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**Subject:** Additional RPMG Comments for Simplified CI Calculator Development

Anil,

Thank you for meeting with us last week, we very much appreciate your time and your team's effort as you all prepare for this new rulemaking. As you requested, we've gone back and reviewed the simplified CI calculator we have some additional comments to provide for you and Chan.

During our discussion with CARB, RPMG learned that producers will have the option to choose between a monthly weighted average entered in the simplified CI calculator or a default distance for feedstock transportation. CARB is requesting immediate feedback of appropriate Midwest default miles for grain transport. At present, CARB has plugged in a default distance of 80 miles by truck for ethanol plants in the Midwest and 50 miles by truck for ethanol plants in California. **After researching this topic, RPMG believes it is appropriate to consistently use the conservative default distance of 50 miles for both Midwest and California ethanol producers.** To understand the implications, consider the following: For each Heavy Duty Truck (HDT) mile traveled it generates .0408 gCO<sub>2</sub>e/MJ toward the total CI value of the pathway. At 80 miles this results in 3.26 gCO<sub>2</sub>e/MJ or CIs. At 50 miles this results in 2.04 CIs. It is RPMG's position 80 miles is far too high to be representative of a Midwest average and given the impact to the ultimate CI, it would be punitive rather than striking the balance of the intended goal of a conservative average.

In terms of corn moisture, RPMG is adamant that a standardized corn and sorghum moisture value for simplified CI calculator entry be used. Without explicit CARB direction of entry parameters this input factor is open to manipulation. Specifically, it is not inherent to the user of the calculator that the model assumes wet bushels for its calculations in the background. Following our recent discussion, RPMG now understands it is CARB's expectation and GREET model design for wet bushel amounts to be entered in the simplified CI calculator. If a user were to enter dry bushels, which can easily be misunderstood or intentionally done in the current draft tool, this would create a material decrease to the CI value in an inappropriate manner. RPMG greatly appreciates CARB staff's insight into this nuance of the model and for sharing your expertise.

**RPMG is advocating for a moisture standardized value for all grain ethanol pathways: 15% for corn and 13% for sorghum.** It remains RPMG's position that our previous comments calling for standardization of moisture continue to be valid, and now even more so after continued analysis. Below I have pulled excerpts from our previous comments outlining the importance of standardizing grain moisture for all entries and pathway applications. Even where CARB explicitly states that wet bushel entries are required for the simplified CI calculator, it is not enough on its own. Applicants further need to standardize their entries for moisture inclusion so that all pathway holders are starting from a level playing field in terms of conventional corn and sorghum fuel pathways. Crop conditions inherently impact the yield of an ethanol plant both in terms of moisture content and overall starch content of the grain received. In an environment of off-year crop conditions it is entirely possible for a single pathway holder to find themselves with a CI value higher than intended, and outside of their control, if they do not standardize their grain to a given moisture inclusion rate. In a region where good crop conditions are experienced it is also entirely possible for one pathway holder to enjoy an unfair advantage expressed in overall ethanol yield and resulting CI score over a producer finding themselves in a stressed crop environment. Both examples further support the rationale for standardizing corn moisture. This outcome can be achieved by entering

monthly aggregate average moisture readings of grain received, then reducing bushels received to a dry matter basis, and finally to convert that value to be representative of a standardized % moisture value for throughput to calculations. This calculation can be something similar to  $\text{Bushels Used} = (\text{Beg Inv} - (\text{Bushels Received} * ((1 - \text{Month Average MC}) / (1 - 15)))) - \text{End Inv}$ .

Excerpts from previous RPMG comments:

“RPMG recommends ARB staff provide clarity around expected value inputs by inserting an instruction sheet or best practice guide to the simplified form. We are not suggesting ARB dictate all standardization conversions or require explicit methodologies unilaterally across the board, but rather we would most value expressed general guidelines of what standardized measurements are sought. Some examples include the variety of ways members record their grain inventory:

- gross receipt non-moisture compensated quantity, which would then rely on the tool to calculate based on a single standard ...
- quantities reduced for entries of actual moisture measurements upon receipt.

Each facility may record these “accounting record” inputs differently. If ARB needs a standardized quantity reported from all ethanol pathway holders RPMG is pleased to work with our members and ARB staff to determine an approach to standardize.”

“Corn moisture: Corn bushels need to be universally standardized to 15% moisture. This would agree with the standard corn industry measurements and would alleviate any concerns in industry of potential manipulation.”

To further support this recommendation RPMG is also providing here [the EPA efficient producer calculation models](#) for both petitions and ongoing calculation of efficient producer pathways. Here you can clearly see in the Ethanol GHG Cals tabs for Corn and Sorghum that EPA is also requiring collection of corn moisture data whereby they are reducing bushels consumed and standardizing in the resulting GHG calculations.

With regard to undenatured ethanol sales, **denaturant values should not be universally applied to all undenatured production volumes**, without consideration for final product attributes. Many ethanol producers in the US are appropriately permitted and bonded to produce and transfer undenatured ethanol for industrial applications or export fuel markets. CARB must ensure these finished product sales of undenatured ethanol are not arbitrarily assigned the gCO<sub>2</sub>e/MJ for denaturant.

Finally, RPMG recommends that if the Tier1 simplified CI calculator will not be accommodating of site specific user entries of chemical and enzyme use, that these producers be allowed the option of submitting a Tier2 pathway application to claim the associated benefits of responsible and environmentally mindful reductions in chemical use by running a full GREET model analysis. We believe Section 95488.1(d)(7)(A)-“Use of one or more low-CI process energy sources” [See page 83] would allow for application under the Tier 2 category for this example. Please let us know if you disagree.

Sincerely,

Jessica

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