

An Initial Review of CARB's Recently Released LED Study¹

The results of CARB's newly released Low Emission Diesel Study ("LED Study") has caused CARB to scramble to find justification for its past decisions and sent shockwaves through the industry as stakeholders are again faced with regulatory uncertainty as they plan for their use of Renewable Diesel ("RD") and Biodiesel over the next several years.

The LED Study discloses that, when tested in New Technology Diesel Engines ("NTDEs"), representing the majority of the fleet, RD and RD/Biodiesel blends fail to consistently reduce NOx to CARB Diesel neutrality and in some cases increase NOx emissions.

While CARB is now "soliciting stakeholder feedback" to try and unwind a mess entirely of its own creation, it is faced with certain inescapable realities:

1. Particular to the ADF, CARB has no choice but to suspend, if not ultimately revoke, NTDE based exemptions and ADF Formulations (R55/B20 and R75/B20), as well as the Sunset Provision.

CARB has granted ADF exemptions if "at least 90 percent of the fleet consists of ... NTDEs, as specified pursuant to section 2293.6(a)(5)(A)2." In light on the LED Study, which comports with the results of the 2016 Karavalakis² Study, CARB lacks any reliable scientific basis to allow NTDE exemptions, which in turn, renders the Sunset Provision moot.

The modified ADF relies on (a) CE-CERT's October 2011 study entitled "Biodiesel Characterization and NOx Mitigation Study"³, and (b) outdated stakeholder ADF Formulation data. While CARB did not test the now approved ADF Formulations, R55/B20 and R75/B20, the LED Study refutes any assumption that either of the ADF Formulations mitigates NOx in NTDEs especially given R100's demonstrated lack of NOx mitigation.

2. While CARB necessarily further investigates RD's impact on NTDE emissions, any reliance on RD as an offset factor is disingenuous and a potential violation of the California Environmental Quality Act (CEQA). The LED Study indicates RD's emissions are not "statistically significantly different from the CARB reference fuel." There is

¹ <https://ww2.arb.ca.gov/resources/documents/low-emission-diesel-led-study-biodiesel-and-renewable-diesel-emissions-legacy>

² "Emissions and Fuel Economy Evaluation from Two Current Technology Heavy Duty Trucks Operated on HVO and FAME Blends," SAE Int. J. Fuels Lubr. 9(1):2016, <https://doi.org/10.4271/2016-01-0876>.

³ https://www.arb.ca.gov/fuels/diesel/altdiesel/20111013_carb%20final%20biodiesel%20report.pdf

simply no support for, and the LED Study contradicts, any assumption that R100 reduces NOx in NTDEs.

In July 2013, CARB issued a joint statement entitled “Renewable Diesel Should Be Treated the Same as Conventional Diesel”⁴, and currently allows for the unlimited use of RD. The LED Study, however, challenges CARB’s apparent position that R100 reduces NOx in on-road and off-road NTDEs.

As the industry is aware, CARB only recently implemented modifications to the ADF. Appendix B of the modified ADF states “the importance of renewable diesel as an offsetting factor for NOx emissions from biodiesel blends below the NOx control level (usually B5), data from previous certifications of renewable diesel based ADF formulations, and data from previous CARB studies and analyses of biodiesel and renewable diesel NOx emissions. Each of these considerations contributed to staff’s understanding that the modifications listed above are not anticipated to increase overall NOx emissions in California.” Shockingly, CARB had its LED Study data, which entirely contradicts Appendix B, months before publishing Appendix B and relying on its “assumptions”. CARB was fully aware that the LED Study contradicted its decision to authorize the modified ADF RD/Biodiesel blends while continuing to rely on RD’s offset.

In the lead-up to the approval of the modified ADF, numerous stakeholders were sounding the alarm that CARB was moving too fast and relying on questionable data in support of its conclusions. CARB was encouraged by the industry to slow the regulation process down and not take steps that, if the data ultimately did not support their position, would only lead to greater regulatory uncertainty and damage to the industry. Now, stakeholders have learned that not only were their fears about the questionable scientific process being used by CARB proven accurate, but that CARB was already in possession of the data that challenged its assumptions and decisions. In an affront to the scientific method and all semblance of good governance, CARB literally suppressed data that did not support its desired conclusion.

Unless and until CARB conducts additional testing on RDs impact on NTDE emissions, it has no choice but to rely on the data from its LED Study that was designed with the assistance of some of the top voices in the industry, and to take remedial action without delay.

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⁴ https://ww2.arb.ca.gov/sites/default/files/2018-08/Renewable_Diesel_Joint_Statement_7-31-13.pdf