

State of California
AIR RESOURCES BOARD

Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information

**PROPOSED AMENDMENTS TO THE REGULATION ON THE
COMMERCIALIZATION OF ALTERNATIVE DIESEL FUELS**

Public Hearing Date: April 23, 2020

Public Availability Date: October 14, 2020

Deadline for Public Comment: October 29, 2020

At its April 23, 2020, public hearing, the California Air Resources Board (CARB or Board) approved for adoption the proposed amendments to sections 2293.2 and Appendix 1 of title 13, division 3, chapter 5, article 3, subarticle 2 of the California Code of Regulations. The amendments will reinforce the emissions certification testing requirements and require biodiesel additives and alternative diesel fuel (ADF) formulations to be certified uniformly according to new certification procedures. The amendments will further ensure that additives or ADF formulations are certified to mitigate potential oxides of nitrogen (NOx) emissions increases from the use of biodiesel compared to conventional diesel, consistent with rigorous and appropriate protocols.

In Resolution 20-2, the Board recognized the importance of improving the rigor and scope of ADF regulation testing procedures, in light of the public health importance of reducing NOx emissions and recent CARB studies casting doubt on the efficacy of the ADF regulation's current procedures. The Board therefore approved the adoption of the proposed amendments, while recognizing the need for appropriate discretion within the strengthened testing procedures to address a range of potential testing scenarios. Therefore, the Board directed the Executive Officer to determine if additional conforming modifications to the regulation are appropriate and to make any proposed modified regulatory language available for public comment, with any additional supporting documents and information, for a period of at least 15 days as required by Government Code section 11346.8. The Board, in particular, directed that these amendments should, as the Vice Chair described, "give the Executive Officer the discretion on both the lab and on the blending issue," (i.e., the number of laboratories required for certification testing, and lower renewable diesel blend ratios for approved ADF

formulations).¹ The Board further directed the Executive Officer to consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days, and present the regulation to the Board for further consideration if warranted, or take final action to adopt the regulation after addressing all appropriate modifications.

The resolution and all other regulatory documents for this rulemaking are available online at the following CARB website:

<https://ww2.arb.ca.gov/rulemaking/2020/adf2020>.

The text of the modified regulatory language is shown in Attachment A. The originally proposed regulatory language is shown in ~~striketrough~~ to indicate deletions and underline to indicate additions. New deletions and additions to the proposed language that are made public with this notice are shown in ~~double striketrough~~ and double underline format, respectively.

In the Final Statement of Reasons, staff will respond to all comments received on the record during the comment periods. The Administrative Procedure Act requires that staff respond to comments received regarding all noticed changes. Therefore, staff will only address comments received during this 15-day comment period that are responsive to this notice, documents added to the record, or the changes detailed in Attachment A.

Summary of Proposed Modifications

The following summary does not include all modifications to correct typographical or grammatical errors, changes in numbering or formatting, nor does it include all of the non-substantive revisions made to improve clarity.

1. Modifications to Section 2293.2. Definitions

New definitions of “Emissions Test Facility” and “Independent Laboratory” are added to clarify the meaning of those terms.

2. Modifications to Appendix 1 of Subarticle 2, Subsection (a)(1)(B). Approved ADF Formulations

Appendix 1 of Subarticle 2, Subsection (a)(1)(B)2. is added to allow a second approved

¹ See State of California, Air Resources Board, Board Hearing Transcript. April 23 (2020). Page 116 (16-20), Page 117 (7-17, 23-25), Page 118 (1-8, 23-25). Available at: <https://ww3.arb.ca.gov/board/mt/2020/mt042320.pdf>.

ADF formulation that includes renewable diesel blends with biodiesel and conventional diesel consisting of at least 55 percent renewable diesel and at most 20 percent biodiesel (R55 B20).

The proposed R55 B20 approved ADF formulation provides an additional compliance option for persons subject to in-use requirements for biodiesel use above the NO_x control level (usually B5). This proposed modification is consistent with Board direction to address “the blending issue” and is supported by staff analysis of the proposed R55 B20 approved ADF formulation, provided in Appendix B. This proposed modification also addresses stakeholder comments that the R75 B20 formulation requires more renewable diesel than is needed to ensure NO_x equivalence, as well as stakeholder comments that the R75 B20 formulation could artificially restrict the use of biodiesel in California due to insufficient renewable diesel availability.

3. Modifications to Appendix 1 of Subarticle 2, Subsection (a)(2)(F)2. Single Engine, Single Emissions Test Facility Certification Testing

Appendix 1 of Subarticle 2, Subsection (a)(2)(F)2. is modified to allow certification of B20 ADF formulations using a single test engine at a single Emissions Test Facility. Single engine, single Emissions Test Facility certification testing requires:

1. Engine acceptability testing that will allow the Executive Officer to determine which engines and Emissions Test Facilities are acceptable for single engine testing; or
2. A successful additive or ADF formulation certification based on testing with two engines at two Emissions Test Facilities.

Engine acceptability must be performed at a minimum of three Emissions Test Facilities following the certification testing requirements in subsection (a)(2). Engine acceptability testing will include NO_x and PM emissions testing using the same Diesel Test Fuel and twenty percent blend with Biodiesel Additive Certification Fuel on each engine at each Emissions Test Facility. Based on the results of the engine acceptability testing and the criteria specified in subsection (a)(2)(F)2.a.ii., the Executive Officer will determine which engines and Emissions Test Facilities are acceptable for single engine, single Emissions Test Facility certification testing. These criteria include a requirement that the average specific NO_x emissions for a given engine are within one percent of the average specific NO_x emissions for the engine with the highest specific NO_x emissions.²

² Subsection (a)(2)(F)2.a.ii.2. requires the ratio of the average specific NO_x emissions of the B20 test fuel to the Diesel Test Fuel for a given engine to be within one percent of the ratio of the average specific NO_x emissions of the B20 test fuel to the Diesel Test Fuel in the engine with the highest relative increase in NO_x emissions for B20 test fuel relative to Diesel Test Fuel.

If two-engine, two Emissions Test Facility certification testing of an additive or ADF formulation is successful, resulting in issuance of a corresponding Executive Order,³ the Executive Officer will determine if the use of the specific test engines at the specific Emissions Test Facilities used in that certification testing can be used in subsequent single-engine, single Emissions Test Facility certification testing. The criteria for certification include a statistical comparison of the average specific NOx emissions for both engines, and NOx emissions tests on both engines must show statistical equivalence with the diesel test fuels.

After the Executive Officer approves specific engines at specific Emissions Test Facilities for use in single engine certification testing, an applicant must submit a test plan to the Executive Officer for B20 certification testing. Certification testing using a single engine at a single Emissions Test Facility will be subject to the additional criterion regarding PM variability in subsection (a)(2)(F)2.⁴

This proposed modification ensures that results for certification testing using a single engine at a single Emissions Test Facility would be repeatable on other engines at other Emissions Test Facilities. The proposed modification also addresses stakeholders' comments regarding the costs and time associated with certification testing on two engines located at two different Emissions Test Facilities for all additives and ADF formulations.

4. Modifications to Appendix 1 of Subarticle 2, Subsection (a)(2)(G). Required NOx Reductions for Candidate Fuels Containing Renewable Hydrocarbon Diesel

Appendix 1 of Subarticle 2, Subsection (a)(2)(G) is modified to require certification testing of candidate fuels containing renewable hydrocarbon diesel to demonstrate at least a two percent reduction in average NOx emissions relative to the Diesel Test Fuel.

The use of renewable diesel-based ADF formulations that are certified to NOx-equivalence on a per-gallon basis reduces the amount of renewable diesel in the fuel pool that is available to provide NOx offsets for biodiesel blends below the NOx control level. If the use of NOx-equivalent renewable diesel-based ADF formulations is widespread, such formulations could increase the possibility of high biodiesel volumes leading to future NOx increases because there would be very little renewable diesel remaining in the fuel pool (i.e., not used in a NOx-equivalent ADF formulation) to offset

³ Executive Orders for additives or ADF formulations are only issued after a robust process of testing and statistical analysis as outlined under (a)(2)(F) and (a)(2)(G).

⁴ Subsection (a)(2)(F)2 requires the ratio of the average specific PM emissions of the B20 candidate fuel to the Diesel Test Fuel during certification testing to be within two percent of the ratio of the average specific PM emissions of the B20 test fuel to the Diesel Test Fuel used in the engine acceptability testing or the two-engine, two Emissions Test Facility certification testing for that engine and Emissions Test Facility.

biodiesel NOx emissions from biodiesel blends below the NOx control level. This effect may be magnified by the potential widespread use of the R55 B20 approved ADF formulation, which provides a lower NOx reduction (i.e., offsets less biodiesel NOx) than renewable diesel that would otherwise be available in the fuel pool. The proposed modification would address this issue by requiring that certified renewable diesel-based ADF formulations reduce NOx emissions by at least two percent, maintaining the NOx emissions offset effect associated with renewable diesel use, as intended by the design of the ADF regulation.

5. Modifications to Appendix 1 of Subarticle 2, Subsection (a)(2)(J). Date After which Only Biodiesel Additives and ADF Formulations Approved or Certified According to Amended Certification Procedures May be Used

Appendix 1 of Subarticle 2, Subsection (a)(2)(J) is modified 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. The proposed modification addresses stakeholder comments that a January 1, 2021, effective date for this provision may not allow sufficient time for certification applicants to certify biodiesel additives and ADF formulations consistent with the proposed amendments or to transition to use of other compliance options, including use of the approved ADF formulations.

In addition to the modifications described above, staff made additional modifications correcting grammar, punctuation and spelling throughout the proposed changes. These changes are nonsubstantive.

The proposed modifications do not require additional environmental review under the California Environmental Quality Act. After its approval of the ADF amendments on April 23, 2020, the Board filed a notice of decision with the Secretary of the California Natural Resources Agency for its adoption of an addendum to the environmental analysis that the Board certified in 2018 and its approval of the regulations that staff presented to the Board that day for adoption. The proposed modifications, while related to the Board's April 23, 2020 final action on the adopted regulations, require a separate approval to become an effective part of CARB's regulations. CARB does not expect that any changes in compliance responses resulting from the modifications would result in any of the circumstances requiring a subsequent environmental analysis because the proposed modifications are consistent with the framework of the existing and recently adopted ADF regulation and finds that an additional addendum to the 2018 EA is appropriate for the proposed modifications. (Title 14 CCR sections 15164 and 15162).

Relying on the NOx emissions analysis in Appendix B, the proposed modifications do not propose substantial changes to the ADF regulation which require major revisions to the 2018 EA because the proposed modifications do not involve new significant environmental effects, or a substantial increase in severity of the previously identified significant effects. As Appendix B demonstrates, the modifications do not increase air

pollutant emissions under reasonably foreseeable scenarios; on the contrary, the amendments ensure the efficacy of the ADF regulation as it reduces air pollution emissions. Nor are there substantial changes with respect to the circumstances under which the proposed modifications are undertaken that requires major revisions to the 2018 EA because the proposed modifications do not involve new significant effects. Additionally, there is no new information of substantial importance related to the emissions analysis that shows new significant effects or previously identified significant effects that would be more severe. As illustrated above, the proposed modifications are protective of NO_x emission reductions and beneficial for long-term air quality in California. Further details of staff's analysis to support this addendum are provided in Appendix B.

Additional Document(s) or Incorporated Document(s) Added to the Record

In the interest of completeness, staff has also added to the rulemaking record and invites comments on the following additional documents:

Documents Incorporated by Reference

1. California Air Resources Board, Staff Analysis of ADF Public Formulation Blend Level. June 4 (2020). Available at: https://ww2.arb.ca.gov/sites/default/files/2020-06/Staff_Analysis_ADF_Public_Formulation_Blend_Level.xlsx

Additional References and Supplemental Documents

1. California Air Resources Board, Board Hearing Transcript. April 23 (2020). Available at: <https://ww3.arb.ca.gov/board/mt/2020/mt042320.pdf>
2. California Air Resources Board, Executive Order G-714-ADF06. Certification of Alternative Diesel Fuel Resulting in Emissions Equivalence with Diesel, Renewable Energy Group, Inc. – REG Proprietary Renewable Diesel #2. June 1 (2018). Available at: https://ww3.arb.ca.gov/fuels/diesel/altdiesel/20180612_req_eo_adf06.pdf?_ga=2.44342444.969776230.1588719562-347889477.1588719562
3. California Air Resources Board, Final Supplemental Disclosure of Oxides of Nitrogen Potentially Caused by the Low Carbon Fuel Standard Regulation. September 17 (2018). Available at: https://ww3.arb.ca.gov/regact/2018/lcfs18/finaldisc.pdf?_ga=2.130894351.1260211689.1588616941-1042658205.1574400241
4. California Air Resources Board, Public Hearing to Consider the Proposed Amendments to the Regulation on the Commercialization of Alternative Diesel Fuels, Staff Report: Initial Statement of Reasons. January 7

- (2020). Available at:
https://ww3.arb.ca.gov/regact/2020/adf2020/isor.pdf?_ga=2.142177842.1277515527.1593467990-211680084.1591108534
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<https://www.dgs.ca.gov/Resources/SAM/TOC/3600/3627>. Accessed: August 27 (2020).
 6. Neste US, Inc., Neste's renewable diesel to power San Francisco's city fleet. December 16 (2015). Available at: <https://www.neste.com/nestes-renewable-diesel-power-san-franciscos-city-fleet> Accessed: September 11, 2020.
 7. SACCOUNTY NEWS, Media Release: Renewable Diesel. August 26 (2016). Available at: <https://www.saccounty.net/news/latest-news/Pages/Press-Release-Renewable-Diesel.aspx> Accessed: August 27, 2020.
 8. City of San Diego. City Using Renewable Diesel to Make Its Vehicle Fleet Greener. October 27 (2016). Available at:
<https://www.sandiego.gov/mayor/news/releases/city-using-renewable-diesel-make-its-vehicle-fleet-greener> Accessed: September 11, 2020.
 9. Neste US, Inc., City of Oakland, Google buses and UPS now drive with Neste's NEXBTL renewable diesel. November 11 (2015). Available at:
<https://www.neste.us/city-oakland-google-buses-and-ups-now-drive-nestes-nexbtl-renewable-diesel> Accessed: September 11, 2020.
 10. Neste US, Inc., Neste Renewable Diesel to power City of Carlsbad's Fleet in California. July 11 (2016). Available at:
<https://www.neste.com/releases-and-news/renewable-solutions/neste-renewable-diesel-power-city-carlsbads-fleet-california> Accessed: September 11, 2020.
 11. Neste US, Inc., City of San Leandro in California switches its municipal vehicles to run on Neste MY Renewable Diesel. May 23 (2018). Available at: <https://www.neste.com/releases-and-news/renewable-solutions/city-san-leandro-california-switches-its-municipal-vehicles-run-neste-my-renewable-diesel> Accessed: September 11, 2020.
 12. Michael Baker International. City of Walnut Creek Climate Action Plan Assessment Report. September (2016). Available at:
<https://www.walnut-creek.org/home/showdocument?id=12701>

13. Neste US, Inc., Californian transportation company Ecology lowers its carbon footprint with clean-burning Neste MY Renewable Diesel. November 7 (2018). Available at: <https://www.neste.com/releases-and-news/californian-transportation-company-ecology-lowers-its-carbon-footprint-clean-burning-neste-my> Accessed: September 11, 2020.
14. Propel Fuels. Propel Fuels Diesel HPR Stations in California. September (2020). Available at: <https://propelfuels.com/locations> Accessed: September 10, 2020.
15. Neste US, Inc., New Neste commercial fueling sites now open in Northern and Central California. August 28 (2019). Available at: <https://www.neste.com/releases-and-news/new-neste-commercial-fueling-sites-now-open-northern-and-central-california> Accessed: August 25, 2020.
16. California Air Resources Board, Illustrative Compliance Scenario Calculator. August 15 (2018). Available at: https://www.arb.ca.gov/fuels/lcfs/2018-0815_illustrative_compliance_scenario_calc.xlsx
17. California Air Resources Board, LCFS Quarterly Data Spreadsheet. July 31 (2020). Available at: https://ww3.arb.ca.gov/fuels/lcfs/dashboard/quarterlysummary/quarterlysummary_073120.xlsx
18. Durbin, T.D., G. Karavalakis, K.C. Johnson; University of California, Riverside, College of Engineering – Center for Environmental Research and Technology, Confirmatory and Efficacy Testing of Additive-Based Alternative Diesel Fuel Formulations. March (2020). Available at: https://ww2.arb.ca.gov/sites/default/files/2020-03/ADF_BD_Additive_Testing_Report_March2020.pdf
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20. Durbin, T.D., G. Karavalakis, K.C. Johnson, M. Hajbabaie; University of California, Riverside, College of Engineering – Center for Environmental Research and Technology, CARB B5 Biodiesel Preliminary and

Certification Testing. April (2013). Available at: https://ww3.arb.ca.gov/fuels/diesel/altdiesel/20140630carb_b5_%20certification_study.pdf?_ga=2.141765554.1469991823.1601420324-211680084.1591108534

21. Karavalakis, G., T.D. Durbin, K.C. Johnson, M. Hajbabaei; University of California, Riverside, College of Engineering – Center for Environmental Research and Technology, CARB Comprehensive B5/B10 Biodiesel Blends Heavy-Duty Engine Dynamometer Testing. June (2014). Available at: https://ww3.arb.ca.gov/fuels/diesel/altdiesel/20140630carbstudyb5_b10.pdf?_ga=2.116523142.1469991823.1601420324-211680084.1591108534

These documents are available for inspection by contacting Bradley Bechtold, Regulations Coordinator, at (916) 322-6533.

Agency Contacts

Inquiries concerning the substance of the proposed regulation may be directed to Gavin Hoch, Staff Air Pollution Specialist, Emerging Technology Section, at (916) 324-0839 or Susie Chung, Air Pollution Specialist, Emerging Technology Section, at (916) 327-0647.

Public Comments

Written comments will only be accepted on the modifications identified in this Notice. Comments may be submitted by postal mail or by electronic submittal no later than the due date to the following:

Postal mail: Clerks' Office, California Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Please note that under the California Public Records Act (Gov. Code § 6250 et seq.), your written and verbal comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

In order to be considered by the Executive Officer, comments must be directed to CARB in one of the two forms described above and received by CARB no later than the deadline date for public comment listed at the beginning of this notice. Only comments relating to the above-described modifications to the text of the regulations shall be considered by the Executive Officer.

If you need this document in an alternate format or another language, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 no later than five (5) business days from the release date of this notice. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Si necesita este documento en un formato alternativo u otro idioma, por favor llame a la oficina del Secretario del Consejo de Recursos Atmosféricos al (916) 322-5594 o envíe un fax al (916) 322-3928 no menos de cinco (5) días laborales a partir de la fecha del lanzamiento de este aviso. Para el Servicio Telefónico de California para Personas con Problemas Auditivos, ó de teléfonos TDD pueden marcar al 711.

CALIFORNIA AIR RESOURCES BOARD



Richard W. Corey
Executive Officer

Date: October 13, 2020

Attachment A: Proposed Modifications to the Regulation Order

Attachment B: Staff Analysis of Renewable Diesel/Biodiesel Formulations and NOx Emissions

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see CARB's website at www.CARB.ca.gov.