

December 20, 2019

Mr. Lex Mitchell
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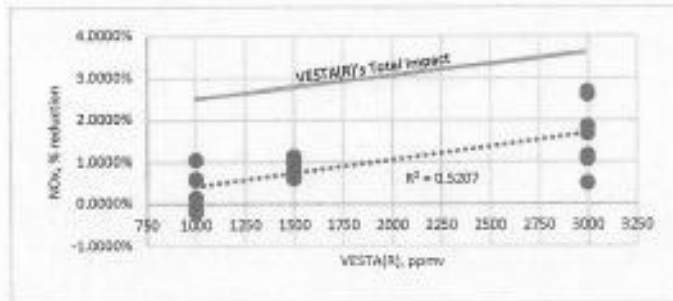
Subject: Feedback on CARB's 12/13/19 "Public Workshop to Discuss Potential Amendments to the Regulation on the Commercialization of Alternative Diesel Fuels"

Dear Lex:

Thank you for the opportunity to comment on the information communicated by CARB at the subject event. **We want to applaud CARB** for documenting what was obvious to most but skirted by one, and formalizing self-evident chain of custody (slide 22) and testing (slide 19) procedures which we believe alone will prevent fraud from occurring. Following are our additional comments by slide:

1. Slide 7 – DTBP has not been evaluated against the current ADF protocol. Additionally, if there are any additional testing requirements, DTBP should be required to meet such. At a minimum, DTBP should be tested and shown to perform against an ADF compliant Reference Fuel, something that has never occurred. If not, DTBP should be removed from the list of approved products.
 - a. Question: Will DTBP be subject to any new ADF requirements or any further testing?
2. Slide 8 – CARB's concerns regarding VESTA® engine certification test results and their associated "reproducibility" are unsubstantiated.
 - a. Question: Has CARB approached SwRI and CE-CERT and inquired as to whether any joint test programs have been run on identical (a) fuels; and (b) additives?
 - b. Following is an overview of our three certification test run's data.

NOx Reduction versus VESTA® Concentration Candidate vs. Reference Fuel



c. A summary of our certification run statistical data is provided following:

Certification Runs, Student's t-Test Data

Run	VESTA® Dose (ppmv)	X_C	δ	S_p	$(2/n)^{0.5}$	$t(a, 2n-2)$	X_R	X_R Adjusted	% Reduction X_R Adjusted vs X_C
1	3000	4.463	0.045	0.065	0.447	1.083	4.540	4.554	2.0
2	1500	4.467	0.045	0.021	1.083	1.083	4.506	4.541	1.6
3	1000	4.437	0.045	0.020	1.083	1.083	4.450	4.483	1.0

Our Reference Fuel range was 0.090; Coefficient of Variation (CoV) was 2%. For CARB's CE-CERT run the Reference Fuel range was 0.087, CoV was 1.9%. The CoV for our SwRI Reference Fuel data is almost identical to CARB's CE-CERT Reference Fuel data. Reference Fuel "reproducibility" does not seem to be an issue

d. Based on points b. and c. above, CARB's "reproducibility" concerns must be based on VESTA®'s NOx reduction vs treat rate results (since Best's product did not provide any level of NOx mitigation, which is consistent with the testing of Best's product that we commissioned at SwRI in 2018, and both provided to CARB in December, 2018 and appended to the Complaint in *California Fueling, LLC. v. Best Energy Solutions and Technology Corp., dba "Best Corp.", et al.*, Case No. 18STCV08474).

i. Question: What, if any, other data or information is CARB basing its "reproducibility" concerns?

- e. Statistical analysis of the CE-CERT testing, provided by us and reviewed with CARB at our November 19th meeting, demonstrated that certain of CE-CERT's procedures were "out of control" and indicative of, among other things, a failure to properly flush lines and filters between the frequent fuel changes that go along with the ADF's Alternative 1 procedure (RCCR). As discussed during our meeting, these same concerns can be seen in review of CE-CERT's July 2014 B5/B10 test data.
- i. Question: Why is CARB basing its decision to implement new ADF testing requirements on a flawed additive testing data set?
 - ii. Question: Could these faulty CE-CERT procedure issues be the explanation behind CARB's recent "reproducibility" issues?
 - iii. Question: If the basis for CARB's recent "reproducibility" issues are beyond points i. and ii. above, can CARB clearly lay out the science behind its concerns?
- f. Question: As opposed to CARB adding the newly proposed ADF test regimen, why not modify the current ADF's "In-Use" language to allow CARB to trigger an Executive Order suspension (temporary then permanent) and require mandatory second round testing (e.g., the Designated Equivalent Limits testing outlined on slide 19) when CARB has reason to believe that previously submitted test results fail to meet established and pre-defined science-based criteria.
3. Slide 18 – CARB's proposed updated certification program would cost ~\$350k, potentially more. Given the narrow window of opportunity between 2021 and the ADF's estimated sunset (2023), a net positive return on investment is questionable given the variables outside of an applicant's control (namely, further regulation changes that could negatively impact NOx mitigant requirements).
- a. Question: Will CARB be addressing the newly proposed ADF testing costs and associated payback in its ISOR? CARB should take into consideration that this process will necessarily increase ADF NOx mitigant costs to the consumers.
4. Slide 23 – During the workshop, CARB indicated the proposed testing regimen is "technically feasible". We believe there are a number of feasibility concerns.
- a. The timeframe to gather fuels and test will take more than 6 months especially considering the potential demand on engine testing facilities.

- i. Question: Will CARB consider allowing more time to meet any potential new testing requirements, and if so, under what circumstances?
- b. All approved ADF NOx Mitigants were certified using the DDC Series 60 (S60). The recent EMFAC workshop presentation indicates there is a significant population of pre-1995 vehicles which appear to outweigh the 2004-2006 vehicle population.
- i. Question: Will CARB allow for the continued use of the S60 for either: (a) retesting of previously approved additives; and/or (b) testing of new additives/treat rates under the proposed new testing requirements?

CARB has been placed in the unenviable position of having to make sweeping changes to the ADF as a result of one party not holding themselves to the same standards of every other company that sought certification through the already difficult existing ADF testing requirements. While the ADF needs to be updated and the regulation calls for such, CARB is placing a significant new burden on all stakeholders with the newly proposed testing requirements. Considering the information we've presented regarding CE-CERT's evaluation of VESTA® and the overly harsh reference and candidate fuels selected by CARB for CE-CERT testing, we believe it's in the better interest of all stakeholders to implement three changes at this time:

1. the new chain of custody requirements proposed in slide 22;
2. the new testing requirements proposed in slide 19; and
3. the "in-use" testing "trigger" language proposed above.

Please let us know if you require further elaboration on any of the above noted matters.

Respectfully,



Patrick J McDuff
CEO
California Fueling, LLC