

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

NOTE: This proposed regulation order for Alternative Diesel Fuel (ADF) represents a working draft by staff of the Air Resources Board and will undergo additional revisions – including some that are likely to be substantive – before an ADF regulation is formally proposed in a filing with the Office of Administrative Law. Among other factors that will affect the final content of staff’s proposal are results of an environmental analysis being conducted under ARB’s certified regulatory program for the California Environmental Quality Act and a multimedia evaluation being conducted pursuant to Health and Safety Code section 43830.8. The environmental review and multimedia evaluation were still underway at the time this working draft of staff’s ADF proposal was released.

REGULATION ON COMMERCIALIZATION OF ALTERNATIVE DIESEL FUELS

Adopt new sections 2293, 2293.1, 2293.2, 2293.3, 2293.4, 2293.5, 2293.6, 2293.7, 2293.8, 2293.9, and Appendix 1, 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, and Appendix 1 is new language and shown as plain text. Existing sections 2290, 2291, 2292.1, 2292.2, 2292.3, 2292.4, 2292.5, 2292.6, and 2292.7 would be grouped as indicated under new subarticle 1 (Specifications for Current Alternative Motor Vehicle Fuels) and revised as indicated. Existing sections 2293 and 2293.5 would be renumbered to 2294 and 2295 and would be grouped as indicated under new subarticle 3 (Ancillary Provisions). The proposed amendments to existing text are shown in underline to indicate addition and ~~strikeout~~ to show deletions. All other portions remain unchanged and are indicated by the symbol *****.]

Chapter 5. Standards for Motor Vehicle Fuels **Article 3. Specifications for Alternative Motor Vehicle Fuels**

Subarticle 1. Specifications for Current Alternative Motor Vehicle Fuels

§2290. Definitions.

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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).

§2291. Basic Prohibitions.

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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).

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

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).

§2292.1 Fuels Specifications for M100 Fuel Methanol.

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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).

§2292.2 Specifications for M-85 Fuel Methanol.

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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).

§2292.3 Specifications for E-100 Fuel Ethanol.

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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).

§2292.4 Specifications for E-85 Fuel Ethanol.

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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).

§2292.5 Specifications for Compressed Natural Gas.

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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).

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

§2292.6 Specifications for Liquefied Petroleum Gas.

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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).

§2292.7 Specifications for Hydrogen.

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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).

Subarticle 2. Commercialization of Alternative Diesel Fuels

§2293. Purpose.

The purpose of this regulation is to establish a comprehensive, multi-stage process governing the commercialization of 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 while preserving or enhancing public health, the environment and the emissions benefits of the existing motor vehicle diesel fuel regulations.

Note: Authority cited: Sections 39600, 39601, 39667, 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. Basic Prohibitions.

- (a) Starting January 1, 2016, no person shall sell, offer for sale or supply an alternative diesel fuel (ADF) intended for use in California unless that person is in compliance with this subarticle and with the terms of any approved and current Memorandum of Understanding issued under section 2293.5 that is applicable to the person or the ADF.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (b) For the purposes of this subarticle, each retail sale of ADF for use in a motor vehicle and each supply of alternative diesel fuel into a motor vehicle fuel tank constitutes a separate sale or supply by each and every person who previously sold or supplied such ADF in violation of this subarticle.

Note: Authority cited: Sections 39600, 39601, 39667, 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.

- (a) For the purposes of this subarticle, the definitions in Health and Safety Code sections 39010 through 39060 shall apply, except as otherwise specified in this subarticle. The following definitions shall also apply to this subarticle:
- (1) “Alternative diesel fuel” or “ADF” means any fuel used in a compression ignition engine that is not petroleum-based, does not consist solely of hydrocarbons, and is not subject to a specification under 13 CCR 2292.1 et seq. All ADFs that are substantially similar to an ADF subject to an approved Executive Order or MOU fall within the class of ADFs subject to that same approved Executive Order or MOU.
 - (2) “Biodiesel” means a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats that is 99-100 percent biodiesel by volume (B100 or B99) and meets the specifications set forth by 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).
 - (3) “Biodiesel Blend” means biodiesel blended with petroleum-based CARB diesel fuel or non-ester renewable diesel..
 - (4) “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 20 percent by volume biodiesel/CARB diesel blend is denoted as “B20”).
 - (5) “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.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (6) “B5” means a biodiesel blend containing no more than five percent biodiesel by volume.
- (7) “B20” means a biodiesel blend containing more than five and no more than 20 percent biodiesel by volume.
- (8) “Candidate ADF” means a fuel that is in the Stage 1 or Stage 2 evaluation process in this subarticle.
- (9) “CARB diesel” means a light or middle distillate fuel that may be comingled with up to five (5) volume percent biodiesel and meets the definition and requirements for “diesel fuel” or “California nonvehicular diesel fuel” as specified in 13 CCR 2281, et seq. “CARB diesel” may include: renewable diesel; gas-to-liquid fuels; Fischer-Tropsch diesel; 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.
- (10) “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>, June 2013, which is incorporated herein by reference.
- (11) “Diesel Substitute” means any liquid fuel that is intended for use as a neat fuel, 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.
- (12) “Executive Officer” means the Executive Officer of the Air Resources Board, or his or her designee.
- (13) “Executive Order” means a document signed by the Executive Officer, or his or her designee, that: a) provides an exemption from in-use requirements, b) approves a formulation under the certification procedures as an equivalent CARB diesel formulation, c) specifies the stage at which a regulated party(ies) for an ADF or candidate 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 or candidate ADF for use in California.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (14) “Finished Fuel” means a fuel that is used directly in a vehicle for transportation purposes without requiring additional chemical or physical processing.
- (15) “Hydrocarbon” means any chemical or mixture that is composed solely of hydrogen and carbon.
- (16) “Importer” has the same meaning as defined in the Low Carbon Fuel Standard (17 CCR 95481(a)).
- (17) “LCFS” means the Low Carbon Fuel Standard (17 CCR 95480—95490).
- (18) “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).
- (19) “Multimedia Evaluation” has the same meaning as defined in Health and Safety Code section 43830.8(b).
- (20) “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, June 2008, which is incorporated herein by reference.
- (21) “New Technology Diesel Engine (NTDE)” means a diesel engine that meets at least one of the following criteria:
 - (A) 2010 ARB emission standards for on-road heavy duty diesel engines under 13 CCR 1956.8.
 - (B) Tier 4 emission standards for non-road compression ignition engines under 13 CCR 2421, 2423, 2424, 2425, 2425.1, 2426, and 2427.
 - (C) 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.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (22) “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.
- (23) “Non-ester renewable diesel blend” means non-ester renewable diesel blended with petroleum-based diesel fuel.
- (24) “Offsetting factors” means any factors in the commercial market that serve to offset the emissions of a pollutant from the use of an ADF. Offsetting factors may include, but are not limited to, the use of:
- (A) Specific vehicle technologies such as NTDEs that have been proven to reduce emissions of the pollutant;
 - (B) Diesel substitutes that reduce emissions of the pollutant; and
 - (C) Feedstocks that have been shown to reduce or eliminate increases in the pollutant.
- (25) “Person” has the same meaning as defined in Health and Safety Code section 39047 and includes, but is not limited to, ADF 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.
- (26) “Pollutant Control Level” means a blend level of an ADF above which per gallon in-use requirements have been established by regulation to ensure no increases in a specific criteria pollutant. .
- (27) “Potential Adverse Emissions Impacts” means for any given ADF or ADF blend, any criteria pollutant for which testing during a multimedia evaluation results in statistically significant increases of that criteria pollutant above an appropriate baseline for that ADF.
- (28) “Producer” has the same meaning as defined in the Low Carbon Fuel Standard (17 CCR 94581(a)).
- (29) “Reference CARB Diesel” has the same meaning as “reference fuel” as that term is defined in 13 CCR 2282(g)(3).
- (30) “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).

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

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

(b) List of Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards
ADF	Alternative Diesel Fuels
ARB or Board	California Air Resources Board
CAA or the Act	Clean Air Act
CDFA	California Department of Food and Agriculture
CEPC or Council	California Environmental Policy Council
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CCR	California Code of Regulations
DME	Dimethyl Ether
DMS	Division of Measurement Standards, (Division within CDFA)
EISA	Energy Independence and Security Act of 2007
EO	Executive Officer
FAME	Fatty Acid Methyl Esters
GHG	Greenhouse Gas
HC	Hydrocarbons
H&SC	California Health and Safety Code
LCFS	California Low Carbon Fuel Standard
MMT	Million Metric Tons
MMWG	Multimedia Working Group
MOU	Memorandum of Understanding
NOx	Oxides of Nitrogen
NREL	National Renewable Energy Lab
NTDE	New technology diesel engines
OSFM	Office of the State Fire Marshal
PAHs	Polycyclic Aromatic Hydrocarbons
PM	Particulate Matter
ppmw	Parts per Million by Weight
RFS	Renewable Fuels Standard
SCR	Selective Catalytic Reduction
SWRCB	California State Water Resources Control Board
SVO	Straight Vegetable Oil
U.S. EPA	U.S. Environmental Protection Agency
UST	Underground Storage Tanks
WVO	Waste Vegetable Oil

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.3. 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 in use requirements specified in Appendix 1;

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.4. General Requirements Applicable to All ADFs.

In addition to the requirements in 2293.5, starting January 1, 2016, 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 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.

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.5. Phase-In Requirements.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

[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 is 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 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 or candidate 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.]

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 a candidate ADF intended for use in motor vehicles in California without an approved Stage 1 MOU governing the limited sales and use of that candidate ADF.

(1) Stage 1 Application.

A person seeking a Stage 1 MOU must submit an application to the Executive Officer that includes all the following information:

- (A) Expected program duration, not to exceed one year except as provided in section 2293.5(a)(4)(B) 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, per ADF total;
- (E) The site(s) in which the testing during this stage will be conducted (including the street address, city, county, and zip code);

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (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 candidate 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 candidate 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 (including by-products), 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 for commercialization under this regulation.
- (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 candidate ADF or candidate ADF/CARB diesel blend in their engines.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (Q) A declaration by the applicant that, either:
1. there is an existing fuel standard for the ADF as required by Business and Professions Code Chapter 14, sections 13400 to 13460; or if no such standard exist,
 2. a copy of the developmental fuel variance the applicant has submitted to the California Department of Food and Agriculture pursuant to Business and Professions Code section 13405 and proof of its approval; and,
 - i. the requirements of Business and Profession Code Section 12001– 13800 other than fuel quality have been met; and,
 - ii. the California Department of Food and Agriculture received a copy of the application required to be submitted under 13 CCR §2293.5.

- (R) Proof that the candidate ADF has been registered with the U.S. Environmental Protection Agency under 40 CFR 79.

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.
- (C) If additional information is required and not received within 60 days the application will be deemed incomplete.

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

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (A) After deeming an application provisionally complete, the Executive Officer shall post the application on ARB's internet web site at for 15 business days for public comments. Only comments related to potential factual or methodological errors may be considered by the Executive Officer. Within 30 calendar 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 candidate 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 candidate ADF.
- (D) 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 candidate ADF fuel in California during the term of the MOU. The terms and conditions shall be based on the information specified in (1)(A)--(R) 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 candidate ADF; and
 3. evidence of substantial progress in working in good faith with the original equipment/engine manufacturers of the engines involved in the MOU, consensus standards organizations (e.g., ASTM), regulatory agencies, and other interested parties toward developing a consensus set of fuel specifications for the candidate ADF.
 4. The use of adequate controls to ensure appropriate fuel quality and performance in consideration of vehicle performance, impact on the

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

environment and fuel production. Appropriate controls include but are not limited to the use of interim fuel specifications and consensus standards.

- (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 candidate 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 2293.5(b) below.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

(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 candidate 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 candidate ADF has potential adverse emissions impacts. The determination of potential adverse emissions impacts determines whether the candidate ADF can proceed to Stage 3A or Stage 3B.]

A person who has successfully completed a pilot program for a candidate ADF under section 2293.5(a) may apply for entrance into a Stage 2 MOU for that candidate ADF.

(1) Stage 2 Application.

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 2293.5(b)(4);
- (B) An estimate of the maximum number of vehicles or engines involved in this stage along with a description of the emissions control technology;
- (C) The mileage duration per vehicle involved in this stage;
- (D) The quantity of the candidate 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

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (G) Identification of the test lab and principal investigator, including his/her curriculum vitae, who will be conducting the multimedia evaluation for the candidate 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 for 30 calendar days for public comments. Only comments related to potential factual or methodological errors or information regarding vehicle performance 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;

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (D) 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, 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 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 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;

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (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 2293.5(c) or (d) below.
- (5) Multimedia Evaluation and Determination of Potential Adverse Emissions Impacts
- (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 an appropriate baseline identified by the multimedia working group, under Stage 2, 3A, and 3B;
- (C) In addition to determining any significant impacts, the multimedia assessment shall also include an evaluation of potential strategies that may reduce or eliminate each of the significant impacts identified;
- (D) Approval of a multimedia evaluation shall be subject to the provisions of Health and Safety Code section 43830.8;

If the findings from the multimedia evaluation indicates a statistically significant increase in any criteria, toxic, or other air pollutant from the use of an ADF in a motor vehicle, compared to the appropriate baseline, the Executive Officer shall determine whether there is a level below which the use of a candidate ADF or a candidate ADF blend would avoid a detrimental impact on ambient pollutant.

(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) Adopt consensus standards applicable to the ADF;

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (C) Obtain approval of at least 75 percent 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 or in-use requirements for the ADF identified as part of the multimedia evaluation conducted according to the provisions of this article;
- (E) Obtain a written determination by the Executive Officer that all the above requirements have been met.

In the event the Executive Officer makes a determination of potential adverse emissions impacts under (5)(E), the Executive Officer shall post notice on the ARB website of his/her intent to initiate an evaluation to determine if the use of an ADF or ADF blends would lead to adverse emissions impacts considering the existence of offsetting factors, and if so develop and establish appropriate fuel specifications and/or in-use requirements to be added to section 2293.6 or 2293.7 as appropriate. Upon completion of that evaluation, 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 In-use requirements

In the event the Executive Officer has determined that a candidate ADF or candidate ADF blend has potential adverse emissions impacts, the Executive Officer shall direct ARB staff to conduct an evaluation to consider the effects of offsetting factors and the resultant impact that the use of the candidate ADF will have on criteria, toxic, or other air pollutants and resultant effect on air quality:

- (1) If the Executive Officer determines that no adverse emissions impact will occur as a result of the use of a candidate ADF or candidate ADF blend, in consideration of offsetting factors, the candidate ADF shall then be subject to the provisions of Stage 3B of this regulation.
- (2) If the Executive Officer finds that after considering the use of offsetting factors, the use of a candidate ADF or candidate ADF blend would result in adverse emissions impacts, then the Executive Officer shall determine conditions of ADF use including, but not limited to appropriate fuel specifications and/or in-use requirements to preclude adverse emission impacts. Conditions of use may consider, but are not limited to, the effect of ADF feedstocks, the region of ADF use, or any seasonal effects relative to emissions impacts on air quality mandates;
- (3) If the Executive Officer finds appropriate fuel specifications and/or in-use requirements that would eliminate or reduce the adverse air quality impacts

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

found in 2293.5(c)(1), then the Executive Officer will direct staff to initiate a rulemaking process to establish those standards under this subarticle.

(d) Stage 3B: Commercial Sales Not Subject to In-use Requirements

If the Executive Officer has determined that there are no potential adverse emissions impacts in accordance with 2293.5(b)(5)(E), or that there would be no adverse emissions impacts in accordance with 2293.5(c)(1) for an ADF or ADF blend, no additional conditions or sales restrictions are required under this article for that ADF or ADF blend. 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 or ADF blend the fuel provider sold, offered for sale, or supplied for use in California:

- (1) The volume of ADF blendstock, if applicable;
- (2) the volume of ADF neat fuel, if applicable;
- (3) the volume of ADF/CARB diesel blend, if applicable; and
- (4) any other appropriate information deemed appropriate.

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.

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.6. In-use Requirements for Specific ADFs subject to Stage 3A.

ADFs which have been determined to have adverse emissions impacts after accounting for offsetting factors shall have a sub-section under this section listing appropriate in-use requirements including pollutant emissions control trigger levels.

(a) Biodiesel Provisions

This section includes specific provisions applicable to the use of biodiesel in the State

- (1) Phase-in period for biodiesel

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

Starting January 1, 2016, any person who produces, imports, blends, sells, or offers for sale or supply any biodiesel, shall be subject to the reporting requirements of Stage 3A, pursuant to 2293.8(b).

Starting January 1, 2018 any person who produces, imports, blends, sells, or offers for sale or supply any biodiesel in California, shall be subject to pollutant control levels under sub section (a)(2) of this section.

(2) Pollutant Control Level

Table A.1 below shows fuel quality requirements for biodiesel blends depending on feedstock saturation and time of year. Biodiesel blends above the pollutant control level for NOx emissions are required to employ one of the in-use requirements for biodiesel listed in Appendix 1.

Table A.1. Pollutant Control Level for NOx

Feedstock Saturation	Time of Year	NOx Control Level
Low Saturation	Apr 1 to Oct 31	B5, 5 volume percent biodiesel
	Nov 1 to Mar 31	B10, 10 volume percent biodiesel
High Saturation	Jan 1 to Dec 31	B10, 10 volume percent biodiesel

(3) Biodiesel saturation level:

Table A.2 below shows the requirements for determination of saturation level for biodiesel feedstocks.

Table A.2 Biodiesel Saturation Level

Biodiesel Saturation Level	Cetane Number or Biodiesel Cetane Index	Test Method
Low Saturation	<56	ASTM D613-10ae1; or ASTM D6890-13a; or ARB SOP XXX
High Saturation	≥56	ASTM D613-10ae1; or ASTM D6890-13a; or ARB SOP XXX

(4) Sunset of Biodiesel Blend Fuel Quality for NOx Control

NOx Control requirements under 2293.6(a)(2) for biodiesel blends up to B20 will no longer be required.

(5) Exemption from In-Use Requirements

- (A) Any person may request an in-use requirement exemption from section 2293.6(a)(2) by submitting an application to the Executive Officer containing all the information required under paragraphs (....)

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (B) For purposes of this subsection, “In-Use Requirement Exemption” means an exemption from fuel requirements described under the in-use requirements stipulated in section 2293.6(a)(2) up to B20 blends, for biodiesel use in fleets that do not result in increased NOx emissions relative to the same fleet operated with CARB diesel.
- (C) Before an exemption can be granted, the following demonstrations must be made:
1. Fueling facility has a centralized, secure fueling area, or uses another secure method of fueling,
 2. Subject vehicle fleet under exemption consist of at least 90 percent in aggregate of either: Light or Medium duty diesel vehicles (GVWR \leq 14,500lbs), or Heavy duty diesel vehicles equipped with New Technology Diesel Engines (NTDEs). The aggregation of this provision shall be weighted according to each vehicle’s rated maximum horsepower.
 3. Subject fleet fueling facility has procedures or protocols in place to reasonably preclude mis-fueling from other vehicles which have not received an exemption in accordance with this subsection.
- (D) In order for an exemption to be granted, the applicant must submit an application containing the following:
1. The name, title, address and telephone number of the person(s) requesting an exemption from whom further information may be requested; and
 2. Type of exemption being sought, either NTDE exemption or Light/medium duty exemption: and
 3. Type of facility being requested for exemption, either public retail refueling facility, private fueling facility; and
 4. For public retail fueling facility, applicant must include information, data, surveys, or other proof, that demonstrates that the customer base being serviced under the exemption will consist in aggregate of 90 percent of Light or Medium duty diesel vehicles (GVWR \leq 14,500lbs), in combination with Heavy duty diesel vehicles equipped with New Technology Diesel Engines (NTDE).
- (E) Within 20 days upon receipt of an application for an application, the executive officer shall advise the applicant in writing either that the application is complete or that specified information is required to make it

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

complete. Within 15 days of submittal of additional information, the executive officer shall advise the applicant in writing that the information submitted makes the application complete or that specified additional information is still required to make application complete. Within 20 days after an application has been deemed complete, the executive office shall grant or deny an application.

- (F) An exemption shall be granted by the executive officer upon successful demonstration of subparagraph (5)(C). The exemption shall be granted in the form of an executive order which shall sunset in accordance with 2293.6(a)(4).

(6) In-Use Requirement Program Review

- (A) On or before December 31, 2019, ARB staff will conduct a program review of biodiesel in-use requirements to determine the efficacy of in-use requirements under section 2293.6(a)(2). In conducting the program review, staff will consider the effects of offsetting factors, in addition to any other factors that may affect NOx emissions stemming biodiesel use in from motor vehicles.

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.7. Specifications for Alternative Diesel Fuels

Unless more stringent specifications are required for 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 A.3. Fuel Specifications for B100

Property	Value	Test Method
Unadditized Cetane Number	≥47	ASTM D613-10ae1
API Gravity	≥27 degrees API	ASTM D287-12b
Sulfur	≤15 ppm	ASTM D5453-93

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

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

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.8. Reporting and Recordkeeping.

(a) Sampling

- (1) For reporting of fuel properties as required by the MOU, an applicable sampling methodology set forth in 13 CCR section 2293.5 shall be used.
- (2) For determination of cetane number- **To be Determined; soliciting comments**

(b) Reporting

- (1) 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:

- (A) The volume of ADF and ADF blend offered, supplied, or sold during each quarter;
- (B) Results of a specified number of representative samples, for fuel properties by test methods specified in the MOU;
- (C) Progress made toward completing the terms of the MOU;
- (D) Any changes or updates to information submitted during the application process regarding the beneficial or adverse impacts of the ADF in California.

- (2) 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:

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- (A) The volume of ADF and ADF blend offered, supplied, or sold during each month;
- (B) Results of a specified number of representative samples, for fuel properties by test methods specified in the MOU;
- (C) The volume of other applicable quantity of the in use requirements used during each month; and
- (D) The blend rate of in use requirements used during each month, if applicable.

(3) For Stage 3B

A person operating within Stage 3B must submit monthly reports to the Executive Officer, with each report specifying the volume of ADF sold, supplied, or offered for sale in California during each month. In addition, the monthly reports shall contain results of a specified number of representative samples, for fuel properties by test methods specified in the MOU.

(c) Recordkeeping

- (1) The ADF producer shall maintain, for two years from the date of each sampling, records showing the sample date, product sampled, container or other vessel sampled, final blend volume, and the results of the fuel properties by the proscribed test methods.
- (2) The ADF importer shall maintain, for two years from the date of each sampling, records showing the sample date, product sampled, container or other vessel sampled, final blend volume, and the results of the fuel properties by the proscribed test methods.
- (3) Biodiesel Recordkeeping Requirements on or after January 1, 2016
 - (A) Producers shall maintain records regarding:
 - Volume of total monthly B100 production supplied to California by facility,
 - Volume of biodiesel produced for California by feedstock,
 - Volume of biodiesel blends sold,
 - Product transfer documentation for B100 including volume sold, CI pathway,
 - Transaction invoices provided to downstream customers, including direct sales to fleets
 - Volume of biodiesel or biodiesel blends sold under exemption from in-use requirements pursuant to 2293.6(5)
 - (B) Importers shall maintain records regarding:

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

- Total volume of B100 or biodiesel blends imported into California by source
 - Volume of biodiesel produced for California by feedstock
 - Product transfer documentation for B100 including volume sold, CI pathway,
 - Transaction invoices provided to downstream customers, including direct sales to fleets
- (C) Blenders shall maintain records pertaining to:
- Volume of biodiesel blends by blend level, including but not limited to B5, B10, B20, B100
 - Product transfer documentation provided to downstream customers
- (D) Distributors shall maintain records pertaining to:
- Product transfer documentation which indicates volume sold, CI pathway,
- (E) Retailers
- Product transfer documentation which indicates volume sold, CI pathway
 - Copy of any exemptions provided pursuant to subparagraph 2293.6(a)(5)
- (4) Biodiesel Recordkeeping Requirements on or after January 1, 2018
- (A) Producers shall also maintain records regarding:
- Volume of B100 that has been produced in accordance with in-use requirements in Appendix 1, including method of NOx control
- (B) Importers shall maintain records regarding:
- Total volume of B100 or biodiesel blends imported into California by source including volumes sold that have been treated for NOx control per in-use requirements in Appendix 1 (if applicable) and method of NOx control
- (C) Blenders shall maintain records
- Statements on invoices indicating NOx control for each transaction of B100 or biodiesel blend as described in Appendix 1
- (D) Distributors
- Statements on invoices indicating that B100 or biodiesel blend contains NOx control and the type of NOx control, as described in Appendix 1
- (E) Retailers
- Statements on invoices indicating that B100 or biodiesel blend contains NOx control and the type of NOx control, as described in Appendix 1

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§2293.9. 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.

Note: Authority cited: Sections 39600, 39601, 39667, 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).

Subarticle 3. Ancillary Provisions

§~~2293~~2294. Equivalent Test Methods.

* * * * *

Note: Authority cited: Sections 39600, 39601, 39667, 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).

§~~2293.5~~2295. Exemptions for Alternative Motor Vehicle Fuel Used in Test Programs.

The Executive eOfficer shall consider and grant test program exemptions from the requirements of this Article in accordance with section 2259.

Note: Authority cited: Sections 39600, 39601, 39667, 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).

Appendix 1. In-use Requirements for Pollutant Emissions Control

A person subject to the Stage 3A in use requirements (section 2293.5(c)) may meet the in-use requirements imposed above the Pollutant Emissions Control Trigger Level by implementing any of the following in-use requirements as applicable, either alone or in combination:

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

Additives approved for NOx emission control purposes, 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 by saturation and blend level:

- (A) Di-tert-butyl peroxide (DTBP): Biodiesel blends above the NOx emission control trigger level that contain DTBP by volume in the amounts specified in the table below meet the in-use requirements for biodiesel.

Table A.5: DTBP NOx Control Blend Level

Biodiesel Saturation Level	Biodiesel Blend Level	Required level of DTBP
Low Saturation	>B5 to <B10	≥ 0.5 percent
	B10 to <B15	≥0.75 percent
	B15 to B20	≥1.0 percent
High Saturation	B10 to <B15	≥ 0.25 percent
	B15 to B20	≥0.5 percent

(B) [Reserved]

(2) 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 (a)(3) of this appendix. 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 (a)(3)(F) of this appendix; (B) test procedures consistent with the requirements of (a)(3) of this appendix; (C) test data showing that the fuel to be used as the reference fuel satisfies the specifications identified in (a)(3)(E) of this appendix; (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 business 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

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

complete. Within 15 business 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 business days after the proposed test protocol is deemed complete, the Executive Officer shall either approve the test protocol as consistent with this (a)(3) of this appendix or advise the applicant in writing of the changes necessary to make the test protocol consistent with (a)(3) of this appendix. 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 (a)(3)(F) of this appendix. 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 (a)(3)(F) of this appendix, a demonstration that the candidate fuel meets the requirements for certification set forth in (a)(3) of this appendix, and such other information as the Executive Officer may reasonably require.

Within 20 business 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 business 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 20 business 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 (a)(3)(F) of this appendix shall be one of the following:

1. 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 percent with the reference fuel. The applicant shall report all of the candidate fuel properties under (a)(3)(C) of this appendix for the candidate fuel.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

2. 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 (a)(3)(D) of this appendix. 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 (a)(3)(D) of this appendix blended to 20 volume percent biodiesel content with the reference fuel. The applicant shall report all of the candidate fuel properties under (a)(3)(C) of this appendix for both the certification fuel without the additive, and the candidate fuel.

(C) 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.

Table A.7: Candidate fuel properties

Property	Test Method
Sulfur Content	ASTM D5453-93
Aromatic Hydrocarbon Content, Volume %	ASTM D5186-03(2009)
Polycyclic Aromatic Content, Weight %	ASTM D5186-03(2009)
Nitrogen Content	ASTM D4629-12
Unadditized Cetane Number	ASTM D613-10ae1
API Gravity	ASTM D287-12b
Viscosity at 40°C, cSt	ASTM D445-12
Flash Point, °F, minimum	ASTM D93-13
Distillation, °F	ASTM D86-12
Initial Boiling Point	
10 % Recovered	
50 % Recovered	
90 % Recovered	
End Point	
FAME Content %	EN14103:2011

(D) *Biodiesel additive certification fuel.*

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

Table A.8: Additive certification fuel blendstock properties

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

Property	Test Method	Fuel Specifications
Sulfur Content	ASTM D5453-93	15 ppm maximum
Nitrogen Content	ASTM D4629-12	10 ppm maximum
Unadditized Cetane Number	ASTM D613-10ae1	47-50
API Gravity	ASTM D287-12b	27 – 33
Viscosity at 40°C, cSt	ASTM D445-12	2.0 – 4.1
Flash Point, °F, minimum	ASTM D93-13	266
Distillation, °F	ASTM D86-12	
90 % Recovered		620-680
FAME Content %	EN 14103:2011	Report

(E) *The reference fuel.*

The reference fuel used in the comparative testing described in (a)(3)(F) of this appendix shall be produced from straight-run California diesel fuel by a hydrodearomatization process and shall have the characteristics set forth below under "Reference Fuel Specifications" (the listed ASTM methods are incorporated herein by reference):

Table A.9: Reference Fuel Specifications

Property	Test Method	Fuel Specifications
Sulfur Content	ASTM D5453-93	15 ppm maximum
Aromatic Hydrocarbon Content, Volume %	ASTM D5186-03(2009)	10 % maximum
Polycyclic Aromatic Content, Weight %	ASTM D5186-03(2009)	10 % maximum
Nitrogen Content	ASTM D4629-12	10 ppm maximum
Unadditized Cetane Number	ASTM D613-10ae1	48 minimum
API Gravity	ASTM D287-12b	33 – 39
Viscosity at 40°C, cSt	ASTM D445-12	2.0 – 4.1
Flash Point, °F, minimum	ASTM D93-13	130
Distillation, °F	ASTM D86-12	
Initial Boiling Point		340 – 420
10 % Recovered		400 – 490
50 % Recovered		470 – 560
90 % Recovered		550 – 610
End Point		580 – 660

(F) *Emissions testing.*

- 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

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

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.

2. 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.

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

3. The applicant shall use one of the following test sequences:
- i. 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.

- ii. 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

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

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 (a)(3)(G) of this appendix.

4. 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 (a)(3)(G) of this appendix.
 5. In each test of a fuel, exhaust emissions of oxides of nitrogen (NO_x) and particulate matter (PM) shall be measured.
- (G) 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 Snedecor 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 (a)(3)(G) below, after applying the criteria of (a)(3)(G) of this appendix.
1. The average individual emissions of NO_x and PM, respectively, during testing with the candidate fuel do not exceed the average

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

individual emissions of NOx and PM, respectively, during testing with the reference fuel.

- 2. Use of any additive identified pursuant to (a)(2)(B) of this appendix 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.
- 3. In order for the determinations of (a)(3)(G) of this appendix to be made, for each referenced pollutant the candidate fuel shall satisfy the following relationship:

$$\bar{x}_C < \bar{x}_R + \delta - S_p \times \sqrt{\frac{2}{n}} \times t(a, 2n - 2)$$

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.
- 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

- (H) If the Executive Officer finds that a candidate fuel has been properly tested in accordance with (a)(3) of this appendix, and makes the determinations specified in (a)(3)(G) of this appendix, 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 (a)(3)(C) of this appendix. The Executive Order shall provide that the

PRELIMINARY DRAFT PROPOSED REGULATION ORDER

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 (a)(3) of this appendix, 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. Additionally the Executive Order shall contain a table mirroring the table in Appendix 1 (a)(1)(A) listing the required concentration of additive at each 5 percent interval of blend level, if applicable. All such characteristics shall be determined in accordance with the test methods identified in (a)(3)(C) of this appendix. The Executive Order shall assign an identification name to the specific certified biodiesel fuel formulation.

(l) In-use testing.

1. If the executive officer determines that a commercially available biodiesel fuel blend meets all of the specifications of a certified biodiesel fuel formulation set forth in an Executive Order issued pursuant to (a)(3)(H) of this appendix, but does not meet the criteria of (a)(3)(G) of this appendix when tested in accordance with (a)(3)(F), the Executive Officer shall modify the Executive Order as is necessary to assure that biodiesel fuel blends sold commercially pursuant to the certification will meet the criteria set forth in (a)(3)(G). The modifications to the order may include additional specifications or conditions, or a provision making the order inapplicable to specified biodiesel fuel producers.
2. The Executive Officer shall not modify a prior Executive Order without the consent of the applicant and of the producer of the commercially available biodiesel 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.

(b) [Reserved]