MISSOURI
605 Clark Ave.
PO Box 104898
Jefferson City, MO
65110-4898
(800) 841-5849
info@biodiesel.org

WASHINGTON, D.C.
1331 Pennsylvania Ave., NW
Suite 505
Washington, D.C.
20004-1710
(888) 246-3437
DCinfo@biodiesel.org

CALIFORNIA
1415 L Street
Suite 460
Sacramento, CA
95814-3961
(916) 760-8870
CAinfo@biodiesel.org

September 21, 2020

Anil Prabhu, Manager
Fuels Evaluation Section
Industrial Strategies Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95814

Re: Comments for pathway B007901 by Kern Oil & Refining Co. (5038)

Dear Mr. Prabhu:

Thank you for the opportunity to provide comments on pathway B007901. We are also submitting similar comments on the related pathway B007902, as instructed on your agency's website.

The National Biodiesel Board (NBB) is the national trade association for the U.S. biodiesel, renewable hydrocarbon diesel, and renewable jet fuel industries. Our members produce more than 90 percent of the nation's biodiesel and renewable diesel. In addition to government affairs activities, the NBB serves as the coordinating body for industry research and development. The NBB has strongly supported programs in numerous states, including California, designed to displace petroleum, reduce the carbon intensity of fuels used in various applications, and improve emissions from today's fuels. Our members are proud to manufacture advanced biofuels that offer significant and immediate environmental and public health benefits while functioning as well or better than conventional fossil alternatives.

As an initial matter, we find that the evaluation of these co-processing pathways reflects a number of improvements over the prior co-processing pathways, which we appreciate and support. These improvements include a more comprehensive evaluation (about three times as long as prior evaluations) as well as increased transparency.

However, we have a number of concerns and questions with these applications, as discussed below.

1. Use of Calculated vs. Measured Data

The application deviates significantly from the lifecycle assessment (LCA) criteria that CARB has established for all other pathways in that the primary data that is used in the pathway to determine the carbon intensity is calculated rather than metered or measured. CARB requires fuel pathway applicants to install custody transfer quality meters for process parameters that generate data for the carbon intensity (CI) calculation, but this pathway uses calculations for the hydrogen consumption and the determination of the quantity of propane produced. Is this now an option that is available for all other fuel producers?

Kern investigated several hydrogen calculation methodologies and chose to calculate the hydrogen consumption from the tallow feed rate and the change in temperature across the reactor. Figure 9 in the pathway report shows only an R^2 of about 0.80 for the measured hydrogen flow rate versus the tallow feed rate. This is not a strong correlation, and certainly not strong enough to substitute for measured data.

2. Inappropriate Mix of C14 Testing and Mass Balance Accounting

Kern used C14 measurements to determine the biogenic content of the renewable diesel and the yield from the tallow feedstock. The sample that is being analyzed is not taken directly from the co-processing unit but is instead taken after it has been blended with other petroleum diesel streams and with purchased biodiesel. This dilution with other streams is likely to have a negative impact on the precision of the C14 determined to be from the tallow co-processing since the biogenic content from the blended biodiesel would mask the true biogenic content of the co-processed RD. There is also the complicating issue of biogenic content from the processing stream being combusted as part of the refinery's operations and being reported to reduce the refinery's compliance obligations[1] under State carbon regulations. More importantly, this is contrary to our understanding of CARB policy to apply C14 testing rigorously, in lieu of mass balancing, to eliminate major sources of error in accounting for the biogenic content of the finished fuel. Why isn't the C14 testing done directly on the co-processed product from the processing unit? This would eliminate any errors introduced by the flow meters used for the biodiesel and petroleum volumes.

[1] This issue was raised during the September 16, 2020 CARB webinar discussing potential changes to the Mandatory Recordkeeping and Reporting (MRR) regulation to address biogenic co-processing in refineries subject to the State's MRR and Cap-and-Trade program. See https://ww2.arb.ca.gov/sites/default/files/2020-09/MRR_coprocessing-slides_Sept_2020.pdf and https://ww2.arb.ca.gov/our-work/programs/mandatory-greenhouse-gas-emissions-reporting/mrr-informal-regulatory-activity-workshops.

3. The Calculation Involving Hydrotreating Catalyst Does Not Account for Switching Catalysts or Changes in Catalyst Activity

Different hydrotreating catalysts will have different ratios of decarboxylation vs. hydrodeoxygenation activity, and the formula Kern developed would only be valid for the specific catalyst that had been installed. A change in catalyst would require the development of a new formula. Furthermore, has Kern demonstrated that the ratio of decarboxylation activity and hydrodeoxygenation activity it uses in the calculation remains constant over the life of the catalyst? Operating conditions often change between the start of a run and the end of a run.

4. Use of Natural Gas Emissions Factor as a Proxy for Hydrogen Emissions Factor

In this application, the natural gas emission factor is proposed for use as a proxy for the hydrogen emission factor due to the source of the hydrogen at the Kern refinery. If this and pathway B007902 are approved by CARB, will this option be available to other refineries that have similar processes?

5. Inappropriate Redactions

Similar to other fuel pathway applications, there continues to be inappropriate redactions of key information as confidential business information (CBI) that would otherwise be considered non-CBI. There are multiple examples of these in the Kern Oil report[2], including:

A. On page 10, the identification of all of the meters is redacted. While this information may not be strictly necessary for evaluating the application, it is difficult to see how this information can be considered CBI.
B. On pages 20 and 21, there are two formulas that have redacted info that make it impossible to determine if the formulas are appropriate.
C. Similarly, there are formulas in pages 24 and 25 that are redacted and are unlikely to contain CBI.

Even if the formulas noted in B and C above contain variables for which the specific inputs may be CBI, the equations themselves simply express a physical or chemical activity/process/calculation and should therefore not be redacted as CBI. Reducing redaction to the absolute minimum necessary is important in order for stakeholders to provide the meaningful review and comments at the core of this program's public process. Since unnecessary redaction is contrary to the State's sunshine laws and reduces public transparency and accountability, we continue to object to removal of key information needed to fully evaluate the application's merits.

[2] https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/b0079_report.pdf.

6. Miscellaneous

Other renewable diesel producers with stand alone plants that have approved CARB pathways also produce a renewable naphtha stream. There is no mention of naphtha in the Kern report. Is it included in the renewable diesel produced? Does it have an impact on the quality of the product? Does the flash point still meet the specification?

Conclusions

The NBB has identified issues as noted above that collectively provide Kern Oil's co-processing pathways with an unfair CI advantage relative to other producers of biomass-based diesel fuels. This unfair advantage is not merely unwarranted by what is contained in the pathway applications, but they also would raise questions about the integrity of the LCFS program and co-processing's role in the program. We raise the above concerns and offer the suggestions in this letter in the hope of improving the evaluation of these co-processing pathways and similar pathways moving forward.

We appreciate the good working relationship we have developed with CARB over many years and look forward to working cooperatively and productively to address the concerns we raised above. Adoption of these recommendations will help ensure that biomass-diesel fuels will continue to play the strong role they have played historically and must continue to play while California works toward a much lower carbon future.

Sincerely,

Shelby Neal
Director of State Governmental Affairs