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From: Chris Hessler
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Ryan & Mandy,

Attached are the comments we submitted on the RVO proposal. The main comment relates to the fact that the proposed industry-wide approach would work to more accurately estimate the CNG/LNG production with some modest tweaks. Without those tweaks, it could produce wildly varying results. For example, if it was used last year as proposed, it would have resulted in a higher over-estimate of cellulosic biofuel production than the one finalized by EPA.

It would be great to talk this through if you have time.

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**Comments on the Proposed Rule
Renewable Fuel Standard Program: Standards for
2018 and Biomass-Based Diesel Volume for 2019**

Submitted By

AJW, Inc., Arlington, VA

On behalf of

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I. Summary

- These comments are focused on EPA's proposed industry-wide approach for improving the accuracy of the projection of volumes of CNG/LNG D3 RINs available for compliance.
- The industry-wide approach has merit and could be workable provided EPA makes further adjustments to refine this approach.
- EPA should avoid using short-term periods of historic production data as a basis for projecting annualized growth because this maturing industry will continue to have sizable fluctuations in production over short periods. Longer time periods (e.g. a rolling year-on-year assessment) are likely to be more indicative of sustained growth trends.
- EPA should identify and rely upon leading indicators (e.g. production capacity under construction or awaiting EPA registration) to strengthen its industry-wide approach by using available data to determine if the growth rate is likely to be sustained, decreased, or accelerated in the coming calendar year.
- EPA should strive to implement the program in a manner that both increases the accuracy of the RVO projections, and provides appropriate certainty to market actors – including appropriate certainty that any final regulations are reasonably likely to withstand subsequent legal challenges.

II. Scope of Our Comments

This comment is focused on EPA's proposed Cellulosic Biofuel Renewable Volume Obligation for 2018. More specifically, we offer comment on EPA's proposal to use a new methodology to project production of CNG/LNG derived from biogas used as a transportation fuel. With regard to CNG/LNG derived from biogas, EPA has requested comment on the use of an industry-wide, rather than a facility-by-facility projection of production and on possible adjustments to the methodology used in this proposal and on alternative methodologies that could be used. Our comments on these issues follow.

III. EPA's Intention to Improve Its Approach to Setting RVOs is Reasonable

The two primary reasons EPA provided for using a new methodology for projecting production of CNG/LNG derived from biogas were:

- the over-projection of CNG/LNG derived from biogas in 2016; and
- the maturity of the CNG/LNG industry relative to the liquid cellulosic biofuel industry.

Notwithstanding EPA's professed concerns, its recent track record for projecting the overall volume of RINs available for compliance in any given year has been very good. That said, we applaud EPA's intent to improve and simplify its procedures.

a. EPA's 2016 over-projection

The Administrator's statutory obligation under the CAA waiver provisions for cellulosic biofuels is to determine the "projected volume available", *i.e.* the volume of cellulosic biofuel RINs available for compliance. EPA notes in the NPRM that for 2016, it projected that the annual production of CNG/LNG derived from biogas would be 207 million gallons, but 2016's annual production only turned out to be

185 million gallons, a 22 million gallon or 11.9% over-projection. While the numbers are not yet in, it appears likely that EPA also over-projected production in 2017. On the other hand, in 2015, EPA had the reverse problem, under-projecting production by 14.9%.

Despite having over-projected CNG/LNG production in 2016, EPA’s projected volume available for compliance in 2016 was very close to the actual volume of cellulosic biofuel RINs available. As the table below illustrates, EPA’s projection for 2016 was within 1% of the actual volumes

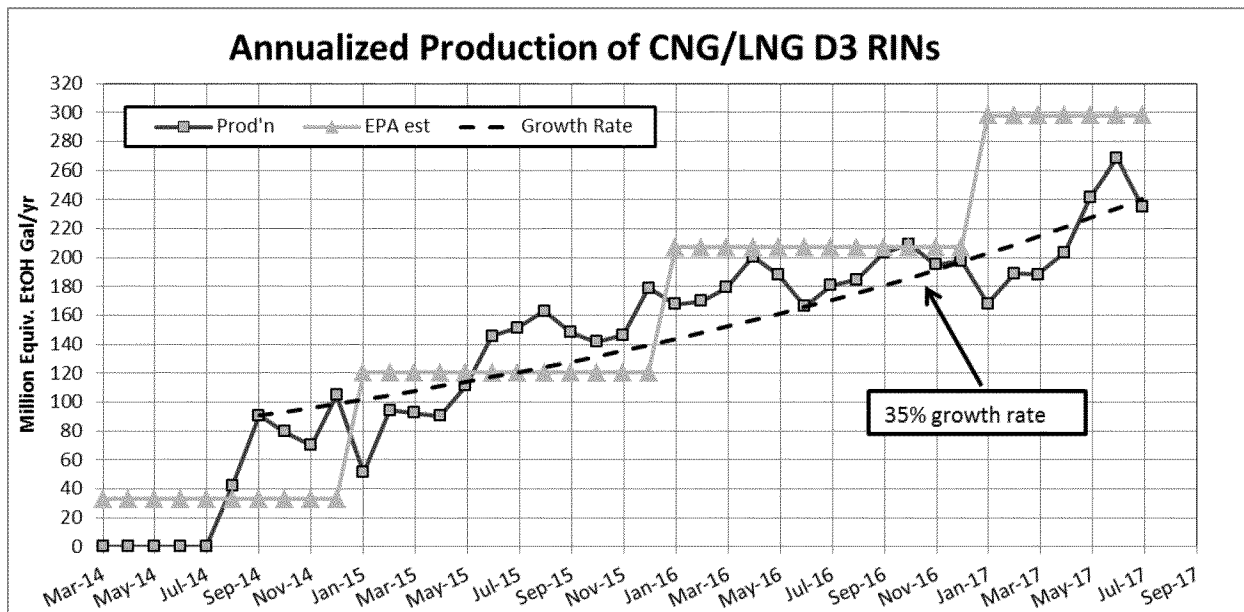
Volume of RINs Available for Compliance in 2016		
Component of Volume Available for Compliance	EPA’s Projection	Actual Volume Available
D3 RINs from 2016 CNG/LNG production	207	188.6
D3 RINs from 2016 cellulosic ethanol production	23	3.8
Error Corrections	0	-2.1
D3 RINS from 2015 cellulosic biofuel production	0	39.1
Total Volume Available for Compliance	230	229.4

In addition, using EPA’s proposed industry-wide approach – with the addition of production data now available for June and July – the growth rate for 2017 CNG/LNG production would be 19.3% (as opposed to 9.3% using only data through May which was available at the time of the proposal). If that data is “representative of the annual growth rate”, CNG/LNG production for the year would create roughly 221 million D3 RINs. In that event, the EPA’s 2017 cellulosic RVO would be a 14% over-projection of the actual volume available (see table below). In other words, the 2017 over-projection would be roughly equal to the scale of EPA’s 2015 under-projection of available RINs. Given the monthly increases in production during 2017, CNG/LNG production may continue to expand, which would further reduce the size of the RVO over-projection by year’s end.

Volume of RINs Available for Compliance in 2017		
Component of Volume Available for Compliance	EPA’s Projection	“Now Look” on Volume Available
D3 RINs from 2017 CNG/LNG production	298	220.9
D3 RINs from 2017 cellulosic ethanol production	13	12
Error Corrections	0	0
D3 RINS from 2016 cellulosic biofuel production	0	34.8
Total Volume Available for Compliance	311	267.7

b. Maturity of the CNG/LNG industry

The CNG/LNG industry is indeed relatively mature, with roughly 50 facilities in operation and new capacity coming on stream regularly. The figure below shows that the industry has been operational since September 2014 and, since then, has maintained a 35% average annual growth rate.



EPA concluded in the NPRM that “the technology and market for CNG/LNG derived from biogas used as a transportation fuel is sufficiently mature that a facility-by-facility assessment of potential production is unnecessary and is not the most appropriate method for projecting the production of these fuels in 2018 across the entire industry¹.” As a result, EPA proposed to use historical growth rates to project the production of CNG/LNG from biogas rather than the facility-specific approach it had used in prior years².

c. EPA’s Preliminary Projection of Production from CNG/LNG Derived From Biogas

In order to project the market growth rates, EPA “calculated the observed year-over-year growth in the number of RINs generated for CNG/LNG derived from biogas based on data from the first five months of both 2016 and 2017³.” This resulted in a 9.3% growth rate.

EPA then assumed that this growth rate based on five months of data was representative of the annual growth rate⁴. By applying this 9.3% growth rate to the total number of 2016 cellulosic RINs generated for CNG/LNG, EPA projected 2017 production of RINs from CNG/LNG to be 202 million gallons and 2018 production to be 221 million gallons⁵.

EPA also noted in the NPRM that it would update its calculation to the most recent available data. Assuming that the most recent available data will be from September, this will mean that EPA will estimate an annual growth rate using data from the first nine months of both 2016 and 2017.

¹ 82 Fed. Reg. 34206, 34219 (July 21, 2017)

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ *Id.*

IV. EPA Needs To Improve Its Proposed Use of Historic Industry-Wide Data

Essentially, EPA is proposing to set the cellulosic biofuel RVO by using an historic growth rate for CNG/LNG derived from biogas as a predictor of future growth. While this approach has merit, the data set EPA has proposed to use – year-to-date growth presumably derived by comparing the first nine months of the current year with the first nine months of the prior year – is an unconventional metric for measuring industrial growth. This approach measures average monthly growth for a 9-month period, while excluding production from the fourth quarter of the prior year. Using the more limited production data set available at the time of the proposal, EPA suggested an annualized growth rate of 9.3%.

a. More Conventional Approaches Are Available to EPA for Analyzing Growth

When assessing growth rates, it is far more common to compare quarter-on-quarter or year-on-year growth. EPA should adopt the most appropriate conventional metric for assessing industrial growth that can be applied to the cellulosic biofuel production industry – or it should articulate the reasons that no conventional analysis can be applied to this sector.

EPA could establish an historic growth rate consistent with analytical norms by utilizing a:

- Rolling 12-month average
- Year-on-year growth rate comparison using the most recent 12- and prior 12-month periods
- Quarter-on-quarter growth rate comparison using the most recent complete quarters.

b. EPA's Approach Creates the Potential for Abuse

A significant problem with EPA's proposed use of a 9-month data set is the exclusion of the production data from the 4th quarter. We presume that EPA's intent is to develop an RVO-setting approach that can be repeated in future years and would contribute to transparency and certainty for market actors consistent with direction of the law. However, if EPA's proposed approach becomes institutionalized and is used in subsequent years, the result would be to systematically exclude the 4th quarter production data from its assessment of production growth rates.

As a result, EPA would create a perverse incentive to game the system. Producers would benefit from withholding from the market any volumes of cellulosic biofuel produced each year during the 4th quarter, and instead register that volume for RINs in the following year's first quarter. Withholding volumes from the market in the 4th quarter would:

- ▶ Increase D3 RIN prices by creating artificial RIN shortages near the compliance deadline, and
- ▶ Artificially inflate the growth rate for the following year by shifting the recording of production volumes forward in time from when they were produced.

c. EPA's Method is Subject to Volatility and Could Over-Estimate Growth

In its effort to improve the accuracy of the RVO-setting process, and in the interest of meeting its legal requirement to provide appropriate certainty to market participants, EPA should seek to establish a methodology that would minimize volatile swings in estimating the growth rate.

The table below illustrates how the proposed year-to-date approach is more volatile than might be anticipated. The proposed growth rate based on available data at the time of EPA's proposal was 9.3%. With the addition of data available since the proposal, that annualized growth rate of RNG production

doubled to nearly 20%. This makes it emphatically clear that EPA’s assumption that “the growth rate of the first five months of data is representative of the annual growth rate⁶” is not reasonable.

Furthermore, had EPA used its proposed approach to set the Cellulosic RVO for 2017, the growth rate would have been 56.5% and would have resulted in an RVO higher than the 44.0% growth projection derived using EPA’s facility specific approach. So, clearly, EPA must be careful to select a data period that will be more representative of the overall growth rate, and less representative of short-term fluctuations in output.

Method	Data for 2017 RVO Projections	Data for 2018 RVO Projections	
	Annualized Growth Rate (Use data through Sept '16)	Annualized Growth Rate (Use data through May '17)	Annualized Growth Rate (Use data through July '17)
Facility-Specific <i>(EPA methodology for setting 2017 RVO)</i>	44.0%		
YTD/YTD <i>(EPA methodology proposed for 2018 RVO)</i>	56.5%	9.3%	19.3%
Q/Q	<i>(Jul. '16 to Sep. '16 vs prior quarter)</i> 9.8%	<i>(Mar. '17 to May '17 vs prior quarter)</i> 56.5%	<i>(May '17 to July '17 vs prior quarter)</i> 113.4%
Y/Y	<i>(Jun. '16 to May '16 vs prior year)</i> 61.8%	<i>(Jun. '16 to May '17 vs prior year)</i> 17.5%	<i>(Aug. '16 to July '17 vs prior year)</i> 22.3%

d. EPA Must Base its Projections on the Most Up To Date Information and Cover a Long Enough Time Period to Avoid Excess Volatility

EPA cannot base its projections on outdated information or data from cherry picked time periods if it hopes to meet the relevant legal standard of taking “neutral aim at accuracy”⁷ based on “what will actually happen”⁸.

The data EPA used from the first five months of 2017 to calculate an apparent 9.3% annual growth rate and project a production volume of 221 million gallons per year for CNG/LNG derived from biogas is now out of date. Since the NPRM was issued in July, more than a month of additional data has become available. Using EPA’s proposed methodology and including the most recent data, the annual growth rate more than doubles to 19.3% and the projected 2018 production volume rises to 263.5 million gallons per year for CNG/LNG derived from biogas, a 20% increase from EPA’s initial projection.

⁶ *Id.*

⁷ *API v. EPA*, 706 F. 3rd 474, 476, (D.C. Cir. 2013) that EPA must “aim for neutrality” in setting the RVO for cellulosic renewable fuel.

⁸ *Id.* at 480 (“Section 7545(o)(7)(D)(i)’s reference to the “projected volume of cellulosic biofuel” seems plainly to call for a prediction of what will actually happen.”)

As new information is reported, these projections will change again – perhaps up, perhaps down. Nonetheless, EPA is obligated to take neutral aim at projecting future production and should not exclude the most recent available data without an extremely compelling reason to do so.

Additionally, EPA has proposed to use a “year to date” time period for calculating annual growth rates. EPA should show that its calculated growth rate does not depend strongly on the choice of time period. In particular, EPA should show that it gets roughly the same result if it looks at slightly shorter and slightly longer time periods (e.g. \pm 3 months). If the calculated growth rate is strongly affected by the selection of a time period, then EPA should either change its method or conclude that the industry is at too early a stage for historic growth rates to be useful predictors of the future. In such a circumstance, EPA should go back to its facility-by-facility methodology.

e. EPA’s Method Ignores the Long Term Historic Trend

Regardless of how the EPA approaches the use of historic data, the Agency should avoid short-term data sets. Basing the growth estimates on short term data would miss the long-term trend and likely prove inaccurate. Short-term data sets will be subject to short term swings in production rather than the overall trend. While the proposed use of an industry-wide approach is workable, EPA should consider that a long-term view shows that the growth rate in cellulosic biofuel production has been significantly higher than the 9.3% rate calculated in the EPA proposal. Despite significant fluctuations in the cellulosic biofuel production over short periods, production growth has advanced steadily since late 2014 at an annual average growth rate of 35% (see page 5). To the extent that EPA’s projection differs from the industry’s long term growth trend, EPA will need to explain why its proposed growth rate is significantly different than the long-term average growth rate revealed by EPA’s own data.

V. EPA Should Use Both Historic Market Data and Leading Indicators

The use of historic production growth rates will provide useful perspective to ground future production estimates in market realities. But future production levels could vary significantly from historical growth trends for any number of reasons. Furthermore, reliance on historical trends alone ignores a wealth of information available to EPA that could – taken together with historic growth rates – produce a more accurate projection for growth.

EPA has ready access to data that can be used as a leading indicator of whether the historic growth rate is likely to be sustained in the future. For example, based on its internal data, EPA should be able to easily assess:

- The capacity of CNG/LNG production facilities under construction compared to last year,
- The capacity of CNG/LNG production facilities in the RFS registration process compared to last year; and
- The historic relationship between capacity and production in the upcoming year for both capacity under construction and capacity in registration.

By analyzing these leading indicators, it should be a straightforward process for EPA to assess whether the pending expansion in production capacity is likely to sustain historic growth rates or change them either up or down.

This approach would improve the accuracy associated with the use of historic data in setting future cellulosic biofuel RVOs. Similar approaches could be applied to other methods of producing cellulosic biofuels – but it would be important to segregate the assessments by production methodology. As we have already seen in the market, CNG/LNG facilities perform far more predictably and reliably than still-developing technologies associated with some other cellulosic biofuels.

The development of historical trend-based leading indicators is entirely consistent with EPA’s proposed effort to rely on historic data to ensure that future RVO-setting discussions are grounded in reality. At the same time, the use of leading indicators would prevent the RVO-setting process from being tied to an historic performance that may not repeat itself.

To facilitate public comments, and as part of the process to develop a transparent operation of the RFS, we strongly encourage EPA to release as soon as possible any aggregated historical information it has about leading indicators.

VI. EPA Should Limit the Risk that Litigation Will Undermine its Proposed Approach

The Clean Air Act requires the agency to strive for accuracy and to provide appropriate certainty for market participants in setting the cellulosic RVO. The use of historical production data can improve the implementation of the RFS to better comply with the requirements in law. However, as proposed, the use of historical data could be problematic for the following reasons:

- The use of limited data sets for establishing the historic growth rate could undermine the effort to achieve accuracy.
- The use of an unconventional metric could be found to be arbitrary in court – which would delay/undermine certainty for refiners and biofuel producers.
- The reliance on historic production data to the exclusion of information readily available to EPA about leading indicators could undermine accuracy and expose the agency to charges of being arbitrary in selecting what information to use in setting the cellulosic RVO.

Market participants seek an EPA process for setting cellulosic RVOs that provides both accuracy and appropriate certainty. The near-constant state of litigation surrounding the RVOs – while not entirely EPA’s fault – has undermined the ability of the Agency to establish appropriate certainty for market participants. The EPA should seek to do all that is in its power to reduce the risks of further litigation. In this case, the Agency can best reduce the risk of litigation by adopting an approach to analyzing growth that minimizes the risk of being overturned through future litigation. We believe that this can be achieved best through a combination of selecting appropriate and accurate methods for calculating production growth rates, and utilizing leading indicators of future increases in production capacity (discussed above).

VII. EPA Must Include an Assessment of the Potential Impact of a Reset in Making its Projections of Future Volume Available

EPA indicated that it intends to propose resetting the volumes of cellulosic biofuel in the statute using its authority under section 211(o)(7)(F). EPA also indicated that it will not accept or consider comments on the use of the reset authority during the public comment process related to the 2018 RVOs. We will defer comment on any reset until EPA has proposed an approach for such a reset.

However, EPA's actions in respect of the reset have the potential to significantly influence investment in and development of future cellulosic biofuel production capacity, including production capacity that may come on line in 2018. Such production capacity would directly influence the likely volume available in 2018 (the subject of EPA's current request for comment).

To properly determine a 2018 cellulosic biofuel RVO, especially one using historic growth rates, EPA should assess whether its reset approach is likely to constrain future production growth (especially in 2018) below what would be achieved under the continued application of the current annual volume setting process. If EPA determines its planned changes have the potential to constrain production growth in 2018 below the historic trend line, then EPA should report this finding and modify its 2018 volume projections accordingly. If EPA does not see any likely constraint, then it should report such a determination. We strongly urge EPA to signal to the market that, in accordance with the intent of Congress, its reset process is not intended to constrain the growth of the cellulosic biofuel industry.

VIII. A Well Structured RVO Approach will Obviate the Need for a Reset

Congress' express intent in passing the Energy Independence and Security Act was to promote the growth of the renewable fuels industry, including particularly the growth of cellulosic biofuels. Nonetheless, Congress was concerned with the risk that its mandates would exceed the available production capacity and that the legislation would be unworkable. In order to address this risk, Congress provided two mechanisms in the law to bring mandates into line with feasible production: the RVO setting process and the reset process.

If EPA's RVO setting process is working effectively, (as it will be if EPA follows the advice offered in these comments), then the reset will either (a) be superfluous because mandate volumes will be well managed, through the RVO setting process; or (b) operate to constrain or limit the future production of cellulosic biofuels, a result that runs directly counter to congressional intent, and would almost-certainly be overturned by subsequent judicial review.

We urge EPA to ensure that its RVO setting process is robust, accurate and can be applied successfully for many years into the future. We further note that, if EPA is successful with the RVO setting process, then any justification that it may proffer for a reset must explain why the EPA is seeking to constrain the growth of the cellulosic biofuels industry more tightly than what would happen under the existing RVO setting process. Given the law's clear direction to promote the growth of this industry, the Administrator will have a significant burden to demonstrate how it can be acting in a manner consistent with Congressional intent if its proposal applies tighter constraints to the cellulosic biofuel industry than would occur under a regime where the annual mandates were simply matched to the available volume.