

PROPOSED REGULATION ORDER

Adopt new sections 2293, 2293.1, 2293.2, 2293.3, 2293.4, 2293.5, 2293.6, 2293.7, 2293.8, 2293.9, and Appendix A, title 13, California Code of Regulations (CCR), to read as follows:

[Note: The entire text of sections 2293, 2293.1, 2293.2, 2293.3, 2293.4, 2293.5, 2293.6, 2293.7, 2293.8, 2293.9, Appendix A, and Appendix B is new language. Existing sections 2290, 2291, 2292.1, 2292.2, 2292.3, 2292.4, 2292.5, 2292.6, and 2292.7 would be grouped (not shown) under new subarticle 1 (Specifications for Current Alternative Motor Vehicle Fuels). Existing sections 2293 and 2293.5 would be renumbered to 2294 and 2295 and would be grouped (not shown) under new subarticle 3 (Ancillary Provisions).]

Chapter 5. Standards for Motor Vehicle Fuels **Article 3. Specifications for Alternative Motor Vehicle Fuels** **Subarticle 2. Commercialization of New Alternative Diesel Fuels**

§2293. Purpose.

The purpose of this regulation is to establish a comprehensive, multi-stage process governing the commercialization of new alternative diesel fuels (ADF) in California, ranging from the initial limited sales of an ADF while it undergoes a screening evaluation; through expanded sales governed by enhanced monitoring, testing, and multimedia evaluations; and ending with full-scale commercial sales as warranted. This regulation is intended to foster the introduction and use of innovative ADFs in California that have no significant adverse impacts overall on public health or the environment relative to conventional, petroleum-based CARB diesel.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975). Reference: Sections 39000, 39001, 39002, 39003, 39010, 39500, 40000, 43000, 43016, 43018 and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975).

§2293.1. Applicability.

- (a) Starting January 1, 2015, no person shall sell, offer for sale or supply an alternative diesel fuel (ADF) intended for use in California unless the person is conducting such transactions pursuant to an approved Memorandum of Understanding issued to or otherwise applicable to that person under Stage 1 or 2 of this program, or the person is meeting all the applicable requirements under Stage 3A or 3B of this program.

- (b) An ADF shall be deemed to be intended for use in motor vehicles in California if it is:
- (1) stored at a facility which is equipped and used to dispense that type of alternative diesel fuel to motor vehicles, or
 - (2) delivered or intended for delivery to a facility which is equipped and used to dispense that type of alternative diesel fuel to motor vehicles, or
 - (3) sold, offered for sale or supplied to a person engaged in the distribution of motor vehicle fuels to motor vehicle fueling facilities, unless the person selling, offering or supplying the fuel demonstrates that he or she has taken reasonably prudent precautions to assure that the fuel will not be used as a motor vehicle fuel in California.
- (c) For the purposes of this subarticle, each retail sale of alternative diesel fuel for use in a motor vehicle, and each supply of alternative diesel fuel into a motor vehicle fuel tank, shall also be deemed a sale or supply by any person who previously sold or supplied such alternative diesel fuel in violation of this subarticle.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975). Reference: Sections 39000, 39001, 39002, 39003, 39010, 39500, 40000, 43000, 43016, 43018 and 43101, Health and Safety Code; and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal. 3d 411, 121 Cal. Rptr. 249 (1975).

§ 2293.2. Definitions.

For the purposes of sections 2293 through 2293.9, the definitions in Health and Safety Code sections 39010 through 39060 shall apply, except as otherwise specified in this subarticle 2:

- (a) "Alternative diesel fuel" or "ADF" means any non-CARB diesel fuel used in a compression ignition engine that does not consist solely of hydrocarbons, and is not subject to a specification under title 13, CCR, section 2292, as of the date this subarticle goes into effect. All ADFs that are substantially similar to an ADF subject to an approved Executive Order shall be deemed to fall within the class of ADFs subject to that same approved Executive Order.
- (b) "Biodiesel" means a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, and meeting the specifications set forth by the ASTM International in the latest version of *Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels*

D6751 contained in the ASTM publication entitled: Annual Book of ASTM Standards, Section 5, as defined in 4 CCR 4140(a).

- (c) “Biodiesel Blend” means biodiesel blended with petroleum-based diesel fuel.
- (d) “Blend Level” means the ratio of an ADF to the CARB diesel it is blended with, expressed as a percent by volume. The blend level may also be expressed as “AXX,” where “A” represents the particular ADF and “XX” represents the percent by volume that ADF is present in the blend with CARB diesel (e.g., a 50% by volume biodiesel/CARB diesel blend is denoted as “B50”).
- (e) “Blendstock” means a component that is either used alone or is blended with another component(s) to produce a finished fuel used in a motor vehicle. A blendstock that is used directly as a transportation fuel in a vehicle is considered a finished fuel.
- (f) “B5” means a biodiesel blend containing no more than five percent biodiesel by volume.
- (g) “B20” means a biodiesel blend containing between six and 20 percent biodiesel by volume, inclusive.
- (h) “CARB Diesel fuel” means a light or middle distillate fuel which may be blended up to five (5) volume percent biodiesel, and meeting the definition and requirements for “diesel fuel” or “California nonvehicular diesel fuel” as specified in 13 CCR 2280—2285.
- (i) “Criteria Pollutant” means any air pollutant for which a California ambient air quality standard (CAAQS) or a national ambient air quality standard (NAAQS) has been established. A list of air pollutants for which a CAAQS or NAAQS has been established can be found at <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, which is incorporated herein by reference.
- (j) “Diesel Substitute” means any liquid fuel that is intended for use with CARB diesel or CARB diesel blends in a compression ignition engine. “Diesel substitute” includes, but is not limited to, renewable diesel; gas-to-liquid fuels; Fischer-Tropsch fuels; CARB diesel blended with additives specifically formulated to reduce emissions of one or more criteria or toxic air contaminants relative to reference CARB diesel; and CARB diesel specifically formulated to reduce emissions of one or more criteria or toxic air contaminants relative to reference CARB diesel.
- (k) “Drop-in Fuel” means a fuel that is blended with CARB diesel beyond the refinery gate or used as a neat fuel and is either:
 - (1) chemically indistinguishable from and meets the requirements for CARB diesel fuel, or

- (2) its chemical and physical properties fall within the ranges of those properties for CARB diesel fuel.

For purposes of this subarticle, B5 (CARB diesel blend composed of 5% or less biodiesel by volume), renewable diesel, gas-to-liquid, and similar fuels that meet 13 CCR 2280—2285 are presumed to be drop-in fuels.

- (l) “Effective ADF Blend Level” means the actual, statewide-average ADF blend level, adjusted to account for various air pollution mitigating considerations, which may include but are not limited to, the use of various diesel substitutes that reduce air emissions of the pollutant for which the significance threshold was identified (e.g., renewable diesel, which reduces NO_x emissions); the fleet penetration of new technology diesel engines; composition of the feedstocks used to produce the ADF; volumes of lower-emission CARB diesel fuel, including those with emissions-reducing additives; and other factors as deemed appropriate by the Executive Officer. The effective ADF blend level is compared to the significance threshold to determine when to apply mitigation strategies for those ADFs for which the Executive Officer has identified a significance threshold.
- (m) “Executive Officer” means the Executive Officer of the Air Resources Board, or his or her designee.
- (n) “Executive Order” means the document signed by the Executive Officer, or his or her designee, which specifies the stage at which a regulated party(ies) for an ADF is or will be operating under, as provided in this subarticle, and any enforceable terms, conditions, and requirements applicable to the regulated party(ies) must meet in order to sell, offer for sale, or supply that ADF for use in California.
- (o) “Finished Fuel” means a fuel that is used directly in a vehicle for transportation purposes without requiring additional chemical or physical processing.
- (p) “Hydrocarbon” means any chemical or mixture that is composed solely of hydrogen and carbon.
- (q) “Importer” has the same meaning as defined in the Low Carbon Fuel Standard (17 CCR 95481(a)).
- (r) “LCFS” means the Low Carbon Fuel Standard (17 CCR 95480—95490).
- (s) “Memorandum of Understanding (MOU)” means an enforceable agreement, executed between the Executive Officer and an applicant(s), which meets the requirements of this subarticle and specifies the terms and conditions by which the ADF at issue will be sold and used in California. MOUs issued under this subarticle are not subject to the Board’s reservation of powers pursuant to Board Resolution 78-10 (February 23, 1978) or Resolution 05-40 (July 21, 2005).

- (t) “Multimedia Evaluation” has the same meaning as defined in Health and Safety Code section 43830.8(b).
- (u) “Multimedia Evaluation Guidance Document” means the procedure governing the Executive Officer’s multimedia evaluation conducted prior to establishing a motor vehicle fuel specification. The multimedia evaluation guidance document (“Guidance Document and Recommendations on the Types of Scientific Information Submitted by Applicants for California Fuels Environmental Multimedia Evaluations”) is available at www.arb.ca.gov/fuels/multimedia/guidancedoc.pdf, which is incorporated herein by reference.
- (v) “New Technology Diesel Engine (NTDE)” means a diesel engine that meets at least one of the following criteria:
- (1) 2010 ARB emission standards for on-road heavy duty diesel engines under 13 CCR 1956.8.
 - (2) Tier 4 emission standards for non-road compression ignition engines under 13 CCR 2421, 2423, 2424, 2425, 2425.1, 2426, and 2427.
 - (3) Equipped with or employs a Diesel Emissions Control Strategy (DECS), verified by ARB pursuant to 13 CCR 2700 et seq., which uses selective catalytic reduction to control NOx.
- (w) “Non-ester renewable diesel” means a diesel fuel that is produced from nonpetroleum renewable resources but is not a mono-alkyl ester and which is registered as a motor vehicle fuel or fuel additive under 40 CFR Part 79, as amended by Pub. L. 91-604.
- (x) “Non-ester renewable diesel blend” means non-ester renewable diesel blended with petroleum-based diesel fuel.
- (y) “Non-petroleum renewable resources” means non-fossil fuel resources including but not limited to biomass, waste materials, and renewable crude.
- (z) “Performance Criteria” means a list of indicators, including but not limited to the total volume and volume percent represented by an ADF’s sales in California, that are specified by the Executive Officer for use in determining whether the significance level for a pollutant has been reached or will be reached.
- (aa) “Person” has the same meaning as defined in Health and Safety Code section 39047 and includes, but is not limited to, alternative diesel fuel producers, importers, marketers and blenders. “Person” includes the plural when two or more persons are subject to an Executive Order executed or an interim or final fuel specification issued pursuant to the requirements of this subarticle.
- (bb) “Producer” has the same meaning as defined in the Low Carbon Fuel Standard (17 CCR 94581(a)).

(cc) "Reference CARB Diesel" has the same meaning as "reference fuel" as that term is defined in 13 CCR 2282(g)(3).

(dd) "Significance Level" means, for a given air pollutant X, either of the following, whichever applies:

(1) For an ADF blended with CARB diesel, the significance level means the blend level of the ADF below which the combined effects of:

- (A) the use of the ADF in new technology diesel engines, and
- (B) the use of diesel substitutes that reduce emissions of X

result in no increase in the emissions of X.

(2) For an ADF used as a neat fuel, the significance level means any use of the ADF below which there is no increase in the emissions of X.

(ee) "Toxic Air Contaminant" means any substance identified or designated by the Air Resources Board as a toxic air contaminant pursuant to Health and Safety Code sections 39655 or 39657, or is designated as a hazardous air pollutant under section 112 of the federal Clean Air Act (42 U.S.C 7412).

(ff) "Trade Secret" has the same meaning as defined in Government Code section 6254.7.

§2293.3. Exemptions.

This subarticle does not apply to any of the following, as specified:

- (a) Fuels that have a specification under sections 2292—2292.7 of subarticle 1;
- (b) CARB diesel blends comprised solely of CARB diesel and one or more diesel additives comprising in the aggregate no more than 1.0 percent by volume of the CARB diesel blend. This provision does not apply to additives used pursuant to the mitigation measures specified in Appendix A;
- (c) ADF fuels used in fleets comprising 95% or more new technology diesel engines (NTDE) are presumed to be exempt from the mitigation requirements specified in this subarticle. To the extent the use of an ADF in such NTDEs reduce or result in no greater emissions of one or more criteria, toxic, or other air pollutants relative to conventional CARB diesel, the Executive Officer may include the volume and emission reduction ability of that ADF in those NTDEs when determining whether

the significance threshold has been reached in a specified year and, if so, the extent mitigation is required pursuant to section _____; and

- (d) Drop-in fuels are exempt from the mitigation requirements specified in this subarticle. To the extent the use of a drop-in fuel in California reduces emissions of one or more criteria, toxic, or other air pollutants relative to conventional CARB diesel, the Executive Officer may include the volume and emission reduction ability of that drop-fuel when determining whether the significance threshold has been reached in a given year and, if so, the extent mitigation is required pursuant to section _____.

§2293.4. General Requirements Applicable to All ADFs.

In addition to the requirements in 2293.5, starting January 1, 2015, no person shall sell, offer for sale or supply an ADF intended for use in motor vehicles in California unless that ADF meets the requirements set forth in this subarticle 2.

- (a) Has been registered with U.S. EPA under 40 CFR part 79 prior to its first sale, offer for sale, or supply for use in California.
- (b) Meets all applicable regulatory requirements promulgated by the Division of Measurement Standards, California Department of Food and Agriculture (including, but not limited to, 4 CCR sections 4140—4148, 4200, and 4202—4205).
- (c) Meets all other applicable local, State, and federal requirements.

§2293.5. Phase-In Requirements.

[Note: The goal of this comprehensive process is to foster the introduction of new, lower polluting ADF fuels by allowing the limited sales of innovative ADFs in stages while emissions, performance, and environmental impacts testing are conducted. This testing is intended to develop the necessary, real-world information to quantify the environmental and human health benefits from using new ADFs, determine whether these fuels have any significant adverse environmental impacts relative to conventional CARB diesel, and identify any vehicle/engine performance issues such fuels may have.]

It is a violation of this article for any person to sell, offer for sale, or supply an ADF intended for use in motor vehicles in California that does not meet the requirements of this subarticle or an approved Stage 1 MOU, Stage 2 MOU, or an applicable fuel specification under Stage 3A or 3B, as provided in this subarticle.

- (a) *Stage 1: Pilot Program.*

[Note: The purpose of this stage is to allow limited, small fleet use of innovative fuels while requiring screening tests and assessments to quickly determine whether there will be unreasonable potential impacts on air quality, the environment and vehicular

performance. Such data will help inform more extensive testing and analysis to be conducted in Stage 2. This stage 1 is modeled after the existing ARB regulation that provides limited, fuel test program exemptions under 13 CCR 2259.]

(1) Stage 1 Application:

No person, who is not already subject to Stage 2 or has obtained an approved fuel specification under Stage 3A or 3B, may sell, offer for sale, or supply an ADF intended for use in motor vehicles in California without an approved Stage 1 MOU governing the limited sales and use of that ADF. A person seeking a Stage 1 MOU must by submit an application to the Executive Officer that includes all the following information:

- (A) Planned program duration, not to exceed one year except as provided in _____ below;
- (B) An estimate of the maximum number of vehicles or engines involved in the program;
- (C) The mileage duration per vehicle involved in this stage;
- (D) The quantity of fuel expected to be used in the pilot program, not to exceed the energy equivalent of one million gallons of diesel fuel per year;
- (E) The site(s) in which the testing during this stage will be conducted (including the street address, city, county, and zip code);
- (F) The manner in which the distribution pumps will be labeled to ensure proper use of the test fuel;
- (G) The name, address, telephone number, title of the person(s) and the name of the company or organization requesting entry into a Stage 1 pilot program; and
- (H) If different from the information in (G) above, the name, address, telephone number and title of the person(s) and the name of the company or organization responsible for recording and making the information specified above available to the Executive Officer and the location in which such information will be maintained.
- (I) Chemical and physical properties of the ADF: complete chemical speciation, Chemical Abstract Services (CAS) numbers (if available), density, energy content, vapor pressure, oxidative potential, distillation curve, log K_{ow} (water-octanol partition coefficient), and Henry's law coefficient.
- (J) Environmental information about the ADF: Material Safety Data Sheet(s) (MSDS) for all components of the ADF, production process diagram, identification of potential human health effects, lifecycle flow diagram (including all stages of the process-raw material extraction, manufacturing, distribution, use and disposal including all intervening transportation steps), and potential release scenarios during production, transportation and use.
- (K) Identify whether the fuel is intended to be blended with diesel, whether it can be used as a neat fuel, or whether it can be used either way.

- (L) Plan of how the applicant will move through each of the stages.
- (M) Emissions testing completed on criteria pollutants.
- (N) Attestation that the vehicles to be used in the pilot program are owned by the applicant or the applicant has received written consent from their owners.
- (O) The vehicle identification number (VIN) of each vehicle participating in the pilot program.
- (P) Affirmative statement that the owner(s) of all vehicles to be used in the applicant's pilot program are aware of any possible warranty issues that may arise from the use of the ADF or ADF/CARB diesel blend in their engines.
- (Q) A copy of the developmental fuel variance the applicant has received from the Division of Measurement Standards pursuant to Business and Professions Code section 13405.
- (R) Proof that the ADF has been registered with the U.S. Environmental Protection Agency under 40 CFR 79.
- (S) Results of running the California Communities Environmental Health Screening Tool, Version 1 (CalEnviroScreen 1.0) to the zip codes for the communities in which the applicant(s) proposes to conduct the pilot program. This screening tool is available at <http://www.calepa.ca.gov/envjustice/> and is incorporated herein by reference.

It is the responsibility of the applicant to identify any specific portion of the information submitted above as trade secret. Any such trade secret information identified by the applicant shall be treated pursuant to 17 CCR 91000—91022 and the California Public Records Act (Government Code sec. 6250 et seq.).

(2) Stage 1 Application Completeness Determination

- (A) After receiving a pilot program application, the Executive Officer shall advise the applicant in writing within 20 business days either that the application is provisionally complete or that specified additional information is required to make it provisionally complete.
- (B) After receiving the additional information required under (A), the Executive Officer shall advise the applicant in writing within 15 business days either that the application is now provisionally complete or that specified additional information is still required to make it complete.

(3) Public Comment and Final Action on a Stage 1 Application

- (A) After deeming an application provisionally complete, the Executive Officer shall post the application on ARB's internet web site at: _____ for 15 days for public comments. Only comments related to potential factual or methodological errors may be considered by the

Executive Officer. Within 30 days, the applicant shall either make revisions to its application and submit those revisions to the Executive Officer, or submit a detailed written response to the Executive Officer explaining why no revisions are necessary.

- (B) Within 20 business days of receiving the applicant's response to the public comments under (A), the Executive Officer shall either approve or disapprove the pilot program. The Executive Officer shall notify the applicant of his/her decision in writing and provide, if the application is denied, the reasons for the denial.
- (C) The Executive Officer shall disapprove a proposed pilot program if he/she determines the use of the ADF, under the terms and conditions of the pilot program as proposed, poses an unacceptable risk to the community in which the pilot program is proposed to be conducted, or its risks substantially outweigh the putative benefits of using the ADF.
- (D) In determining whether a risk is unreasonable, the Executive Officer shall include, but not be limited to, consideration of whether the community(ies) involved in the proposed pilot program is within the top 10 percent of State zip codes that are deemed as "disproportionately burdened communities" using the California Communities Environmental Health Screening Tool, Version 1 (CalEnviroScreen 1.0).
- (E) No approval of a pilot program shall be effective without an approved Memorandum of Understanding (MOU) executed between the Executive Officer and the applicant(s). The MOU shall include terms and conditions that the applicant must meet in order to provide the ADF fuel in California during the term of the MOU. The terms and conditions shall be based on the information specified in (1)(A)--(S) above, as well as require the following:
 - 1. any additional information the Executive Officer determines is necessary to fill in data gaps that may have been identified during the application process;
 - 2. additional toxicity and other testing the Executive Officer determines is necessary and appropriate to better characterize any substance in the ADF; and
 - 3. substantial progress in working in good faith with the original equipment/engine manufacturers of the engines involved in the MOU (e.g., Westport, Volvo, etc.), consensus standards organizations (e.g., ASTM), regulatory agencies, and other interested parties toward developing a consensus set of fuel specifications for the ADF.

(4) Operation under a Stage 1 MOU

- (A) For the duration of the MOU, the applicant must meet all the terms and conditions specified therein;
- (B) The Executive Officer may terminate or modify a MOU, with 30 days written notice to the applicant(s), for failure of the applicant(s) to comply with any of the terms and conditions of the MOU, failure to comply with any other applicable provision in this subarticle, or for good cause. Good cause includes, but is not limited to, a determination by the Executive Officer that the information submitted in the application was inaccurate or incomplete and that the use of the ADF, under the terms and conditions of the approved pilot program, may pose an unacceptable risk to the community in which the pilot program is being conducted, or its risks substantially outweigh the putative benefits of using the ADF;
- (C) The Executive Officer shall not revoke or modify an approved Stage 1 MOU without first affording the applicant an opportunity for a hearing in accordance with 17 CCR 60040 et seq.;
- (D) In the event an applicant cannot complete an approved pilot program within the allotted time, the applicant(s) may request a six month extension, renewable up to three times; and
- (E) Upon successful completion of the pilot program, the applicant(s) may submit an application for a Stage 2 MOU, as specified in section ____ below.

(b) *Stage 2: Development of Fuel Specification.*

[Note: The purpose of this stage is to allow limited but expanded fleet use of an ADF that has successfully undergone the Stage 1 pilot program. Stage 2 ADFs undergo additional emissions and performance testing to better characterize potential impacts on air quality, the environment and vehicular performance. This testing and assessment will be conducted pursuant to a formal multimedia evaluation leading to the development of a fuel specification, as appropriate. Further, the multimedia evaluation will be the basis for determining whether the ADF has an associated significance threshold for any criteria, toxic, or other air pollutant. The establishment of a significance threshold determines whether the ADF can proceed to mitigated sales under Stage 3A or unmitigated sales under Stage 3B.]

(1) Stage 2 Application.

A person who has successfully completed a pilot program for an ADF under section 2293.5(a) may apply for entrance into a Stage 2 for that ADF. An applicant for Stage 2 must submit an application to the Executive Officer that includes all the following information:

- (A) Planned duration for this stage, not to exceed one year, renewable up to four times or as otherwise provided in section _____;
- (B) An estimate of the maximum number of vehicles or engines involved in this stage;
- (C) The mileage duration per vehicle involved in this stage;
- (D) The quantity of the ADF fuel expected to be used in this stage, not to exceed the energy equivalent of 30 million gallons of diesel fuel per year;
- (E) The site(s) in which the testing during this stage will be conducted (including the street address, city, county, and zip code);
- (F) Any changes or updates to the information submitted under 2293.5(a)(1)(F)—(S) to reflect the expanded scope of vehicles, locations, fuel volume, timeframe, and other aspects of operation under Stage 2. For each of these items, the applicant must specify whether there has been no change or update, or if there has been a change or update, what that change or update is; and
- (G) Identification of the test lab and principal investigator, including his/her curriculum vitae, who will be conducting the multimedia evaluation for the ADF.

It is the responsibility of the applicant to identify any specific portion of the information submitted above as trade secret. Any such trade secret information identified by the applicant shall be treated pursuant to 17 CCR 91000—91022 and the California Public Records Act (Government Code sec. 6250 et seq.).

(2) Stage 2 Application Completeness Determination

- (A) After receiving a Stage 2 application, the Executive Officer shall advise the applicant in writing within 20 business days either that the application is provisionally complete or that specified additional information is required to make it provisionally complete;
- (B) After receiving the additional information required under (A), the Executive Officer shall advise the applicant in writing within 15 business days either that the application is now provisionally complete or that

specified additional information is still required to make it provisionally complete.

(3) Public Comment and Final Action on a Stage 2 Application

- (A) After deeming an application provisionally complete, the Executive Officer shall post the application on ARB's internet web site at: _____ for 30 days for public comments. Only comments related to potential factual or methodological errors may be considered by the Executive Officer. Within 30 days, the applicant shall either make revisions to its application and submit those revisions to the Executive Officer, or submit a detailed written response to the Executive Officer explaining why no revisions are necessary;
- (B) Within 20 business days of receiving the applicant's response to the public comments under (A), the Executive Officer shall either approve or disapprove the Stage 2 application. The Executive Officer shall notify the applicant of his/her decision in writing and provide, if the application is denied, the reasons for the denial;
- (C) The Executive Officer shall disapprove a proposed pilot program if he/she determines the use of the ADF, under the terms and conditions of the Stage 2 program as proposed, poses an unacceptable risk to the community(ies) in which the program is proposed to be conducted, or its risks substantially outweigh the putative benefits of using the ADF;
- (D) In determining whether a risk is unreasonable, the Executive Officer shall include, but not be limited to, consideration of whether the community(ies) involved in the proposed Stage 2 program is within the top 10 percent of State zip codes that are deemed as "disproportionately burdened communities" using the California Communities Environmental Health Screening Tool, Version 1 (CalEnviroScreen 1.0);
- (E) No approval of a Stage 2 program shall be effective without an approved Memorandum of Understanding (MOU) executed between the Executive Officer and the applicant(s). The MOU shall include terms and conditions that the applicant must meet in order to provide the ADF fuel in California during the term of the MOU. The terms and conditions shall be based on the information specified in (1)(A)--(G) above, as well as require the following:
 - 1. any additional information requested in writing by the Executive Officer to fill in data gaps that may have been identified during the application process;

2. additional toxicity and other testing the Executive Officer determines is necessary and appropriate to better characterize any substance in the ADF;
 3. substantial progress in working in good faith with the original equipment/engine manufacturers of the engines involved in the MOU (e.g., Westport, Volvo, etc.), consensus standards organizations (e.g., ASTM), regulatory agencies, and other interested parties toward developing a consensus set of fuel specifications for the ADF. These efforts must culminate in adoption of consensus standards by the end of the Stage 2 MOU.
- (4) Operation under a Stage 2 MOU
- (A) For the duration of the MOU, the applicant must meet all the terms and conditions specified therein;
 - (B) The Executive Officer may terminate a MOU, with 30 days written notice to the applicant(s), for failure of the applicant(s) to comply with any of the terms and conditions of the MOU, failure to comply with any other applicable provision in this subarticle, or for good cause. Good cause includes, but is not limited to, a determination by the Executive Officer that the information submitted in the application was inaccurate or incomplete and that the use of the ADF, under the terms and conditions of the approved Stage 2 program, may pose an unacceptable risk to the community in which the Stage 2 program is being conducted, or its risks substantially outweigh the putative benefits of using the ADF;
 - (C) In the event an applicant cannot complete an approved Stage 2 program within the allotted time, the applicant(s) may request a 1 year extension, renewable up to four times. The Executive Officer may provide additional extensions due to delays in completion of a multimedia evaluation, adoption of the applicable consensus standards, or for other good cause;
 - (D) Upon successful completion of the Stage 2 program, the applicant(s) may sell, offer for sale, or supply an ADF intended for use in motor vehicles in California pursuant to either Stage 3A or 3B, whichever applies, as specified in section ____ below.
- (5) Multimedia Evaluation and Determination of Significance Threshold
- (A) Pursuant to the approved Stage 2 MOU, Health and Safety Code section 43830.8, and the Multimedia Evaluation Guidance Document, the applicant shall conduct the prescribed multimedia evaluation under direction from ARB staff;

- (B) The multimedia evaluation shall identify and evaluate any significant adverse impact on public health or the environment, including air, water, or soil, that may result from the production, use, or disposal of the ADF, relative to conventional CARB diesel, under Stage 2, 3A, and 3B;
 - (C) Approval of a multimedia evaluation shall be subject to the provisions of Health and Safety Code section 43830.8;
 - (D) The Executive Officer shall identify a significance threshold based on the multimedia evaluation conducted pursuant to this subsection. Approved significance thresholds shall be listed in Table ____ of section 2293.6.
- (6) Completion of Stage 2

No person operating under Stage 2 may sell, offer for sale, or supply an ADF for use in motor vehicles in California under Stage 3A or 3B unless the Executive Office has determined in writing that the person has successfully completed the requirements of Stage 2. To be deemed as successfully completing Stage 2, the applicant must meet all the following requirements:

- (A) Comply with all requirements specified in the approved Stage 2 MOU;
- (B) Achieve adoption of all consensus standards applicable to the ADF;
- (C) Obtain approval of at least 75% of compression ignition engine original equipment manufacturers for which the ADF is expected or intended to be used. Such approval must represent approval of the ADF blend levels expected or intended to be used in those engines;
- (D) Identify appropriate fuel specifications for the ADF and obtained written approval of those specifications by the Executive Officer;
- (E) Identify appropriate mitigation strategies for the ADF to be applied in the event the significance threshold identified by the Executive Officer is reached; and
- (F) Obtain a written determination by the Executive Officer that all the above requirements have been met.

In the event the Executive Officer identifies a significance threshold under (5)(D) above, the Executive Officer shall post notice on the ARB website his/her intent to initiate a rulemaking to incorporate the significance threshold and approved mitigation strategies into this subarticle. Upon completion of that rulemaking, all persons subject to Stage 2 for an ADF shall be subject to the provisions of Stage 3A.

(c) *Stage 3A: Commercial Sales Subject to Mitigation*

In the event the Executive Officer has determined there is a significance threshold for an ADF, the following procedure shall apply:

- (1) The Executive Officer shall first determine the current ADF blend level and the blend level trajectory based on an analysis of ADF sales in recent years;
- (2) Based on the analysis in (c)(1), the Executive Officer shall estimate the year(s) in which the effective ADF blend level is projected to reach 25%, 50%, 75%, and 95% of the significance threshold.
 - (A) In estimating these levels, the Executive Officer shall consider mitigating effects from various factors, including various diesel substitutes that reduce air emissions of the pollutant for which the significance threshold was identified (e.g., renewable diesel, which reduces NOx emissions); the fleet penetration of new technology diesel engines; composition of the feedstocks used to produce the ADF; volumes of lower-emission CARB diesel fuel, including those with emissions-reducing additives; and other factors as deemed appropriate by the Executive Officer. These factors shall be considered in determining the effective ADF blend level at a specific point (e.g., the ADF blend level adjusted to account for various mitigating factors such as the use of new technology diesel engines and renewable diesel). The effective ADF blend level will then be compared to the significance threshold to determine when mitigation must be applied. The methodology for calculating the effective ADF blend level is specified in section 2293.6.
 - (B) The Executive Officer shall post the results of and basis for such estimates on the ARB's website;
- (3) When the effective ADF blend level reaches 75% of the significance threshold, the Executive Officer shall post on the ARB website a notice of intent to apply the mitigation strategies identified in Appendix A for the ADF when the effective ADF blend level is projected to reach 95% of the significance threshold. Once the 75% level is reached, all suppliers of an affected ADF shall provide monthly reports to the Executive Officer, as specified in section 2293.8;
- (4) Once the effective ADF blend level has reached 95% of the significance threshold, the requirement to apply mitigation becomes effective and any ADF sold in the State must employ at least one of the mitigation strategies specified in Appendix A for that ADF.

Stage 3B: Commercial Sales Subject to No Mitigation

If the Executive Officer has determined that there is no significance threshold for an ADF, no mitigation measures or sales restrictions are required for that ADF. For an ADF that is subject to this provision, the fuel provider shall report to the Executive Officer the following information on a quarterly basis for any such ADF the fuel provider sold, offered for sale, or supplied for use in California:

- (1) The volume of ADF (A100) blendstock, if applicable;
- (2) The volume of ADF (A100) neat fuel, if applicable;
- (3) The volume of ADF/CARB diesel blend, if applicable.

For purposes of this provision, the fuel provider may use information submitted to the ARB through the Low Carbon Fuel Standard Reporting Tool (LRT), as appropriate.

2293.6. Significance Thresholds and Effective ADF Blend Levels

An ADF for which a significance threshold has been determined by the Executive Officer shall be subject to the Stage 3A provisions specified in section 2293.5. The specific mitigation requirements in Appendix A shall apply at the time the Executive Officer determines the effective ADF blend level will be at least 95% of the significance threshold.

Table __. Significance Thresholds

Alternative Diesel Fuel	Significance Threshold	Effective ADF Blend Level	Comments
Biodiesel	B10	See 2293.6(a)	NOx is the pollutant of concern
[Reserved]	[Reserved]		[Reserved]
[Reserved]	[Reserved]		[Reserved]

(a) The effective ADF blend level for biodiesel is calculated as follows:

$$EB = 100 \times [1 - EM] \times \left[\frac{TBV - 0.37LN - VM - 0.5AB}{TCV} \right]$$

Where,

- EB = effective ADF blend level, expressed as percent biodiesel
- LN = low-NOx diesel volume, expressed in gallons
- EM = engine mitigation factor, expressed as a fraction

$$= \left[\frac{NTDE}{DE} \right]$$

NTDE = number of new technology diesel engines, expressed as a whole number

- DE = total number of diesel engines, expressed as a whole number
 TCV = total volume of all fuels used in compression ignition engines in California (not including any fuel with a specification under 13 CCR 2292), expressed in gallons
 VM = volume of biodiesel using one of the mitigation strategies specified in Appendix A prior to the date mitigation is required under (c)(4), expressed in gallons
 AB = volume of animal fats based biodiesel, expressed in gallons

Low-NOx diesel (LN) means a diesel fuel that meets the following specifications:

Table __. Fuel Specifications for Low-NOx Diesel Fuel

Property	Test Method	Limit
Cetane Number	ASTM D613-84	≥ 67
Total Aromatics	ASTM D5186-96	≥ 6.4 mass %
Polycyclic Aromatic Hydrocarbons	ASTM D5186-96	≥ 0.6 mass %
API Gravity	ASTM D287-82	≥ 47.4 degrees API
Nitrogen Content	ASTM D4629-96	≥ 164 ppmw
Sulfur Content	ASTM D5453-93	≥ 5 ppmw

- (b) The effective ADF blend level for other ADFs is calculated as follows:

[Reserved for future use]

2293.7. Specifications for Alternative Diesel Fuels:

Unless otherwise required by a mitigation strategy in effect, any ADF that is sold, offered for sale, supplied for use in California, produced, or imported into California must meet the following specifications:

- (a) Specifications for Biodiesel:

- (1) *Biodiesel Blendstock or Neat Fuel (B100).*

Table __. Fuel Specifications for B100

Property	ASTM Test Method	Value
Cetane number	D613 or D6890	>47
API Gravity	D287-82	>27 degrees API
Sulfur	D2622	<15 ppm
FAME content	EN 14103	>96.5%

- (2) *Biodiesel Blends.* The fuel specifications promulgated by the Division of Measurement Standards in 4 CCR sections 4140-4148, 4200, and 4202-4205 shall apply to any biodiesel blend.

(b) Specifications for Other Alternative Diesel Fuels:

Table _____. Fuel Specifications for Other ADFs

ADF	Property	ASTM Test Method	Value
[Reserved]	[Reserved]	[Reserved]	[Reserved]
[Reserved]	[Reserved]	[Reserved]	[Reserved]
[Reserved]	[Reserved]	[Reserved]	[Reserved]
[Reserved]	[Reserved]	[Reserved]	[Reserved]

2293.8. Reporting and Recordkeeping.

(a) For Stages 1 and 2

A person operating under a Stage 1 or Stage 2 MOU must submit quarterly reports to the Executive Officer throughout the term of the MOU. Each report shall include the following:

- (1) The volume of ADF and ADF blend sold, supplied, or offered for sale during each quarter;
- (2) Progress made toward completing the terms of the MOU;
- (3) Any changes or updates to the information submitted during the application process regarding the beneficial or adverse impacts of the ADF in California.

(b) For Stage 3A

Except as provided in this paragraph, a person operating within Stage 3A must submit quarterly reports to the Executive Officer. Each report shall include the following:

- (1) The volume of ADF and ADF blend sold, supplied, or offered for sale during each quarter;
- (2) The volume or other applicable quantity of the mitigation strategy used during each quarter;
- (3) The blend rate of the mitigation strategy during each quarter, if applicable.

If the Executive Officer publishes notice that the effective ADF blend level has reached 75% of the significance threshold pursuant to section 2293.6(c)(2) and (3), any person subject to this provision shall report the information specified in (1)-(3) above for the affected ADF by the end of each month following the notice publication.

(c) For Stage 3B

A person operating within Stage 3B must submit quarterly reports to the Executive Officer, with each reporting specifying the volume of ADF sold, supplied, or offered for sale in California during each quarter.

2293.9. Severability.

Each part of this subarticle shall be deemed severable, and in the event that any part of this subarticle is held to be invalid, the remainder of this subarticle shall continue in full force and effect.

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Appendix A. Mitigation Measures.

A person subject to the Stage 3 mitigation requirements (section 2293.5(c)) may meet the mitigation requirement by implementing any of the following mitigation measures as applicable, either alone or in combination:

Additives approved for mitigation purposes, Cleaner CARB diesel (i.e., CARB diesel that has properties such that the pollutant that has triggered the significance level finding is already mitigated to the degree necessary to reduce the pollutant emissions below the significance level, an ADF-CARB diesel blend certified as emissions equivalent to CARB diesel or better, a neat ADF finished fuel certified as emissions equivalent to CARB diesel or better, or other options certified by the Executive Officer for this purpose.

(a) Biodiesel:

(1) Approved Emissions Equivalent Additives:

The following list shows the additive and required amounts as well as allowed blend level:

(A) Di-tert-butyl peroxide (DTBP): Biodiesel blendstocks that contain at least 5.0 percent DTBP by volume are considered emissions biased until they are blended with CARB diesel to 20.0 percent or less biodiesel by volume, at which point the blend is considered emissions neutral.

(2) Low-NOx Diesel base fuel.

Hydrocarbon diesel fuel that meets the following specifications shall be considered Low-NOx diesel.

Property	Test Method	Limit
Cetane Number	ASTM D613-84	≥ 67
Total Aromatics	ASTM D5186-96	≤ 6.4 mass%
PAH	ASTM D5186-96	≤ 0.6 mass%
API Gravity	ASTM D287-82	≥ 47.4 degrees API
Nitrogen Content	ASTM D4629-96	≤ 164 ppmw
Sulfur Content	ASTM D5453-93	≤ 5 ppmw

Any biodiesel blend below B20 that was derived from at least 2.75 gallons of Low-NOx diesel for each gallon of biodiesel in the blend, will be considered to emissions neutral.

(3) Certification of Alternative Diesel Fuels Resulting in Emissions Equivalence with Diesel

(A) The executive officer, upon application of any producer or importer, may certify alternative diesel fuel formulations or additives in accordance with this subsection (2286.6). The applicant shall initially

submit a proposed test protocol to the executive officer. The proposed test protocol shall include: (A) the identity of the entity proposed to conduct the tests described in subsection (2286.6)(d); (B) test procedures consistent with the requirements of this subsection (2286.6); (C) test data showing that the fuel to be used as the reference fuel satisfies the specifications identified in subsection (2286.6)(c); (D) reasonably adequate quality assurance and quality control procedures; and (E) notification of any outlier identification and exclusion procedure that will be used, and a demonstration that any such procedure meets generally accepted statistical principles.

Within 20 days of receipt of a proposed test protocol, the executive officer shall advise the applicant in writing either that it is complete or that specified additional information is required to make it complete. Within 15 days of submittal of additional information, the executive officer shall advise the applicant in writing either that the information submitted makes the proposed test protocol complete or that specified additional information is still required to make it complete. Within 20 days after the proposed test protocol is deemed complete, the executive officer shall either approve the test protocol as consistent with this subsection (2286.6) or advise the applicant in writing of the changes necessary to make the test protocol consistent with this subsection (2286.6). Any notification of approval of the test protocol shall include the name, telephone number, and address of the executive officer's designee to receive notifications pursuant to subsection (2286.6)(c)(3)(B). The tests shall not be conducted until the protocol is approved by the executive officer.

Upon completion of the tests, the applicant may submit an application for certification to the executive officer. The application shall include the approved test protocol, all of the test data, a copy of the complete test log prepared in accordance with subsection (g)(4)(C)(ii), a demonstration that the candidate fuel meets the requirements for certification set forth in this subsection (g), and such other information as the executive officer may reasonably require.

Within 20 days of receipt of an application, the executive officer shall advise the applicant in writing either that it is complete or that specified additional information is required to make it complete. Within 15 days of submittal of additional information, the executive officer shall advise the applicant in writing either that the information submitted makes the application complete or that specified additional information is still required to make it complete. Within 30 days after the application is deemed complete, the executive officer shall grant or deny the application. Any denial shall be accompanied by a written statement of the reasons for denial.

(B) *The candidate fuel.*

The candidate fuel to be used in the comparative testing described in subsection 2286.6(e) shall be one of the following:

(i) ADF formulation: The candidate fuel shall be the fuel blendstock or fuel blend that the applicant is attempting to certify. If the applicant is attempting to certify a fuel blend, that blend shall consist of the fuel blendstock blended to 20.0 percent with the reference fuel. The applicant shall report all of the candidate fuel properties under subsection 2286.6(b)(3) for the candidate fuel.

(ii) Biodiesel additives: The candidate fuel shall be a mixture of the additive to be certified at the concentration specified by the applicant and the biodiesel additive certification fuel specified in 2286.6(b)(4). If the additive to be certified is meant to be used in B20 fuel blends, the candidate fuel shall be a mixture of the additive to be certified at the concentration specified by the applicant and the biodiesel additive certification fuel specified in 2286.6(b)(4) blended to 20.0 volume percent biodiesel content with the reference fuel. The applicant shall report all of the candidate fuel properties under subsection 2286.6(b)(3) for the certification fuel without the additive, and the candidate fuel.

(iii) Candidate fuel Properties: The applicant shall report all of the properties of the candidate fuel listed below. The candidate fuel shall be representative of the fuel that the applicant will produce commercially, and shall not contain streams or feedstocks that will not be used in the commercial fuel that the applicant intends to sell. If the executive officer determines that the candidate fuel contains streams or feedstocks that will not be used in the commercial fuel, this will be grounds for rejection of the application.

Candidate fuel properties:

Property	ASTM Test Method
Sulfur Content	D5453-93
Aromatic Hydrocarbon Content, Volume %	D5186-96
Polycyclic Aromatic Content, Weight %	D5186-96
Nitrogen Content	D4629-96
Natural Cetane Number	D613-84
API Gravity	D287-82
Viscosity at 40°C, cSt	D445-83
Flash Point, °F, minimum	D93-80
Distillation, °F	D86-96
Initial Boiling Point	
10 % Recovered	
50 % Recovered	
90 % Recovered	
End Point	
FAME Content %	EN14103
H,C,O Content	

(iv) Biodiesel additive certification fuel: The biodiesels additive certification fuel shall be a biodiesel (fatty acid methyl ester) produced by transesterification of virgin soybean oil with the following properties.

Additive certification fuel blendstock properties

Property	ASTM Test Method	Fuel Specifications
Sulfur Content	D5453-93	15 ppm maximum
Nitrogen Content	D4629-96	10 ppm maximum
Natural Cetane Number	D613-84	47-50
API Gravity	D287-82	27 – 33
Viscosity at 40°C, cSt	D445-83	2.0 – 4.1
Flash Point, °F, minimum	D93-80	266
Distillation, °F	D86-96	
90 % Recovered		620-680
FAME content %	EN 14103	96.5 minimum
C,H,O content		

(C) *The reference fuel.*

(i) The reference fuel used in the comparative testing described in subsection 2286.6(e) shall be produced from straight-run California diesel fuel by a hydrodearomatization process and shall have the characteristics set forth below under "General Reference

Fuel Specifications" (the listed ASTM methods are incorporated herein by reference):

Reference Fuel Specifications

Property	ASTM Test Method	Fuel Specifications
Sulfur Content	D5453-93	15 ppm maximum
Aromatic Hyrdocarbon Content, Volume %	D5186-96	10 % maximum
Polycyclic Aromatic Content, Weight %	D5186-96	10 % maximum
Nitrogen Content	D4629-96	10 ppm maximum
Natural Cetane Number	D613-84	48 minimum
API Gravity	D287-82	33 – 39
Viscosity at 40°C, cSt	D445-83	2.0 – 4.1
Flash Point, °F, minimum	D93-80	130
Distillation, °F	D86-96	
Initial Boiling Point		340 – 420
10 % Recovered		400 – 490
50 % Recovered		470 – 560
90 % Recovered		550 – 610
End Point		580 – 660

(D) Emissions testing:

(i) Exhaust emission tests using the candidate fuel and the reference fuel shall be conducted in accordance with the "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Powered Engines and Vehicles," as incorporated by reference in Title 13, California Code of Regulations, Section 1956.8(b). The tests shall be performed using a Detroit Diesel Corporation Series 60 engine, through December 31, 2017, or a 2004-2006 model-year, Cummins ISM370 engine having a nominal torque rating of 1450 ft-lb and a nominal power output of 360 to 380 hp, and produced between January 2004 and December 2006, inclusive, starting January 1, 2015, or, if the executive officer determines that the 2004-2006 Cummins ISM370 is no longer representative of the pre-2007 model-year, heavy duty diesel engine fleet, another engine found by the executive officer to be representative of such engines. A determination by the executive officer that an engine is no longer representative shall not affect the certification of a diesel fuel formulation based on prior tests using that engine pursuant to a protocol approved by the executive officer.

(ii) The comparative testing shall be conducted by a party or parties that are mutually agreed upon by the executive officer and

the applicant. The applicant shall be responsible for all costs of the comparative testing.

(iii) 1. The applicant shall use one of the following test sequences:

- a. If both cold start and hot start exhaust emission tests are conducted, a minimum of five exhaust emission tests shall be performed on the engine with each fuel, using either of the following sequences, where "R" is the reference fuel and "C" is the candidate fuel: RC RC RC RC RC (and continuing in the same order). or RC CR RC CR RC (and continuing in the same order).

The engine mapping procedures and a conditioning transient cycle shall be conducted with the reference fuel before each cold start procedure using the reference fuel. The reference cycle used for the candidate fuel shall be the same cycle as that used for the fuel preceding it.

- b. If only hot start exhaust emission tests are conducted, one of the following test sequences shall be used throughout the testing, where "R" is the reference fuel and "C" is the candidate fuel:

Alternative 1: RC CR RC CR (continuing in the same order for a given calendar day; a minimum of twenty individual exhaust emission tests must be completed with each fuel)

Alternative 2: RR CC RR CC (continuing in the same order for a given calendar day; a minimum of twenty individual exhaust emission tests must be completed with each fuel)

Alternative 3: RRR CCC RRR CCC (continuing in the same order for a given calendar day; a minimum of twenty-one individual exhaust emission tests must be completed with each fuel)

For all alternatives, an equal number of tests shall be conducted using the reference fuel and the candidate fuel on any given calendar day. At the beginning of each calendar day, the sequence of testing shall begin with the fuel that was tested at the end of the preceding day. The engine mapping procedures and a conditioning transient

cycle shall be conducted after every fuel change and/or at the beginning of each day. The reference cycle generated from the reference fuel for the first test shall be used for all subsequent tests.

For alternatives 2 and 3, each paired or triplicate series of individual tests shall be averaged to obtain a single value which would be used in the calculations conducted pursuant to section (g)(5)(C).

2. The applicant shall submit a test schedule to the executive officer at least one week prior to commencement of the tests. The test schedule shall identify the days on which the tests will be conducted, and shall provide for conducting the test consecutively without substantial interruptions other than those resulting from the normal hours of operations at the test facility. The executive officer shall be permitted to observe any tests. The party conducting the testing shall maintain a test log which identifies all tests conducted, all engine mapping procedures, all physical modifications to or operational tests of the engine, all recalibrations or other changes to the test instruments, and all interruptions between tests and the reason for each such interruption. The party conducting the tests or the applicant shall notify the executive officer by telephone and in writing of any unscheduled interruption resulting in a test delay of 48 hours or more, and of the reason for such delay. Prior to restarting the test, the applicant or person conducting the tests shall provide the executive officer with a revised schedule for the remaining tests. All tests conducted in accordance with the test schedule, other than any tests rejected in accordance with an outlier identification and exclusion procedure included in the approved test protocol, shall be included in the comparison of emissions pursuant to subsection (g)(5).

(iv) In each test of a fuel, exhaust emissions of oxides of nitrogen (NO_x) and particulate matter (PM) shall be measured. In addition, for each test the soluble organic fraction (SOF) of the particulate matter in the exhaust emissions shall be determined in accordance with the Air Resources Board's "Test Method for Soluble Organic Fraction (SOF) Extraction" dated April 1989, which is incorporated herein by reference.

(E) The average emissions during testing with the candidate fuel shall be compared to the average emissions during testing with the reference fuel, applying one-sided Student's t statistics as set forth in Snedecar

and Cochran, *Statistical Methods* (7th ed.), page 91, Iowa State University Press, 1980, which is incorporated herein by reference. The executive officer shall issue a certification pursuant to this paragraph only if he or she makes all of the determinations set forth in subsections 2286.6(e)(1) and 2286.6(e)(2) below, after applying the criteria in subsection 2286.6(e)(3).

- (i) The average individual emissions of NOx, PM, and SOF, respectively, during testing with the candidate fuel do not exceed the average individual emissions of NOx, PM, and SOF, respectively, during testing with the reference fuel.
- (ii) Use of any additive identified pursuant to subsection 2286.6(e) in heavy-duty engines will not increase emissions of noxious or toxic substances which would not be emitted by such engines operating without the additive. In addition, cellular tests on the particulate emissions from heavy-duty engines will not show greater harm for mutagenicity, inflammation, DNA damage, or oxidative stress with the use of any such additive than would occur with such engines operating without the additive.
- (iii) In order for the determinations in subsection 2286.6(e)(1) to be made, for each referenced pollutant the candidate fuel shall satisfy the following relationship:

$$\bar{X}_C < \bar{X}_R + \delta - S_p \cdot \sqrt{2/n} \cdot t(a, 2n-2)$$

Where: \bar{X}_C = Average emissions during testing with the candidate fuel

\bar{X}_R = Average emissions during testing with the reference fuel

δ = tolerance level equal to 1 percent of \bar{X}_R NOx, 2 percent

of \bar{X}_R for PM, and 6 percent of \bar{X}_R for SOF.

S_p = Pooled standard deviation

$t(a, 2n-2)$ = The one-sided upper percentage point of t distribution with $a = 0.15$ and $2n-2$ degrees of freedom

n = Number of tests of candidate and reference fuel

(F) If the executive officer finds that a candidate fuel has been properly tested in accordance with this subsection 2286.6, and makes the determinations specified in subsection 2286.6(e), then he or she shall issue an Executive Order certifying the alternative diesel fuel or additive formulation represented by the candidate fuel. The Executive Order shall identify all of the characteristics of the candidate fuel determined pursuant to subsection 2286.6(b). The Executive Order shall provide that the certified alternative diesel fuel formulation has the following specifications: [1] a sulfur content, total aromatic hydrocarbon content, polycyclic aromatic hydrocarbon content, and nitrogen content not exceeding that of the candidate fuel, [2] a cetane number and API gravity not less than that of the candidate fuel, [3] any additional fuel specification required under subsection 2286.6(b), and [4] presence of all additives that were contained in the candidate fuel, in a concentration not less than in the candidate fuel, except for an additive demonstrated by the applicant to have the sole effect of increasing cetane number. **Need to insert language about applying executive order to biodiesel additives.** All such characteristics shall be determined in accordance with the test methods identified in subsection (g)(2). The Executive Order shall assign an identification name to the specific certified diesel fuel formulation.

(G) In-use testing:

(i) If the executive officer determines that a commercially available diesel fuel blend meets all of the specifications of a certified diesel fuel formulation set forth in an Executive Order issued pursuant to subsection (g)(6), but does not meet the criteria in subsection (g)(5) when tested in accordance with subsection (g)(4), the executive officer shall modify the Executive Order as is necessary to assure that diesel fuel blends sold commercially pursuant to the certification will meet the criteria set forth in subsection (g)(5). The modifications to the order may include additional specifications or conditions, or a provision making the order inapplicable to diesel fuel produced by the producer of the commercially available diesel fuel blend found not to meet the criteria.

(ii) The executive officer shall not modify a prior Executive Order without the consent of the applicant and of the producer of the commercially available diesel fuel blend found not to meet the criteria, unless the applicant and producer are first afforded an opportunity for a hearing in accordance with Title 17, California

Code of Regulations, Part III, Chapter 1, Subchapter 1, Article 4 (commencing with Section 60040). If the executive officer determines that a producer would be unable to comply with this regulation as a direct result of an order modification pursuant to this subsection, the executive officer may delay the effective date of such modification for such period of time as is necessary to permit the producer to come into compliance in the exercise of all reasonable diligence.

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