

APPENDIX B
to the
COMMENTS OF THE
THE AMERICAN PETROLEUM INSTITUTE

Supplement to API's Comments

I. EPA's Waiver Should Also Be Based On the Grounds That the Statutory Volumes Would Severely Harm the Economy

The original 2012 NERA study, re-submitted as Appendix D to these comments, demonstrates that implementation of the statutory RFS standards after the blendwall is breached will cause severe harm to the national economy.¹ The study demonstrates, among other things, that:

- The U.S. fuel market lacks the physical infrastructure, compatible vehicles, and consumer demand to overcome the blend wall;²
- E85 and E15 are compatible with approximately 7 and about 10 percent respectively of the existing vehicle fleet, and the vast majority of retail infrastructure is not compatible with ethanol above 10 percent volume;³
- Approximately 96 percent of all retail gasoline stations are independently owned and operated,⁴ and thus are not obligated parties under the RFS program;
- Biodiesel cannot fill the gap because of limitations on biodiesel supply resulting from feedstock constraints; and
- Declines in the quantity of gasoline consumed in the United States, coupled with increases in fleet efficiency, further exacerbate the problem by reducing the maximum amount of ethanol that can be blended into the transportation-fuel supply.⁵

¹ See NERA ECONOMIC CONSULTING, *ECONOMIC IMPACTS RESULTING FROM IMPLEMENTATION OF THE RFS2 PROGRAM 2* (2012) (hereinafter 2012 NERA STUDY) (Appendix D).

² The Deputy Administrator of EIA recently testified to Congress that “[e]thanol faces demand, distribution system, and regulatory challenges that make it difficult to increase its use as a motor fuel” beyond the blend wall. Statement of Howard Gruenspecht, Deputy Administrator, EIA, Before the Senate committee on Environment and Public Works (Feb. 24, 2016).

³ See also U.S. ENERGY INFORMATION ADMINISTRATION, *ALMOST ALL U.S. GASOLINE IS BLENDED WITH 10% ETHANOL* (May 4, 2016) (noting that EIA estimates that only 7% of the light-duty vehicle fleet can use E85), available at <https://www.eia.gov/todayinenergy/detail.cfm?id=26092>

⁴ PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015. http://www.pmaa.org/weeklyreview/attachments/PMAA_Rebuttal_RFA_April_2015_FINAL%20.pdf

⁵ See also U.S. ENERGY INFORMATION ADMINISTRATION, *SHORT TERM ENERGY OUTLOOK* Table 4a (June 2016); Statement of Howard Gruenspecht, Deputy Administrator, EIA, Before the Senate

As the RFS-mandated volumes increase in the face of declining gasoline demand and infrastructure and vehicle incompatibility constraints, obligated parties will need more RINs than they can generate from E10. But because other obligated parties will be in the same situation, it will become difficult or impossible for obligated parties to purchase RINs in order to meet their RFS obligations and sustain their level of gasoline or diesel production and imports.

The NPRM correctly explains why EPA should not rely on a further drawdown of the RIN bank to meet the volume requirements for 2017.⁶ Even at the current level of excess and carryover RINs, some obligated parties may not be able to obtain sufficient RINs.⁷ And once the RIN bank is depleted, obligated parties will be forced to resort to drastic alternative measures. As the 2012 NERA study explains, individual obligated parties, each acting independently, will have no practical option but “to reduce their RIN obligation by decreasing the volume of transportation fuel supplied to the domestic market—either by reducing production,” reducing gasoline imports, or increasing transportation fuel exports.⁸

When that point is reached, the harm to the national economy will be severe. The 2012 NERA study demonstrates that a significant decrease in domestic fuel supplies will cause major economic disruption, including large increases in transportation fuel costs, loss of employment, and decreased GDP. If insufficient RINs are available, the only way for an obligated party to comply with the law is to reduce the size of its obligation. EPA should not expect obligated parties, or anyone else, to knowingly and willfully violate the law to avoid the negative impacts of an infeasible law. The only realistic options to avoid severe economic harm are for Congress to change the law, or for EPA to exercise its general waiver authority to adjust the mandates to achievable levels consistent with the capabilities of vehicles and infrastructure to consume the

committee on Environment and Public Works (Feb. 24, 2016) (noting that there is a “projected declining trend in motor gasoline use in recent EIA [Annual Energy Outlook reports],” based in part on higher fuel economy standards and market developments, and stating that this “[l]ower gasoline demand has likely affected the timing of some current RFS compliance challenges”).

⁶ See NPRM at 34789.

EPA has recognized the importance of banking program in facilitating compliance with a wide variety of EPA programs, and the same holds true for the RFS program, as EPA acknowledged in its 2014-2016 final rule. See 80 Fed. Reg. at 77483-84. Intentionally drawing down the RIN bank would undermine this core purpose of the RIN banking provisions. See, e.g., 70 Fed. Reg. 25162, 25282 (May 12, 2005) (noting that banking can “stimulate the market and encourage efficiency, and provide flexibility in achieving emissions reductions goals”); 55 Fed. Reg. 30584, 30585-86 (July 26, 1990) (noting that “banking can provide manufacturers additional flexibility, provide insurance against any unforeseen emissions-related problems that may arise, and in general provide a means to enhance the development and introduction of new engine technology”).

⁷ See, e.g., Frank Pici, Monroe Energy Letter to EPA, Docket ID No. EPA-HQ-OAR-2012-0546-0110 (Apr. 7, 2013).

⁸ 2012 NERA STUDY, *supra*, at 2.

renewable fuels. Absent waivers, the economic disruption will increase significantly each year as the statutory RFS obligations increase.

The 2012 NERA study describes how the process would unfold in the diesel fuel market in the absence of a waiver. “The tightening of the diesel supply (up to 15% decline in 2015)” likely would cause “large fuel cost increases to ripple through the economy, adversely affecting employment, income, consumption, and GDP.”⁹ “By 2015, the adverse macroeconomic impacts” in the absence of a waiver were estimated to “include a \$770 billion decline in GDP and a corresponding reduction in consumption per household of \$2,700.”¹⁰ These harms are unprecedented, and they will grow worse over time as the gap between supply and the RFS volume requirements increases.¹¹

In July 2015, API commissioned NERA to again study the potential transportation sector and macroeconomic impacts of the RFS program.¹² The 2015 study, like the 2012 study, assessed the impact of maintaining the statutory volumes specified in EISA beginning in 2015, without any exercise of its general waiver authorities.¹³ As NERA shows, returning to the statutory schedule is infeasible. Constraints on the fuel market’s ability to supply additional volumes of biofuels expressed in the 2012 NERA Study continue to remain, and the resulting decrease to domestic transportation fuel supply similarly lead to economic harm.

⁹ *Id.* at 3.

¹⁰ *Ibid.*

¹¹ Those economic harms dwarf the harms that EPA found insufficient for a waiver in 2008 and 2012. EPA’s denial of the 2012 waiver request filed by several states concluded that the waiver would have decreased annual household expenditures on fuel by \$1.98-\$17.40. Similarly, in EPA’s denial of Texas’s 2008 waiver petition, EPA concluded implementation of the RFS would increase annual household expenditures only \$3.43-\$34.29.

¹² NERA ECONOMIC CONSULTING, ECONOMIC IMPACTS RESULTING FROM IMPLEMENTATION OF THE RFS2 PROGRAM (2015) (hereinafter 2015 NERA STUDY) (Appendix E)

¹³ The fact that EPA exercised its general waiver authority for 2015 and 2016 does not render the 2015 NERA Study outdated or irrelevant. While NERA’s macroeconomic model addresses 2015 —because the impacts from transportation fuel price increases were so severe the model could not be run for subsequent years—there is no reason to believe the economic impacts would be *less* in subsequent years. Indeed, the harm in 2017 would likely be more severe because 2017 has higher statutory volume requirements than 2015 and 2016. Likewise, while NERA’s transportation model for 2016 and beyond is based in part on the absence of a waiver in 2015 (and the transportation model for 2017 is in turn based in part on the absence of a 2016 waiver), NERA’s conclusion that it is “infeasible to achieve the statute volumes for totally renewable fuels in 2015,” would also hold true for 2017, even assuming that a waiver was granted in 2015 and 2016. This is because of the substantial increase in statutory volumes—namely, an increase from 20.5 billion gallons of renewable fuel in 2015 to 22.25 billion gallons in 2016, and to 24 billion gallons in 2017 (a 17.1% increase between 2015 and 2017), while overall gasoline volume remains largely flat. See U.S. ENERGY INFORMATION ADMINISTRATION, *SHORT TERM ENERGY OUTLOOK* Table 4a (June 2016) (listing total motor gasoline volumes, in million barrels per day, at 9.16 for 2015, 9.33 in 2016, and 9.32 in 2017).

NERA explains: “When the required biofuel volume standards are too severe, as with the statute scenario, the market becomes disrupted because there are an insufficient number of RINs to allow compliance. “Forcing” additional volumes of biofuels into the market beyond those that would be “absorbed” by the market based on economics alone at the levels required by the statute scenario will result in severe economic harm.”

The 2015 NERA study concludes the following:

- In 2015 and beyond, it is not feasible to achieve the statutory volumes of total renewable fuel required under EISA. The current level of gasoline demand, the blend wall limiting the share of ethanol that can be blended into the gasoline pool, and the lack of non-ethanol biofuels limit the market potential for total renewable biofuels. Similarly, the current market potential for higher ethanol content gasoline like E85 and E15 is too small to have an immediate impact on the amount of ethanol that the gasoline market can absorb.
- The RFS2 program will not be feasible unless EPA invokes its two waiver authorities to issue a waiver for cellulosic ethanol and the same deduction for the total renewable biofuels and advanced biofuel volumes requirements as well as a general waiver for both advanced biofuels and total renewable fuels.
- NERA’s conclusion that it is infeasible to achieve the statutory volumes for total renewable fuels in 2015 and beyond is consistent with NERA’s findings from its 2012 study, which also found that if EPA retained the EISA statutory volumes, severe economic harm would result in the 2015 to 2016 time frame. Infeasibility has not occurred yet because EPA has recognized the blend wall and is proposing volumes below the statutory levels

Even apart from the NERA studies and other similar studies, EPA’s tentative conclusion that there is an inadequate domestic supply of renewable fuel for 2017 implies that a waiver is needed to avoid severe harm to the economy. If the statutory RFS volumes cannot be met as a result of the practical and legal constraints identified in the NPRM, then obligated parties will be in exactly the situation described in the 2012 NERA study. After exhausting options such as drawing down excess RINs and altering their product mix, obligated parties will be reduced to cutting production, increasing exports, or reducing imports in order to comply with the statutory RFS requirements. Those drastic measures will rapidly lead to severe harm to the national economy, as described in the 2012 NERA study.

The evidence available to EPA readily satisfies EPA’s interpretation of “severe economic harm.” To be sure, EPA has said that the “severe economic harm” waiver requires a “high statutory threshold,” and has declined to exercise the waiver provision in the absence of evidence that RFS requirements will result in substantial economic damage.¹⁴ But the data presented in the 2012 NERA study are fundamentally different from the studies previously considered and rejected by EPA. Specifically, the 2012 NERA study differs in two fundamental respects from those studies: (1) with respect to its assumptions about E10 production; and (2) in its economic modeling. In

¹⁴ See 77 *Federal Register* at 70,753.

both respects, the 2012 NERA Study responds directly to EPA's stated criteria for analyzing waiver petitions and shows that, absent a waiver, the economic damage will be significant.

While API believes that EPA has adopted an unnecessarily narrow view of its authority to issue waivers under section 211(o)(7)(A), in this case the effects described in the 2012 NERA Study unquestionably rise to the level of severe economic harm that justifies a waiver.

EPA should apply the "severe economic harm" waiver in a prospective, forward-looking fashion. The text of the waiver provision, which allows a waiver if a volume requirement "*would* severely harm the economy or environment of a State, a region, or the United States," supports a forward-looking approach. The onset of the effects described in the NERA studies could come rapidly, leaving EPA insufficient time to make further changes to the RFS program to avoid severe economic harm. EPA has already recognized that it has discretion to determine the relevant time period for examination in its analysis of North Carolina's and Arkansas's waiver petitions.¹⁵

II. Biomass-Based Diesel Levels for 2018

Notably, in the original 2014 RFS proposal, EPA correctly proposed to establish the annual biomass-based diesel volume at no more than 1.28 billion gallons for 2014 and 2015 because, as the Agency acknowledged, "the statute requires that we finalize these biomass-based diesel volume requirements *no later than 14 months* before the first year for which that volume requirement will apply."¹⁶ In the 2014-2016 RFS rulemaking, EPA explains that it is proposing an applicable biomass-based diesel volume for 2017 "in order to satisfy a statutory requirement that when EPA sets the applicable volumes in the absence of a statutory volume target, that we do so no later than 14 months before the first year for which such applicable volume will apply."¹⁷ Finally, in a presentation to the D.C. Bar on July 14, 2015, EPA affirmed the Agency understands this statutory requirement. EPA's presentation stated that "EPA must determine the applicable volume of BBD 14 months prior to the year in which the volume will be required" and explained that the current RFS rulemaking "also includes the 2017 volume for BBD in this package since it must be set 14 months ahead of 2017 (*i.e.*, by November 1, 2015)."¹⁸

However, in the 2014-2016 proposal, EPA ignored both the plain language of the law and the Agency's own understanding of that statutory text by proposing to increase the biomass-based diesel standards for 2014-2016. As explained below, obligated parties require the certainty of having final RFS standards prior to the start of the compliance year – as the Clean Air Act clearly requires in order to make operational, logistics, and investment decisions that are necessary to comply with the final standards. Setting RFS standards retroactively or without proper lead time is directly converse to the statutory scheme and objectives of the program.

¹⁵ See 77 *Federal Register* 70,752, 70,757 (Nov. 27, 2012).

¹⁶ "2014 Standards for the Renewable Fuel Standard Program," 78 *Federal Register* 71732, 71737 (Nov. 29, 2013) emphasis added.

¹⁷ 80 *Federal Register* at 33132.

¹⁸ "U.S. Renewable Fuels Program Overview and What's Next," U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *reprinted* at Appendix C.

To justify ignoring the clear statutory requirements, EPA improperly relied on an inapplicable case from the U.S. Court of Appeals for the District of Columbia Circuit that previously considered whether EPA could *issue* RFS rules after the statutory deadline – not whether EPA has the authority to disregard clear statutory requirements to *increase* biofuel requirements.¹⁹ While the court held that EPA had not forfeited its authority to issue biofuel standards at the statutorily-required levels merely because it missed the rulemaking deadline, that case is easily distinguished from the facts presently at issue.

First, NPRA v. EPA interpreted a different statutory provision, CAA 211(o)(2)(B)(i), which sets forth specific quantities of biomass-based diesel to be blended in 2009 and 2010. Today, however, EPA must apply the authority found at 211(o)(2)(B)(ii) to promulgate biomass-based diesel standards, and it must analyze the six factors specified in the statute. The fact that the statute set forth specific volumetric requirements in 2009 and 2010 in the NPRA case is significant, because it enabled the court to reason that obligated parties were put on notice by the statute itself as to what their biomass-based diesel blending requirements would be prior to the promulgation of a final rule. There is no such notice here. Instead, the statute establishes a 1 billion gallon floor; in 2013, EPA applied the six statutory criteria to set the applicable volume for biomass-based diesel above that floor, at 1.28 billion gallons. Thus, obligated parties have had no other context in which to determine, consistent with the statute, what the applicable volume will be in 2018.

Second, NPRA v. EPA involved the implementation of a new program - the transition from RFS1 to RFS2 following the passage of EISA. Among other changes, EISA included a brand new mandate for biomass-based diesel that had not existed under RFS1. In this context, if the court vacated EPA's issuance of the biomass-based diesel requirements after the statutory deadline, the court believed that the statutory purpose of ensuring the U.S. consumption of the enumerated quantities of biomass-based diesel would have been thwarted.

It seems highly unlikely that in 2007 Congress intended in enacting the EISA that EPA's failure timely to issue the revised regulations or the 2010 standard would lead to the drastic and 'somewhat incongruous result,' that petitioners urge, namely precluding EPA from ensuring that both the 2009 and 2010 applicable volumes of biomass-based diesel are eventually sold or introduced into commerce.²⁰

That same situation is not present today, as maintaining the 1.28 billion gallon mandate would continue to exceed the statutorily prescribed minimum of 1.0 billion gallons.

Third, in NPRA v. EPA, the D.C. Circuit indicated that the deadlines provided in the EISA were "likely unrealistic." *Id.* But even if that was the case in 2010, that cannot possibly be the case now. Over seven years after the enactment of EISA, EPA cannot argue that it did not have adequate time to determine biomass-based diesel standards for 2014 and beyond.

¹⁹ See *National Petrochemical & Refiners Association v. EPA*, 630 F.3d 145 (2010).

²⁰ *NPR v. EPA* at 156.

Finally, the court found in *NPRA* that Congress had anticipated the possibility of some retroactive impacts in the first year of the expanded fuel program. This is not the case in 2014 and beyond, and a decision to increase the biomass-based diesel mandate beyond the amount previously promulgated without applying the statutory criteria and providing obligated parties the 14-month lead time required by statute would completely eviscerate section 211(o)(2)(B)(ii). EPA does not have the authority to rewrite the unambiguous statutory language in this manner.

The provision of the statute authorizing EPA to set biomass-based diesel requirements after 2012 is clear on its face. EPA may increase the biomass-based diesel standards *only* by correctly applying the six enumerated criteria *and* by providing obligated parties 14-months lead time. Not having done either, EPA is, therefore, without authority to increase the biomass-based diesel mandate beyond 1.28 billion gallons in the context of this rulemaking.

We note that setting the biomass-based diesel RFS at 1.28 billion gallons for 2018 does not restrict additional biomass-based diesel from being sold in the market. Biomass-based diesel producers are able to sell as much of their product as consumers demand. The nesting of renewable fuel requirements in the EISA mandate allows discretionary volumes of biomass-based diesel to be consumed, if biomass-based diesel is cost-competitive with alternative advanced biofuels and renewable biofuels. Setting a higher level for the biomass-based diesel standard within the advanced biofuels mandate achieves no incremental benefit, while limiting compliance flexibility and potentially increasing compliance costs. As incremental volumes of biomass-based diesel can be used to demonstrate compliance in the advanced biofuel category, EPA cannot and should not go beyond 1.28 billion gallons in 2018.

We note also that it is inappropriate for EPA to conclude that there is no harm to obligated parties because the number of RINs from biodiesel consumption in 2017 would exceed 1.28 billion gallons. The RFS imposes obligations on specific obligated parties, not on the industry as a whole. Thus, although, for example, there was apparently excess biodiesel consumed in 2014 when compared with the 1.28 billion gallon proposed standard, this does not mean that all obligated parties have sufficient biomass-based diesel RINs to meet the increased standards. EPA's disregard of the plain language of the law, upon which such obligated parties may have justifiably relied, harms those obligated parties.

III. Cellulosic Methodologies

EPA's Errors in Computing Estimated Liquid Cellulosic Biofuel Production In 2017.

1. EPA's Methodology for Calculating Individual Facility Production Ranges Is Improper.

a. Start-Up Dates

For example, the NPRM for the 2014 program year forecasted that Cool Planet Biofuels would begin production in "2nd Half 2014." 78 Fed. Reg. 71,741, 71,745. Yet a 2016 report by the

National Renewable Energy Laboratory indicates that Cool Planet has “been put on hold” and is not expected to begin production until, at the earliest, 2017.²¹ Reflecting this development, the Proposed Rule does not mention or discuss Cool Planet at all.

The 2014 NPRM likewise forecasted that DuPont’s Nevada, Iowa plant would begin production in “2nd Half 2014,” and that Poet-DSM would begin production in “1st Half 2014.” 78 Fed. Reg. 71,745. Neither of those predictions was accurate. DuPont still had not begun production as of April 2016.²² Poet-DSM, meanwhile, did not produce any cellulosic biofuel until September 2014, and still had not begun “continuous production” as of March 2016.²³

EPA’s final rule for 2014–2016 repeated this error. Although EPA estimated that DuPont’s plant would begin production in “4Q 2015,” 80 Fed. Reg. at 77,501, as of March 2016 the plant still had not entered production.²⁴ The 2014–2016 final also relies on Cool Planet, forecasting that it will begin production in “late 2016.” *Id.* As noted above, Cool Planet’s facility remains “on hold” and is not expected to begin operation until, at the earliest, 2017.²⁵

b. Six-Month Ramp-Up Period

For example, the NPRM for the 2014 program year forecasted that Cool Planet Biofuels would begin production in “2nd Half 2014.” 78 Fed. Reg. 71,741, 71,745. Yet a 2016 report by the National Renewable Energy Laboratory indicates that Cool Planet has “been put on hold” and is

²¹ National Renewable Energy Laboratory, Technical Report, *2015 Survey of Non-Starch Ethanol and Renewable Hydrocarbon Biofuels Producers*, at 5 (Jan. 2016), available at <http://www.nrel.gov/docs/fy16osti/65519.pdf>; see also Jim Lane, *That Was Then, This Is Now: 10 Signature Biofuels Projects for 2015-16, and Where They Are*, *Biofuels Digest* (Oct. 18, 2015), <http://www.biofuelsdigest.com/bdigest/2015/10/18/that-was-then-this-is-now-10-signature-biofuels-projects-for-2015-16-and-where-they-are/11> (“For now, forget about it.”).

²² See Austin Harrington, *DuPont To Temporarily Halt Corn Stover Program at Nevada Plant*, *Ames Tribune* (Apr. 8, 2016), <http://amestrib.com/news/dupont-temporarily-halt-corn-stover-program-nevada-plant> (quoting a DuPont official as stating that “We are off our original estimates for start up” and indicating that DuPont has ceased purchasing raw materials).

²³ See Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, *Energy Trends Insider* (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>; Holly Jessen & Susanne Retka Schill, *Bringing Up The Throttle on Cellulosic Biofuel*, *Ethanol Producer Magazine* (Mar. 16, 2016), <http://www.ethanolproducer.com/articles/13114/bringing-up-the-throttle-on-cellulosic-ethanol>.

²⁴ See Austin Harrington, *DuPont To Temporarily Halt Corn Stover Program at Nevada Plant*, *Ames Tribune* (Apr. 8, 2016), <http://amestrib.com/news/dupont-temporarily-halt-corn-stover-program-nevada-plant>.

²⁵ Another recent example is the Beta Renewables facility in Crescentino, Italy. The original startup date was announced as the first half of 2012, however actual start up did not occur until the middle of 2013. See Crescentino’s Biorefinery Grand Opening, <http://www.betarenewables.com/press-release-detail/2/crescentinos-biorefinery-grand-opening> (last visited June 2015).

not expected to begin production until, at the earliest, 2017.²⁶ Reflecting this development, the Proposed Rule does not mention or discuss Cool Planet at all.

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c. Production Difficulties

Poet-DSM, for example, claimed to begin production in September 2014,³¹ but as of March 2016 was still "nearing the end of the extended commissioning period that has been the experience of

²⁶ National Renewable Energy Laboratory, Technical Report, *2015 Survey of Non-Starch Ethanol and Renewable Hydrocarbon Biofuels Producers*, at 5 (Jan. 2016), available at <http://www.nrel.gov/docs/fy16osti/65519.pdf>; see also Jim Lane, *That Was Then, This Is Now: 10 Signature Biofuels Projects for 2015-16, and Where They Are*, Biofuels Digest (Oct. 18, 2015), <http://www.biofuelsdigest.com/bdigest/2015/10/18/that-was-then-this-is-now-10-signature-biofuels-projects-for-2015-16-and-where-they-are/11> ("For now, forget about it.").

²⁷ See Austin Harrington, *DuPont To Temporarily Halt Corn Stover Program at Nevada Plant*, Ames Tribune (Apr. 8, 2016), <http://amestrib.com/news/dupont-temporarily-halt-corn-stover-program-nevada-plant> (quoting a DuPont official as stating that "We are off our original estimates for start up" and indicating that DuPont has ceased purchasing raw materials).

²⁸ See Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>; Holly Jessen & Susanne Retka Schill, *Bringing Up The Throttle on Cellulosic Biofuel*, Ethanol Producer Magazine (Mar. 16, 2016), <http://www.ethanolproducer.com/articles/13114/bringing-up-the-throttle-on-cellulosic-ethanol>.

²⁹ See Austin Harrington, *DuPont To Temporarily Halt Corn Stover Program at Nevada Plant*, Ames Tribune (Apr. 8, 2016), <http://amestrib.com/news/dupont-temporarily-halt-corn-stover-program-nevada-plant>.

³⁰ Another recent example is the Beta Renewables facility in Crescentino, Italy. The original startup date was announced as the first half of 2012, however actual start up did not occur until the middle of 2013. See Crescentino's Biorefinery Grand Opening, <http://www.betarenewables.com/press-release-detail/2/crescentinos-biorefinery-grand-opening> (last visited June 2015).

³¹ Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>.

all second-generation developers.”³² INEOS Bio, meanwhile, began production in June 2013, but had to “go back to pilot scale” soon thereafter, and has been shut down since December 2014.³³

Beta Renewables announced its first shipment of fuel in June 2013. A conservative estimate of total 2014 production equates to approximately 7% of the 75 million liter annual nameplate capacity. In an October, 2014 article³⁴, it was noted that Beta Renewables experienced (and continues to experience) “a significant ramp up time for Crescentino.” There is no evidence to date that this plant has attained nameplate capacity production.

Other facilities never reach design capacity because they go bankrupt, experience technical failures, or shut down for other reasons. GranBio, for example, “is lagging” in production “due to down time” and a need for “new equipment.”³⁵ “Given lead time for delivery, testing and deployment,” experts expect that “commencement of operations” will reach “into at least 2017.”³⁶ Although Abengoa had nameplate capacity of 25 million gallons and may have produced some cellulosic ethanol in 2015, its plant shut down in November 2015 and has produced no biofuel since.³⁷ KiOR likewise spent years trying to ramp up to commercial

³² Holly Jessen & Susanne Retka Schill, *Bringing Up The Throttle on Cellulosic Biofuel*, Ethanol Producer Magazine (Mar. 16, 2016), <http://www.ethanolproducer.com/articles/13114/bringing-up-the-throttle-on-cellulosic-ethanol>; see also Christopher Doering, *Poet Plant May Reach Full Output in 2016*, Des Moines Register (Apr. 5, 2016) (POET “began shipping its first tank cars of cellulosic ethanol to the market in December” and its “goal is to have its cellulosic facility . . . at full production by the end of this year.”). At the June 2015 Fuel Ethanol Workshop and Expo, a Poet-DSM representative commented that the facility is “still in a startup mode,” and that “We are able to put out batches of ethanol, but not at a continuous flow, not significant gallons.” *POET-DSM Ethanol Plant Still in Startup Mode: Spokesman*, OPIS Biofuel News, June 9th, 2015.

³³ Holly Jessen & Susanne Retka Schill, *Bringing Up The Throttle on Cellulosic Biofuel*, Ethanol Producer Magazine (Mar. 16, 2016), <http://www.ethanolproducer.com/articles/13114/bringing-up-the-throttle-on-cellulosic-ethanol>.

³⁴ Jim Lane, *Good Times For Now, Headwinds On The Horizon: Q3 Earnings Time For The Advanced Bioeconomy, Energy, Biofuels Digest* (Oct. 30, 2014), <http://www.biofuelsdigest.com/bdigest/2014/10/30/good-times-for-now-headwinds-on-the-horizon-q3-earnings-time-for-the-advanced-bioeconomy-energy/>.

³⁵ Jim Lane, *That Was Then, This Is Now: 10 Signature Biofuels Projects for 2015-16, and Where They Are*, Biofuels Digest (Oct. 18, 2015), <http://www.biofuelsdigest.com/bdigest/2015/10/18/that-was-then-this-is-now-10-signature-biofuels-projects-for-2015-16-and-where-they-are/2/>

³⁶ *Id.*

³⁷ Scott Aust, *Abengoa Bioenergy Shuts Down Hugoton Plant*, The Garden City Telegram (Dec. 23, 2015), http://www.gctelegram.com/news/local/no-abengoa-bioenergy-shuts-down-hugoton-plant/article_863e74f6-e23c-52c6-a70a-ecc1fdabd39e.html.

production levels, but never reached a level anywhere close to the 11 million gallon nameplate capacity of its Columbus, MS plant.³⁸

d. Past Problematic Reliance on Producers

KiOR is a case-in-point. KiOR announced in November 2012 that it had begun production, claiming that it “would be able to meet its target of selling between 500,000 and 1 million gallons of fuel before the end of the fiscal year.”³⁹ But “[t]hat’s not at all how it played out. The facility was bedeviled by production problems” and announced in 2013 “that it hadn’t shipped *any* biofuel in 2012.”⁴⁰ “An odd pattern soon emerged: gloomy news paired with sunny projections.”⁴¹ KiOR shipped its first cellulosic biofuel in March 2013, after encountering “unexpected startup issues,” and announced in May 2013 that its factory “was running as expected” and was “on track” to produce “between 3 million and 5 million gallons” in 2013.⁴² Yet in August 2013, KiOR admitted that “[i]ts output was 75% below its minimum target.”⁴³ And “at the beginning of 2014, KiOR closed the plant”; the plant has been idle ever since.⁴⁴

INEOS Bio followed a similar pattern. It began production in June 2013, but soon experienced power outages and “cyanide poisoning of [its] biocatalyst,” forcing the plant to “go back to pilot scale.”⁴⁵ In December 2013, INEOS Bio issued a press release stating that “[b]ringing the facility on-line and up to capacity has taken longer than planned due to several unexpected start-

³⁸ See 78 Fed. Reg. 71,745 (nameplate capacity of 11 million gallons per year); Katie Fehrenbacher, *How Tech Billionaire Vinod Khosler’s Biofuel Dream Went Bad*, Fortune (Dec. 15, 2015), <http://fortune.com/kior-vinod-khosla-clean-tech/> (indicating that the KiOR facility never reached full capacity).

³⁹ *Id.*

⁴⁰ *Id.* (emphasis in original).

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.* (“[T]he factory is a dead zone. Long weeds have sprouted up around an empty parking lot. No workers are operating any machinery. The plant hasn’t produced any biocrude in close to two years.”); see also National Renewable Energy Laboratory, Technical Report, *2015 Survey of Non-Starch Ethanol and Renewable Hydrocarbon Biofuels Producers*, at 21 (Jan. 2016), available at <http://www.nrel.gov/docs/fy16osti/65519.pdf> (KiOR “now idle”). Although EPA previously relied on KiOR estimates for several of its cellulosic projections, see, e.g., 78 Fed. Reg. 71,742, the SEC is now “investigating whether” those estimates were based on “false statements.” See Fehrenbacher, *supra*.

⁴⁵ Holly Jessen & Susanne Retka Schill, *Bringing Up The Throttle on Cellulosic Biofuel*, Ethanol Producer Magazine (Mar. 16, 2016), <http://www.ethanolproducer.com/articles/13114/bringing-up-the-throttle-on-cellulosic-ethanol>.

up issues.”⁴⁶ INEOS Bio then shut down entirely in December 2014 to install new equipment, and a release in 2014 “cast doubt that [INEOS Bio] would ever produce any ethanol.”⁴⁷ INEOS Bio has remained offline since then,⁴⁸ and is not addressed at all in the 2017 Proposed Rule.

Abengoa provides yet another example. It “produced enough cellulosic ethanol to sell a rail car of product” in 2015,⁴⁹ but then “filed for bankruptcy in November [2015]” and “shu[t] down its cellulosic ethanol plant.”⁵⁰ Abengoa laid off “the entire staff of the Hugoton facility” in December 2015, “with the possible exception of a few upper management positions.”⁵¹ As of March 2016, “only five or six employees . . . work at [Abengoa’s] Hugoton plant, performing maintenance tasks.”⁵²

These examples shows that it is not reasonable to assume that the low end of a firm’s cellulosic biofuel production will be the firm’s production over the preceding 12-month period. EPA’s RFS rules for prior program years provide many other examples of instances in which a firm produced cellulosic biofuel in one year, only to fall below that level (or to zero) the following year.

e. Neutral Aim at Accuracy

Indeed, the Proposed Rule takes a selective view of the facts even with respect to *current* developments in the liquid cellulosic biofuels industry. EPA highlights projections and positive developments in the industry, for example by touting production capacity and a “grand opening,”

⁴⁶ Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>.

⁴⁷ *Id.*

⁴⁸ *Id.* (“It doesn’t appear that INEOS is producing any cellulosic ethanol at all” as of February 2016.)

⁴⁹ Erin Vogeles, *Abengoa Reportedly Lays Off Staff at Hugoton, Other US Locations*, Biomass Magazine (Dec. 3, 2015), <http://biomassmagazine.com/articles/12637/abengoa-reportedly-lays-off-staff-at-hugoton-other-us-locations>.

⁵⁰ Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>; see also Scott Aust, *Abengoa Bioenergy Shuts Down Hugoton Plant*, The Garden City Telegram (Dec. 23, 2015), http://www.gctelegram.com/news/local/no-abengoa-bioenergy-shuts-down-hugoton-plant/article_863e74f6-e23c-52c6-a70a-ecc1fdabd39e.html (“Abengoa . . . shut down its Hugoton plant and laid off dozens of workers a little more than a year after a much ballyhooed grand opening.”).

⁵¹ Erin Vogeles, *Abengoa Reportedly Lays Off Staff at Hugoton, Other US Locations*, Biomass Magazine (Dec. 3, 2015), <http://biomassmagazine.com/articles/12637/abengoa-reportedly-lays-off-staff-at-hugoton-other-us-locations>.

⁵² Holly Jessen & Susanne Retka Schill, *Bringing Up The Throttle on Cellulosic Biofuel*, Ethanol Producer Magazine (Mar. 16, 2016), <http://www.ethanolproducer.com/articles/13114/bringing-up-the-throttle-on-cellulosic-ethanol>.

and by stating that “[c]ellulosic ethanol production from DuPont’s Nevada, Iowa facility is expected by the end of 2016.”⁵³ EPA bases this sunny characterization on a single newspaper article.⁵⁴ Yet the very same newspaper article quotes a DuPont official as stating that “We are off our original estimates for start-up,” and that DuPont has ceased purchasing raw materials to be used in cellulosic ethanol production.⁵⁵ Moreover, the article states that DuPont is “*hopeful* that the plant will begin production of ethanol this year,”⁵⁶ not that production “is *expected* by the end of 2016” as EPA’s memorandum asserts. The Proposed Rule ignores these points entirely, in violation of the Administrative Procedure Act.⁵⁷

EPA commits the same error on several other occasions. Among other things, the memorandum to the file describing various liquid cellulosic biofuels producers cites a seemingly random assortment of press releases and news articles to support its assessment.⁵⁸ Most of these materials discuss positive developments in the liquid cellulosic biofuels industry, such as a producer’s successful pilot test or new supply contract.⁵⁹ Completely absent are a host of other, readily available and directly relevant press articles and technical reports that document the limitations on the liquid cellulosic biofuels industry’s growth potential.⁶⁰ If EPA were truly forecasting “what will *actually* happen,” *API*, 706 F.3d at 479, it would give full weight to press reports that provide good news *and* bad news for the liquid cellulosic biofuels industry.

⁵³ *See id.* at 2.

⁵⁴ *Id.* at 2 n.6 (citing Austin Harrington, *DuPont To Temporarily Halt Corn Stover Program at Nevada Plant*, Ames Tribune (Apr. 8, 2016), <http://amestrib.com/news/dupont-temporarily-halt-corn-stover-program-nevada-plant>.)

⁵⁵ Austin Harrington, *DuPont To Temporarily Halt Corn Stover Program at Nevada Plant*, Ames Tribune (Apr. 8, 2016), <http://amestrib.com/news/dupont-temporarily-halt-corn-stover-program-nevada-plant>.

⁵⁶ *Id.* (emphasis added).

⁵⁷ *See, e.g., AT&T Corp. v. FCC*, 86 F.3d 242, 247 (D.C. Cir. 1996) (“Under the APA,” agencies “must take into account whatever in the record fairly detracts from its weight.” (quoting *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 488 (1951))).

⁵⁸ *See* Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2016-0004, *April 2016 Assessment of Cellulosic Biofuel Production from Biogas (2017)*, at 1–4 (Apr. 2016).

⁵⁹ *See id.* at 4 n.11 (citing Press Release, DuPont, *DuPont and Quad County Corn Processors Sign Multi Year Enzyme Supply Contract for Cellulosic Biofuel* (Oct. 15, 2015), <http://www.dupont.com/products-and-services/industrial-biotechnology/press-releases/dupont-and-quad-county-corn-processors-sign-multi-year-enzyme-su.html>).

⁶⁰ *See, e.g.,* National Renewable Energy Laboratory, Technical Report, *2015 Survey of Non-Starch Ethanol and Renewable Hydrocarbon Biofuels Producers*, at 5 (Jan. 2016), available at <http://www.nrel.gov/docs/fy16osti/65519.pdf>; Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>; Katie Fehrenbacher, *How Tech Billionaire Vinod Khosler’s Biofuel Dream Went Bad*, Fortune (Dec. 15, 2015), <http://fortune.com/kior-vinod-khosla-clean-tech/>.

2. EPA’s 25th Percentile Model for Forecasting Production by “New” Facilities Is Unsupported by the Record.

A review of the Proposed Rule, and the 2014–2016 final rule upon which it is based, reveals that EPA selected the 25th percentile methodology seemingly at random, without any supporting analysis or consideration of alternatives.⁶¹

In 2010 EPA estimated that two firms, Range Fuels and Cello Energy, would produce liquid cellulosic biofuel “somewhere in the 20–50% range.” 75 Fed. Reg. 14,750. Actual production was zero, such that Range Fuels and Cello Energy had a utilization rate of 0%. Indeed, Range Fuels and Cello Energy “went out of business, after spending hundreds of millions of dollars—including taxpayer money—without delivering” commercial quantities of cellulosic biofuel.⁶²

EPA’s 2011 final rule identified five firms that EPA believed would collectively produce 6 million cellulosic biofuel RINs, reflecting expected utilization rates of 27% to 100% of capacity, as shown below. 75 Fed. Reg. 76,797. Cumulatively, EPA projected that firms would produce cellulosic biofuel at 55% of design capacity. *Id.* Yet in actuality, no cellulosic biofuel RINs were produced in 2011, resulting in actual utilization rate of 0%.

2011 Cellulosic Biofuel Production

Company Name	Capacity (million gal.)	EPA projected volume (million gal.)	EPA projected utilization rate	Actual production	Actual utilization rate
DuPont Danisco	0.25	0.15	60%	0	0%
Fiberright	6	2.8	47%	0	0%
KL Energy	1.5	0.4	27%	0	0%
KiOR	0.2	0.2	100%	0	0%
Range Fuels	4	3	75%	0	0%

EPA’s 2012 final rule identified six firms that EPA expected would collectively produce 10.45 cellulosic biofuel RINs, reflecting utilization rates of 7% to 56%, as shown below. 77 Fed. Reg. 1,330.⁶³ Cumulatively, EPA forecasted that cellulosic production would reach 33% of design capacity. Although individual producer data is not available for 2012, only 20,069 cellulosic

⁶¹ Among other things, EPA failed to consider whether a 10th percentile or 5th percentile model would better explain the available data.

⁶² Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>; see also Katie Fehrenbacher, *How Tech Billionaire Vinod Khosler’s Biofuel Dream Went Bad*, Fortune (Dec. 15, 2015), <http://fortune.com/kior-vinod-khosla-clean-tech/> (“Range Fuels . . . shut its factory in 2011.”).

⁶³ EIA, in contrast, projected utilization rates of 25% for several of the same facilities. See 77 Fed. Reg. 1,328–29.

biofuel RINs were generated in total for 2012.⁶⁴ Assuming that each firm produced all of those RINs—a conservative assumption that likely substantially overstates each plant’s utilization rate—the maximum actual utilization rate for 2012 was 8%. Industry-wide, firms produced cellulosic biofuel at less than 0.1% of cumulative design capacity.

2012 Cellulosic Biofuel Production

Company Name	Capacity (million gal.)	EPA projected volume (million gal.)	EPA projected utilization rate	Maximum actual production*	Maximum actual utilization rate*
American Process Inc.	0.9	0.5	56%	0.02	2.2%
Fiberight	6	2	33%	0.02	0.3%
INEOS Bio	8	3	38%	0.02	0.3%
KiOR	10	3	30%	0.02	0.2%
KL Energy	1.5	0.1	7%	0.02	1.3%
ZeaChem	0.25	0.05	20%	0.02	8.0%

* Because individual company production data is not available, this chart assumes that each company produced 100% of the reported cellulosic biofuel RINs (20,069) for 2012.

EPA’s final rule for 2013 identified six firms that EPA expected would collectively produce 6 million cellulosic biofuel RINs, reflecting projected utilization rates of 0% to 32%. 78 Fed. Reg. 49,809. Cumulatively, EPA forecasted that industry would produce cellulosic biofuel at 12% of design capacity. Although individual producer data is not available for 2013, only 810,185 cellulosic RINs were generated in total for 2013. Assuming that each firm produced all of those RINs (a conservative assumption that overstates each plant’s true utilization rate), the maximum actual utilization rate was 20%, as shown below. Industry-wide production reached only 2.4% of cumulative design capacity.

2013 Cellulosic Biofuel Production

Company Name	Capacity (million gal.)	EPA projected volume (million gal.) [^]	EPA projected utilization rate	Maximum actual production*	Maximum actual utilization rate*
Abengoa**	24	0	0%	0.8	3.3%
EdeniQ	10	0	0%	0.8	8.0%
Ensyn	4	0	0%	0.8	20.0%
Fiberight**	6	0	0%	0.8	13.3%
INEOS Bio	8	0.5	6%	0.8	10.0%
KiOR	11	3.5	32%	0.8	7.3%

* Because individual company production data is not available, this chart assumes that each company produced 100% of the reported cellulosic biofuel RINs (810,185) for 2013.

** Because EPA projected that this firm would not begin production in 2013, its capacity is excluded from the industry-wide utilization rate reported in API’s comments.

[^] Where EPA gave a projected range of "actual volume" production, this table uses the midpoint of the range.

⁶⁴ The first qualifying cellulosic biofuel was produced in 2012 by Blue Sugars Corporation, which has since gone out of business. See Robert Rapier, *Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), <http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/>.

EPA did not issue a final rule for 2014 until November 2015. However, in November 2013 EPA did issue a NPRM for the 2014 program year. 78 Fed. Reg. 71,732. This NPRM identified nine firms that EPA expected would collectively produce 17 million liquid cellulosic biofuel RINs, reflecting expected utilization rates of 0% to 44%. Cumulatively, EPA estimated that firms would produce cellulosic biofuel at 16.8% of design capacity. Although individual producer data is not available for 2014, at most 0.83 million liquid cellulosic biofuel RINs were produced in 2014. Assuming that each firm produced all of those RINs (a conservative assumption that overstates each plant's true utilization rate), the maximum actual utilization rate was 16% in 2014, as shown below. Industry-wide, firms produced cellulosic biofuel at only 0.7% of design capacity.

2014 Cellulosic Biofuel Production

Company Name	Capacity (million gal.)	EPA projected volume (million gal.)**	EPA projected utilization rate	Maximum actual production*	Maximum actual utilization rate*
Abengoa	24	9	38%	0.8	3.3%
CoolPlanet Biofuels	10	0	0%	0.8	8.0%
DuPont	30	1	3%	0.8	2.7%
Fiberight***	6	0	0%	0.8	13.3%
INEOS Bio	8	3.5	44%	0.8	10.0%
KiOR	11	2.8	25%	0.8	7.3%
Lanza Tech***	5	0	0%	0.8	16.0%
Poet	25	3	12%	0.8	3.2%
SweetWater Energy	7	0	0%	0.8	11.4%

* Because individual company production data is not available, this chart assumes that each company produced 100% of the maximum liquid cellulosic biofuel RINs (831,982) for 2014. This total is derived by subtracting the total number of D3 and D7 RINs reported from CNG/LNG for 2014 from the total number of D3 and D7 RINs on EPA's website.

**Where EPA provided an estimated actual production range for a given producer, this chart reports the midpoint of EPA's projected range.

*** Where EPA estimated that a firm would not begin producing cellulosic biofuel in 2014 (or had an "unknown" start-up date), that firm's data is excluded from the industry-wide utilization rate.

For 2015, EPA relied on actual production for the first nine months of the year, and projected liquid cellulosic biofuel production by six firms for the final three months of the year. 80 Fed. Reg. 77,505. EPA projected that these six firms would collectively produce 2 million liquid cellulosic biofuel RINs in the fourth quarter of 2015, using a 25th percentile model for firms without prior consistent production. *Id.* at 77,505–06. This projection translates into forecasted utilization rates of 3% to 100%, and an industry-wide utilization rate of 9.4%. Although company specific data is not available for 2015, at most 0.58 million liquid cellulosic biofuel RINs were produced in total during the fourth quarter of 2015. Assuming that each firm produced all of those RINs (a conservative assumption that overstates each plant's true

utilization rate), actual utilization rates in the fourth quarter of 2015 ranged from 8% to 240%, as shown below.⁶⁵ Industry-wide, the utilization rate for the fourth quarter of 2015 was 2.8%.

2015 Cellulosic Biofuel Production

Company Name	Capacity (million gal.)	EPA projected volume (million gal.)**	EPA projected utilization rate^	Maximum actual production*	Maximum actual utilization rate*
Abengoa	25	0.25	4%	0.6	9.6%
CoolPlanet	1	0.25	100%	0.6	240.0%
DuPont	30	0.25	3%	0.6	8.0%
Poet	24	0.25	4%	0.6	10.0%
Ensyn	3	0.5	67%	0.6	80.0%
Quad County Corn Processors	2	0.5	100%	0.6	120.0%

* Because individual company production data is not available, this chart assumes that each company produced 100% of the maximum liquid cellulosic biofuel RINs (582,565) for the fourth quarter of 2015. This total is derived by subtracting the total number of D3 and D7 RINs reported from CNG/LNG for the fourth quarter of 2015 from the total number of D3 and D7 RINs on EPA's website for that quarter.

**Where EPA provided an estimated production range for a group given producers, this chart reports the pro rata share of EPA's projected range for each producer within the group.

^ This rate reflects EPA's projected production divided by one-fourth of the facility's annual capacity.

Taken together, the 2010–15 data show that, at most, only a handful of facilities achieved a utilization rate above 15% in any given year. In most years, most facilities had utilization rates in the 0% to 10% range. Actual aggregate industry-wide utilization rates ranged from 0% to 2.8%. Accordingly, the record establishes that the 25th percentile methodology employed in the Proposed Rule—which for 2017 results in an imputed utilization rate of approximately 23.5% among firms without proven prior production—“runs counter to the evidence before the agency” and “is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *State Farm*, 463 U.S. at 29.

3. EPA’s 50th Percentile Model for Forecasting Production By “Established” Facilities Is Unsupported By The Record.

The 2014 NPRM, which used a mean methodology functionally identical to a 50th percentile model, *see* 78 Fed. Reg. 71,750–51, illustrates the point. EPA made projections for five firms in the 2014 NPRM, and concluded that these firms would collectively produce 17 million gallons of liquid cellulosic biofuel. *Id.* at 71,736, 71,750–51. This projection turned out to be off by 95.1%. Even if every firm were credited with production of *all* the liquid cellulosic biofuel

⁶⁵ Press reports indicate that Abengoa, Cool Planet, DuPont, INEOS BIO, and Poet-DSM produced either no cellulosic biofuel RINs or only a small number of cellulosic biofuel RINs in 2015. Thus, the true utilization rate for Cool Planet is 0%, rather than the hypothetical 240% rate reported in the table. Similarly, because it is unlikely that Quad County Corn Processors produced *all* of the liquid cellulosic biofuel RINs in the fourth quarter of 2015, the true utilization rate for that facility is likely lower than the hypothetical 120% utilization rate reported in the table. Had EPA released actual facility-specific production data, rather than withholding it as CBI, API would have been able to provide precise utilization rates.

produced in 2014 (a conservative assumption that overstates each plant’s true utilization rate), the highest utilization rate would have been 16% of capacity, as shown in the 2014 chart above. With respect to KiOR’s Columbus, Mississippi facility in particular, the 2014 NPRM projected production “at an average rate of 50% of nameplate capacity,” 78 Fed. Reg. 71,742; in actuality, KiOR shut down in early 2014 and produced at or near 0% of its nameplate capacity in 2014.

The 50th percentile model also failed to produce an accurate forecast for the fourth quarter of 2015. EPA employed the 50th percentile model in the final rule for 2015, concluding that two established firms—Quad County Corn Processors and Ensyn—would collectively produce 1 million gallons of liquid cellulosic biofuel in October through December of 2015. 80 Fed. Reg. 77,505–06. Yet *total* liquid cellulosic biofuel production in the fourth quarter of 2015 was no more than 0.58 million gallons. Because EPA has declined to release company-specific production information,⁶⁶ it is impossible to identify the specific extent by which EPA’s estimate missed the mark. Assuming that the two established firms produced *all* of the liquid cellulosic biofuel RINs generated in the fourth quarter of 2015 (a conservative assumption that overstates each plant’s true utilization rate), EPA’s estimate was off by 42%. This number represents the *minimum* amount by which EPA missed the mark; the error percentage would be even greater if (as is likely) other firms accounted for a portion of actual RIN production in the fourth quarter of 2015.⁶⁷

Actual production to date in 2016 also shows that the 50th percentile model is inaccurate. Extrapolating from the available data (January-April 2016), and relying on the two most representative months for which liquid cellulosic production data is available (February and March),⁶⁸ at most 4.3 million liquid cellulosic biofuel RINs will be generated in 2016, rather than

⁶⁶ See, e.g., 81 Fed. Reg. 34,806 (redacting “actual production volumes” for Quad County Corn Processors and Ensyn); Quad County Corn Processors Call Notes 4/11/16, <https://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2016-0004-0050> (withheld as CBI).

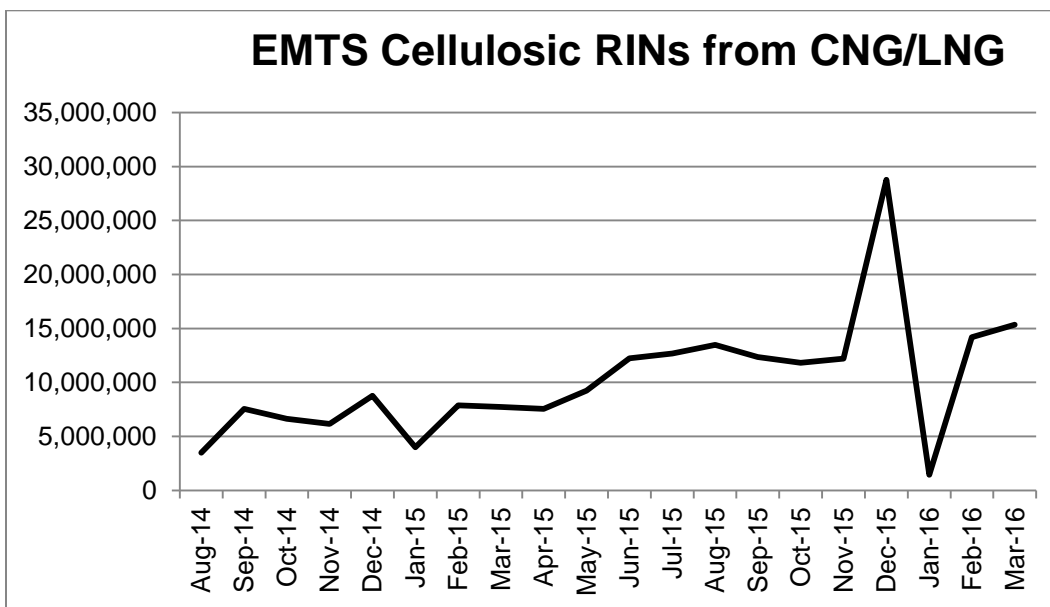
⁶⁷ As described above, EPA’s overall liquid cellulosic biofuel projection for the fourth quarter of 2015 was off by at least 71%. See Appendix C (2015 workbook).

⁶⁸ EPA has publicly released monthly breakdowns of the number of cellulosic biofuel RINs generated from CNG/LNG in 2014 and 2015. See Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2015-0111, *Assessment of Cellulosic Biofuel Production from Biogas (2015–2016)*, at 2 (Apr. 27, 2015); Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2016-0004, *April 2016 Assessment of Cellulosic Biofuel Production from Biogas (2017)*, at 2 (Apr. 2016). However, EPA has not publicly released monthly breakdowns of the number of RINs generated from conventional liquid cellulosic biofuel, and instead has treated this information as confidential business information (CBI). The maximum volume of conventional liquid cellulosic biofuel production can be derived by subtracting the number of RINs reported for CNG/LNG from the total number of cellulosic biofuel RINs reported for each month on EPA’s website. See, e.g., EPA, *2015 Renewable Fuel Standard Data* (May 10, 2016), <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/2015-renewable-fuel-standard-data>. The difference between those sums constitutes the maximum number of conventional liquid cellulosic biofuel RINs, rather than the

the 23 million RINs forecasted by EPA in the 2016 final rule—which relies on the same 50th percentile model used in the 2017 Proposed Rule. If this trend holds, EPA’s estimate of liquid cellulosic biofuel for 2016 will be off by 78%.

4. EPA’s Errors in Computing Estimated CNG/LNG Cellulosic Biofuel Production In 2017.

EPA memoranda provide cellulosic-derived biogas RIN generation from August 2014 through March 2016. A cumulative total over the 20 months of reporting shows that approximately 203 million cellulosic-derived biofuel RINs were reported, as depicted below.



As the chart shows, the cellulosic CNG/LNG industry is maturing and reaching a point where the level of month-over-month growth is declining. Projecting the available actual production data out to December 2016, and using the slope of the total cumulative production over the most recent 12-month period, gives a production estimate of 177 million cellulosic-biogas derived biogas RINs for 2016.

Taken together with the maximum estimate of 4.3 million liquid cellulosic RINs generated in 2017 (based on the most recent actual production data), the expected level of total cellulosic

actual number of such RINs, due to production of nontraditional cellulosic biofuels such as heating oil, and due to after-the-fact RIN generation error corrections. Worksheets showing the maximum number of conventional liquid cellulosic biofuel RINs for 2014 and 2015 are attached as Appendix C.

biofuel production in 2017 of 181.3 million equivalent gallons (177 million biogas-derived cellulosic and 4.3 million liquid cellulosic) is lower than EPA’s projected volume of 230 million equivalent gallons for 2016, and much lower than EPA’s projected volume of 312 million equivalent gallons for 2017 (1 cellulosic biogas RIN = 1 equivalent gallon), but this approach uses a data driven methodology, based on proven cellulosic RIN generation. EPA has not shown that the technological and supply-chain conditions exist for a 170 million gallon equivalent increase in biogas-derived cellulosic biofuel between 2015 (actual production 140 million RINs) and 2017 (EPA projected 312 million RINs).

Finally, EPA’s estimate of CNG/LNG biogas production for 2017 unlawfully relies on “congressional intent to provide incentives for the rapid expansion of the cellulosic biofuel industry.” 80 Fed. Reg. 77,504.⁶⁹ These incentives play no part in forecasting “what will actually happen,” *API*, 706 F.3d at 474, and therefore should not be considered in forecasting the volumes of CNG/LNG-based cellulosic biofuel that will be produced in 2017.

⁶⁹ Although this statement appears in the 2014–2016 final rule, it apparently applies with equal force to the 2017 Proposed Rule, which uses an “approach” that “is very similar to the approach adopted in establishing the required volume of cellulosic biofuel in 2016.” 81 Fed. Reg. 38,404.