compliance with the 2023 cellulosic biofuel standard and the current D3 RIN price is approximately $3/RIN.[5]

On March 4, 2024, AFPM submitted an update to its original petition.[6] In this Update, AFPM estimated that the 2023 cellulosic biofuel production shortfall was approximately 98 million RINs, and that after accounting for cellulosic RIN deficits carried over from the 2022 compliance year, the effective cellulosic biofuel shortfall for 2023 is approximately 123 million RINs.[7]

While we have considered both the original and updated estimates from AFPM, we rely on our own assessments of the number of cellulosic RINs available for compliance with the 2023 cellulosic biofuel standard (Section III.B and Appendix B) and the estimated 2023 cellulosic biofuel obligation (Appendix A) for purposes of evaluating the AFPM Petition and the Update. We note that we are unable to verify AFPM's calculations of available cellulosic RINs and the estimated 2023 cellulosic biofuel obligation as this information is presented without sufficient

[1] AFPM, "Petition for Partial Waiver of 2023 Cellulosic Biofuel Volumetric Requirements," December 22, 2023 ("AFPM Petition").
[2] 88 Fed. Reg. 44468 (July 12, 2023).
[3] AFPM Petition, p. 1.
[4] *Id*. at 3.
[5] *Id*. at 8–9.
[6] AFPM, "AFPM's Petition for Partial Waiver of the 2023 Cellulosic Biofuel Volumetric Requirements – Update," March 4, 2024 ("AFPM Petition Update" or "the Update").
[7] AFPM Petition Update, p. 1.

information to determine how the resulting values were calculated. While AFPM's calculations appear to use the same data sources as our assessments,[8] those calculations do not seem to follow the methodologies used by EPA as explained in this document, including the Appendices. For example, AFPM's calculation of the value labeled "Cellulosic Biofuel 2023 Net Production" in the Update appears to subtract out cellulosic RINs already retired for compliance with RFS obligations, rather than considering all 2023 cellulosic RINs that were generated and made available to obligated parties to meet their compliance obligations.[9] Additionally, AFPM's estimate of the value labeled "Cellulosic Biofuel Calculated Mandate" in the Update is based on the same February 2024 Short Term Energy Outlook (STEO) published by the Energy Information Administration (EIA) that EPA uses to estimate the 2023 cellulosic biofuel obligation; however, APFM provided no detail on how they used this data source to estimate the calculated mandate. Based on the fact that AFPM's estimated cellulosic biofuel obligation is higher than EPA's estimate, it appears AFPM likely did not exclude some volume of non-obligated transportation fuel as is necessary to appropriately project the overall cellulosic biofuel obligation. EPA's calculations—provided in Section III and Appendices A and B—represent the most up-to-date and accurate estimates of available cellulosic RINs and the 2023 cellulosic biofuel obligation.

II. Statutory Background

As relevant here, two provisions in CAA section 211(o)(7) address waivers. Section 211(o)(7)(A) provides that EPA, in consultation with the Secretary of Agriculture and the Secretary of Energy, may waive the volume requirements, in whole or in part, under specified circumstances, including when EPA finds that "there is an inadequate domestic supply" or that the RFS volume requirements "would severely harm the economy or environment of a State, a region, or the United States" ("severe economic harm").[10] Section 211(o)(7)(A) is structured to allow any person subject to the requirements of the RFS program to petition EPA to waive, in whole or in part, the volume requirements. With respect to cellulosic biofuel specifically, CAA section 211(o)(7)(D)—a separate provision—directs EPA to reduce the cellulosic biofuel volume requirement when the projected volume of cellulosic biofuel production is less than the applicable volume.

Historically, EPA has interpreted "supply" to exclude carryover RINs, but the availability of carryover RINs can be considered in deciding whether to issue a waiver on the basis of "inadequate domestic supply." EPA interpreted the CAA section 211(o)(7)(A) general waiver authority when it reduced the volumes of total renewable fuel upon a finding of "inadequate domestic supply" in the 2014–2016 RFS standards. EPA interpreted "inadequate domestic supply" to refer to actual renewable fuel projected to be supplied in the compliance year.[11] Under that interpretation, carryover RINs were not part of the "supply." In *Americans for Clean Energy*

[8] *Id.*
[9] *Id.* For example, approximately 6.2 million 2023 cellulosic RINs were retired by small refineries to meet their 2020 cellulosic biofuel obligations under the alternative RIN retirement schedule for small refineries. 40 C.F.R. 80.1444. EPA has included these RINs in our calculation of the number of 2023 cellulosic RINs available, as these RINs represent cellulosic biofuel produced in 2023 and these RINs were made available to all obligated parties.
[10] EPA refers to the authority in CAA section 211(o)(7)(A) as the "general waiver authority."
[11] See 80 Fed. Reg. 77435-36, 77484-85 (December 14, 2015).

v. EPA,[12] the D.C. Circuit affirmed EPA's approach of excluding carryover RINs in assessing the "supply" of renewable fuel. Although carryover RINs are not a constituent of the "supply," EPA has nevertheless considered the availability of carryover RINs as a relevant factor when determining whether to issue a waiver of total renewable fuel volumes on the basis of an "inadequate domestic supply" of physical gallons of renewable fuel produced in the relevant compliance year.[13] EPA has consistently taken this position; we again interpreted this phrase to refer to actual renewable fuel projected to be supplied in the compliance year in denying a petition for a waiver of the 2016 cellulosic biofuel standard under a finding of "inadequate domestic supply."[14]

EPA has also interpreted the general waiver authority on the basis of "severe economic harm."[15] EPA's position is that the statute requires a demonstration that implementing the RFS program itself would cause severe economic harm; a waiver would therefore not be appropriate if severe economic harm resulted from a different cause, or if the RFS program was only one of several factors causing severe economic harm.[16] Further, there must also be a high degree of confidence that the harm would occur, not that it is merely likely.[17] We also interpreted the term "severe" as indicating a high threshold of harm that is quite far along the continuum of harm, though short of extreme.[18] We indicated that EPA would likely consider impacts to the economy as a whole, rather than to just one sector, by interpreting the term "economy" as broadly covering all aspects of the economy; however, EPA maintains discretion to determine that severe economic harm would occur to a particular sector of the economy.[19] The first aspect of this interpretation—that the harm must be due to implementation of the RFS program itself—was challenged in *AFPM v. EPA* and EPA's interpretation was upheld by the D.C. Circuit as reasonable.[20] EPA has also indicated the need for sufficient analysis and information to make informed decisions on such requests.[21]

III. EPA's Response to the AFPM Petition

In the following sections, we describe the AFPM Petition, provide an assessment of the availability of cellulosic RINs for compliance, and explain our evaluation of the petition for a partial waiver based on a finding of inadequate domestic supply and severe economic harm under CAA section 211(o)(7)(A).

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[12] 864 F.3d 691 (D.C. Cir. 2017).
[13] See 80 Fed. Reg. at 77484–85.
[14] See "Denial of AFPM Petition for Waiver of 2016 Cellulosic Biofuel Standard," available at: https://www.epa.gov/sites/default/files/2017-01/documents/afpm-rfs-petition-decision-ltr-2017-01-17.pdf.
[15] See 73 Fed. Reg. 47168 (August 13, 2008); 77 Fed. Reg. 70752 (November 27, 2012).
[16] 77 Fed. Reg. at 70756.
[17] *Id.* at 70773.
[18] See 73 Fed. Reg. at 47172.
[19] "Assessment of waivers for severe economic harm or BBD prices for 2018," Docket Item No. EPA-HQ-OAR-2017-0091-4925, available at: https://www.regulations.gov/document/EPA-HQ-OAR-2017-0091-4925.
[20] 937 F.3d 559 (D.C. Cir. 2019).
[21] See, e.g., "Letter from EPA Administrator Scott Pruitt to Greg Abbott, Governor of the State of Texas," January 31, 2018, available at: https://www.epa.gov/sites/default/files/2018-02/documents/ltr-texas-gov-abbott-rfs-waiver-epa-response-2018-01-31.pdf.

A. Overview of the AFPM Petition

AFPM requested that EPA issue a partial waiver of the 2023 cellulosic biofuel standard under CAA section 211(o)(7)(D) and CAA section 211(o)(7)(A)(i).[22] AFPM suggested it had authority to submit a petition requesting that EPA partially waive the cellulosic biofuel volume requirement under CAA section 211(o)(7)(D), the "cellulosic waiver authority."[23] Section 211(o)(7)(D) states in part:

> For any calendar year for which the projected volume of cellulosic biofuel production is less than the minimum applicable volume established under paragraph (2)(B) . . . the Administrator shall reduce the applicable volume of cellulosic biofuel required under paragraph (2)(B) to the projected volume available during that calendar year.

The statute does not specify that it authorizes petitions to waive cellulosic biofuel volumes under CAA section 211(o)(7)(D). Accordingly, we do not consider AFPM's request to waive volumes under CAA section 211(o)(7)(D) to be properly before the Agency. Accordingly, to the extent the AFPM Petition raises issues relating solely to CAA section 211(o)(7)(D), we do not address those issues in this document.

AFPM also inferred that a waiver would be warranted under CAA section 211(o)(7)(A)(i) on the basis of inadequate domestic supply or severe economic harm.[24] Section 211(o)(7)(A-B) states, "[t]he Administrator . . . may waive the requirements . . . upon petition by . . . any person subject to the requirements of this subsection," and that "[t]he Administrator . . . shall approve or disapprove a petition for a waiver . . . within 90 days." AFPM suggested that EPA should waive the volume requirements under CAA section 211(o)(7)(A) for the same reasons that it stated would justify a waiver under CAA section 211(o)(7)(D).[25] Because CAA section 211(o)(7)(A) authorizes waiver petitions based only on severe economic harm and inadequate domestic supply, we evaluate the AFPM Petition as having been submitted under CAA section 211(o)(7)(A), and we deny the petition for the reasons articulated below.

B. Assessment of Cellulosic RINs Available for Compliance

Although the cellulosic biofuel percentage standard for 2023 was based on a projected production volume of 840 million gallons, the actual number of cellulosic RINs that will need to be retired for compliance will not be known until the 2023 compliance deadline of March 31, 2024, when obligated parties report to EPA their gasoline and diesel production and import volumes for 2023.[26] Because the compliance obligation is calculated on a percentage basis, if the actual gasoline and diesel volumes differ from the projected gasoline and diesel volumes that

[22] AFPM Petition, pp. 6, 10.
[23] *Id*. at 5–6. We note that AFPM asserts its authority to petition for a waiver derives from CAA section 211(o)(7)(A), and then infers that the authority to petition EPA under CAA section 211(o)(7)(A) necessarily extends to CAA section 211(o)(7)(D). EPA notes that while Section 211(o)(7)(A) explicitly allows for petitions from obligated parties on several discrete bases identified in subparagraph (A), this provision makes no reference to CAA section 211(o)(7)(D). Thus, by its terms, the ability to petition does not extend to CAA section 211(o)(7)(D).
[24] *Id*. at 10.
[25] AFPM Petition, p. 10.
[26] See, e.g., 40 C.F.R. 80.1451 and 80.1427(a).

were used to derive the percentage standard, then the actual number of cellulosic RINs required for compliance may differ from the projected volume that was used to derive the standard. Based on more recent estimates of actual gasoline and diesel demand for 2023,[27] EPA estimates that the number of cellulosic RINs needed to comply with the 2023 cellulosic biofuel percentage standard of 0.48% is 850 million RINs.[28]

As of February 10, 2024, approximately 775 million RINs have been generated for cellulosic biofuel produced in 2023.[29] In past years, a relatively small number of cellulosic RINs for a compliance year have been generated after February 10 of the following year. Due to their small number, we have not included these RINs in our estimates supporting our decision to deny the AFPM Petition; however, any additional 2023 cellulosic RINs generated after February 10, 2024, would further support this decision. In addition, there are approximately 75 million cellulosic carryover RINs.[30] These carryover RINs represent actual cellulosic biofuel that was produced in 2022, but these RINs were not used for compliance in 2022 and remain available for obligated parties to use to comply with the 2023 cellulosic biofuel standard.[31] When including 2022 cellulosic carryover RINs, the total number of RINs available to comply with the 2023 cellulosic biofuel standard is approximately 850 million RINs, thus approximately equivalent to our current estimate of the total volume necessary to comply with the 2023 cellulosic biofuel standard.

We have also considered outstanding cellulosic RIN deficits carried forward from 2022. Sixteen obligated parties—who together represent less than 4% of the total cellulosic biofuel obligation for 2022—carried cellulosic RIN deficits into 2023.[32] Together these RIN deficits reflect a deferred obligation of approximately 25 million cellulosic RINs. However, the compliance obligations of several of these obligated parties have been stayed by courts pending the resolution of litigation related to small refinery exemption petitions under the RFS program. There is considerable uncertainty, therefore, as to whether these obligated parties will ultimately be required to fulfill these deficits and at what time and with what RIN vintage.

If the number of available cellulosic RINs ultimately falls short of the number of RINs needed for obligated parties to satisfy their cellulosic biofuel obligations for 2023 (including the cited deferred obligations from 2022), we do not expect that the shortfall would be of such a magnitude that obligated parties would be forced into non-compliance with their RFS

[27] EIA, February 2024 STEO.
[28] See Appendix A, "Estimate of 2023 Cellulosic Biofuel Obligation." Although we rely on the 850-million-RIN estimate for purposes of this document, EPA would reach the same conclusions, for the reasons stated below, using the 840-million-RIN projection for 2023 in the Set Rule that was the basis for the 2023 cellulosic biofuel percentage standard.
[29] See "Total Net Generation" RIN data table on EPA's public website: https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rins-generated-transactions. This table includes all cellulosic RINs that were generated for 2023 and were not otherwise retired due to RIN generation error (i.e., an invalid RIN). Thus, the volume of 2023 cellulosic RINs in this table is the volume of RINs that were made available for compliance with the 2023 cellulosic biofuel standard.
[30] See Appendix B, "Available 2022 Cellulosic Carryover RINs Calculation."
[31] See 40 C.F.R. 80.1427.
[32] Under the statute and our implementing regulations, an obligated party is permitted to carry forward a deficit in lieu of retiring a sufficient number of RINs to meet its obligation. See CAA section 211(o)(5)(D) and 40 C.F.R. 80.1427(b).

obligations. Rather, we expect that some obligated parties may carry forward a cellulosic RIN deficit from 2023 into 2024, as obligated parties have done in the past. We are unaware of any reason why carrying forward a relatively small number of cellulosic RIN deficits into 2024—if necessary if there is a slight shortfall in the number of available cellulosic RINs—would be expected to disrupt the functioning of the RIN market.

C. Evaluation of "Inadequate Domestic Supply" and Appropriateness of Waiver

As noted above, we currently project that approximately 775 million cellulosic RINs were generated for 2023. Interpreting the term "supply" to refer solely to RINs generated for physical gallons produced or imported in the compliance year, this estimate could indicate the potential for an inadequate domestic supply of cellulosic biofuel for 2023. However, as we have done in previous actions, we are taking other factors—including the availability of carryover RINs—into consideration in deciding whether to grant or deny the AFPM Petition. In the Set Rule, EPA noted the importance of an adequate bank of carryover RINs to provide sufficient compliance flexibility for obligated parties, as well as providing important program benefits such as RIN market liquidity and reducing the likelihood of a need for waivers of established standards when unforeseen circumstances result in less supply than was anticipated in standard-setting.[33] EPA has maintained this position in various standard-setting actions.[34]

In total, the projected number of cellulosic RINs generated for cellulosic biofuel produced in 2023 (775 million) and the projected number of available 2022 cellulosic carryover RINs (75 million) is 850 million RINs, which is equal to the projected 850 million RINs estimated to be necessary for compliance with the 2023 cellulosic biofuel standard. Thus, we anticipate that compliance will be possible based solely on the use of 2023 cellulosic RINs and 2022 cellulosic carryover RINs. Furthermore, to the extent necessary, obligated parties may still demonstrate compliance by carrying forward a cellulosic RIN deficit from 2023 into 2024. In sum, compliance can still be achieved, warranting a denial of the AFPM Petition.

In considering the AFPM Petition, EPA reviewed how the market responded to a similar situation in 2017 when the supply of cellulosic RINs fell just short of the total cellulosic biofuel obligation for that year. The 2017 cellulosic biofuel obligation was approximately 290 million RINs[35] and the available supply of cellulosic RINs was approximately 285 million RINs, including carryover RINs.[36] Despite the slight shortfall in the number of available cellulosic RINs—and acknowledging that carryover RINs in 2017 were unevenly held (as in 2023)—obligated parties were not forced into noncompliance, nor did we see any noticeable disruptions in the RIN or petroleum fuels markets. In 2017, obligated parties carried forward cellulosic RIN

[33] See 88 Fed. Reg. at 44493–96.
[34] See, e.g., 87 Fed. Reg. 39600 (July 1, 2022), 83 Fed. Reg. 63704 (Dec. 11, 2018).
[35] Table 2, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/annual-compliance-data-obligated-parties-and.
[36] Includes approximately 249 million 2017 cellulosic RINs (Table II-2, "Carryover RIN Bank Calculations for 2019 Final Rule," Docket Item No. EPA-HQ-OAR-2018-0167-1298) and approximately 36 million 2016 cellulosic carryover RINs (Table 3, "Carryover RIN Bank Calculations for 2018 Final Rule," Docket Item No. EPA-HQ-OAR-2017-0091-4989).

deficits of approximately 20 million cellulosic RINs,[37] even though CWCs were available for purchase in 2017.[38] While CWCs are not available in 2023, obligated parties' reaction to the slight shortfall in cellulosic RINs in 2017 supports EPA's position that cellulosic RIN deficits may be carried forward without causing disruptions to the RIN or petroleum fuel markets.

AFPM requested that EPA provide a partial waiver of an established standard. In this context, it is appropriate for EPA to assume, in evaluating the AFPM Petition, that carryover RINs can and will be used for compliance purposes, thus mitigating the need for a partial waiver. In addition, even if the *overall* supply of cellulosic RINs, including carryover RINs, falls slightly short of the volume needed to comply with the 2023 cellulosic biofuel standard, both the statute and RFS regulations allow for individual obligated parties to carry forward a RIN deficit from one year into the next. Thus, obligated parties would not be forced into noncompliance; rather, they would be able to make up for any 2023 cellulosic RIN deficits in their 2024 compliance demonstrations. EPA therefore considers this compliance flexibility in evaluating the AFPM Petition.

We have also considered the possible impact on the RFS program of issuing waivers under CAA section 211(o)(7)(A) where projections used during standard-setting fall short of actual production. We recognize the importance of market certainty for obligated parties, biofuel producers, and other RIN market participants, and we understand that revising applicable standards after they have been established increases market uncertainty and can disrupt market expectations.[39] Further, issuing a waiver when market production falls short after a single compliance year could result in shortfalls in cellulosic biofuel in future years if obligated parties alter future behavior through delaying acquisition of cellulosic biofuel or cellulosic RINs based on the prospective expectation of subsequent waivers. This potential scenario would harm the prospects of cellulosic biofuel producers that rely on ongoing sales of their product to remain economically viable and undermine the articulated goals of Congress in establishing the RFS program. If a significant number of obligated parties delayed purchasing cellulosic biofuel and/or cellulosic RINs, cellulosic biofuel producers could reduce their production of cellulosic biofuel or cease production altogether. It could also depress investment in the production of cellulosic biofuel, reducing the production potential for cellulosic biofuel in future years.

In past years, such actions would be relatively low risk to obligated parties, as they would have had the option of purchasing CWCs to satisfy their cellulosic biofuel obligations if they were unable to acquire a sufficient number of cellulosic RINs. Although CWCs are not available for the 2023 compliance year,[40] this reasoning may still be relevant for future compliance years when CWCs may be available should EPA waive volumes utilizing the cellulosic waiver authority. The risk that obligated parties would delay purchasing cellulosic biofuel and/or cellulosic RINs could add to the investment risks already experienced by the cellulosic biofuel industry and diminish the potential for the industry's future growth.

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[37] Table 6, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/annual-compliance-data-obligated-parties-and.
[38] Obligated parties also purchased approximately 12 million CWCs in 2017 (Table 7, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/annual-compliance-data-obligated-parties-and).
[39] See, e.g., 88 Fed. Reg. at 44477-78; 87 Fed. Reg. 39600, 39609 (July 1, 2022).
[40] See 88 Fed. Reg. at 44479.

For all these reasons, we find it is generally appropriate for EPA to avoid issuing waivers under CAA section 211(o)(7)(A) of established RFS standards where use of RINs generated for fuel produced in the compliance year and available carryover RINs would sufficiently enable compliance. This is the case with respect to the 2023 cellulosic biofuel standard. We recognize that in taking this approach, the number of available cellulosic carryover RINs will likely be reduced, and that it is possible that some obligated parties may carry forward a cellulosic RIN deficit from 2023 into 2024. This reduction in carryover RINs and use of RIN deficits to facilitate compliance is appropriate. We recognize the changed circumstances for 2023 and beyond, given that EPA is prospectively setting the applicable volumes rather than waiving the volumes prescribed by Congress for years prior to 2023, and that CWCs are unavailable as EPA did not use the cellulosic waiver authority in the Set Rule to reduce the cellulosic biofuel volume requirement. We will continue to monitor the availability of cellulosic carryover RINs, as well as cellulosic biofuel production, in comparison to the cellulosic biofuel standards established in the Set Rule. As previously noted, we estimate that 75 million cellulosic carryover RINs can be used by obligated parties for compliance with the 2023 cellulosic biofuel standard. Using this volume of cellulosic carryover RINs, together with the estimated total number of cellulosic RINs generated for 2023, will allow for obligated parties to comply with the established 2023 cellulosic biofuel standard.[41] These facts provide a reasonable and appropriate basis for EPA to deny the AFPM Petition.

D. Assessment of Severe Economic Harm

AFPM also suggested that a partial waiver of the cellulosic biofuel standard would be appropriate under a finding of severe economic harm.[42] AFPM provided little evidence to support its assertions. Instead, AFPM speculates that because some obligated parties carried cellulosic RIN deficits into 2023 and are therefore prohibited from carrying another cellulosic RIN deficit into 2024, these same obligated parties may choose to limit their production to the number of RINs they can acquire.[43] This reduction in production, AFPM argued, could harm the economies in the regions in which these obligated parties operate.[44] However, historical evidence does not support this claim. Obligated parties have carried cellulosic RIN deficits every year since 2013, and we have seen no evidence that these RIN deficits have caused obligated parties to limit their production.[45] Even if there were an overall shortfall in the cellulosic biofuel market, the obligated parties that carried forward a RIN deficit in 2023 need not limit production to comply; rather, other obligated parties could carry forward a RIN deficit in 2024, allowing overall compliance by the market. Further, even if the shortfall in cellulosic RIN generation caused obligated parties to operate differently in 2023, any limitations in production are likely to have been occurring even before AFPM submitted its petition on December 23, 2023, and thus could not be remedied by a retroactive partial waiver of the cellulosic biofuel standard now.

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[41] Even in the event that the number of available cellulosic RINs ultimately falls short of the 2023 cellulosic biofuel obligation, EPA would reach the same conclusions given the ability for obligated parties to carry cellulosic RIN deficits into 2024.
[42] AFPM Petition, p. 10.
[43] *Id*.
[44] *Id*.
[45] Table 6, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/annual-compliance-data-obligated-parties-and.

Because compliance with the 2023 cellulosic biofuel standard can be achieved, and RIN deficits are an additional available compliance option, we deny the AFPM Petition on this basis.

AFPM also argued that Congress directed EPA to make CWCs available to protect consumers from the impacts of high cellulosic RIN prices on transportation fuel prices, and noted the rise in the average price of cellulosic RINs after EPA established the cellulosic biofuel volume requirement for 2023.[46] AFPM claims this price increase reflects the unachievable nature of the cellulosic biofuel volumes EPA established for 2023 and represents an "aspirational premium."[47] We do not agree that the higher cellulosic RIN prices observed in the second half of 2023 represent an aspirational premium. RIN prices are a function of many factors, and we note that similar cellulosic RIN prices were observed in 2021 and 2022, when cellulosic biofuel production was equal to and exceeded the cellulosic biofuel obligations for those years, respectively.[48] Further, we do not agree that EPA's decision to not waive the 2023 cellulosic biofuel standard will result in an additional $237 million in RIN costs, as AFPM asserted.[49] AFPM estimated this cost based on their projected average D3 RIN price ($3/RIN) and their projected shortfall in the number of available cellulosic RINs relative to the 2023 cellulosic biofuel standard.[50] While such a waiver would obviate the need for those RIN purchases, as discussed in this document, the data available to EPA do not support APFM's claims that there will be a shortfall in available cellulosic RINs (including 2022 cellulosic carryover RINs) relative to the standard. Thus, there is no additional cost associated with a shortfall. Additionally, EPA does not credit RIN costs as economic harm to obligated parties.[51] We deny the AFPM Petition on this basis as well. Finally, we find that AFPM has not demonstrated that this cost would severely harm the economy of a State, region, or the United States. Even if the existing 2023 cellulosic biofuel standard could cause economic harm, given that we project there are sufficient cellulosic RINs—including cellulosic carryover RINs—to comply with the 2023 cellulosic biofuel standard, there would be no *severe* economic harm and we deny the AFPM Petition on this basis. Even if there were a shortfall and the $237 million estimate by AFPM was accurate, it would only increase wholesale fuel costs by about 0.08 cents per gallon, an increase of about 0.05% in 2023.[52]

IV. Conclusion

Our assessment of the volume of 2023 cellulosic RINs and 2022 cellulosic carryover RINs indicates that obligated parties will be able to readily comply with the existing 2023 cellulosic biofuel standard. Moreover, obligated parties will still be able to comply by carrying a cellulosic

[46] AFPM Petition, pp. 8–9.
[47] *Id*. at 9.
[48] https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rin-trades-and-price-information. We note also that the 2021 RFS standard was set retroactively and equal to the volume of cellulosic biofuel used in the U.S. in 2021. 87 Fed. Reg. at 39602-3.
[49] AFPM Petition, p. 2.
[50] *Id.*
[51] See, e.g., Section 2.1.2, "RFS Standards for 2019 and Biomass-Based Diesel Volume for 2020: Response to Comments," EPA-420-R-18-019, November 2018.
[52] This estimate is based on data from the February 2024 STEO. EIA reports total motor gasoline consumption of 8.94 million barrels per day (137.1 billion gallons per year) at an average wholesale price of $2.64 per gallon and total diesel consumption of 3.68 million barrels per day (56.4 billion gallons per year) at an average wholesale price of $2.83 per gallon. The total estimated wholesale cost of motor gasoline and diesel in 2023 is $521.5 billion.

RIN deficit into 2024, if necessary. On the other hand, a partial waiver of the 2023 cellulosic biofuel standard would be injurious to the RFS program because it would be disruptive to program participants and could result in reduced future demand for cellulosic biofuel production. For these and all other reasons described above, and after consultation with the Secretary of Agriculture and the Secretary of Energy under CAA section 211(o)(7)(A), the RFS program is best served by maintaining the existing 2023 cellulosic biofuel standard and we are denying the AFPM Petition.

V. Judicial Review

Section 307(b)(1) of the CAA governs judicial review of final actions by EPA. This section provides, in part, that petitions for review must be filed only in the United States Court of Appeals for the District of Columbia Circuit: (i) when the agency action consists of "any other nationally applicable…final action taken by the Administrator," or (ii) when a final action is locally or regionally applicable but "such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination." The CAA reserves to EPA the complete discretion to decide whether to invoke the exception in (ii) described in the preceding sentence.[53]

This final action is "nationally applicable" within the meaning of CAA section 307(b)(1). Whether an action is "nationally applicable" is a narrow inquiry based only on the "face" of the action.[54] The question is whether the action itself is nationally applicable, not whether the nature and scope of the arguments raised or relief sought by a petitioner challenging the action are nationally applicable.[55] On its face, this final action is nationally applicable because it denies a petition to waive a portion of the nationally applicable 2023 cellulosic biofuel standard promulgated in the Set Rule for all parties who qualify as obligated parties[56] and thus are subject to the requirements of the RFS program no matter their location across the country. Parties that have registered with EPA as obligated parties under the RFS program are located in all states except Alaska, which is not subject to the RFS program.[57] In denying this petition, EPA applied a consistent interpretation of the relevant CAA provisions and the Agency's "common, nationwide analytical method" for evaluating the fuels available, the fuels market data, and the RIN data to determine whether a partial waiver is necessary to enable compliance with the 2023 cellulosic biofuel standard.[58] This final action applies equally to all obligated parties.

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[53] *Sierra Club v. EPA*, 47 F.4th 738, 745 (D.C. Cir. 2022) ("EPA's decision whether to make and publish a finding of nationwide scope or effect is committed to the agency's discretion and thus is unreviewable"); *Texas v. EPA*, 983 F.3d 826, 834-35 (5th Cir. 2020).

[54] *Dalton Trucking, Inc. v. EPA*, 808 F.3d 875, 881 (D.C. Cir. 2015); *Hunt Refining Co. v. EPA*, 90 F.4th 1107, 1110 (11th Cir. 2024) ("*Hunt*").

[55] *S. Ill. Power Coop. v. EPA*, 863 F.3d 666, 670-71 (7th Cir. 2017); *ATK Launch Sys., Inc. v. EPA,* 651 F.3d 1194, 1198-1199 (10th Cir. 2011); *RMS of Ga., LLC v. EPA*, 64 F.4th 1368, 1372-1373 (11th Cir. 2023); *Hunt*, 90 F.4th at 1110-1112.

[56] 40 C.F.R. 80.2 ("obligated party"), 80.1406.

[57] CAA section 211(o)(2)(A)(i); 40 C.F.R. 80.1407(f)(3).

[58] *S. Ill. Power*, 863 F.3d at 671; *ATK Launch Sys.,*651 F.3d at 1197; *Hunt*, 90 F.4th at 1112; *Oklahoma v. EPA*, --- F.4th ---, 2024 WL 799356 at *3 (10th Cir. Feb. 27, 2024).

For these reasons, this final action is nationally applicable. Under CAA section 307(b)(1), petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit within 60 days from the date notice of this final action is published in the *Federal Register*.

This action is not a rulemaking and is not subject to the various statutory and other provisions applicable to a rulemaking. This action is immediately effective upon issuance.

Appendix A

Estimate of 2023 Cellulosic Biofuel Obligation

The renewable volume obligations (RVOs) under the RFS program are given in terms of percentage standards in 40 CFR 80.1405 and are used by each obligated party to determine the number of RINs they must acquire and retire each year. Each standard applies to the sum of all non-renewable gasoline and diesel produced or imported by the obligated party. The percentage standard for cellulosic biofuel in 2023 is 0.48%, based on a volume of 840 million gallons of cellulosic biofuel and non-renewable gasoline and diesel demand for 2023 projected in EIA's Annual Energy Outlook (AEO) 2023.[59] The actual volume of cellulosic biofuel needed to meet the 0.48% applicable standard may differ from 840 million gallons if the actual volume of non-renewable gasoline and diesel used in 2023 differs from the volume that was projected in AEO 2023. The purpose of this appendix is to detail the calculations performed by EPA to estimate the actual 2023 cellulosic biofuel obligation based on the volume of non-renewable gasoline and diesel projected to have been used in 2023.[60]

In order to estimate the actual 2023 cellulosic biofuel obligation, we began with the equation used to calculate the annual cellulosic biofuel percentage standard in 40 CFR 80.1405(c):

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

Rather than using the volume of cellulosic biofuel to determine the applicable percentage standard as was done in the Set Rule (i.e., 0.48% calculated from a volume of 840 million gallons), we instead determined the volume of cellulosic biofuel needed to comply with the cellulosic biofuel percentage standard of 0.48% using updated projections of non-renewable gasoline and diesel volumes used in 2023. Thus, rather than calculating $Std_{CB,i}$ from a given value of $RFV_{CB,i}$, we instead calculated $RFV_{CB,i}$ from $Std_{CB,i}$:

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

The attached tables detail the values used to calculate $RFV_{CB,i}$. Based on these calculations, the volume of cellulosic biofuel needed in 2023 to comply with the cellulosic biofuel percentage standard of 0.48% is estimated to be 850 million gallons.

[59] 88 FR 44519-21 (December 14, 2015).
[60] EIA, February 2024 STEO.

Calculation of Cellulosic Biofuel Required Volume

Variable		2023	
STD_{CB}	Cellulosic biofuel standard	0.48%	
G	Gasoline consumption in 48 contiguous states + Hawaii	141.57	bil gal
D	Diesel consumption in 48 contiguous states + Hawaii	55.72	bil gal
RG	Renewables contained in G	15.07	bil gal
RD	Renewables contained in D	5.07	bil gal
GS	Gasoline consumption in Alaska or territories, if they have opted in	0.00	bil gal
RGS	Renewables contained in GS	0.00	bil gal
DS	Diesel consumption in Alaska or territories, if they have opted in	0.00	bil gal
RDS	Renewables contained in DS	0.00	bil gal
GE	Gasoline produced by exempt small refineries and small refiners	0.00	bil gal
DE	Diesel produced by exempt small refineries and small refiners	0.00	bil gal
RFV_{CB}	Cellulosic biofuel required volume	**850**	mil gal

Gasoline Projections

Data Source: EIA STEO Feb 2024
Gasoline: Table 4a, Motor Gasoline Consumption
Ethanol: Table 4a, Fuel Ethanol Consumption
Other Biofuels: Data Browser, Other Biofuels Consumption

Year	2023		
50-State Gasoline Consumption	8.94	mil bbl/day	Includes ethanol blends
	137,050	total mil gal	
50-State Renewables Contained in Gasoline Consumption	0.93	mil bbl/day	Ethanol
	0.02	mil bbl/day	Other Biofuels
	14,564	total mil gal	
AK Gasoline Consumption	0.0176	mil bbl/day	* Calculated from ratio of AK gasoline/ethanol to nationwide gasoline/ethanol
	270	total mil gal	
AK Ethanol Consumption	0.0000	mil bbl/day	
	0	total mil gal	

Diesel Projections

Data Source: EIA STEO Feb 2024
Diesel: Data Browser, Distillate Fuel Oil – Diesel Fuel Consumption
Biodiesel: Data Browser, Biodiesel Consumption
Renewable Diesel: Data Browser, Renewable Diesel Consumption

Data Source: EIA AEO 2023
Ocean-Going Vessels: Table 49, "International Shipping" / "Distillate Fuel Oil (diesel)"

Year	2023		
50-State Diesel Consumption	3.68	mil bbl/day	Includes Biodiesel + RD
	56,414	total mil gal	
50-State Renewables Contained in Diesel Consumption	0.13	mil bbl/day	Biodiesel
	0.19	mil bbl/day	Renewable Diesel
	4,906	total mil gal	
Ocean-Going Vessels	318.2	tril btu	
	2,314	total mil gal	
AK Diesel Consumption	0.0173	mil bbl/day	* Calculated from ratio of AK diesel/biodiesel to nationwide diesel/biodiesel
	265	total mil gal	
AK Biodiesel Consumption	0.0005	mil bbl/day	
	8	total mil gal	

Consumption of Gasoline and Diesel in Alaska

Data Source: State Energy Data System (SEDS):2021
Release Date: 1/20/2023
Year data represents: 2021

	Alaska ("AK")	50 states ("US")	
Motor Gasoline Total Consumption	6,335	3,217,730	thousand bbl
	266	135,145	total mil gal
Fuel Ethanol Transportation Consumption	0	318,927	thousand bbl
	0	13,395	total mil gal
Distillate Fuel Oil Transportation Consumption	5,144	1,094,806	thousand bbl
	216	45,982	total mil gal
Biodiesel Transportation Consumption	161	40,717	thousand bbl
	7	1,710	total mil gal
Fraction of nationwide gasoline consumed in Alaska			0.0020
Fraction of nationwide denatured ethanol consumed in Alaska			0.0000
Fraction of nationwide diesel consumed in Alaska			0.0047
Fraction of nationwide biodiesel consumed in Alaska			0.0040

Factors Used in Percentage Standards Calculations

Data Source: EIA AEO 2023
Distillate Fuel: Table 68, "Distillate Fuel Oil" / "Transportation"

	2023	
Distillate Fuel used in ocean-going vessels	5.776	mill Btu per bbl
EIA adjustment factor[a]	3.5%	

[a] EIA adjustment factor based on AEO projection data, but value is consistent with EIA Actual Volume of G+D errors in RFS Set Rule RIA Table 1.11.1-1. See RFS Set Rule RIA Chapter 1.11 for the further discussion.

Appendix B

Available 2022 Cellulosic Carryover RINs Calculation

The purpose of this appendix is to detail the calculations performed by EPA to estimate the number of 2022 cellulosic carryover RINs available to use for compliance in 2023. In order to calculate the number of available 2022 cellulosic carryover RINs, we began with the 2022 compliance year data for cellulosic biofuel in Table B-1. From this data, we calculated that approximately 613 million total cellulosic RINs were retired for compliance in the 2022 compliance year. Of this total, approximately 588 million 2022 cellulosic RINs and 25 million 2021 cellulosic carryover RINs were used.

Table B-1: Cellulosic RINs Retired for Compliance in the 2022 Compliance Year[a]

RIN Type	RIN Year		Total
	2021	2022	
D3	24,587,945	587,995,653	612,583,598
D7	247,518	0	247,518
Total	24,835,463	587,995,653	612,831,116

[a] Compliance data current as of January 10, 2024, and compiled from https://www.epa.gov/fuels-registration-reporting-and-compliance-help/annual-compliance-data-obligated-parties-and

[a] More detailed data on the RINs used to demonstrate compliance can be found in Table B-4.

Next, we calculated the net number of cellulosic RINs that were generated in 2022. To do this, we took the total number of cellulosic RINs generated in 2022 and then removed any RINs that were reported to have been generated in error, as well as any RINs that were retired for purposes other than satisfying an obligated party RVO (e.g., spills, remedial actions, enforcement obligations, etc.). Using the data in Table B-2, we calculated that a net of approximately 663 million cellulosic RINs were generated in 2022.

Table B-2: 2022 Net Cellulosic RINs Generated[a]

RIN Type	Total 2022 RINs Generated	RIN Errors[b]	Other RIN Retirements[c]	Net 2022 RINs Generated[d]
D3	668,669,782	5,286,157	146,232	663,237,393
D7	236,352	0	0	236,352
Total	668,906,134	5,286,157	146,232	663,473,745

[a] Data from December 2023 and compiled from https://www.epa.gov/system/files/other-files/2024-01/availablerins_dec2023.csv and https://www.epa.gov/system/files/other-files/2024-01/retiretransaction_dec2023.csv.

[b] See Table B-5 for more detailed data.

[c] See Table B-6 for more detailed data.

[d] Net RINs Generated = Total RINs Generated – (RIN Errors + Other RIN Retirements).

To determine the total number of available 2022 cellulosic carryover RINs, we then subtracted the number of 2022 cellulosic RINs used for compliance with the 2022 cellulosic biofuel standard from the net number of 2022 cellulosic RINs generated. This calculation is provided in Table B-3 and shows that there are currently approximately 75 million available 2022 cellulosic carryover RINs.

Table B-3: Available 2022 Cellulosic Carryover RINs

RFS Standard	RIN Type	Net 2022 RINs Generated	2022 RINs Used for Compliance	Available 2022 Carryover RINs
Cellulosic Biofuel	D3+D7	663,473,745	587,995,653	75,478,092

2022 Cellulosic RIN Retirement Data

Table B-4: Cellulosic RINs Retired by Importers, Refiners, and Exporters in the 2022 Compliance Year[a]

RIN Type	Year	Importers	Refiners	Exporters	Total
D3	2021	1,249,150	23,338,795	0	24,587,945
	2022	18,038,858	569,956,795	0	587,995,653
D7	2021	0	247,518	0	247,518
	2022	0	0	0	0
Total		19,288,008	593,543,108	0	612,831,116

[a] Compliance data current as of January 10, 2024, and compiled from Table 3 at https://www.epa.gov/fuels-registration-reporting-and-compliance-help/annual-compliance-data-obligated-parties-and

Table B-5: 2022 Cellulosic RIN Errors[a]

RIN Type	Import Volume Correction	Invalid RIN	Volume error correction	Total
Retirement Code	*30*	*50*	*60*	--
D3	0	5,286,157	0	5,286,157
D7	0	0	0	0
Total	0	5,286,157	0	5,286,157

[a] Data from December 2023 and compiled from https://www.epa.gov/system/files/other-files/2024-01/retiretransaction_dec2023.csv

Table B-6: Other 2022 Cellulosic RIN Retirements[a]

RIN Type	Reported spill	Contaminated or spoiled fuel	Renewable fuel used in an ocean-going vessel	Enforcement Obligation
Retirement Code	*10*	*20*	*40*	*70*
D3	0	0	0	2,907
D7	0	0	0	0
Total	0	0	0	2,907

RIN Type	Renewable fuel used or designated to be used in any application that is not transportation fuel heating oil or jet fuel	Delayed RIN Retire per 80.1426(g)(3) only	Remedial action - Retirement pursuant to 80.1431(c)
Retirement Code	*90*	*100*	*110*
D3	0	0	143,325
D7	0	0	0
Total	0	0	143,325

RIN Type	Remediation of Invalid RIN Use for Complaince	Voluntary RIN Retirement	Feedstock using renewable fuel with RINs	Total
Retirement Code	*130*	*160*	*170*	--
D3	0	0	0	146,232
D7	0	0	0	0
Total	0	0	0	146,232

[a] Data from December 2023 and compiled from https://www.epa.gov/system/files/other-files/2024-01/retiretransaction_dec2023.csv