

October 22, 2020

Mr. Richard Corey  
California Air Resources Board  
1001 I ST  
Sacramento, CA 95814

**Subject: CARB's Proposed "Date After which Only Biodiesel Additives and ADF Formulations Approved or Certified According to Amended Certification Procedures May be Used"**

Dear Mr. Corey:

Thank you for the opportunity to publicly comment on CARB's "Proposed Amendments to the Regulation on the Commercialization of Alternative Diesel Fuels". The intent of this letter is to address CARB's subject proposal "to adjust from January 1, 2021 to April 1, 2021, the date after which only biodiesel additives or ADF formulations approved or certified under the proposed amendments can be used to comply with biodiesel in-use requirements." **In summary, CARB's proposed timeline is unachievable.** The complexity of the proposed ADF NOx Mitigant certification requirements is outlined following. Simply put, once the regulation has been finalized and accepted a minimum of twelve (12) months will be required to certify a NOx mitigant.

On December 13, 2019 CARB held an ADF workshop and discussed, amongst other matters, an updated NOx Mitigant approval process and a forecasted timeline. The forecasted effective date of ADF amendments was July 1, 2020 with the new NOx Mitigant requirements going into place on January 1, 2021. This meant that stakeholders desiring to meet the new NOx mitigant testing requirements had approximately six (6) months to work on certification. CARB's January 7, 2020 ISOR confirmed this timeline which certain stakeholders, through public comments submitted in response to the ISOR or made at the April 2020 public hearing, indicated was unachievable. In CARB's most recent ADF proposal they have extended the new NOx Mitigant testing requirements implementation date to April 1, 2021 but have effectively given interested stakeholders less time to meet the new requirements given that there's no forecasted effective date for the new amendments to go into place and any new proposed regulation likely won't be completed until the end of the year. CARB is allowing for only three (3) months to certify new NOx mitigants which is not possible.

**Question: Will CARB grant more time for stakeholders to meet the new NOx Mitigant testing requirements once the OAL has given their final approval. As opposed to fixing actual dates, will CARB allow twelve (12) month to certify after OAL approval? If CARB believes it will take less than twelve (12) month, CARB should explain how new NOx mitigant testing can be achieved in any less time.**

Given CARB's proposed timeline it must believe that the new certification process can be completed in six (6) months or worse yet potentially three (3). There are two (2) recent examples where CARB itself has conducted ADF work which was not achieved in anywhere near six (6) months. In addition, California Fueling was the first company to achieve successful certification of its VESTA® brand of NOx Mitigant(s) and is well aware of the time it takes to certify. All efforts, CARB's and California Fueling's, took considerably more than six (6) months. Our effort took approximately eighteen (18) months. Given CARB's newly proposed NOx Mitigant testing requirements additional time, beyond what was experienced in the past, is justified.

**Question: From beginning to end (initial approval to final completion), how long did it take CARB to complete the (a) NOx Mitigant evaluation and (b) LED program? CARB should not hold applicants to a different timeline than what CARB experienced. If CARB does, what is their rationale/justification in doing so?**

The process to formulate and acquire a reference fuel and biodiesel takes approximately 2-3 months. We cannot comment on how long it may take to obtain a "Designated Equivalent Limits Diesel". In advance of having the full amount of fuels required for certification testing, a smaller quantity of fuels is normally shipped to testing facilities for preliminary engine screening work and physical property testing to gauge the potential for successful certification testing. We don't believe CARB has adequately accounted for this pre-screening time which will take approximately one (1) month.

CARB seems to require screening results as one option to meet a new scientific rigor requirement as stipulated in Appendix 1 (a)(2)(A)1.f. which states "[d]emonstration that use of the proposed ADF additive or formulation to mitigate NOx emissions is based on sound principles of science and engineering. Such a basis may be demonstrated with data from peer-reviewed journal articles or a description of the proposed chemical mechanism of pollutant reduction during combustion along with preliminary test data and independent academic analysis."

**Question: How long did it take CARB, through the assistance of third parties, to acquire the reference fuel and biodiesel for the LED testing program? Is CARB asking applicants to (a) submit journal articles in support of their respective additive(s) and (b) have those articles peer reviewed? If so, has CARB accounted for the time to have articles peer reviewed or preliminary data to be screened by academia (no definition of "academic" exists; one should be added)? Has CARB considered the time required to do one or the other? If so, how long does CARB believe the screening process will take?**

Once fuels have been identified and preliminary screening data has been obtained, a testing protocol must be submitted to and approved by CARB. Given the new ADF processes that CARB plans on implementing, it's highly likely that CARB will have questions. The back and forth

process to approve a protocol will likely take one month; as worded in the proposed ADF this process could take up to 55 days or more.

It does not make financial sense to send two (2) testing facilities, or three (3) for that matter, fuels and additives at the same time. It only makes sense to do so after emissions testing results are obtained from the first facility selected for use. Prior to conducting any testing, an independent laboratory must confirm all fuel physical properties. Numerous samples (reference fuel, biodiesel, additized and unadditized candidate fuel, designated equivalent limits diesel, etc) must be sent to the same independent testing facility and CARB from each testing facility. Appendix 1 (a)(2)(B)2. states “[r]esults of each chemical analysis of the additive formulation by the independent laboratory shall be provided with the proposed test protocol.” This requirement does not make sense unless CARB is expecting applicants to ship fuels to testing facilities before a test protocol is approved which again does not make financial sense.

**Question: Is CARB going to allow applicants to have fuels approved in advance of the fuels being sent to the testing facility so that fuel physical property results can be submitted with a test protocol? If not (which is how the proposal is currently written), how is CARB going to reconcile fuel approval not being in place when the original testing protocol is submitted for approval? In other words, will CARB approve test protocols without accompanying fuel physical property data? Or are CARB asking applicants to ship fuels to testing facilities without having a CARB approved test protocol and incurring the costs to do so while taking the risk that CARB may not approve the protocol?**

There will likely be value differences in physical property results between samples submitted to the same independent laboratory obtained and shipped from the different testing facilities. CARB should address the potential physical property differences because it could lead to testing delays given fuels approval is required before certification testing can be initiated. In the past, CARB has themselves used plus or minus the reproducibility for each test.

**Question: How is CARB planning to address differences in physical property test results and will it be incorporating language into the ADF that allows for physical property testing reproducibility differences?**

Appendix 1(a)(2)(F)2. states “The comparative testing shall be conducted at two independent emissions test facilities”.

**Question: Can CARB indicate which independent test facilities are approved to run “the 2004-2006 Cummins ISM370” using the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles”? Has CARB had any conversations with any test facilities equipped to run the ISM about the proposed new certification procedures and how long it will take to complete?**

Once approved test facilities have been identified by CARB, those facilities can be contacted, and test proposals can be requested. There must be a sufficient number of CARB approved laboratories to ensure this is a financially equitable process and there is sufficient time allotted to evaluate each testing facility's proposal. Additionally, if there are only a few laboratories approved there will likely be a competition for testing time slots much like what occurred in the run up to July 2018.

**Question: Has CARB taken into consideration the number of approved testing facilities and the time it will take for a number of applicants to get through screening and certification testing at a minimum of two (2) facilities? What about three (3) facilities based on the single facility testing option?**

CARB's "Approval of a single engine for certification testing at a single emissions test facility" is not a true single facility requirement. In order to pursue this testing option, applicants must run emissions testing at three (3) different facilities using a Designated Equivalent Limits Diesel and a B20 made from such over a 5-day period. The NOx and PM emissions results from engine to engine and facility to facility have to be within specified percentages in order for results to be considered. Only then can a single facility be identified and approved after which certification testing could begin. CARB indicates in Appendix 1 (a)(2)(F)2. that the "testing may occur at a single emissions test facility using reference CARB diesel and Designated Equivalent Limits Diesel." In other words, applicants attempting to certify at a single facility will have to run five (5) certification runs – three (3) on an unadditized B20 and two (2) more on additized B20. This seems overly excessive and as is financially unattractive.

**Question: What's CARB rationale and justification to require three (3) different testing facilities in evaluating unadditized B20's? The request seems overly burdensome.**

Lastly, Appendix 1 (a)(2)(A)1. states "Upon application of any producer or importer ....".

**Question: Are CARB requiring a NOx Mitigant applicant to be a "producer or importer" as defined by the regulation? If so, this precludes any other third party desirous of obtaining NOx Mitigant approval including California Fueling.**

In summary, CARB's proposed NOx Mitigant certification process will require the following steps; the associated time for each step is estimated.

1. Reference Fuel, Biodiesel and Designated Equivalent Limit Diesel: 2.5 months
2. Pre-screening: 1 month
3. Test Protocol Approval: 2 months
4. Test Facility Identification, Proposal Review and Selection: 3.5 months
5. Certification Testing: 1 month
6. Timeline delays: 2-3 months

We estimate the total time to certify is twelve (12) months in a best-case scenario.

**Question: Does CARB agree with the above noted timeline? If not, please indicate with rationales any steps that CARB believes will take less or more time.**

In lieu of the above noted timeline, which is based on actual experience, we request that CARB allow for a minimum of one (1) year to obtain NOx Mitigant certification under any newly proposed ADF. As a result, we ask that CARB extend the decertification all of existing Executive Orders until one year from the OAL approval date. Thank you in advance for your consideration.

Respectfully,

*Patrick J McDuff*

Patrick J McDuff  
CEO  
California Fueling, LLC

