



July 5, 2018

Richard Corey Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Electronic Submission via <https://www.arb.ca.gov/lispub/comm/bclist.php>

RE: LCFS18 – 15 Day Comment Period for the Proposed Amendments to the Low Carbon Fuel Standard (LCFS) Regulation and to the Regulation on Commercialization of Alternative Diesel Fuels (ADF)

Dear Mr. Corey:

Renewable Energy Group, Inc. (REG) appreciates the opportunity to comment on proposed amendments to the LCFS and ADF. REG is a leading provider of cleaner, lower carbon intensity products and services. We are an international producer of biomass-based diesel, a developer of renewable chemicals, and are North America's largest producer of advanced biofuel.

REG utilizes an integrated procurement, distribution, and logistics network to convert natural fats, oils, greases, and sugars into lower carbon intensity products. With 14 active biorefineries, a feedstock processing facility, research and development capabilities, and a diverse and growing intellectual property portfolio, REG is committed to being a long-term leader in bio-based fuel and chemicals.

Through the end of 2017, REG has produced nearly 220 million gallons of biomass-based diesel that has been delivered to the state of California resulting in approximately 2.25 million MT of carbon reduction for the residents of California.

We appreciate the time and energy CARB staff have committed to the proposed amendment package following several workshops and the May Board hearing.

As members of both the California Advanced Biofuels Association and the National Biodiesel Board (NBB), we wish to align ourselves with the comments they have submitted. In addition, we have developed our own comments highlighting a number of specific concerns and interests which follow in the body of this submission.

§95481. Definitions and Acronyms

REG supports the updated definition of Renewable Propane though we'd recommend changing the acronym from LGP to LPG as this is the commonly accepted acronym.

We suggest staff review the proposed changes to the definition of Biomass-based Diesel (18) and Renewable Hydrocarbon Diesel (112). In the case of the former, the proposal strips the definition down to below utilitarian – some reference or recognition of the existing definition of biodiesel, such as “biodiesel, as defined in (8)” (should 8 ultimately be the actual number for the biodiesel definition) is appropriate and the reference to renewable diesel is potentially misleading since, in the case of the latter (112) the phrase “Renewable Hydrocarbon Diesel is used. We believe the references to renewable diesel should be changed to “renewable hydrocarbon diesel.” To provide continuity

§95483 – 95483.3. Fuel Reporting Entities, Opt-in Entities, LCFS Data Management System, and Change of Ownership or Operational Control

REG supports the clarified language on alternative jet fuel in (a)(1)(C) and changing the transfer period in (a)(3) from two quarters to three quarters.

We continue to be concerned by the drafted change of ownership rules as noted in our initial comments prior to the Board hearing which are elaborated on below.

- 1) A deal could fall through and ultimately not occur, but the change in notification would have already been made which would necessitate another change notification which will confuse the issue.
- 2) Entities in the deal may not legally be able to disclose prior to completion of the deal. Notification to CARB may violate an NDA, as well as possible state specific laws impact commerce; lastly, such provisions may be impossible to reconcile with SEC reporting requirements for public companies.
- 3) Notification to CARB would be of public record that by itself, may impact the ability to close.

We suggest CARB consider the requirement of notification paperwork to occur prior to the next quarterly submission of credits or within some reasonable time frame, say 45 days subsequent to the actual change in ownership..

§95484. Average CI Benchmarks

REG supports the updated benchmark for alternative jet fuel. We believe this update will provide the correct level in invitation to encourage the production of alternative jet fuel.

§ 95486. *Generating and Calculating Credits and Deficits*

REG supports the clarification in 95486(a)(1)(B) with the reconciliation requirements being on obligated amounts. This will help avoid potential issues below the rack and other sales without obligation.

We request clarification on where renewable naphtha fits on Table 4.

§ 95486.1 *Generating and Calculating Credits and Deficits Using Fuel Pathways*

REG remains **adamantly opposed** to credits being generated on the day after the reporting deadline per (b) unless those deadlines are moved up. As noted in prior comments, there are financial impacts from this proposal.

To highlight some of these impacts, let us examine a factious biodiesel plant as an illustrative example.

Plant A sells eight million gallons in California annually with fifty percent being sold without obligation (4M creditless). Assuming an average CI of 35 with a 98.44 benchmark with a \$151.78 LCFS credit price (weekly high average). This equates to 32 thousand credits annually to sell. Using the above assumptions, that equates to \$4,857,984.33 (32K x \$151.78). Using a LIBOR + 1.75% as a proxy, that is an annual net working capital cost of \$187,032.97. This plant also takes on risk associated with the changing market value of the LCFS credits. Our risk management team puts that cost at \$10/credit based upon historical volatility of credit values or \$320,000 total in this scenario. So, potentially, that is a \$0.127 per gallon cost for those gallons sold without obligation ((187K+320K)/4M) from this proposed change.

We have continued to maintain that the potential benefits of the shift do not outweigh the added costs. Therefore, we continue to strongly encourage CARB staff to keep the system as is or move up the deadlines to the 20th of the last month. Regardless, we believe Staff should model the impact of this proposed change in order to understand how reduced sales of biodiesel could impact the updated carbon reduction goals.

§ 95486.2. *Generating and Calculating Credits for ZEV Fueling Infrastructure Pathways*

We acknowledge both the Governor's executive order and the Board resolution regarding infrastructure capacity. However, we remain concerned that this proposal moves the LCFS program from its historical roots of requiring *actual reductions in carbon* in order to qualify for

credits. This has been the most important aspect of the program in ensuring the residents of California enjoy actual reductions in carbon loading and the benefits in cleaner air and potentially lessened climate change impacts.

While credit generation for infrastructure is a historical departure for the LCFS, it is similar to British Columbia's Part 3 agreement under the Renewable & Low Carbon Fuel Requirements Regulation. To align with British Columbia while maintaining fuel neutrality, REG suggests opening up opportunities for liquid low carbon fuels like biodiesel and ethanol through means like underground storage tank (UST) replacement or blender pumps. For biodiesel, the credit generation calculation would be for tanks that would go from a B5 to B20 compatibility. For example, a retail station that does one million gallons of ULSD annually could be eligible for up to 1,200 LCFS credits (98.44 Benchmark – 35 avg biodiesel CI x 126.13 x 0.000001 x 150,000 gallons (B5 = 50K; B20 = 200K; 200K -50K)). We believe that a liquid fuel proposal like the HRI proposal could also benefit from a CI and blend threshold requirement, such as B20 with biodiesel having a CI less than 40. We agree that there should also be a cap of total credits like the FCI and HRI program as well as for the individual project so that LCFS credits don't entirely pay for a UST replacement.

We strongly support the requirement contained within the HRI proposal to not provide capacity credits to hydrogen stations that show no record of fueling. This will discourage the construction of stranded stations. We strongly encourage CARB to consider this requirement for FCI as well. This is appropriate given that the capital required to build a station is less than a hydrogen station, there are far more electric vehicles on the road, and those vehicles are being added to state vehicle pool at a much more rapid rate.

Finally, CARB staff could also consider using LCFS credits from the buffer account for this program either in place of capacity payments or in combination with capacity payments. Along these lines, the buffer account would have 3 separate buckets split evenly. Bucket 1 would be credits to cover invalidated LCFS credits (e.g. CCS). Bucket 2 would be bucket just for the FCI and HRI programs. Bucket 3 would be for infrastructure projects for that fuel type. For instance, if a biodiesel plant had 99 LCFS credits going to the buffer account, then the 33 credits for bucket 3 would go to a biodiesel specific infrastructure project.

Ultimately, staff must move forward in this area. Whatever is ultimately adopted will have a profound impact on the current program and will set a precedent for years to come. However, given the challenges and the possible alternatives we have highlighted, we suggest staff

withdraw the current proposal and engage in a broader stakeholder development process. While there is still time to do so and have a final proposal to the Board in the Q4 timeframe which staff have indicated is their goal, we would argue it is more important to ensure the *right* program is developed and therefore have staff take whatever time is necessary to do so.

§ 95487. Credit Transactions

REG supports the updated and clarified language under credit transfers in 95487(b). Related to this section, we request allowing credit transfers to be done via Excel and/or XML file like the quarterly fuel transactions to automate the process and reduce errors.

§ 95488. Entities Eligible to Apply for Fuel Pathways

REG looks forward to updating of all our fuel pathways under the new simplified Tier 1 model. We encourage staff to allow reapplications to begin at the start of 2019. We believe that a longer lead time will avoid the workload issues faced by companies and CARB staff alike which resulted from the rush of new pathways in 2016 which stemmed from re-adoption.

§ 95488.3 Calculation of Fuel Pathway Carbon Intensities.

REG appreciates all of the work which have gone into updating the simplified GREET model over the past several months. We strongly support The NBB's suggested changes and would reference the agency to their public comments.

There are two aspects of The NBB's comments which REG would like to strongly emphasize: the need to update the emission factor for tallow rendering and barge transportation. Both of these factors have been grossly overestimated for far too long. The barge transportation mode is grossly overestimated by nearly a factor of 3.5 times the actual carbon intensity. This acts to punish one of the safest and lowest emissions modes of transportation for movement of fuel and feedstock on America's vast inland waterway system.

We have noticed that the vessel emission factors contained in the simplified model for biodiesel and renewable diesel appear incorrect. The correct factors based on our own math appear to be 0.0735106 and 0.1150932 for renewable diesel and biodiesel respectively. The factors contained in cells 'EF Table'!C50 and 'EF Table'!C59 seem to be calculated incorrectly from CA-GREET 3.0. This error appears due to table which looks mislabeled. The erroneously labeled tables are contained in the T&D tab of CA GREET 3.0. We believe The cells 'T&D'!GX152 & 'T&D'!GS152 need to be switched to avoid confusion in the future. When the labels are switched and the appropriate density is used to convert from tons to gallons is applied, our math above is validated.

§ 95488.4 Relationship of Pathway Carbon Intensities to Units of Fuel Sold in California.

REG requests clarification for the conservative margin of safety concept. Upon first glance, it appeared to be the max CI number to be used in the case of over generation. For example, if a plant had a 36 CI and a conservative CI of 38 for an average of 37, it would need to stay under the 38 CI. However, upon continued review, it looks like the average CI is the max CI. Going back to our example, the plant would have to stay under the 37 CI instead of the 38 CI.

§ 95488.10. Maintaining Fuel Pathways

REG suggests an April 30th deadline versus March 31st for submitting the Fuel Pathway Report to align with finalizing annual reports in LRT. Also, as suggested above, REG believes the combination of a buffer account and a conservative CI would mitigate concerns with a higher operational CI than the certified CI.

§ 95489. Provisions for Petroleum-Based Fuels

RICPP

REG is concerned about the transparency of this program and its ability to provide real, additional environmental benefits beyond what would be “business as usual.” It is our opinion that if a refinery would like to improve their CI score, they, like alternative fuel providers should conduct a full LCA of their facility and receive a unique CI score. If that CI score is lower than the assumed baseline they can then generate fewer deficits. We are also concerned that the 15-year credit generation window is far too long for most efficiency projects, and that refiners will use this program as a way to subsidize upgrades which would have taken place as a course of normal business.

We hope that CARB will require transparent disclosure of any credits generated under this program. REG believes that credits from this program should be capped for both efficiency and the renewable hydrogen program (staff should consider something in the range of 5 to a max of 10 percent per obligated party). This will make sure that a substantial part of the market is not eroded away, limiting the incentive for biofuels which have lower tailpipe emissions.

Co-processing

We understand CARB's desire to continue with designing a framework for co-processing, we recognize that co-processing is important to CARB's fuel neutral approach. However, we believe that a new, separate rulemaking should take place before any new pathways are approved. While it has been CARB's position that co-processing is a Tier 2 application, we must disagree for several reasons.

First, the current GREET 3.0 model does not support a framework for the evaluation of these pathways. Any effort to 'build out' GREET 3.0 to accommodate these pathways should be subject to public review, just as changes which affect renewable CI's have been. It is strong and positive public policy to engage the public before fundamentally changing the model. We encourage CARB to build a co-processing specific calculator which would ultimately be incorporated into a regulation. Much thought and discussion needs to be had about how to calculate incremental energy demand related to co-processing, what is considered an appropriate baseline, how to account for adjustments in crude slate, and product yields. These are fundamental questions which will have significant impacts on these pathways. CARB ought to have specific, clear rules on these questions. They are beyond the realm of a guidance document or protocol and should be included in the regulation, similar to carbon capture and sequestration or the refinery investment and credit pilot program.

We believe that without a separate, public process to develop a co-processing framework, refineries will submit heavily redacted life cycle reports and life cycle models which will be so redacted as to yield public scrutiny impossible. REG has submitted several Tier 2 pathways, one of which received public comments. We welcomed these comments as sign that stakeholders care about the integrity of the program.

REG is also concerned that CARB will be encouraged by co-processors to validate the production of renewable gallons using a mass balancing method. This is unacceptable, no matter the feedstock or process utilized. As REG, NBB, and the Joint Research Center (JRC) can demonstrate, ¹⁴C radio carbon assay, whether conducted using method B or C of ASTM D6866 is extremely accurate and affordable. Any acceptance of mass balancing moves the LCFS further away from the premise that actual benefits be received by Californians in order to participate in the program (a basic tenant within AB32). An amount of co-processed fuel, resulting in a ton of carbon reduction, sent to Ohio, while beneficial to the residents of Ohio, does nothing for the residents of California

Refinery Hydrogen Program

While REG supports the spirit of the Renewable Hydrogen Refinery Credit Pilot Program, we disagree with CARB that his program should only be applicable to traditional petroleum refineries. REG believes that not allowing renewable diesel plants to participate puts them at a significant and arbitrary disadvantage. We believe that this inconsistency will provide a significant market advantage for co-processed renewable diesel over standalone renewable diesel production. While California may see life cycle GHG reduction benefits from co-processed diesel, it is unlikely the fuel will provide tail pipe emission reductions. This position is based on our knowledge of fuel quality characteristics and certification, as well as a CARB survey discussing blending habits of RHD in California.

Also, we do not believe this would provide excessive benefit to a standalone facility outside of the state, as a facility would only receive credit for gallons to California. In many ways, we believe this change would encourage more volume of renewable diesel to flow to California rather than other incentivized markets such as Canada or the EU.

CARB should recognize that it is easier for a renewable fuel facility to install renewable electricity generation rather than biomethane production. Biomethane used in hydrogen production needs a complex mix of solid substrates and digestible wastewater to be economical. On their own, renewable fuel plants can't provide that, furthermore, these biomethane plants are most economical when designed for location that produces significant amounts of methane rich waste (dairies, food processing facilities, etc). Therefore, if it makes policy sense to allow refineries to access biodigesters anywhere in the US, it should make the same policy sense for Renewable Diesel facilities

Finally, we believe this change will help the state reach its short lived climate pollutant goals much quicker by providing an additional market for biomethane as the on-road CNG market is nearly saturated.

§ 95491. Fuel Transactions and Compliance Reporting,

As noted 95486, **REG strongly advocates to keep the credit generation system as is.**

However, if it is changed so that no credits can be generated until after the reporting period is over, then we strongly recommend changing the reporting frequency and deadlines from 45/45 to 45/35 with deadlines being the 20th of the final month (June, September, December, and March) to avoid financial statement impacts (see our detailed comments earlier in this document).

§ 95491.1. Recordkeeping and Auditing

REG has concerns about a few changes proposed to the PTD requirements in (b)(1). First, the change to (b)(1), (b)(1)(F), (b)(2), and (b)(2)(B) will needlessly complicate transactions; we recommend keeping the current language as is (“LCFS obligation is passed.”). For instance, when REG is passing obligation in the state of California, the credits have already been generated since they are generated off of import. Under the proposed change, a statement saying, “the LCFS obligation to act as credit generator,” would imply a second generation of credits.

Another option might be to change LCFS obligation to “LCFS credit obligation” or “LCFS deficit obligation is being passed,” though it is not our preference. We’d prefer that the PTD requirements be relatively similar to the LRT reporting options. In this case, “LCFS obligation is passed” is closer to the Transaction Types in LRT (e.g. Sold with Obligation) than “LCFS credit or deficit obligation is passed.”

Second, we don’t recommend changing (b)(1)(C) since it would seem to imply that reporting on aggregation is no longer allowed in LRT – which we do not believe is staff’s intent . This will limit flexibility for companies on reporting in the system and likely negatively impact smaller companies with smaller compliance staffs.

§ 95501. Requirements for Validation and Verification Services

REG supports the updated language in 95501 to allow for quarterly reviews to be done throughout the year rather than artificially waiting to start the audit after the year is over.

§2293.6 In-use Requirements for Specific ADFs subject to Stage 3A

REG strongly supports staff recommendations for “bifurcation” of the on road and off road diesel fleet. Staff have worked extensively with numerous stakeholders, including CIOMA, to develop this proposal. We believe it is fair, economical and above all practical and efficient in meeting NOx emissions requirements.

Thank you for your consideration of our comments. Please feel free to contact us with any questions or comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'S. Hedderich', written over the printed name.

Scott R. Hedderich,
Executive Director, Corporate Affairs