IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

STATE OF CALIFORNIA, et al., Plaintiffs, v. ELAINE L. CHAO, et al., Defendants.	No. 1:19-cv-2826-KBJ

ENVIRONMENTAL DEFENSE FUND, et al., Plaintiffs, v. ELAINE L. CHAO, et al., Defendants.	No. 1:19-cv-2907-KBJ

MOTION TO DISMISS OR TRANSFER AND
MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT

Defendants move to dismiss these cases under Fed. R. Civ. P. 12(b)(1), for lack of jurisdiction, or in the alternative, move to transfer them to the United States Court of Appeals for the D.C. Circuit pursuant to 28 U.S.C. § 1631.

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INTRODUCTION

Defendants the National Highway Traffic Safety Administration, et al. (collectively "NHTSA") move to dismiss or transfer these cases. Under 49 U.S.C. § 32909, jurisdiction over challenges to NHTSA's rulemaking—including jurisdiction to determine whether NHTSA has the statutory authority claimed—lies exclusively in the courts of appeal. And as Plaintiffs in No. 1:19-cv-2907 (the "Interest Group Plaintiffs") recognize, NHTSA's rulemaking is only one of the two independent bases for a nationally applicable final action issued by the United States Environmental Protection Agency ("EPA") in the same joint rulemaking. EPA's interrelated final action is only reviewable in the United States Court of Appeals for the D.C. Circuit and one of the Interest Group Plaintiffs has already filed a petition for judicial review in that court. Thus, for both jurisdictional reasons and judicial economy, these cases belong in the D.C. Circuit.

On September 19, 2019, NHTSA and EPA signed a joint final action called the Safer Affordable Fuel Efficient (SAFE) Vehicles Rule Part One: One National Program (the "One National Program Action"). *See* 84 Fed. Reg. 51,310 (Sept. 27, 2019). This joint rule consisted of two complementary components, only one part of which is challenged in these cases. Specifically, NHTSA published the Final Rule being challenged here to clarify that federal law preempts state standards limiting tailpipe greenhouse gas emissions.[1] NHTSA's Final Rule ensures that Congress' decision to preempt state standards that are related to fuel economy is

[1] In the One National Program Action, EPA finalized an action to partially withdraw a waiver of Clean Air Act preemption granted to California in 2013. That waiver related to certain model year light duty vehicle criteria pollutant emission standards, tailpipe greenhouse gas emission standards, and a Zero Emission Vehicle (ZEV) mandate. EPA withdrew the portions of the waiver relating to California's tailpipe greenhouse gas emission standards and ZEV mandate, but left in place California's criteria pollutant emission standards. The EPA action was closely intertwined with NHTSA's Final Rule. Despite references to EPA's action weaved throughout both Complaints, Plaintiffs have not challenged EPA's final action here (nor could they do so).

clearly and consistently applied. NHTSA acted to ensure its carefully calibrated fuel economy standards cannot be circumvented by even one State running a different system relating to fuel economy regulation. Both sets of Plaintiffs refer to NHTSA's component of the One National Program Action as the "Preemption Regulations." Both sets of Plaintiffs seek review of the Preemption Regulations. But this Court lacks jurisdiction.

The Preemption Regulations invoke NHTSA's authority under 49 U.S.C. §§ 32901 through 32903 to ensure the uniformity of NHTSA's nationwide fuel economy standards. Those standards have hundreds of billions of dollars of impacts on the economy. As explained below, Congress established a *national* automobile fuel economy program in the Energy Policy and Conservation Act ("EPCA") and set the Secretary of Transportation (who in turn delegated to NHTSA) to the task of balancing competing factors when setting those standards and superintending that system of exclusive regulation. In doing so, Congress expressly prohibited State and local governments from interfering with this program by adopting or enforcing their own fuel economy standards, or even adopting or enforcing laws or regulations *related to* fuel economy standards or average fuel economy standards. *See* 49 U.S.C. § 32919(a).

A standard that regulates tailpipe carbon dioxide ("CO_2") emissions is not just "related to" fuel economy standards. It is a fuel economy standard. Since EPCA's passage in 1975, and pursuant to test protocols that Congress directed EPA to develop in the 1970s, NHTSA has regulated fuel economy by testing and measuring tailpipe emissions of carbon. Higher fuel economy leads to lower carbon emissions, including CO_2 emissions. And there is no technologically feasible way to materially lower tailpipe emissions of CO_2 without increasing fuel economy. NHTSA has thus reasonably concluded that State and local government standards regulating tailpipe emissions of CO_2 and other greenhouse gasses—which have a direct,

unavoidable, and scientifically demonstrated effect on fuel economy—are inconsistent with this national policy and thus are expressly and impliedly preempted.

Crucially, Congress required that any challenge to a regulation carrying out 49 U.S.C. §§ 32901 through 32903 (among other provisions), as the Preemption Regulations do, can only be brought in the federal courts of appeals. *See* 49 U.S.C. § 32909. Plaintiffs have therefore filed in the wrong court. Accordingly, the Complaints should be dismissed for lack of jurisdiction. In the alternative, the Court could transfer these cases to the United States Court of Appeals for the D.C. Circuit—where one of the Interest Group Plaintiffs has already filed a Petition for Review. *EDF v. NHTSA*, Dkt. 19-1200, Doc. No. 1808786 (D.C. Cir. Sept. 27, 2019). In the case of lack of jurisdiction, 28 U.S.C. § 1631 authorizes this Court to transfer this case to another court in which the action "could have been brought at the time it was filed."[2] And, since the related Clean Air Act component issued in tandem with NHTSA's decision in the joint rule at issue can only be challenged in the D.C. Circuit, it is in the "interest of justice," pursuant to 28 U.S.C. § 1631, and would advance judicial economy, to transfer this case to the D.C. Circuit rather than to any other court of appeals.

BACKGROUND

A. The Energy Policy and Conservation Act.

Achieving the goal of uniform, nationwide fuel economy standards is critically important. Congress passed EPCA to, among other things, provide for increased energy efficiency of motor vehicles. *See* Pub. L. 94-163 § 2 (Dec. 22, 1975), 89 Stat. 871, 874. But, when doing so, Congress provided that the agency accomplish this goal in a nuanced manner. *See* 49 U.S.C. §

[2] Although the State Complaint was filed before the joint rule was published in the *Federal Register*, the One National Program Action has now been published and the State Plaintiffs have amended their Complaint to reflect that publication.

32902(f); *Ctr. for Auto Safety v. NHTSA*, 793 F.2d 1322, 1340-41 (D.C. Cir. 1986). Congress recognized that overly stringent standards would result in large expenses for automakers, which would be passed to consumers through price increases. *See, e.g.*, *Competitive Enter. Inst. v. NHTSA*, 956 F.2d 321, 325 (D.C. Cir. 1992) (noting that increased automaker "cost[s] would translate into higher prices for large cars (as well as small)"). As prices increase, fewer consumers can afford new vehicles, which slows down fleet turnover. *See id.* ("[H]igher prices . . . pressur[e] consumers to retain their old cars"). Therefore, Congress required the Secretary of Transportation to balance often conflicting factors, including weighing the need of the nation to conserve energy against technological feasibility and economic practicability, to realistically arrive at stringent, but feasible, standards. 49 U.S.C. § 32902(f).

EPCA directs the United States Department of Transportation ("DOT"), acting through NHTSA, to act as the exclusive regulator of the fuel economy of vehicles sold in the United States. 49 U.S.C. §§ 32901-32919. EPCA defines "fuel economy" as "the average number of miles traveled by an automobile for each gallon of gasoline (or equivalent amount of other fuel) used." *Id.* § 32901(a)(11). NHTSA sets fleet-wide average fuel economy standards that apply to all cars or light trucks sold by a manufacturer in a given year, called "corporate average fuel economy," or "CAFE," standards. NHTSA sets CAFE standards at the level which NHTSA determines is the "maximum feasible average fuel economy level" for a given model year. *Id.* § 32902(a).

NHTSA must consider four criteria in determining maximum feasible average fuel economy standards: (1) technological feasibility; (2) economic practicability, (3) the effect of other motor vehicle standards on fuel economy, and (4) the need of the nation to conserve energy. *Id.* § 32902(f). NHTSA also examines the safety consequences of CAFE standards

when balancing the four statutory factors. *Competitive Enter. Inst. v. NHTSA*, 901 F.2d 107, 120 n.11 (D.C. Cir. 1990). Congress thus directs that the standards are to be neither too low nor too high.

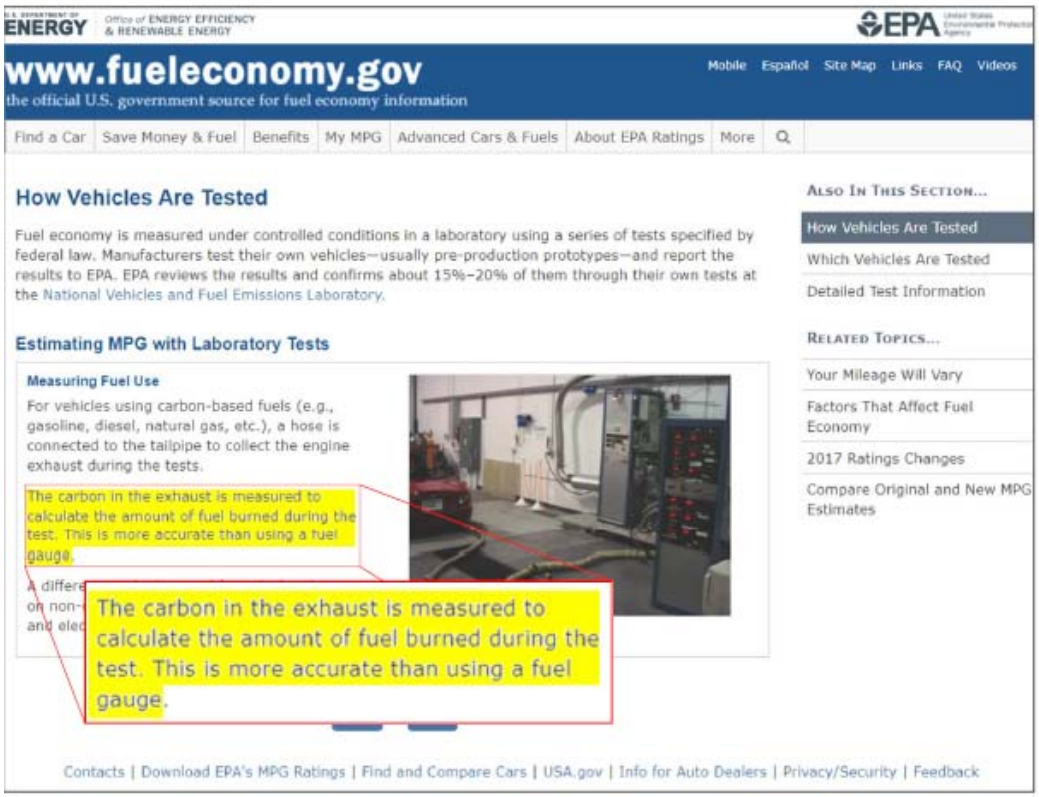
Congress directed that, without exception, when "an average fuel economy standard prescribed under this chapter is in effect, a State or political subdivision of a State may not adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards for automobiles covered [by such federal standard]." 49 U.S.C. § 32919(a).

Under 49 U.S.C. § 32909(a)(1), a regulation "prescribed in carrying out any of sections 32901–32904 or 32908" may be reviewed only through a petition in the court of appeals.

B. The Relationship Between Fuel Economy and Tailpipe Greenhouse Gas Emissions.

There is a scientifically recognized, direct mathematical relationship between the combustion of gasoline (which produces the energy to push the pistons that drive a car engine) and the amount of carbon emitted at the vehicle's tailpipe. This fact is so well understood that, since well before Congress passed EPCA and up to the present day, fuel economy has been tested by measuring the amount of carbon emissions from a vehicle's tailpipe when running a test procedure on a dynamometer. *See* 38 Fed. Reg. 10,868 (May 2, 1973); 49 U.S.C. § 32904(c). In fact, in passing EPCA, Congress specifically *required* that fuel economy is to be measured using EPA's 1975 test procedures, which gauge carbon emissions, or employ test procedures that yield "comparable results." 49 U.S.C. 32904(c). Tellingly, while the formulas differ slightly, EPA uses the same procedures as it uses to measure fuel economy to measure tailpipe carbon emissions performance. *See* 40 C.F.R. §§ 600.113-12(h)(1) (equation for calculating gasoline fuel economy); *id. §* 600.113-12(h)(2) (equation for calculating gasoline carbon related exhaust emissions for compliance with GHG standards). The California Air

Resources Board similarly uses the same basic procedures to measure tailpipe CO_2 emissions performance as part of its own tailpipe greenhouse gas emissions standards.[3]



https://www.fueleconomy.gov/feg/how_tested.shtml (explaining that "[f]or vehicles using carbon-based fuels, a hose is connected to the tailpipe to collect the engine exhaust during the tests" to measure fuel economy).

Because of this direct scientific and mathematic relationship between tailpipe carbon emissions and fuel economy, the more gasoline a vehicle consumes, the more CO_2 is necessarily

[3] *See* 40 C.F.R. § 600.113-12; *California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles*, 100.5.2.3, incorporated by reference in 13 Cal. Code of Regs. 1961.2(d) ("For the purpose of determining conformity with greenhouse gas fleet average requirements, the CO_2, CH_4, and N_2O emissions from all passenger cars, light-duty trucks and medium-duty passenger vehicles shall be measured in accordance with the Federal Test Procedure as set forth in Subpart B, 40 CFR Part 86, as modified in Part II of these test procedures.").

emitted. And so the techniques available to reduce the amount of tailpipe CO_2 emitted per mile from a gasoline engine are the same techniques used to improve fuel economy, i.e., techniques that increase the number of miles that may be driven on a gallon of gasoline. For this reason, a fuel economy standard for an automobile can alternatively be stated as a tailpipe carbon (or CO_2) emission standard (and vice versa).

This means that any federal or state standard that requires reducing the number of grams of CO_2 a vehicle may emit from its tailpipe per mile will correspondingly require an increase in the number of miles per gallon of fuel economy a vehicle must achieve to meet that tailpipe CO_2 emission standard. *See, e.g.*, 84 Fed. Reg. at 51,315 ("[O]nly technology that reduces the amount of gas needed to drive one mile (fuel economy) will reduce the amount of carbon dioxide generated per mile."). Thus, any federal or state standard attempting to regulate the emission of CO_2 from a vehicle's tailpipe directly and inextricably relates to—indeed, it *is* a regulation of—the average fuel economy the vehicle must achieve.

California's greenhouse gas exhaust emission standards amply demonstrate this point. California's standards, expressed as a "CO_2 Target Value" in grams per mile, can be readily translated into fuel economy standards (in miles per gallon) for gasoline-powered vehicles using the well-accepted and straightforward mathematical conversion:

Model Year	**California's "CO_2 Target Value" (grams/mile)**	**Mathematically Equivalent Fuel Economy Standard (miles/gal)**
2017	195.0	45.6
2018	185.0	48.0
2019	175.0	50.8
2020	166.0	53.5
2021	157.0	56.6
2022	150.0	59.4
2023	143.0	62.2
2024	137.0	64.9
2025 (and subsequent years)	131.0	67.8

See, e.g., 13 Cal. Code of Regs. § 1961.3(a)(1)(A) (values for passenger cars) (attached as Exhibit A). This conversion involves nothing more than dividing California's "grams/mile" standard by 8,887, the number of grams of CO_2 produced per gallon of gasoline combusted and taking the reciprocal of that result.[4] California's greenhouse gas emission standard is thus a fuel economy standard—just by another name.

C. The Clean Air Act.

The Clean Air Act ("CAA") authorizes EPA to regulate emissions from new motor vehicles and new motor vehicle engines. CAA Section 202(a), 42 U.S.C. § 7521(a). When EPA establishes an emission standard under CAA Section 202(a), EPA must similarly balance factors such as technological feasibility, the cost of compliance, the lead time necessary for compliance, safety, energy use and security, and the impact on consumers with respect to cost and vehicle choice. *See, e.g.*, 83 Fed. Reg. 42,986, 43,000, 43,228-229 (Aug. 24, 2018). EPA, too, must ensure the standards are not too low, but not too high. In the wake of *Massachusetts v. EPA*, 549 U.S. 497 (2007), EPA adopted federal tailpipe greenhouse gas emission standards for passenger cars and light trucks for model years 2017-2025 jointly with NHTSA's fuel economy standards. 77 Fed. Reg. 62,624 (Oct. 15, 2012).

The CAA preempts states from "adopt[ing] or attempt[ing] to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines." CAA Section 209(a), 42 U.S.C. § 7543(a). EPA can waive that prohibition for any State "which has adopted standards (other than crankcase emission standards) for the control of emissions

[4] Although fuel economy test procedures assess all carbon emissions, CO_2 represents 99% of such emissions. Using 8,887 grams of CO_2 produced per gallon of gasoline combusted is therefore an accepted estimate of the CO_2 produced by a gallon of zero-ethanol gasoline.

from new motor vehicles or new motor vehicle engines prior to March 30, 1966,[5] if the State determines that the State standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards" under CAA Section 202(a). CAA Section 209(b)(1), 42 U.S.C. § 7543(b)(1). But EPA cannot grant such a waiver if the EPA Administrator finds that either "(A) the determination of the State is arbitrary and capricious, (B) such State does not need such State standards to meet compelling and extraordinary conditions, or (C) such State standards and accompanying enforcement procedures are not consistent with [CAA Section 202(a), 42 U.S.C. § 7521(a)]." *Id.* For final actions that are nationally applicable or as to which EPA has made and published a finding that the final action is based on a determination of nationwide scope or effect, challenges to these actions must be brought exclusively in the D.C. Circuit. CAA Section 307(b)(1), 42 U.S.C. § 7607(b)(1).

D. Factual Background.

On September 19, 2019, the Acting Administrator of NHTSA and the Administrator of EPA signed a final joint action pursuant to their respective authorities under the CAA and EPCA. The joint rule titled "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program" was published in the *Federal Register* on September 27, 2019. 84 Fed. Reg. at 51,310.

In the One National Program Action, NHTSA implemented its authority under EPCA. NHTSA issued regulations clarifying that state regulations of tailpipe CO_2 emissions from

[5] Given this timing criterion, only California is eligible to apply for such a waiver from EPA and develop its own standards. *See* 84 Fed. Reg. at 51,331-32 n.218. Pursuant to CAA Section 177, no other States may establish standards, but they may adopt California's standards if "(1) such standards are identical to the California standards for which a waiver has been granted for such model year and (2) California and such State adopt such standards at least two years before commencement of such model year." 42 U.S.C. § 7507.

automobiles, or state regulations having the substantial effect of regulating tailpipe CO_2 emissions, impact NHTSA's implementation of the regulations it establishes under 49 U.S.C. §§ 32901 to 32903, are regulations relating to average fuel economy within the meaning of 49 U.S.C. § 32919, and are preempted. *See* 84 Fed. Reg. at 51,361-63. Thus, even absent the express statutory preemption provision in 49 U.S.C. § 32919, NHTSA found that conflicting state standards are subject to implied preemption, as they directly conflict with the objectives of EPCA and NHTSA's authority to set uniform national standards. *See, e.g. id.* at 51,314, 51,361-63.

More importantly, NHTSA did not stop at the observation that state CO_2 tailpipe emissions regulations or their substantial equivalent impact the agency's Section 32901 to 32903 authority. Instead, NHTSA went farther and repeatedly and unambiguously invoked its "authority . . . under 49 U.S.C. 32901 through 32903, to promulgate regulations to protect the integrity of the national program." *Id.* at 51,316; *see also, e.g., id.* at 51,317, 51,319, 51,320. NHTSA also concluded that, as the agency with delegated authority under EPCA, it is qualified to interpret and apply the requirements of the statute—including as to preemption. *See id.* at 51,320 (citing *Geier v. Am. Honda Motor Co., Inc.*, 529 U.S. 861 (2000); *Medtronic, Inc. v. Lohr*, 518 U.S. 470 (1996); *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941); *Nat'l Rifle Ass'n v. Reno*, 216 F.3d 122 (D.C. Cir. 2000)); *cf. U.S. Term Limits, Inc. v. Thornton*, 514 U.S. 779, 829 (1995) ("The Constitution 'nullifies sophisticated as well as simple-minded modes' of infringing on constitutional protections.") (quoting *Lane v. Wilson*, 307 U.S. 268, 275 (1939)). NHTSA was in the best position to determine what was necessary to "carry[] out" and safeguard its regulatory program from circumvention and it did in the One National Program Action by using its Section 32901 to 32903 powers. *See* 49 U.S.C. § 32909 (referring to the consequences of

NHTSA's invocation of its powers concerning "regulation[s] prescribed in carrying out any of sections 32901–32904 or 32908 of this title").

In a related portion of the joint One National Program Action, EPA withdrew the CAA preemption waiver it had previously provided to the State of California under CAA Section 209(b), 42 U.S.C. § 7543(b). EPA withdrew the portions of that State's "Advanced Clean Cars Program" that include greenhouse gas tailpipe emission standards and a Zero Emission Vehicle mandate. Under CAA Section 307(b)(1), 42 U.S.C. § 7607(b)(1), EPA's component of the joint action can only be challenged in the United States Court of Appeals for the D.C. Circuit, within 60 days after notice of the joint final action appears in the *Federal Register*. *See* 84 Fed. Reg. at 51,351 (final action is nationally applicable and, alternatively, EPA made a finding, and published such finding, that the final action is based on a determination of nationwide scope or effect).[6] Multiple representatives of the State Plaintiffs and the Interest Group Plaintiffs have publicly declared the view that EPA's action is unlawful and will not withstand legal challenge.[7]

STANDARD OF REVIEW

On a motion to dismiss pursuant to Federal Rule of Civil Procedure 12(b)(1), the court must determine whether the complaint sets forth allegations sufficient to establish the court's jurisdiction over the subject matter of the claims for relief. Because federal courts are courts of

[6] Nothing in this motion should be construed as a waiver of any objection to the proper venue of any challenge to the One National Program Action.

[7] *See, e.g.*, https://www.politico.com/story/2019/09/17/epa-california-obama-waiver-1500336 (quoting the EDF president as referring to the agencies' approach as "unlawful" and representing that EDF would "fight the Trump EPA's move in court"; "California Attorney General Xavier Becerra has also vowed to fight any attack on the state's authority in court"); https://www.eenews.net/stories/1061135105 (executive director of Sierra Club referring to the revocation of the waiver as "illegal"; California Attorney General Becerra "promised to sue the Trump Administration").

limited jurisdiction and may hear cases only to the extent expressly provided by statute, the first and fundamental question presented by every case is whether the court has jurisdiction to hear it. *Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 94 (1998) ("jurisdiction [must] be established as a threshold matter"). The burden of establishing subject matter jurisdiction rests with the plaintiff. *Kokkonen v. Guardian Life Ins. Co. of Am.*, 511 U.S. 375, 377 (1994) (citations omitted) (it is "to be presumed that a cause lies outside this limited jurisdiction, and the burden of establishing the contrary rests upon the party asserting jurisdiction"); *Khadr v. United States*, 529 F.3d 1112, 1115 (D.C. Cir. 2008). Where subject matter jurisdiction does not exist, "the court cannot proceed at all in any cause." *Steel Co.*, 523 U.S. at 94 (internal quotation marks and citation omitted).

Under 28 U.S.C. § 1631, a court has authority to transfer a case if the transferee court would have been able to exercise jurisdiction on the date that it was filed, the transferor court lacks jurisdiction over the case, and the transfer is in the interests of justice. *Creed v. NTSB*, 758 F. Supp. 2d 1, 8 (D.D.C. 2010).

ARGUMENT

I. The Court of Appeals Has Exclusive Jurisdiction to Review the Preemption Regulations.

The State Plaintiffs' first three claims for relief facially challenge the substance of the Preemption Regulations. They allege, respectively, that the Preemption Regulations are in excess of NHTSA's statutory jurisdiction or authority; that they are *ultra vires*; and that they are arbitrary and capricious, contrary to law, and unwarranted by the facts. Am. & Supp. Compl. ¶¶ 125-157, *California v. Chao*, Dkt. 19-cv-2826, Doc. No. 22-5 (D.D.C. Oct. 8, 2019) (the "Amended State Compl."). Although presented in a different order, the Interest Group Plaintiffs

plead the same claims for relief as the State Plaintiffs. Compl. ¶¶ 92-116, 125-27, *EDF v. Chao*, Dkt. 19-cv-2907, Doc. No. 1 (D.D.C. Sept. 27, 2019) (the "Interest Group Compl.").

Plaintiffs have brought these claims in the wrong court. EPCA's judicial review provision, 49 U.S.C. § 32909, vests jurisdiction to review Plaintiffs' claims exclusively in the federal courts of appeals. EPCA provides that

> A person that may be adversely affected by a regulation prescribed in carrying out any of sections 32901–32904 or 32908 of this title may apply for review of the regulation by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit or in the court of appeals of the United States for the circuit in which the person resides or has its principal place of business.

Id. § 32909(a)(1).[8] Where Congress has provided that judicial review may be had in a specific court, that court has exclusive jurisdiction. *See, e.g., Telecomms. Research and Action Ctr. v. FCC*, 750 F.2d 70, 77 (D.C. Cir. 1984) ("*TRAC*") ("[A] statute which vests jurisdiction in a particular court cuts off original jurisdiction in other courts in all cases covered by that statute"); *Rochester v. Bond*, 603 F.2d 927, 931 (D.C. Cir. 1979).

EPCA's grant of jurisdiction to the court of appeals is broad. It provides for exclusive review of all "regulations prescribed in carrying out any of sections 32901-32904 or 32908 of this title." 49 U.S.C. § 32909(a)(1). Here, Congress has stated a broad intent that the court of appeals has exclusive authority to review not only the specific regulations directly promulgated under the provisions cited in Section 32909(a)(1), but also of any regulations NHTSA issues that more broadly "carry[] out" those sections of the statute.

The Preemption Regulations, at a minimum, "carry[] out" the EPCA provisions cited in 49 U.S.C. § 32909. NHTSA expressly and repeatedly invoked Sections 32901 through 32903 as

[8] Although the statute allows for review in any court of appeals, this brief refers to the court of appeals in the singular because the D.C. Circuit is the court that should hear Plaintiffs' claims. *See* Argument II, *supra* at 19.

the source of NHTSA's authority. It explained that a proper understanding of the scope of preemption is essential to the integrity of the statutory scheme that calls for NHTSA to promulgate national CAFE standards. *See, e.g.*, 84 Fed. Reg. at 51,316 ("NHTSA is exercising its authority today, under 49 U.S.C. §§ 32901 through 32903, to promulgate regulations to protect the integrity of the national program."); *id.* at 51,317 ("The regulation NHTSA is finalizing in this document implements that authority in 49 U.S.C. § 32902 by clarifying the State requirements that impermissibly interfere with its statutory role to set nationally applicable standards."); *id.* at 51,319-20. And NHTSA noted that to the extent there is any ambiguity in Section 32919, "NHTSA is the expert agency given authority to administer the Federal fuel economy program and has expert authority to interpret and apply the requirements of EPCA, including preemption." *Id.* at 51,320. Thus, NHTSA has the authority to interpret the statute to preempt state standards that conflict with NHTSA's Congressionally-delegated implementation of the fuel economy program. *See Medtronic, Inc. v. Lohr*, 518 U.S. 470, 496 (1996) ("Because the FDA is the federal agency to which Congress has delegated its authority to implement the provisions of the Act, the agency is uniquely qualified to determine whether a particular form of state law 'stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress,' *Hines v. Davidowitz*, 312 U.S. 52, 67, 61 S. Ct. 399, 404, 85 L. Ed. 581 (1941), and, therefore, whether it should be preempted."); *see also Geier v. Am. Honda Motor Co., Inc.*, 529 U.S. 861, 883 (2000) ("Congress has delegated to DOT authority to implement the statute; the subject matter is technical; and the relevant history and background are complex and extensive. The agency is likely to have a thorough understanding of its own regulation and its objectives and is 'uniquely qualified' to comprehend the likely impact of state requirements.").

The Preemption Regulations are directly and integrally tied to NHTSA's authority to set and implement national, uniform fuel economy standards that are neither too low nor too high. *See, e.g.*, 49 U.S.C. § 32902(a) (requiring NHTSA to prescribe by regulation, each model year, the "maximum feasible average fuel economy level that the Secretary decides the manufacturers can achieve in that model year" as the applicable average fuel economy standard); *see also* 84 Fed. Reg. at 51,312 ("Uniform national fuel economy standards are essential to accomplishing the goals of EPCA.").

In particular, the Preemption Regulations interpret EPCA to provide that the standards NHTSA sets are, in fact, uniform and nationwide standards as Congress intended, rather than standards that are applicable only piecemeal due to a patchwork of conflicting state or local requirements. *See id.* at 51,311; *id.* at 51,313 ("Congress's intent to provide for uniform national fuel economy standards is frustrated when State and local actors regulate in this area."); *id.* at 51,316 ("Preemption provides for just that uniformity. Indeed, that was the very purpose for Congress's including the express preemption provision in EPCA."). The Preemption Regulations are therefore directed toward "carrying out" the pertinent provisions of EPCA that provide for national fuel economy standards, namely 49 U.S.C. §§ 32901 through 32903.

The language of Section 32909 confirms that the exclusive judicial review mechanism encompasses regulations such as these. If Congress had intended a narrower judicial review provision, limited only to regulations that specifically establish CAFE standards, it easily could have deleted the phrase "carrying out," leaving the statutory text to provide for court of appeals review of any "regulations prescribed in sections 32901-32904 or 32908." It is a fundamental canon of interpretation that courts do not read a statute in a way that renders any part of it superfluous. *See, e.g., Agnew v. Gov't of the D.C.*, 920 F.3d 49, 57 (D.C. Cir. 2019). The

statute's broad reference to "regulations . . . carrying out" the agency's responsibility to set national CAFE standards should thus be given effect by recognizing that the Preemption Regulations must be reviewed directly in the court of appeals.

Comparing the text of Section 32909 with that in other judicial review provisions in which Congress used narrower phrasing illustrates this point. For instance, 49 U.S.C. § 30161(a) provides for court of appeals review of "an order prescribing a motor vehicle safety standard under this chapter." Likewise, 33 U.S.C. § 1369(b)(1) enumerates seven explicit categories of EPA actions as to which jurisdiction for judicial review lies in a court of appeals. These provisions demonstrate that, where Congress intends to specify that only discrete agency actions are reviewable in a particular court it knows how to do so—and it did not do so here.

The Supreme Court's decision in *National Association of Manufacturers v. Department of Defense*, 138 S. Ct. 617 (2018), addressing 33 U.S.C. § 1369(b)(1), also highlights this distinction. Among other things, EPA and the United States Army Corps of Engineers argued that judicial review of their rule defining "waters of the United States" (the "WOTUS Rule") must take place in the courts of appeals because the WOTUS Rule fell into one of the categories under Section 1369(b)(1): "approving or promulgating any effluent limitation or other limitation under section 1311 [of the Clean Water Act]." 138 S. Ct. at 628. In considering what it means for a regulation to be promulgated "under" the cited provisions, the Court observed that the regulation "must be approved or promulgated 'pursuant to' or 'by reason of the authority of'" those provisions. *Id.* (citations omitted). The Court rejected the federal agencies' argument in the context presented there. It explained that the WOTUS Rule was not an effluent or other limitation under Section 1311, as contemplated by Congress. Section 1311 generally bans the discharge of pollutants into navigable waters without a permit. *See id.* at 628-29. The WOTUS

Rule, by contrast, defined the statutory phrase "waters of the United States" and was promulgated under "EPA's general rulemaking authority 'to prescribe such regulations as are necessary to carry out [its] functions' under the Act." *Id.* (emphasis added) (also rejecting the agencies' argument relying on the "legal and practical effect" of the WOTUS Rule on agency actions under Section 1311). These cases, by contrast, are the opposite of the Supreme Court case involving the WOTUS Rule.

First, the relevant jurisdictional provision, 49 U.S.C. § 32909(a), is a far broader judicial review provision than that at issue in *National Association of Manufacturers*. Section 32909(a) it is not limited to particular, discrete agency actions or regulations, as is 33 U.S.C. § 1369(b)(1). Rather, Section 32909 expansively provides for jurisdiction over challenges to any regulations "carrying out" any aspect of the broad provisions it cites.

Second, even if EPCA's review provisions were phrased in the more restrictive terms of the Clean Water Act, it would still meet the criteria outlined by the Supreme Court. Specifically, as discussed above, in the joint rule challenged here, NHTSA clearly and expressly explained why it believed the EPCA preemption determination was, in the parlance used by the Supreme Court in *National Association of Manufacturers,* promulgated "pursuant to" and "by reason of the authority of" Sections 32901-903, as described above.

Third, NHTSA's reading is consistent with prior practice. Similar challenges to NHTSA rules, including some brought by several of the plaintiffs in these cases, have properly been brought in the courts of appeals in the first instance. Specifically, Natural Resources Defense Council, Sierra Club, Center for Biological Diversity, the State of California, the State of Maryland, the State of New York, the Commonwealth of Pennsylvania, and the State of Vermont—all of whom are Plaintiffs here—recently sought initial review of a NHTSA rule in

the Second Circuit, citing Section 32909(a). *See NRDC v. NHTSA*, Dkt. No. 17-2780, Doc. 115 (2d Cir. Mar. 6, 2018). The rule at issue in that case related to civil penalties for a motor vehicle fleet that fails to meet the applicable fuel economy standards, governed by 49 U.S.C. § 32912(b). *See, e.g., id.* at 7. Six of those Plaintiffs among others, again filed suit directly in the Second Circuit to challenge a subsequent rule also related to civil penalties under 49 U.S.C. § 32912(b) for failure to meet applicable fuel economy standards. *See State of New York v. NHTSA*, Case No. 19-2395 (filed Aug. 2, 2019); *NRDC v. NHTSA*, Case No. 19-2508 (2d Cir. filed Aug. 12, 2019). Although Section 32912(b) is not one of the sections specifically listed in the judicial review provision, Section 32909(a), because Section 32912(b) is related to "carrying out" fuel economy standards, *see, e.g.*, 49 U.S.C. § 32902(a), jurisdiction was proper in the court of appeals. These Plaintiffs and the Second Circuit implicitly recognized that jurisdiction was proper in that case. The same result applies here.

Both sets of Plaintiffs assert jurisdiction in this Court under the federal question statute, 28 U.S.C. § 1331. *See* Amended State Compl. ¶ 14; Interest Group Compl. ¶ 2. But it is well-settled in this Circuit that Section 1331 does not provide jurisdiction where, as here, Congress has specified a specialized judicial review procedure for agency action. "[A] statute which vests jurisdiction in a particular court cuts off original jurisdiction in other courts in all cases covered by that statute." *TRAC*, 750 F.2d at 77 (citations omitted).

Because judicial review of the Preemption Regulations lies only in the court of appeals, this Court should dismiss the Complaints.

II. The D.C. Circuit Should Resolve Any Dispute Regarding Its Jurisdiction.

To the extent there is any question whether NHTSA properly invoked its authority under 49 U.S.C. §§ 32901-03 in issuing the Preemption Regulations, the United States Court of Appeals for the D.C. Circuit, not this Court, should resolve that question.

First, the allegation that an agency lacks statutory authority is not a sufficient basis to evade an otherwise applicable jurisdictional provision. Both the Supreme Court and the D.C. Circuit have held that litigants cannot bootstrap themselves into jurisdiction in an improper forum by characterizing an agency action as *ultra vires*. *See, e.g., FCC v. ITT World Commc'ns, Inc.*, 466 U.S. 463 (1984) (given the court of appeals' exclusive jurisdiction over final orders of the FCC, the district court could not entertain a challenge that the agency's actions pursuant to the challenged rule were *ultra vires*; litigant could not "evade these provisions by requesting the District Court to enjoin action that is the outcome of the agency's order"); *Sagar v. Mnuchin*, No. 18-5183, 2019 U.S. App. LEXIS 5098, at *2-3 (D.C. Cir. Jan. 29, 2019) ("[A] party may not obtain jurisdiction by repackaging a challenge to the merits of an agency's determination as a claim that the agency was acting beyond its authority."); *Hunter v. FERC*, 348 F. App'x 592, 593-94 (D.C. Cir. 2009) (explaining that "[t]he inherent *ultra vires* power speaks only to Hunter's opportunity for judicial review, not his ability to choose which court shall review his case"). Thus, Plaintiffs cannot avoid the jurisdictional scope of Section 32909 by asserting that the Preemption Regulations are outside the scope of Section 32909. Claims that an agency acted *ultra vires* must be resolved in the same court that has jurisdiction to review the underlying agency action, i.e., the courts of appeals.

Second, this Circuit's precedent counsels in favor of exclusive jurisdiction in the court of appeals. In *TRAC*, the D.C. Circuit suggested that any suit seeking relief that may affect a court

of appeals' future exclusive jurisdiction must be brought in the first instance in the court of appeals. *TRAC*, 750 F.2d at 74-76. The D.C. Circuit considered the question: where a statute commits final agency action to review by the court of appeals, does that court have jurisdiction to hear suits seeking relief that would affect its future statutory jurisdiction? *Id.* at 74. The court, in a ruling considered and approved by the entire court, held that it does. *Id.* at 75 n.24.

Petitioners in *TRAC* sought to compel the FCC to decide certain matters that were pending before the agency, arguing that the FCC had unreasonably delayed in doing so. Under the relevant judicial review statute, exclusive jurisdiction to review the FCC's orders is vested in the appellate courts. The court reasoned that because its future jurisdiction to review the merits might be defeated by the lack of agency action, the circuit court should also be the forum to resolve claims that an agency has unreasonably delayed in taking action reviewable in the circuit court. *Id.* at 76 (citations omitted).

Although *TRAC* involved an action seeking to compel an agency to perform a mandatory statutory duty unreasonably delayed, the principles of *TRAC* apply to this action. The Preemption Regulations invoke NHTSA's authority under 49 U.S.C. §§ 32901-03. And there is no room for dispute that, if NHTSA is correct, jurisdiction to review the merits of those regulations would lie in the court of appeals under 49 U.S.C. § 32909(a)—just as Interest Group Plaintiffs have already conceded that "EPA's nationally applicable 'final action[s]'" jointly promulgated with NHTSA "are not challenged here because the CAA vests federal courts of appeals with exclusive jurisdiction to review them. 42 U.S.C. § 7607(b)(1)." Interest Group Compl. ¶ 61. In order to protect its jurisdiction to review the merits, the courts of appeals must have jurisdiction to first resolve whether the Preemption Regulations are *ultra vires* and beyond the scope of its powers under §§ 32901-903 in the first instance. *See TRAC*, 750 F.2d at 75

("[W]here a statute commits review of agency action to the Court of Appeals, any suit seeking relief that might affect the Circuit Court's future jurisdiction is subject to the *exclusive* review of the Court of Appeals."); *Ukiah Adventist Hosp. v. FTC*, 981 F.2d 453, 548-50 (D.C. Cir. 1992) (finding *TRAC* applicable where the district court's disposition of the case might have affected the circuit court's future jurisdiction).

Third, judicial economy favors litigating the questions presented here in the D.C. Circuit—which will hear Interest Group Plaintiffs' and State Plaintiffs' petitions to review EPA's companion decision withdrawing the Clean Air Act waiver. *See, e.g.*, *Fla. Power & Light Co. v. Lorion*, 470 U.S. 729, 742-43 (1985). Again, Interest Group Plaintiffs do not dispute that EPA's withdrawal decision is only reviewable in the court of appeals. Interest Group Compl. ¶ 61. So the D.C. Circuit will be considering challenges to the One National Program Action, since EPA's final action is nationally applicable and EPA made and published a finding that the action is based on a determination of nationwide scope or effect. *See* CAA Section 307(b)(1), 42 U.S.C. § 7607(b)(1); 84 Fed. Reg. at 51,351. Divorcing the two challenges over the same joint agency action and subject matter would be glaringly inefficient. Separate cases—particularly where one of the two courts is a district court whose decision would later be reviewed by the other court (of appeals)—means that multiple courts within the same circuit will unnecessarily be called on to duplicate their efforts.

Moreover, Plaintiffs themselves plead that their injury claimed from NHTSA's action derives, in part, from EPA's waiver withdrawal. *See* Amended State Compl. ¶ 120; Interest Group Compl. ¶ 90. Woven throughout the fabric of the Complaints are allegations relating to EPA's decision to withdraw the waiver of preemption under CAA Section 209 for California's greenhouse gas tailpipe emission standards. *See, e.g.*, Amended State Compl. ¶¶ 4, 7, 48-73,

113. For instance, the State Plaintiffs specifically note that EPA "expressly relies on the Preemption Regulation[s] in its separate action withdrawing a waiver of preemption for the California standards that EPA previously granted under Section 209(b) of the Clean Air Act." *Id.* ¶ 7. The State Plaintiffs then recount their view of the lengthy history underlying this Clean Air Act waiver, including their views of its relationship to EPCA. *Id.* ¶¶ 48-73. The Interest Group Plaintiffs similarly acknowledge that their challenge to the Preemption Regulations is directly tied to EPA's withdrawal of the waiver of preemption under the Clean Air Act. They, too, allege standing in part on the view that invalidating the Preemption Regulations will "invalidat[e] an independent basis for EPA's partial revocation of California's 2013 waiver and any related decisions by EPA." Interest Group Compl. ¶ 90; *see also id.* ¶¶ 19-23, 35-53, 61, 81.

Because "an independent and severable basis for EPA's decision" is NHTSA's rulemaking, *id.* ¶ 81, both sets of Plaintiffs' success against NHTSA is *necessary* to obtain redress for the harms alleged. But these pleadings implicitly acknowledge that success against NHTSA isn't entirely *sufficient* to remedy all the harms they allege. For example, State Plaintiffs' claimed injuries to their "sovereign interests" and "ability to address greenhouse gas emissions," Amended State Compl. ¶ 120, can only ultimately be remedied by setting aside *both* the Preemption Regulations and EPA's waiver withdrawal. Thus, proceeding with separate cases in this Court, when only the D.C. Circuit is in a position to dispositively settle all the legal questions of the same joint action, would be wasteful.

As the Supreme Court has explained, such bifurcated judicial review of orders issued in the same proceeding is disfavored. *See Lorion*, 470 U.S. at 743 (rejecting a result that would cause duplication of judicial review in the district court and a court of appeals). As *Lorion* explained, this result is "implausible" and, in the absence of specific evidence of congressional

intent, "review of orders resolving issues preliminary or ancillary to the core issue in a proceeding should be reviewed in the same forum as the final order resolving the core issue." *Id.* Moreover, "[i]n rulemakings, in which there is no need for judicial development of an evidentiary record, there is no gain from vesting jurisdiction in district courts." *N.Y. Republican State Comm. & Tenn. Republican Party v. SEC*, 799 F.3d 1126, 1131 (D.C. Cir. 2015). Thus, as *Lorion* explains, "[t]he factfinding capacity of the district court is thus typically unnecessary to judicial review of agency decisionmaking" and "[p]lacing initial review in the district court[s] [has] the negative effect . . . of requiring duplication of the identical task in the district court and in the court of appeals." *Lorion*, 470 U.S. at 744.

Because review of EPA's withdrawal of the waiver will necessarily occur in the D.C. Circuit, review of the Preemption Regulations—a partial predicate for the EPA decision—should occur in the same forum.

III. The Court of Appeals' Exclusive Jurisdiction to Review Challenges to the Preemption Regulations Includes NEPA Challenges.

The Plaintiffs' NEPA claims must also be dismissed for many of the same reasons stated above. There is no alternate judicial review framework for NEPA claims separate from other challenges to the Preemption Regulations. NEPA challenges must be assessed alongside other challenges to the Preemption Regulations in a federal court of appeals.

Review of NEPA claims occurs pursuant to the Administrative Procedure Act ("APA") because, "[i]n drafting NEPA . . . Congress did not create a private right of action." *Pub. Citizen v. U.S. Trade Representative*, 5 F.3d 549, 551 (D.C. Cir. 1993) (citing *Lujan v. Nat'l Wildlife Fed'n*, 497 U.S. 871, 882 (1990)). Further, when a special statutory review provision governs designated agency decisions, it is presumed to be exclusive over more general review provisions. 5 U.S.C. § 703 (prescribing default for judicial review as "the special statutory review

proceeding relevant to the subject matter in a court specified by statute"); *Block v. North Dakota*, 461 U.S. 273, 285 (1983); *TRAC*, 750 F.2d at 77 (D.C. Cir. 1984) ("a statute which vests jurisdiction in a particular court cuts off original jurisdiction in other courts in all cases covered by that statute."); *Bond*, 603 F.2d at 935. The presumptive availability of district court review over NEPA claims is irrelevant where a special review provision applies, as it does here. 49 U.S.C. § 32909; *Bond*, 603 F.2d at 935-36. Therefore, NEPA claims brought in a case challenging the Preemption Regulations must also be brought in a federal court of appeals. For example, in *Center for Biological Diversity v. National Highway Traffic Safety Administration*, several states and public interest organizations petitioned for review of a rule issued by the NHTSA in the Ninth Circuit. 538 F.3d 1172, 1181 (9th Cir. 2008). In that case, the plaintiffs brought their EPCA and NEPA challenges directly in the Ninth Circuit and that court fully adjudicated the claims in the first instance. *Id*. at 1212–27.

A contrary holding would thwart the policies of centralized jurisdiction. Federal courts strive to avoid piecemeal litigation so as to encourage the prompt resolution of challenges to agency actions. *See Bond*, 603 F.2d at 936 (rejecting district court's jurisdiction over NEPA claim where "coherence and economy are best served if all suits pertaining to designated agency decisions are segregated in particular courts."); *Envtl. Def. Fund v. EPA*, 485 F.2d 780, 782-83 (D.C. Cir. 1973) (district court review of NEPA challenge to FIFRA order would defeat policy of FIFRA "to insure speedy resolution of the validity of EPA determinations").

NEPA claims in particular, when they are based on agency actions subject to special statutory review, do not warrant independent review in the district courts. NEPA contains no independent cause of action or jurisdictional provision, and a plaintiff must rely on the APA to bring a NEPA claim. *Karst Envtl. Educ. & Prot., Inc. v. EPA*, 475 F.3d 1291, 1295 (D.C. Cir.

2007); *Pub. Citizen*, 5 F.3d at 551. For APA claims, *de novo* factfinding is neither required nor appropriate. *See Lorion*, 470 U.S. at 744 (noting "factfinding capacity of the district court is . . . typically unnecessary to judicial review of agency decisionmaking"); *Envtl. Def. Fund*, 485 F.2d at 783 ("[I]ssues concerning NEPA statements can be developed in full before the administrative agency, without need for separate factual development in the district court."). Moreover, courts of appeals have the power to order complete relief for any violation of NEPA that is found, giving the States an adequate remedy in that forum. *Ctr. for Biological Diversity*, 538 F.3d at 1212–27 (9th Cir. 2008).

IV. In the Alternative, the Court Should Transfer This Case to the D.C. Circuit.

As noted above, in the event of a finding of lack of jurisdiction, 28 U.S.C. § 1631 authorizes courts to transfer cases to other courts that would have had jurisdiction at the time the action was filed. If the Court finds that transfer is warranted, it should transfer this case to the D.C. Circuit. EPCA allows petitions for judicial review of final rules to be filed in the D.C. Circuit or other circuits. 49 U.S.C. § 32909. But, under the circumstances presented here, transfer to the D.C. Circuit would be "in the interest of justice" pursuant to 28 U.S.C. § 1631.

To start, all of the many State Plaintiffs and Interest Group Plaintiffs filed their Complaints here in the District of Columbia. They cannot credibly now make the argument that this geographic venue, chosen by all these plaintiffs from across the country, is somehow an inefficient or inconvenient forum for hearing these disputes. Indeed, one of the Interest Group Plaintiffs already filed a petition for review of the Preemption Regulations in the D.C. Circuit. *See* Petition for Review, *EDF v. NHTSA*, Dkt. 19-1200, Doc. No. 1808786 (D.C. Cir. Sept. 27, 2019). Although EDF characterizes its petition as "protective" in light of its view that the action

should proceed in district court, *see id.*, its election to file in the D.C. Circuit confirms that the D.C. Circuit is the convenient and appropriate court of appeals forum.

In addition, as previously noted, the Preemption Regulations were issued as part of the One National Program Action. Again, this includes the related EPA CAA decision that can *only* be challenged in the D.C. Circuit within 60 days after *Federal Register* publication. Given the frequent references to and complaints about the EPA waiver withdrawal in the Complaints as the ultimate source of both sets of Plaintiffs' harms, the filing of numerous petitions for review of the EPA portion of the One National Program Action is only a matter of time.[9] Transferring these cases to the D.C. Circuit would thus advance judicial economy by allowing all of the pending cases to be consolidated for review before a single panel, in the same court that will necessarily hear any petitions to review the EPA CAA component of the joint final action.

CONCLUSION

The Amended State Complaint and the Interest Group Complaint both should be dismissed for lack of jurisdiction or, in the alternative, transferred to the United States Court of Appeals for the D.C. Circuit.

Respectfully submitted,

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[9] *See, e.g.*, Amended State Compl. ¶¶ 92, 120, 142, 154; Interest Group Compl. ¶¶ 51-52, 61, 81, 90, 103-04.

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OCTOBER 15, 2019
90-5-2-4-21567

CERTIFICATE OF SERVICE

I hereby certify that on October 15, 2019, I electronically filed a notice of service pursuant to the Court's General Order and Guidelines Applicable to APA Cases, with the Clerk of the Court for the United States District Court for the District of Columbia by using the CM/ECF system. The participants in the case are registered CM/ECF users and service of that notice will be accomplished by the CM/ECF system.

I further hereby certify that on October 15, 2019, I served a copy of the foregoing motion to dismiss on lead counsel for Plaintiffs in each related case via e-mail.

s/ *Benjamin Carlisle*

EXHIBIT A

§ 1961.3. Greenhouse Gas Exhaust Emission Standards and Test Procedures - 2017 and Subsequent M...
13 CA ADC § 1961.3
BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations Currentness
Title 13. Motor Vehicles
Division 3. Air Resources Board
Chapter 1. Motor Vehicle Pollution Control Devices
Article 2. Approval of Motor Vehicle Pollution Control Devices (New Vehicles) (Refs & Annos)

13 CCR § 1961.3

§ 1961.3. Greenhouse Gas Exhaust Emission Standards and Test Procedures - 2017 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles.

Introduction. This section 1961.3 sets the greenhouse gas emission levels from new 2017 and subsequent model year passenger cars, light-duty trucks, and medium-duty passenger vehicles. Light-duty trucks from 3751 lbs. LVW - 8500 lbs. GVW that are certified to the Option 1 LEV II NOx Standard in section 1961(a)(1) are exempt from these greenhouse gas emission requirements, however, passenger cars, light-duty trucks 0-3750 lbs. LVW, and medium-duty passenger vehicles are not eligible for this exemption.

Emergency vehicles may be excluded from these greenhouse gas emission requirements. The manufacturer must notify the Executive Officer that they are making such an election, in writing, prior to the start of the applicable model year or must comply with this section 1961.3.

(a) Greenhouse Gas Emission Requirements.

(1) Fleet Average Carbon Dioxide Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles. For the purpose of determining compliance with this subsection (a)(1), the applicable fleet average CO_2 mass emission standards for each model year is the sales-weighted average of the calculated CO_2 exhaust mass emission target values for each manufacturer. For each model year, the sales-weighted fleet average CO_2 mass emissions value shall not exceed the sales-weighted average of the calculated CO_2 exhaust mass emission target values for that manufacturer.

(A) Fleet Average Carbon Dioxide Target Values for Passenger Cars. The fleet average CO_2 exhaust mass emission target values for passenger cars that are produced and delivered for sale in California each model year shall be determined as follows:

1. For passenger cars with a footprint of less than or equal to 41 square feet, the gram per mile CO_2 target value shall be selected for the appropriate model year from the following table:

	CO_2 Target Value
Model Year	*(grams/mile)*
2017	195.0
2018	185.0
2019	175.0
2020	166.0
2021	157.0
2022	150.0
2023	143.0
2024	137.0
2025 and subsequent	131.0

2. For passenger cars with a footprint of greater than 56 square feet, the gram per mile CO_2 target value shall be selected for the appropriate model year from the following table:

	CO_2 Target Value
Model Year	*(grams/mile)*
2017	263.0

2018	250.0
2019	238.0
2020	226.0
2021	215.0
2022	205.0
2023	196.0
2024	188.0
2025 and subsequent	179.0

3. For passenger cars with a footprint that is greater than 41 square feet and less than or equal to 56 square feet, the gram per mile CO_2 target value shall be calculated using the following equation and rounded to the nearest 0.1 grams/mile:

Target gCO_2 / mile = [*a* x *f*] + *b*

Where: *f* is the vehicle footprint and coefficients *a* and *b* are selected from the following table for the applicable model year.

Model year	*a*	*b*
2017	4.53	8.9
2018	4.35	6.5
2019	4.17	4.2
2020	4.01	1.9
2021	3.84	-0.4
2022	3.69	-1.1
2023	3.54	-1.8
2024	3.4	-2.5
2025 and subsequent	3.26	-3.2

(B) Fleet Average Carbon Dioxide Target Values for Light-Duty Trucks and Medium-Duty Passenger Vehicles. The fleet average CO_2 exhaust mass emission target values for light-duty trucks and medium-duty passenger vehicles that are produced and delivered for sale in California each model year shall be determined as follows:

1. For light-duty trucks and medium-duty passenger vehicles with a footprint of less than or equal to 41 square feet, the gram per mile CO_2 target value shall be selected from the following table:

	CO_2 Target Value
Model Year	*(grams/mile)*
2017	238.0
2018	227.0
2019	220.0
2020	212.0
2021	195.0
2022	186.0
2023	176.0
2025	168.0
2025 and subsequent	159.0

2. For light-duty trucks and medium-duty passenger vehicles with a footprint of greater than 41 square feet and less than or equal to the maximum footprint value specified in the table below for each model year, the gram/mile CO_2 target value shall be calculated using the following equation and rounded to the nearest 0.1 grams/mile:

Target gCO_2 / mile = [*a* x *f*] + *b*

Where: *f* is the vehicle footprint and coefficients *a* and *b* are selected from the following table for the applicable model year.

	Maximum		
Model year	*Footprint*	*a*	*b*
2017	50.7	4.87	38.3
2018	60.2	4.76	31.6
2019	66.4	4.68	27.7
2020	68.3	4.57	24.6
2021	73.5	4.28	19.8
2022	74.0	4.09	17.8
2023	74.0	3.91	16.0

2024	74.0	3.74	14.2
2025 and subsequent	74.0	3.58	12.5

3. For light-duty trucks and medium-duty passenger vehicles with a footprint that is greater than the minimum footprint value specified in the table below and less than or equal to the maximum footprint value specified in the table below for each model year, the gram/mile CO_2 target value shall be calculated using the following equation and rounded to the nearest 0.1 grams/mile:

Target gCO_2 / mile = [*a x f*] + *b*

Where: *f* is the vehicle footprint and coefficients *a* and *b* are selected from the following table for the applicable model year.

Model year	*Minimum*	*Maximum*		
	Footprint	*Footprint*	*a*	*b*
2017	50.7	66.0	4.04	80.5
2018	60.2	66.0	4.04	75.0

4. For light-duty trucks and medium-duty passenger vehicles with a footprint that is greater than the minimum value specified in the table below for each model year, the gram/mile CO_2 target value shall be selected for the applicable model year from the following table:

	Minimum	*CO_2 target value*
Model year	*Footprint*	*(grams/mile)*
2017	66.0	347.0
2018	66.0	342.0
2019	66.4	339.0
2020	68.3	337.0
2021	73.5	335.0
2022	74.0	321.0
2023	74.0	306.0
2024	74.0	291.0
2025 and subsequent	74.0	277.0

(C) Calculation of Manufacturer-Specific Carbon Dioxide Fleet Average Standards. For each model year, each manufacturer must comply with fleet average CO_2 standards for passenger cars and for light-duty trucks plus medium-duty passenger vehicles, as applicable, calculated for that model year as follows. For each model year, a manufacturer must calculate separate fleet average CO_2 values for its passenger car fleet and for its combined light-duty truck plus medium-duty passenger vehicle fleet using the CO_2 target values in subsection (a)(A). These calculated CO_2 values are the manufacturer-specific fleet average CO_2 standards for passenger cars and for light-duty trucks plus medium-duty passenger vehicles, as applicable, which apply for that model year.

1. A CO_2 target value shall be calculated in accordance with subparagraph (a)(1)(A) or (a)(1)(B), as applicable, for each unique combination of model type and footprint value.

2. Each CO_2 target value, determined for each unique combination of model type and footprint value, shall be multiplied by the total production of that model type/footprint combination for the applicable model year.

3. The resulting products shall be summed, and that sum shall be divided by the total production of passenger cars or total combined production of light-duty trucks and medium-duty passenger vehicles, as applicable, in that model year. The result shall be rounded to the nearest whole gram per mile. This result shall be the applicable fleet average CO_2 standard for the manufacturer's passenger car fleet or its combined light-duty truck and medium-duty passenger vehicle fleet, as applicable.

(2) Nitrous Oxide (N_2O) and Methane (CH_4) Exhaust Emission Standards for Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles. Each manufacturer's fleet of combined passenger automobile, light-duty trucks, and medium-duty passenger vehicles must comply with N_2O and CH_4 standards using either the provisions of subsection (a)(2)(A), subsection (a)(2)(B), or subsection (a)(2)(C). Except with prior approval of the Executive Officer, a manufacturer may not use the provisions of both subsection (a)(2)(A) and subsection (a)(2)(B) in the same model year. For example, a manufacturer may not use the provisions of subsection (a)(2)(A) for their passenger automobile fleet and the provisions of subsection (a)(2)(B) for their light-duty truck and medium-duty passenger vehicle fleet in the same model year. The manufacturer may use the provisions of both subsections (a)(2)(A) and (a)(2)(C) in the same model year. For example, a manufacturer may meet the N_2O standard in subsection (a)(2)(A)1 and an alternative CH_4 standard determined under subsection (a)(2)(C).

(A) Standards Applicable to Each Test Group.

1. Exhaust emissions of N_2O shall not exceed 0.010 grams per mile at full useful life, as measured on the FTP (40 CFR, Part 86, Subpart B), as amended by theO shall not exceed 0.010 grams per mile at full useful life, as measured on the

FTP (40 CFR, Part 86, Subpart B), as amended by the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium Duty Vehicles." Manufacturers may optionally determine an alternative N_2O standard under subsection (a)(2)(C).

2. Exhaust emissions of CH_4 shall not exceed 0.030 grams per mile at full useful life, as measured on the FTP (40 CFR, Part 86, Subpart B), as amended by the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles." Manufacturers may optionally determine an alternative CH_4 standard under subsection (a)(2)(C).

(B) Including N_2O and CH_4 in Fleet Averaging Program. Manufacturers may elect to not meet the emission standards in subsection (a)(2)(A). Manufacturers making this election shall measure N_2O and CH_4 emissions for each unique combination of model type and footprint value on both the FTP test cycle and the Highway Fuel Economy test cycle at full useful life, multiply the measured N_2O emissions value by 298 and the measured CH_4 emissions value by 25, and include both of these adjusted N_2O and CH_4 full useful life values in the fleet average calculations for passenger automobiles and light-duty trucks plus medium-duty passenger vehicles, as calculated in accordance with subsection (a)(2)(A)(D).

(C) Optional Use of Alternative N_2O and/or CH_4 Standards. Manufacturers may select an alternative standard applicable to a test group, for either N_2O or CH_4, or both. For example, a manufacturer may choose to meet the N_2O standard in subsection (a)(2)(A) 1 and an alternative CH_4 standard in lieu of the standard in subsection (a)(2)(A)2. The alternative standard for each pollutant must be less stringent than the applicable exhaust emission standard specified in subsection (a)(2)(A). Alternative N_2O and CH_4 standards apply to emissions as measured on the FTP (40 CFR, Part 86, Subpart B), as amended by the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," for the full useful life, and become the applicable certification and in-use emission standard(s) for the test group. Manufacturers using an alternative standard for N_2O and/or CH_4 must calculate emission debits according to the provisions of subsection (a)(2)(D) for each test group/alternative standard combination. Debits must be included in the calculation of total credits or debits generated in a model year as required under subsection (b)(1)(B). Flexible fuel vehicles (or other vehicles certified for multiple fuels) must meet these alternative standards when tested on all applicable test fuel type.

(D) CO_2-Equivalent Debits. CO_2-equivalent debits for test groups using an alternative N_2O and/or CH_4 standard as determined under (a)(2)(C) shall be calculated according to the following equation and rounded to the nearest whole gram per mile:

Debits = GWP x (Production) x (AltStd - Std)

Where:

Debits = N_2O or CH_4 CO_2-equivalent debits for a test group using an alternative N_2O or CH_4 standard;

GWP = 25 if calculating CH_4 debits and 298 if calculating N_2O debits;

Production = The number of vehicles of that test group produced and delivered for sale in California;

AltStd = The alternative standard (N_2O or CH_4) selected by the manufacturer under (a)(2)(C); and

Std = The exhaust emission standard for N_2O or CH_4 specified in (a)(2)(A).

(3) Alternative Fleet Average Standards for Manufacturers with Limited U.S. Sales. Manufacturers meeting the criteria in this subsection (a)(3) may request that the Executive Officer establish alternative fleet average CO_2 standards that would apply instead of the standards in subsection (a)(1).

(A) Eligibility for Alternative Standards. Eligibility as determined in this subsection (a)(3) shall be based on the total sales of combined passenger cars, light-duty trucks, and medium-duty passenger vehicles. The terms "sales" and "sold" as used in this subsection (a)(3) shall mean vehicles produced and delivered for sale (or sold) in the states and territories of the United States. For the purpose of determining eligibility the sales of related companies shall be aggregated according to the provisions of section 1900. To be eligible for alternative standards established under this subsection (a)(3), the manufacturer's average sales for the three most recent consecutive model years must remain below 5,000. If a manufacturer's average sales for the three most recent consecutive model years exceeds 4,999, the manufacturer will no longer be eligible for exemption and must meet applicable emission standards as follows.

1. If a manufacturer's average sales for three consecutive model years exceeds 4,999, and if the increase in sales is the result of corporate acquisitions, mergers, or purchase by another manufacturer, the manufacturer shall comply with the emission standards described in subsections (a)(1) and (a)(2), as applicable, beginning with the first model year after the last year of the three consecutive model years.

2. If a manufacturer's average sales for three consecutive model years exceeds 4,999 and is less than 50,000, and if the increase in sales is solely the result of the manufacturer's expansion in vehicle production (not the result of corporate acquisitions, mergers, or purchase by another manufacturer), the manufacturer shall comply with the emission

standards described in subsections (a)(1) and (a)(2), as applicable, beginning with the second model year after the last year of the three consecutive model years.

(B) Requirements for New Entrants into the U.S. Market. New entrants are those manufacturers without a prior record of automobile sales in the United States and without prior certification to (or exemption from, under 40 CFR §86.1801-12(k)) greenhouse gas emission standards in 40 CFR §86.1818-12 or greenhouse gas standards in section 1961.1. In addition to the eligibility requirements stated in subsection (a)(3)(A), new entrants must meet the following requirements:

1. In addition to the information required under subsection (a)(3)(D), new entrants must provide documentation that shows a clear intent by the company to actually enter the U.S. market in the years for which alternative standards are requested. Demonstrating such intent could include providing documentation that shows the establishment of a U.S. dealer network, documentation of work underway to meet other U.S. requirements (e.g., safety standards), or other information that reasonably establishes intent to the satisfaction of the Executive Officer.

2. Sales of vehicles in the U.S. by new entrants must remain below 5,000 vehicles for the first two model years in the U.S. market and the average sales for any three consecutive years within the first five years of entering the U.S. market must remain below 5,000 vehicles. Vehicles sold in violation of these limits will be considered not covered by the certificate of conformity and the manufacturer will be subject to penalties on an individual-vehicle basis for sale of vehicles not covered by a certificate. In addition, violation of these limits will result in loss of eligibility for alternative standards until such point as the manufacturer demonstrates two consecutive model years of sales below 5,000 automobiles.

3. A manufacturer with sales in the most recent model year of less than 5,000 automobiles, but where prior model year sales were not less than 5,000 automobiles, is eligible to request alternative standards under subsection (a)(3). However, such a manufacturer will be considered a new entrant and subject to the provisions regarding new entrants in this subsection (a)(3), except that the requirement to demonstrate an intent to enter the U.S. market in subsection (a)(3)(B)(1) shall not apply.

(C) How to Request Alternative Fleet Average Standards. Eligible manufacturers may petition for alternative standards for up to five consecutive model years if sufficient information is available on which to base such standards.

1. To request alternative standards starting with the 2017 model year, eligible manufacturers must submit a completed application no later than July 30, 2013.

2. To request alternative standards starting with a model after 2017, eligible manufacturers must submit a completed application no later than 36 months prior to the start of the first model year to which the alternative standards would apply.

3. The application must contain all the information required in subsection (a)(3)(D), and must be signed by a chief officer of the company. If the Executive Officer determines that the content of the request is incomplete or insufficient, the manufacturer will be notified and given an additional 30 days to amend the request.

4. A manufacturer may elect to petition for alternative standards under this subsection (a)(3)(C) by submitting to ARB a copy of the data and information submitted to EPA as required under 40 CFR §86.1818-12(g), incorporated by reference in and amended by the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” and the EPA approval of the manufacturer's request for alternative fleet average standards for the 2017 through 2025 MY National Greenhouse Gas Program.

(D) Data and Information Submittal Requirements. Eligible manufacturers requesting alternative standards under subsection (a)(3) must submit the following information to the California Air Resources Board. The Executive Officer may request additional information as s/he deems appropriate. The completed request must be sent to the California Air Resources Board at the following address: Chief, Mobile Source Operations Division, California Air Resources Board, 9480 Telstar Avenue, Suite 4, El Monte, California 91731.

1. Vehicle Model and Fleet Information.

a. The model years to which the requested alternative standards would apply, limited to five consecutive model years.

b. Vehicle models and projections of production volumes for each model year.

c. Detailed description of each model, including the vehicle type, vehicle mass, power, footprint, and expected pricing.

d. The expected production cycle for each model, including new model introductions and redesign or refresh cycles.

2. Technology Evaluation Information.

a. The CO_2 reduction technologies employed by the manufacturer on each vehicle model, including information regarding the cost and reduction technologies employed by the manufacturer on each vehicle model, including information regarding the cost and CO_2-reducing effectiveness. Include technologies that improve air conditioning

efficiency and reduce air conditioning system leakage, and any “off-cycle” technologies that potentially provide benefits outside the operation represented by the FTP and the HWFET.

b. An evaluation of comparable models from other manufacturers, including CO_2 results and air conditioning credits generated by the models. Comparable vehicles should be similar, but not necessarily identical, in the following respects: vehicle type, horsepower, mass, power-to-weight ratio, footprint, retail price, and any other relevant factors. For manufacturers requesting alternative standards starting with the 2017 model year, the analysis of comparable vehicles should include vehicles from the 2012 and 2013 model years, otherwise the analysis should at a minimum include vehicles from the most recent two model years.

c. A discussion of the CO_2-reducing technologies employed on vehicles offered outside of the U.S. market but not available in the U.S., including a discussion as to why those vehicles and/or technologies are not being used to achieve CO_2 reductions for vehicles in the U.S. market.

d. An evaluation, at a minimum, of the technologies projected by the California Air Resources Board in the “Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the “LEV III” Amendments to The California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles” and the appendices to this report, released on December 7, 2011, as those technologies likely to be used to meet greenhouse gas emission standards and the extent to which those technologies are employed or projected to be employed by the manufacturer. For any technology that is not projected to be fully employed, the manufacturer must explain why this is the case.

3. Information Supporting Eligibility.

a. U.S. sales for the three previous model years and projected sales for the model years for which the manufacturer is seeking alternative standards.

b. Information regarding ownership relationships with other manufacturers, including details regarding the application of the provisions of 40 CFR §86.1838-01(b)(3) and section 1900 regarding the aggregation of sales of related companies.

(E) Alternative Standards. Upon receiving a complete application, the Executive Officer will review the application and determine whether an alternative standard is warranted. If the Executive Officer judges that an alternative standard is warranted, the following standards shall apply. For the purposes of this subsection (a)(3)(E), an “ultra-small volume manufacturer” shall mean a manufacturer that meets the requirements of subsection (a)(3).

1. At the beginning of the model year that is three model years prior to the model year for which an alternative standard is requested, each ultra-small volume manufacturer shall identify all vehicle models from the model year that is four model years prior to the model year for which an alternative standard is requested, certified by a large volume manufacturer that are comparable to that small volume manufacturer's vehicle models for the model year for which an alternative standard is requested, based on model type and footprint value. The ultra-small volume manufacturer shall demonstrate to the Executive Officer the appropriateness of each comparable vehicle model selected. Upon approval of the Executive Officer, s/he shall provide to the ultra-small volume manufacturer the target grams CO_2 per mile for each vehicle model type and footprint value that is approved. The ultra-small volume manufacturer shall calculate its fleet average CO_2 standard in accordance with subsection (a)(1)(C) based on these target grams CO_2 per mile values provided by the Executive Officer.

2. In the 2017 and subsequent model years, an ultra-small volume manufacturer shall either:

a. not exceed its fleet average CO_2 standard calculated in accordance with subsection (a)(1)(C) based on the target grams CO_2 per mile values provided by the Executive Officer; or

b. upon approval of the Executive Officer, if an ultra-small volume manufacturer demonstrates a vehicle model uses an engine, transmission, and emission control system and has a footprint value that are identical to a configuration certified for sale in California by a large volume manufacturer, those ultra-small volume manufacturer vehicle models are exempt from meeting the requirements in paragraph 2.a of this subsection.

(F) Restrictions on Credit Trading. Manufacturers subject to alternative standards approved by the Executive Officer under this subsection (a)(3) may not trade credits to another manufacturer. Transfers of credits between a manufacturer's car and truck fleets are allowed.

(4) Greenhouse Gas Emissions Values for Electric Vehicles, “Plug-In” Hybrid Electric Vehicles, and Fuel Cell Vehicles.

(A) Electric Vehicle Calculations.

1. For each unique combination of model type and footprint value, a manufacturer shall calculate the City CO_2 Value using the following formula: Value using the following formula:

$$\textit{City } CO_2 \textit{ Value} = (270\ gCO_2e/kWh) * E_{EV} - 0.25 * CO_{2target}$$

Where *E*EV *is measured directly from each cycle for each test vehicle of battery electric vehicle technology in units of kilowatt-hours per mile (per SAE J1634, incorporated herein by reference). is measured directly from each cycle for each test vehicle of battery electric vehicle technology in units of kilowatt-hours per mile (per SAE J1634, incorporated herein by reference).*

2. For each unique combination of model type and footprint value, a manufacturer shall calculate the Highway CO_2 Value using the following formula:

*Highway CO_2 Value = (270 gCO_2e/kWh) * E_{EV}* - 0.25 * $CO_{2target}$

Where E_{EV} is measured directly from each cycle for each test vehicle of battery electric vehicle technology in units of kilowatt-hours per mile (per SAE J1634, incorporated herein by reference).

(B) "Plug-In" Hybrid Electric Vehicle Calculations. For each unique combination of model type and footprint value, a manufacturer shall calculate the City CO_2 Value and the Highway CO_2 Value using the following formulas:

City CO_2 Value = GHG_{urban}

and

Highway CO_2 Value = $GHG_{highway}$

Where GHG_{urban} and $GHG_{highway}$ are measured in accordance with section G.12 of the "California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes" or the "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," as applicable.

(C) Fuel Cell Vehicle Calculations. For each unique combination of model type and footprint value, a manufacturer shall calculate the City CO_2 Value and the Highway CO_2 Value using the following formulas:

City CO_2 = GHG_{FCV} = (9132 $gCO_2e/kg\ H_2$) * H_{FCV} - $G_{upstream}$

and

Highway CO_2 = GHG_{FCV} = (9132 $gCO_2e/kg\ H_2$) * H_{FCV} - $G_{upstream}$

Where H_{FCV} means hydrogen consumption in kilograms of hydrogen per mile, measured for the applicable test cycle, in accordance with SAE J2572 (published October 2008), incorporated herein by reference. means hydrogen consumption in kilograms of hydrogen per mile, measured for the applicable test cycle, in accordance with SAE J2572 (published October 2008), incorporated herein by reference.

(5) Calculation of Fleet Average Carbon Dioxide Value.

(A) For each unique combination of model type and footprint value, a manufacturer shall calculate a combined city/highway CO_2 exhaust emission value as follows: exhaust emission value as follows:

0.55 x City CO_2 Value + 0.45 x Highway CO_2 Value

"City" CO_2 exhaust emissions shall be measured using the FTP test cycle (40 CFR, Part 86, Subpart B), as amended by the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium Duty Vehicles." "Highway" CO_2 exhaust emission shall be measured using the using the Highway Fuel Economy Test (HWFET; 40 CFR 600 Subpart B).

(B) Each combined city/highway CO_2 exhaust emission, determined for each unique combination of model type and footprint value, shall be multiplied by the total production of that model type/footprint combination for the applicable model year.

(C) The resulting products shall be summed, and that sum shall be divided by the total production of passenger cars or total combined production of light-duty trucks and medium-duty passenger vehicles, as applicable, in that model year. The result shall be rounded to the nearest whole gram per mile. This result shall be the manufacturer's actual sales-weighted fleet average CO_2 value for the manufacturer's passenger car fleet or its combined light-duty truck and medium-duty passenger vehicle fleet, as applicable.

(D) For each model year, a manufacturer must demonstrate compliance with the fleet average requirements in section (a)(1) based on one of two options applicable throughout the model year, either:

Option 1: the total number of passenger cars, light-duty trucks, and medium-duty passenger vehicles that are certified to the California exhaust emission standards in section 1961.3, and are produced and delivered for sale in California; or

Option 2: the total number of passenger cars, light-duty trucks, and medium-duty passenger vehicles that are certified to the California exhaust emission standards in this section 1961.3, and are produced and delivered for sale in California, the District of Columbia, and all states that have adopted California's greenhouse gas emission standards for that model year pursuant to Section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

1. A manufacturer that selects compliance Option 2 must notify the Executive Officer of that selection, in writing, prior to the start of the applicable model year or must comply with Option 1. Once a manufacturer has selected compliance Option 2, that selection applies unless the manufacturer selects Option 1 and notifies the Executive Officer of that selection in writing before the start of the applicable model year.

2. When a manufacturer is demonstrating compliance using Option 2 for a given model year, the term “in California” as used in section 1961.3 means California, the District of Columbia, and all states that have adopted California's greenhouse gas emission standards for that model year pursuant to Section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

3. A manufacturer that selects compliance Option 2 must provide to the Executive Officer separate values for the number of vehicles in each model type and footprint value produced and delivered for sale in the District of Columbia and for each individual state within the average and the City CO_2 Value and Highway CO_2 exhaust emission values that apply to each model type and footprint value.

(6) Credits for Reduction of Air Conditioning Direct Emissions. Manufacturers may generate A/C Direct Emissions Credits by implementing specific air conditioning system technologies designed to reduce air conditioning direct emissions over the useful life of their vehicles. A manufacturer may only use an A/C Direct Emissions Credit for vehicles within a model type upon approval of the A/C Direct Emissions Credit for that model type by the Executive Officer. The conditions and requirements for obtaining approval of an A/C Direct Emissions Credit are described in (A) through (F), below.

(A) Applications for approval of an A/C Direct Emissions Credit must be organized by model type. The applications must also include:

• vehicle make and

• number of vehicles within the model type that will be equipped with the air conditioning system to which the leakage credit shall apply.

Separate applications must be submitted for any two configurations of an A/C system with differences other than dimensional variation.

(B) To obtain approval of the A/C Direct Emissions Credit, the manufacturer must demonstrate through an engineering evaluation that the A/C system under consideration reduces A/C direct emissions. The demonstration must include all of the following elements:

• the amount of A/C Direct Emissions Credit requested, in grams of CO_2-equivalent per mile (gCO_2e/mi);

• the calculations identified in section (a)(6)(C) justifying that credit amount;

• schematic of the A/C system;

• specifications of the system components with sufficient detail to allow reproduction of the calculation; and

• an explanation describing what efforts have been made to minimize the number of fittings and joints and to optimize the components in order to minimize leakage.

Calculated values must be carried to at least three significant figures throughout the calculations, and the final credit value must be rounded to one tenth of a gram of CO_2-equivalent per mile (gCO_2e/mi).

(C) The calculation of A/C Direct Emissions Credit depends on the refrigerant or type of system, and is specified in paragraphs 1, 2, and 3 of this subsection.

1. HFC-134a vapor compression systems
For A/C systems that use HFC-134a refrigerant, the A/C Direct Emissions Credit is calculated using the following formula:

$$\text{A/C Direct Credit} = \text{Direct Credit Baseline} \times \left(1 - \frac{LR}{\text{Avg } LR}\right)$$

Where:

Direct Credit Baseline = 12.6 gCO_2e/mi for passenger cars;

Direct Credit Baseline = 15.6 gCO_2e/mi for light-duty trucks and medium-duty passenger vehicles;

Avg LR = 16.6 grams/year for passenger cars;

Avg LR = 20.7 grams/year for light-duty trucks and medium-duty passenger vehicles;

LR = the larger of SAE LR or Min LR;
Where:

SAE LR = initial leak rate evaluated using SAE International's Surface Vehicle Standard SAE J2727 (Revised February 2012), incorporated by reference, herein;

Min LR = 8.3 grams/year for passenger car A/C systems with belt-driven compressors;

Min LR = 10.4 grams/year for light-duty truck and medium-duty passenger vehicle A/C systems with belt-driven compressors;

Min LR = 4.1 grams/year for passenger car A/C systems with electric compressors;

Min LR = 5.2 grams/year for light-duty truck and medium-duty passenger vehicle A/C systems with electric compressors.

Note: Initial leak rate is the rate of refrigerant leakage from a newly manufactured A/C system in grams of refrigerant per year. The Executive Officer may allow a manufacturer to use an updated version of SAE J2727 or an alternate method if s/he determines that

the updated SAE J2727 or the alternate method provides more accurate estimates of the initial leak rate of A/C systems than the February 2012 version of SAE J2727 does.

2. Low-GWP vapor compression systems
For A/C systems that use a refrigerant having a GWP of 150 or less, the A/C Direct Emissions Credit shall be calculated using the following formula:

A/C Direct Credit = Low GWP Credit - High Leak Penalty

Where:

$$\text{Low GWP Credit} = \text{Max Low GWP Credit} \times \left(1 - \frac{GWP}{1{,}430}\right),$$

and

$$\text{High Leak Penalty} = \begin{cases} \text{Max High Leak Penalty}, & \text{if SAE LR} > \text{Avg LR}; \\ \text{Max High Leak Penalty} \times \frac{\text{SAE LR} - \text{Min LR}}{\text{AvgLR} - \text{Min LR}}, & \text{if Min LR} < \text{SAE LR} \leq \text{Avg LR}; \\ 0, & \text{if SAE LR} \leq \text{Min LR}. \end{cases}$$

Where:

Max Low GWP Credit = 13.8 gCO_2e/mi for passenger cars;

Max Low GWP Credit = 17.2 gCO_2e/mi for light-duty trucks and medium-duty passenger vehicles;

GWP = the global warming potential of the refrigerant over a 100-year horizon, as specified in section (a)(6)(F);

Max High Leak Penalty = 1.8 gCO_2e/mi for passenger cars;

Max High Leak Penalty = 2.1 gCO_2e/mi for light-duty trucks and medium-duty passenger vehicles;

Avg LR = 13.1 g/yr for passenger cars;

Avg LR = 16.6 g/yr for light-duty trucks and medium-duty passenger vehicles;

and where:
SAE LR = initial leak rate evaluated using SAE International's Surface Vehicle Standard SAE J2727 (Revised February 2012);

Min LR = 8.3 g/yr for passenger cars;

Min LR = 10.4 g/yr for light-duty trucks and medium-duty passenger vehicles.

Note: Initial leak rate is the rate of refrigerant leakage from a newly manufactured A/C system in grams of refrigerant per year. The Executive Officer may allow a manufacturer to use an updated version of SAE J2727 or an alternate applicable test method if s/he finds the update or the alternate method provides more accurate estimates of the initial leak rate of A/C systems than the February 2012 version of SAE J2727 does.

3. Other A/C systems
For an A/C system that uses a technology other than vapor compression cycles, an A/C Direct Emissions Credit may be approved by the Executive Officer. The amount of credit requested must be based on demonstration of the reduction of A/C direct emissions of the technology using an engineering evaluation that includes verifiable laboratory test data, and cannot exceed 13.8 gCO_2e/mi for passenger cars and 17.2 gCO_2e/mi for light-duty trucks and medium-duty passenger vehicles.

(D) The total leakage reduction credits generated by the air conditioning system shall be calculated separately for passenger cars, and for light-duty trucks and medium-duty passenger vehicles, according to the following formula:
Total Credits (g/mi) = A/C Direct Credit x Production

Where:

A/C Direct Credit is calculated as specified in subsection (a)(6)(C).

Production = The total number of passenger cars or light-duty trucks plus medium-duty passenger vehicles, whichever is applicable, produced and delivered for sale in California, with the air conditioning system to which theA/D Direct Credit value from subsection (a)(6)(C) applies.

(E) The results of subsection (a)(6)(D), rounded to the nearest whole gram per mile, shall be included in the manufacturer's credit/debit totals calculated in subsection (b)(1)(B).

(F) The following values for refrigerant global warming potential (GWP), or alternative values as determined by the Executive Officer, shall be used in the calculations of this subsection (a)(6). The Executive Officer shall determine values for refrigerants not included in this subsection (a)(6)(F) upon request by a manufacturer, based on findings by the Intergovernmental Panel on Climate Change (IPCC) or from other applicable research studies.

Refrigerant	*GWP*

HFC-134a	1,430
HFC-152a	124
HFO-1234yf	4
CO_2	1

(7) Credits for Improving Air Conditioning System Efficiency. Manufacturers may generate CO_2 credits by implementing specific air conditioning system technologies designed to reduce air conditioning-related CO_2 emissions over the useful life of their passenger cars, light-duty trucks, and/or medium-duty passenger vehicles. Credits shall be calculated according to this subsection (a)(7) for each air conditioning system that the manufacturer is using to generate CO_2 credits. The eligibility requirements specified in subsection (a)(7)(E) must be met before an air conditioning system is allowed to generate credits.

(A) Air conditioning efficiency credits are available for the following technologies in the gram per mile amounts indicated for each vehicle category in the following table:

		Light-Duty Trucks
		and Medium-Duty
	Passenger Cars	*Passenger Vehicles*
Air Conditioning Technology	*(g/mi)*	*(g/mi)*
Reduced reheat, with externally-controlled, variable-displacement compressor (e.g.a compressor that	1.5	2.2
controls displacement based on temperature setpoint and/or cooling demand of the air conditioning		
system control settings inside the passenger compartment).		
Reduced reheat, with externally-controlled, fixed-displacement or pneumatic variable displacement	1.0	1.4
compressor (e.g.a compressor that controls displacement based on conditions within, or internal to,		
the air conditioning system, such as head pressure, suction pressure, or evaporator outlet temperature).		
Default to recirculated air with closed-loop control of the air supply (sensor feedback to control interior	1.5	2.2
air quality) whenever the ambient temperature is 75°F or higher: Air conditioning systems that operated		
with closed-loop control of the air supply at different temperatures may receive credits by submitting an		
engineering analysis to the Administrator for approval.		
Default to recirculated air with open-loop control air supply (no sensor feedback) whenever the ambient	1.0	1.4
temperature is 75°F or higher. Air conditioning systems that operate with open-loop control of the air		
supply at different temperatures may receive credits by submitting an engineering analysis to the		
Administrator for approval.		
Blower motor controls which limit wasted electrical energy (e.g.pulse width modulated power controller).	0.8	1.1
Internal heat exchanger (e.g.a device that transfers heat from the high-pressure, liquid-phase refrigerant	1.0	1.4
entering the evaporator to the low-pressure, gas-phase refrigerant exiting the evaporator).		
Improved condensers and/or evaporators with system analysis on the component(s) indicating a coefficient	1.0	1.4
of performance improvement for the system of greater than 10% when compared to previous industry standard		
designs).		
Oil separator. The manufacturer must submit an engineering analysis demonstrating the increased improvement	0.5	0.7
of the system relative to the baseline design, where the baseline component for comparison is the version which		
a manufacturer most recently had in production on the same vehicle design or in a similar or related vehicle		
model. The characteristics of the baseline component shall be compared to the new component to demonstrate the		
improvement.		

(B) Air conditioning efficiency credits are determined on an air conditioning system basis. For each air conditioning system that is eligible for a credit based on the use of one or more of the items listed in subsection (a)(7)(A), the total credit value is the sum of the gram per mile values listed in subsection (a)(7)(A) for each item that applies to the air conditioning system. However, the total credit value for an air conditioning system may not be greater than 5.0 grams per mile for any passenger car or 7.2 grams per mile for any light-duty truck or medium-duty passenger vehicle.

(C) The total efficiency credits generated by an air conditioning system shall be calculated separately for passenger cars and for light-duty trucks plus medium-duty passenger vehicles according to the following formula:

Total Credits (g/mi) = Credit x Production

Where:

Credit = the CO_2 efficiency credit value in grams per mile determined in subsection (a)(7)(B) or (a)(7)(E), whichever is applicable. efficiency credit value in grams per mile determined in subsection (a)(7)(B) or (a)(7)(E), whichever is applicable.

Production = The total number of passenger cars or light-duty trucks plus medium-duty passenger vehicles, whichever is applicable, produced and delivered for sale in California, with the air conditioning system to which to the efficiency credit value from subsection (a)(7)(B) applies.

(D) The results of subsection (a)(7)(C), rounded to the nearest whole gram per mile, shall be included in the manufacturer's credit/debit totals calculated in subsection (b)(1)(B).

(E) For the purposes of this subsection (a)(7)(E), the AC17 Test Procedure shall mean the AC17 Air Conditioning Efficiency Test Procedure set forth in 40 CFR §86.167-17, incorporated in and amended by the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

1. For each air conditioning system selected by the manufacturer to generate air conditioning efficiency credits, the manufacturer shall perform the AC17 Test Procedure.

2. Using good engineering judgment, the manufacturer must select the vehicle configuration to be tested that is expected to result in the greatest increased CO_2 emissions as a result of the operation of the air conditioning system for which efficiency credits are being sought. If the air conditioning system is being installed in passenger cars, light-duty trucks, and medium-duty passenger vehicles, a separate determination of the quantity of credits for passenger cars and for light-duty trucks and medium-duty passenger vehicles must be made, but only one test vehicle is required to represent the air conditioning system, provided it represents the worst-case impact of the system on CO_2 emissions.

3. For each air conditioning system selected by the manufacturer to generate air conditioning efficiency credits, the manufacturer shall perform the AC17 Test Procedure according to the following requirements. Each air conditioning system shall be tested as follows:

a. Perform the AC17 test on a vehicle that incorporates the air conditioning system with the credit-generating technologies.

b. Perform the AC17 test on a vehicle which does not incorporate the credit-generating technologies. The tested vehicle must be similar to the vehicle tested under subsection (a)(7)(E)(3)a.

c. Subtract the CO_2 emissions determined from testing under subsection (a)(7)(E)(3)a from the CO_2 emissions determined from testing under subsection (a)(7)(E)(3)b and round to the nearest 0.1 grams/mile. If the result is less than or equal to zero, the air conditioning system is not eligible to generate credits. If the result is greater than or equal to the total of the gram per mile credits determined under subsection (a)(7)(B), then the air conditioning system is eligible to generate the maximum allowable value determined under subsection (a)(7)(B). If the result is greater than zero but less than the total of the gram per mile credits determined under subsection (a)(7)(B), then the air conditioning system is eligible to generate credits in the amount determined by subtracting the CO_2 emissions determined from testing under subsection (a)(7)(E)(3)a from the CO_2 emissions determined from testing under subsection (a)(7)(E)(3)b and rounding to the nearest 0.1 grams/mile.

4. For the first model year for which an air conditioning system is expected to generate credits, the manufacturer must select for testing the highest-selling subconfiguration within each vehicle platform that uses the air conditioning system. Credits may continue to be generated by the air conditioning system installed in a vehicle platform provided that:

a. The air conditioning system components and/or control strategies do not change in any way that could be expected to cause a change in its efficiency;

b. The vehicle platform does not change in design such that the changes could be expected to cause a change in the efficiency of the air conditioning system; and

c. The manufacturer continues to test at least one sub-configuration within each platform using the air conditioning system, in each model year, until all sub-configurations within each platform have been tested.

5. Each air conditioning system must be tested and must meet the testing criteria in order to be allowed to generate credits. Using good engineering judgment, in the first model year for which an air conditioning system is expected to generate credits, the manufacturer must select for testing the highest-selling subconfiguration within each vehicle platform using the air conditioning system. Credits may continue to be generated by an air conditioning system in subsequent model years if the manufacturer continues

to test at least one sub-configuration within each platform on annually, as long as the air conditioning system and vehicle platform do not change substantially.

(8) Off-Cycle Credits. Manufacturers may generate credits for CO_2-reducing technologies where the CO_2 reduction benefit of the technology is not adequately captured on the FTP and/or the HWFET. These technologies must have a measurable, demonstrable, and verifiable real-world CO_2 reduction that occurs outside the conditions of the FTP and the HWFET. These optional credits are referred to as “off-cycle” credits. Off-cycle technologies used to generate emission credits are considered emission-related components subject to applicable requirements, and must be demonstrated to be effective for the full useful life of the vehicle. Unless the manufacturer demonstrates that the technology is not subject to in-use deterioration, the manufacturer must account for the deterioration in their analysis. The manufacturer must use one of the three options specified in this subsection (a)(8) to determine the CO_2 gram per mile credit applicable to an off-cycle technology. The manufacturer should notify the Executive Officer in its pre-model year report of its intention to generate any credits under this subsection (a)(8).

(A) Credit available for certain off-cycle technologies.

1. The manufacturer may generate a CO_2 gram/mile credit for certain technologies as specified in the following table, provided that each technology is applied to the minimum percentage of the manufacturer's total U.S. production of passenger cars, light-duty trucks, and medium-duty passenger vehicles specified in the table in each model year for which credit is claimed. Technology definitions are in subsection (e).gram/mile credit for certain technologies as specified in the following table, provided that each technology is applied to the minimum percentage of the manufacturer's total U.S. production of passenger cars, light-duty trucks, and medium-duty passenger vehicles specified in the table in each model year for which credit is claimed. Technology definitions are in subsection (e).

		Light-Duty	
		Trucks and	
		Medium-Duty	*Minimum Total*
Off-Cycle	*Passenger*	*Passenger*	*Percent of U.S.*
Technology	*Cars (g/mi)*	*Vehicles (g/mi)*	*Production*
Active aerodynamics	0.6	1.0	10
High efficiency	1.1	1.1	10
exterior lighting			
Engine heat recovery	0.7 per 100W	0.7 per 100W	10
	of capacity	of capacity	
Engine start-stop	2.9	4.5	10
(idle-off)			
Active transmission	1.8	1.8	10
warm-up			
Active engine	1.8	1.8	10
warm-up			
Electric heater	1.0	1.5	n/a
circulation pump			
Solar roof panels	3.0	3.0	n/a
Thermal control	≤3.0	≤4.3	n/a

a. Credits may also be accrued for thermal control technologies as defined in subsection (e) in the amounts shown in the following table:

		Credit Value: Light-Duty
	Credit value:	*Trucks and Medium-*
Thermal Control	*Passenger Cars*	*Duty Passenger Vehicles*
Technology	*(g/mi)*	*(g/mi)*
Glass or glazing	≤2.9	≤3.9
Active seat ventilation	1.0	1.3
Solar reflective paint	0.4	0.5
Passive cabin ventilation	1.7	2.3
Active cabin ventilation	2.1	2.8

b. The maximum credit allowed for thermal control technologies is limited to 3.0 g/mi for passenger cars and to 4.3 g/mi for light-duty trucks and medium-duty passenger vehicles. The maximum credit allowed for glass or glazing is limited to 2.9 g/mi for passenger cars and to 3.9 g/mi for light-duty trucks and medium-duty passenger vehicles.

c. Glass or glazing credits are calculated using the following equation:

$$\text{Credit} = \left[Z \times \sum_{i=1}^{n} \frac{T_i \times G_i}{G} \right]$$

Where:

Credit = the total glass or glazing credits, in grams per mile, for a vehicle, which may not exceed 3.0 g/mi for passenger cars or 4.3 g/mi for light-duty trucks and medium-duty passenger vehicles;

Z = 0.3 for passenger cars and 0.4 for light-duty trucks and medium-duty passenger vehicles;

G_i = the measured glass area of window i, in square meters and rounded to the nearest tenth;

G = the total glass area of the vehicle, in square meters and rounded to the nearest tenth;

T_i = the estimated temperature reduction for the glass area of window i, determined using the following formula:

$T_i = 0.3987 \times (Tts_{base} - Tts_{new})$

Where:

Tts_{new} = the total solar transmittance of the glass, measured according to ISO 13837:2008, “Safety glazing materials - Method for determination of solar transmittance” (incorporated by reference, herein).

Tts_{base} = 62 for the windshield, side-front, side-rear, rear-quarter, and backlite locations, and 40 for rooflite locations.

2. The maximum allowable decrease in the manufacturer's combined passenger car and light-duty truck plus medium-duty passenger vehicle fleet average CO_2 emissions attributable to use of the default credit values in subsection (a)(8)(A)1 is 10 grams per mile. If the total of the CO_2 g/mi credit values from the table in subsection (a)(8)(A)1 does not exceed 10 g/mi for any passenger automobile or light truck in a manufacturer's fleet, then the total off-cycle credits may be calculated according to subsection (a)(8)(D). If the total of the CO_2 g/mi credit values from the table in subsection (a)(8)(A)1 exceeds 10 g/mi for any passenger car, light-duty truck, or medium-duty passenger vehicle in a manufacturer's fleet, then the gram per mile decrease for the combined passenger car and light-duty truck plus medium-duty passenger vehicle fleet must be determined according to subsection (a)(8)(A)2.a to determine whether the 10 g/mi limitation has been exceeded.

a. Determine the gram per mile decrease for the combined passenger car and light-duty truck plus medium-duty passenger vehicle fleet using the following formula:

$$\text{Decrease} = \frac{Credits \times 1{,}000{,}000}{[(Prod_C \times 195{,}264) + (Prod_T \times 225{,}865)]}$$

Where:

Credits = The total of passenger car and light-duty truck plus medium-duty passenger vehicles credits, in Megagrams, determined according to subsection (a)(8)(D) and limited to those credits accrued by using the default gram per mile values in subsection (a)(8)(A)1.

$Prod_C$ = The number of passenger cars produced by the manufacturer and delivered for sale in the U.S.

$Prod_T$ = The number of light-duty trucks and medium-duty passenger vehicles produced by the manufacturer and delivered for sale in the U.S.

b. If the value determined in subsection (a)(8)(A)2.a is greater than 10 grams per mile, the total credits, in Megagrams, that may be accrued by a manufacturer using the default gram per mile values in subsection (a)(8)(A)1 shall be determined using the following formula:

$$\text{Credit (Megagrams)} = \frac{[10 \times ((Prod_C \times 195{,}264) + (Prod_T \times 225{,}865))]}{1{,}000{,}000}$$

Where:

$Prod_C$ = The number of passenger cars produced by the manufacturer and delivered for sale in the U.S. = The number of passenger cars produced by the manufacturer and delivered for sale in the U.S.

$Prod_T$ = The number of light-duty trucks and medium-duty passenger vehicles produced by the manufacturer and delivered for sale in the U.S.

c. If the value determined in subsection (a)(8)(A)2.a is not greater than 10 grams per mile, then the credits that may be accrued by a manufacturer using the default gram per mile values in subsection (a)(8)(A)1 do not exceed the allowable limit, and total credits may be determined for each category of vehicles according to subsection (a)(8)(D).

d. If the value determined in subsection (a)(8)(A)2.a is greater than 10 grams per mile, then the combined passenger car and light-duty truck plus medium-duty passenger vehicle credits, in Megagrams, that may be accrued using the calculations in

subsection (a)(8)(D) must not exceed the value determined in subsection (a)(8)(A)2.b. This limitation should generally be done by reducing the amount of credits attributable to the vehicle category that caused the limit to be exceeded such that the total value does not exceed the value determined in subsection (a)(8)(A)2.b.

3. In lieu of using the default gram per mile values specified in subsection (a)(8)(A)1 for specific technologies, a manufacturer may determine an alternative value for any of the specified technologies. An alternative value must be determined using one of the methods specified in subsection (a)(8)(B) or subsection (a)(8)(C).

(B) Technology demonstration using EPA 5-cycle methodology. To demonstrate an off-cycle technology and to determine a CO_2 credit using the EPA 5-cycle methodology, the manufacturer shall determine the off-cycle city/highway combined carbon-related exhaust emissions benefit by using the EPA 5-cycle methodology described in 40 CFR Part 600. Testing shall be performed on a representative vehicle, selected using good engineering judgment, for each model type for which the credit is being demonstrated. The emission benefit of a technology is determined by testing both with and without the off-cycle technology operating. Multiple off-cycle technologies may be demonstrated on a test vehicle. The manufacturer shall conduct the following steps and submit all test data to the Executive Officer.

1. Testing without the off-cycle technology installed and/or operating. Determine carbon-related exhaust emissions over the FTP, the HWFET, the US06, the SC03, and the cold temperature FTP test procedures according to the test procedure provisions specified in 40 CFR part 600 subpart B and using the calculation procedures specified in §600.113-08 of this chapter. Run each of these tests a minimum of three times without the off-cycle technology installed and operating and average the per phase (bag) results for each test procedure. Calculate the 5-cycle weighted city/highway combined carbon-related exhaust emissions from the averaged per phase results, where the 5-cycle city value is weighted 55% and the 5-cycle highway value is weighted 45%. The resulting combined city/highway value is the baseline 5-cycle carbon-related exhaust emission value for the vehicle.

2. Testing with the off-cycle technology installed and/or operating. Determine carbon-related exhaust emissions over the US06, the SC03, and the cold temperature FTP test procedures according to the test procedure provisions specified in 40 CFR part 600 subpart B and using the calculation procedures specified in 40 CFR §600.113-08. Run each of these tests a minimum of three times with the off-cycle technology installed and operating and average the per phase (bag) results for each test procedure. Calculate the 5-cycle weighted city/highway combined carbon-related exhaust emissions from the averaged per phase results, where the 5-cycle city value is weighted 55% and the 5-cycle highway value is weighted 45%. Use the averaged per phase results for the FTP and HWFET determined in subsection (a)(8)(B)1 for operation without the off-cycle technology in this calculation. The resulting combined city/highway value is the 5-cycle carbon-related exhaust emission value showing the off-cycle benefit of the technology but excluding any benefit of the technology on the FTP and HWFET.

3. Subtract the combined city/highway value determined in subsection (a)(8)(B)1 from the value determined in subsection (a)(8)(B)2. The result is the off-cycle benefit of the technology or technologies being evaluated. If this benefit is greater than or equal to three percent of the value determined in subsection (a)(8)(B)1 then the manufacturer may use this value, rounded to the nearest tenth of a gram per mile, to determine credits under subsection (a)(8)(C).

4. If the value calculated in subsection (a)(8)(B)3 is less than two percent of the value determined in subsection (a)(8)(B)1, then the manufacturer must repeat the testing required under subsections (a)(8)(B)1 and (a)(8)(B)2, except instead of running each test three times they shall run each test two additional times. The off-cycle benefit of the technology or technologies being evaluated shall be calculated as in subsection (a)(8)(B)3 using all the tests conducted under subsections (a)(8)(B)1, (a)(8)(B)2, and (a)(8)(B)4. If the value calculated in subsection (a)(8)(B)3 is less than two percent of the value determined in subsection (a)(8)(B)1, then the manufacturer must verify the emission reduction potential of the off-cycle technology or technologies using the EPA Vehicle Simulation Tool, and if the results support a credit value that is less than two percent of the value determined in subsection (a)(8)(B)1 then the manufacturer may use the off-cycle benefit of the technology or technologies calculated as in subsection (a)(8)(B)3 using all the tests conducted under subsections (a)(8)(B)1, (a)(8)(B)2, and (a)(8)(B)4, rounded to the nearest tenth of a gram per mile, to determine credits under subsection (a)(8)(C).

(C) Review and approval process for off-cycle credits.

1. Initial steps required.

a. A manufacturer requesting off-cycle credits under the provisions of subsection (a)(8)(B) must conduct the testing and/or simulation described in that paragraph.

b. A manufacturer requesting off-cycle credits under subsection (a)(8)(B) must conduct testing and/or prepare engineering analyses that demonstrate the in-use durability of the technology for the full useful life of the vehicle.

2.Data and information requirements. The manufacturer seeking off-cycle credits must submit an application for off-cycle credits determined under subsection (a)(8)(B). The application must contain the following:

a. A detailed description of the off-cycle technology and how it functions to reduce CO_2 emissions under conditions not represented on the FTP and HWFET.

b. A list of the vehicle model(s) which will be equipped with the technology.

c. A detailed description of the test vehicles selected and an engineering analysis that supports the selection of those vehicles for testing.

d. All testing and/or simulation data required under subsection (a)(8)(B), as applicable, plus any other data the manufacturer has considered in the analysis.

e. An estimate of the off-cycle benefit by vehicle model and the fleetwide benefit based on projected sales of vehicle models equipped with the technology.

f. An engineering analysis and/or component durability testing data or whole vehicle testing data demonstrating the in-use durability of the off-cycle technology components.

3. Review of the off-cycle credit application. Upon receipt of an application from a manufacturer, the Executive Officer will do the following:

a. Review the application for completeness and notify the manufacturer within 30 days if additional information is required.

b. Review the data and information provided in the application to determine if the application supports the level of credits estimated by the manufacturer.

4. Decision on off-cycle application. The Executive Officer will notify the manufacturer in writing of its decision to approve or deny the application within 60 days of receiving a complete application, and if denied, the Executive Officer will provide the reasons for the denial.

(D) Calculation of total off-cycle credits. Total off-cycle credits in grams per mile of CO_2 (rounded to the nearest tenth of a gram per mile) shall be calculated separately for passenger cars and light-duty trucks plus medium-duty passenger vehicles according to the following formula:

Total Credits (g/mi) = Credit x Production

Where:

Credit = the credit value in grams per mile determined in subsection (a)(8)(A) or subsection (a)(8)(B).

Production = The total number of passenger cars or light-duty trucks plus medium-duty passenger vehicles, whichever is applicable, produced and delivered for sale in California, produced with the off-cycle technology to which to the credit value determined in subsection (a)(8)(A) or subsection (a)(8)(B) applies.

(9) Credits for certain full-size pickup trucks. Full-size pickup trucks may be eligible for additional credits based on the implementation of hybrid technologies or on exhaust emission performance, as described in this subsection (a)(9). Credits may be generated under either subsection (a)(9)(A) or subsection (a)(9)(B) for a qualifying pickup truck, but not both.

(A) Credits for implementation of gasoline-electric hybrid technology. Full-size pickup trucks that implement hybrid gasoline-electric technologies may be eligible for an additional credit under this subsection (a)(9)(A). Pickup trucks using the credits under this subsection (a)(9)(A) may not use the credits described in subsection (a)(9)(B).

1. Full-size pickup trucks that are mild hybrid gasoline-electric vehicles and that are produced in the 2017 through 2021 model years are eligible for a credit of 10 grams/mile. To receive this credit, the manufacturer must produce a quantity of mild hybrid full-size pickup trucks such that the proportion of production of such vehicles, when compared to the manufacturer's total production of full-size pickup trucks, is not less than the amount specified in the table below for each model year.

	Required minimum percent of
Model year	*full-size pickup trucks*
2017	30%
2018	40%
2019	55%
2020	70%
2021	80%

2. Full-size pickup trucks that are strong hybrid gasoline-electric vehicles and that are produced in the 2017 through 2025 model years are eligible for a credit of 20 grams/mile. To receive this credit, the manufacturer must produce a quantity of strong hybrid full-size pickup trucks such that the proportion of production of such vehicles, when compared to the manufacturer's total production of full-size pickup trucks, is not less than 10 percent for each model year.

(B) Credits for emission reduction performance. 2017 through 2021 model year full-size pickup trucks that achieve carbon-related exhaust emission values below the applicable target value determined in subsection (a)(1)(B) may be eligible for an additional credit. Pickup trucks using the credits under this subsection (a)(9)(B) may not use the credits described in subsection (a)(9)(A).

1. Full-size pickup trucks that achieve carbon-related exhaust emissions less than or equal to the applicable target value determined in subsection (a)(1)(B) multiplied by 0.85 (rounded to the nearest gram per mile) and greater than the applicable target value determined in subsection (a)(1)(B) multiplied by 0.80 (rounded to the nearest gram per mile) in a model year are eligible for a credit of 10 grams/mile. A pickup truck that qualifies for this credit in a model year may claim this credit for subsequent model years through the 2021 model year if the carbon-related exhaust emissions of that pickup truck do not increase relative to the emissions in the model year in which the pickup truck qualified for the credit. To qualify for this credit in each model year, the manufacturer must produce a quantity of full-size pickup trucks that meet the emission requirements of this subsection (a)(9)(B)1 such that the proportion of production of such vehicles, when compared to the manufacturer's total production of full-size pickup trucks, is not less than the amount specified in the table below for each model year.

	Required minimum percent of
Model year	*full-size pickup trucks*
2017	15%
2018	20%
2019	28%
2020	35%
2021	40%

2. Full-size pickup trucks that achieve carbon-related exhaust emissions less than or equal to the applicable target value determined in subsection (a)(1)(B) multiplied by 0.80 (rounded to the nearest gram per mile) in a model year are eligible for a credit of 20 grams/mile. A pickup truck that qualifies for this credit in a model year may claim this credit for a maximum of five subsequent model years if the carbon-related exhaust emissions of that pickup truck do not increase relative to the emissions in the model year in which the pickup truck first qualified for the credit. This credit may not be claimed in any model year after 2025. To qualify for this credit, the manufacturer must produce a quantity of full-size pickup trucks that meet the emission requirements of subsection (a)(9)(B)1 such that the proportion of production of such vehicles, when compared to the manufacturer's total production of full-size pickup trucks, is not less than 10 percent in each model year.

(C) Calculation of total full-size pickup truck credits. Total credits in grams per mile of CO_2 (rounded to the nearest whole gram per mile) shall be calculated for qualifying full-size pickup trucks according to the following formula:

Total Credits (g/mi) = (10 x $Production_{10}$) + (20 x $Production_{20}$)

Where:

$Production_{10}$ = The total number of full-size pickup trucks produced and delivered for sale in California with a credit value of 10 grams per mile from subsection (a)(9)(A) and subsection (a)(9)(B).

$Production_{20}$ = The total number of full-size pickup trucks produced and delivered for sale in California with a credit value of 20 grams per mile from subsection (a)(9)(A) and subsection (a)(9)(B).

(10) Greenhouse Gas In-Use Compliance Standards. The in-use exhaust CO_2 emission standard shall be the combined city/highway exhaust emission value calculated according to the provisions of subsection (a)(5)(A) for the vehicle model type and footprint value multiplied by 1.1 and rounded to the nearest whole gram per mile. For vehicles that are capable of operating on multiple fuels, a separate value shall be determined for each fuel that the vehicle is capable of operating on. These standards apply to in-use testing performed by the manufacturer pursuant to the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.”

(11) *Mid-Term Review of the 2022 through 2025 MY Standards*. The Executive Officer shall conduct a mid-term review to re-evaluate the state of vehicle technology to determine whether any adjustments to the stringency of the 2022 through 2025 model year standards are appropriate. California's mid-term review will be coordinated with its planned full participation in EPA's mid-term evaluation as set forth in 40 CFR §86.1818-12 (h).

(b) Calculation of Greenhouse Gas Credits/Debits. Credits that are earned as part of the 2012 through 2016 MY National greenhouse gas program shall not be applicable to California's greenhouse gas program. Debits that are earned as part of the 2012 through 2016 MY National greenhouse gas program shall not be applicable to California's greenhouse gas program.

(1) Calculation of Greenhouse Gas Credits for Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles.

(A) A manufacturer that achieves fleet average CO_2 values lower than the fleet average CO values lower than the fleet average CO_2 requirement for the corresponding model year shall receive credits for each model year in units of g/mi. A manufacturer that achieves fleet average CO_2 values higher than the fleet average CO_2 requirement for the corresponding model year shall receive debits for each model year in units of g/mi. Manufacturers must calculate greenhouse gas credits and greenhouse gas debits separately for passenger cars and for combined light-duty trucks and medium-duty passenger vehicles as follows:

CO_2 Credits or Debits = (CO_2 Standard - Manufacturer's Fleet Average CO_2 Value) x (Total No. of Vehicles Produced and Delivered for Sale in California, Including ZEVs and HEVs).

Where:

CO_2 Standard = the applicable standard for the model year as determined in subsection (a)(1)(C);

Manufacturer's Fleet Average CO_2 Value = average calculated according to subsection (a)(5);

(B) A manufacturer's total Greenhouse Gas credits or debits generated in a model year shall be the sum of its CO_2 credits or debits and any of the following credits or debits, if applicable. The manufacturer shall calculate, maintain, and report Greenhouse Gas credits or debits separately for its passenger car fleet and for its light-duty truck plus medium-duty passenger vehicle fleet.

1. Air conditioning leakage credits earned according to the provisions of subsection (a)(6);

2. Air conditioning efficiency credits earned according to the provisions of subsection (a)(7);

3. Off-cycle technology credits earned according to the provisions of subsection (a)(8).

4. CO_2-equivalent debits earned according to the provisions of subsection (a)(2)(D).

(2) A manufacturer with 2017 and subsequent model year fleet average Greenhouse Gas values greater than the fleet average CO_2 standard applicable for the corresponding model year shall receive debits in units of g/mi Greenhouse Gas equal to the amount of negative credits determined by the aforementioned equation. For the 2017 and subsequent model years, the total g/mi Greenhouse Gas credits or debits earned for passenger cars and for light-duty trucks and medium-duty passenger vehicles shall be summed together. The resulting amount shall constitute the g/mi Greenhouse Gas credits or debits accrued by the manufacturer for the model year.

(3) Procedure for Offsetting Greenhouse Gas Debits.

(A) A manufacturer shall equalize Greenhouse Gas emission debits by earning g/mi Greenhouse Gas emission credits in an amount equal to the g/mi Greenhouse Gas debits, or by submitting a commensurate amount of g/mi Greenhouse Gas credits to the Executive Officer that were earned previously or acquired from another manufacturer. A manufacturer shall equalize combined Greenhouse Gas debits for passenger cars, light-duty trucks, and medium-duty passenger vehicles within five model years after they are earned. If emission debits are not equalized within the specified time period, the manufacturer shall be subject to the Health and Safety Code section 43211 civil penalty applicable to a manufacturer which sells a new motor vehicle that does not meet the applicable emission standards adopted by the state board. The cause of action shall be deemed to accrue when the emission debits are not equalized by the end of the specified time period. For a manufacturer demonstrating compliance under Option 2 in subsection (a)(5)(D), the emission debits that are subject to a civil penalty under Health and Safety Code section 43211 shall be calculated separately for California, the District of Columbia, and each individual state that is included in the fleet average greenhouse gas requirements in subsection (a)(1). These emission debits shall be calculated for each individual state using the formula in subsections (b)(1) and (b)(2), except that the "Total No. of Vehicles Produced and Delivered for Sale in California, including ZEVs and HEVs" shall be calculated separately for the District of Columbia and each individual state.

For the purposes of Health and Safety Code section 43211, the number of passenger cars not meeting the state board's emission standards shall be determined by dividing the total amount of g/mi Greenhouse Gas emission debits for the model year calculated for California by the g/mi Greenhouse Gas fleet average requirement for passenger car applicable for the model year in which the debits were first incurred. For the purposes of Health and Safety Code section 43211, the number of light-duty trucks and medium-duty passenger vehicles not meeting the state board's emission standards shall be determined by dividing the total amount of g/mi Greenhouse Gas emission debits for the model year calculated for California by the g/mi Greenhouse Gas fleet average requirement for light-duty trucks and medium-duty passenger vehicles, applicable for the model year in which the debits were first incurred.

(B) Greenhouse Gas emission credits earned in the 2017 and subsequent model years shall retain full value through the fifth model year after they are earned, and will have no value if not used by the beginning of the sixth model year after being earned.

(4) *Use of Greenhouse Gas Emission Credits to Offset a Manufacturer's ZEV Obligations*.

(A) For a given model year, a manufacturer that has Greenhouse Gas credits remaining after equalizing all of its Greenhouse Gas debits may use those Greenhouse Gas credits to comply with its ZEV obligations for that model year, in accordance with the provisions set forth in the "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962.2.

(B) Any Greenhouse Gas credits used by a manufacturer to comply with its ZEV obligations shall retain no value for the purposes of complying with this section 1961.3.

(5) Credits and debits that are earned as part of the 2012 through 2016 MY National Greenhouse Gas Program, shall have no value for the purpose of complying with this section 1961.3.

(c) *Optional Compliance with the 2017 through 2025 MY National Greenhouse Gas Program*.

The optional compliance approach provided by this section 1961.3 (c) shall not be available for 2021 through 2025 model year passenger cars, light-duty trucks, and medium-duty passenger vehicles if the "2017 through 2025 MY National Greenhouse Gas Program" is altered via a final rule published in the *Federal Register* subsequent to October 25, 2016.

For the 2017 through 2025 model years, a manufacturer may elect to demonstrate compliance with this section 1961.3 by demonstrating compliance with the 2017 through 2025 MY National greenhouse gas program as follows:

(1) A manufacturer that selects compliance with this option must notify the Executive Officer of that selection, in writing, prior to the start of the applicable model year or must comply with 1961.3 (a) and (b);

(2) The manufacturer must submit to ARB all data that it submits to EPA in accordance with the reporting requirements as required under 40 CFR §86.1865-12, incorporated by reference in and amended by the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," for demonstrating compliance with the 2017 through 2025 MY National greenhouse gas program and the EPA determination of compliance. All such data must be submitted within 30 days of receipt of the EPA determination of compliance for each model year that a manufacturer selects compliance with this option;

(3) The manufacturer must provide to the Executive Officer separate values for the number of vehicles in each model type and footprint value produced and delivered for sale in California, the District of Columbia, and each individual state that has adopted California's greenhouse gas emission standards for that model year pursuant to Section 177 of the federal Clean Air Act (42 U.S.C. § 7507), the applicable fleet average CO_2 standards for each of these model types and footprint values, the calculated fleet average CO_2 value for each of these model types and footprint values, and all values used in calculating the fleet average CO_2 values.

(d) *Test Procedures*. The certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in section 1961.2. In the case of hybrid electric vehicles, the certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962.1, or the "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962.2, as applicable.

(e) *Abbreviations*. The following abbreviations are used in this section 1961.3:

"CFR" means Code of Federal Regulations.

"CH_4" means methane.

"CO_2" means carbon dioxide.

"FTP" means Federal Test Procedure.

"GHG" means greenhouse gas.

"g/mi" means grams per mile.

"GVW" means gross vehicle weight.

"GVWR" means gross vehicle weight rating.

"GWP" means the global warming potential.

"HEV" means hybrid-electric vehicle.

"HWFET" means Highway Fuel Economy Test (HWFET; 40 CFR 600 Subpart B).

"LDT" means light-duty truck.

"LVW" means loaded vehicle weight.

"MDPV" means medium-duty passenger vehicle.

"mg/mi" means milligrams per mile.

"MY" means model year.

"NHTSA" means National Highway Traffic Safety Administration.

"N_2O" means nitrous oxide.

"ZEV" means zero-emission vehicle.

(f) *Definitions Specific to this Section*. The following definitions apply to this section 1961.3:

(1) "A/C Direct Emissions" means any refrigerant released from a motor vehicle's air conditioning system.

(2) "Active Aerodynamic Improvements" means technologies that are activated only at certain speeds to improve aerodynamic efficiency by a minimum of three percent, while preserving other vehicle attributes or functions.

(3) "Active Cabin Ventilation" means devices that mechanically move heated air from the cabin interior to the exterior of the vehicle.

(4) "Active Transmission Warmup" means a system that uses waste heat from the exhaust system to warm the transmission fluid to an operating temperature range quickly using a heat exchanger in the exhaust system, increasing the overall transmission efficiency by reducing parasitic losses associated with the transmission fluid, such as losses related to friction and fluid viscosity.

(5) “Active Engine Warmup” means a system using waste heat from the exhaust system to warm up targeted parts of the engine so that it reduces engine friction losses and enables the closed-loop fuel control to activate more quickly. It allows a faster transition from cold operation to warm operation, decreasing CO_2 emissions.

(6) “Active Seat Ventilation” means a device that draws air from the seating surface which is in contact with the occupant and exhausts it to a location away from the seat.

(7) “Blower motor controls which limit waste energy” means a method of controlling fan and blower speeds that does not use resistive elements to decrease the voltage supplied to the motor.

(8) “Default to recirculated air mode” means that the default position of the mechanism which controls the source of air supplied to the air conditioning system shall change from outside air to recirculated air when the operator or the automatic climate control system has engaged the air conditioning system (i.e., evaporator is removing heat), except under those conditions where dehumidification is required for visibility (i.e., defogger mode). In vehicles equipped with interior air quality sensors (e.g., humidity sensor, or carbon dioxide sensor), the controls may determine proper blend of air supply sources to maintain freshness of the cabin air and prevent fogging of windows while continuing to maximize the use of recirculated air. At any time, the vehicle operator may manually select the non-recirculated air setting during vehicle operation but the system must default to recirculated air mode on subsequent vehicle operations (i.e., next vehicle start). The climate control system may delay switching to recirculation mode until the interior air temperature is less than the outside air temperature, at which time the system must switch to recirculated air mode.

(9) “Electric Heater Circulation Pump” means a pump system installed in a stop-start equipped vehicle or in a hybrid electric vehicle or plug-in hybrid electric vehicle that continues to circulate hot coolant through the heater core when the engine is stopped during a stop-start event. This system must be calibrated to keep the engine off for 1 minute or more when the external ambient temperature is 30 deg F.

(10) “Emergency Vehicle” means a motor vehicle manufactured primarily for use as an ambulance or combination ambulance-hearse or for use by the United States Government or a State or local government for law enforcement.

(11) “Engine Heat Recovery” means a system that captures heat that would otherwise be lost through the exhaust system or through the radiator and converting that heat to electrical energy that is used to meet the electrical requirements of the vehicle. Such a system must have a capacity of at least 100W to achieve 0.7 g/mi of credit. Every additional 100W of capacity will result in an additional 0.7 g/mi of credit.

(12) “Engine Start-Stop” means a technology which enables a vehicle to automatically turn off the engine when the vehicle comes to a rest and restart the engine when the driver applies pressure to the accelerator or releases the brake.

(13) “EPA Vehicle Simulation Tool” means the “EPA Vehicle Simulation Tool” as incorporated by reference in 40 CFR §86.1 in the Notice of Proposed Rulemaking for EPA's 2017 and subsequent MY National Greenhouse Gas Program, as proposed at 76 Fed. Reg. 74854, 75357 (December 1, 2011).

(14) “Executive Officer” means the Executive Officer of the California Air Resources Board.

(15) “Footprint” means the product of average track width (rounded to the nearest tenth of an inch) and wheelbase (measured in inches and rounded to the nearest tenth of an inch), divided by 144 and then rounded to the nearest tenth of a square foot, where the average track width is the average of the front and rear track widths, where each is measured in inches and rounded to the nearest tenth of an inch.

(16) “Federal Test Procedure” or “FTP” means 40 CFR, Part 86, Subpart B, as amended by the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.”

(17) “Full-size pickup truck” means a light-duty truck that has a passenger compartment and an open cargo box and which meets the following specifications:

1. A minimum cargo bed width between the wheelhouses of 48 inches, measured as the minimum lateral distance between the limiting interferences (pass-through) of the wheelhouses. The measurement shall exclude the transitional arc, local protrusions, and depressions or pockets, if present. An open cargo box means a vehicle where the cargo box does not have a permanent roof or cover. Vehicles produced with detachable covers are considered “open” for the purposes of these criteria.

2. A minimum open cargo box length of 60 inches, where the length is defined by the lesser of the pickup bed length at the top of the body and the pickup bed length at the floor, where the length at the top of the body is defined as the longitudinal distance from the inside front of the pickup bed to the inside of the closed endgate as measured at the height of the top of the open pickup bed along vehicle centerline, and the length at the floor is defined as the longitudinal distance from the inside front of the pickup bed to the inside of the closed endgate as measured at the cargo floor surface along vehicle centerline.

3. A minimum towing capability of 5,000 pounds, where minimum towing capability is determined by subtracting the gross vehicle weight rating from the gross combined weight rating, or a minimum payload capability of 1,700 pounds, where minimum payload capability is determined by subtracting the curb weight from the gross vehicle weight rating.

(18) “Greenhouse Gas” means the following gases: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons.

(19) “GWP” means the global warming potential of the refrigerant over a 100-year horizon, as specified in Intergovernmental Panel on Climate Change (IPCC) 2007: Climate Change 2007 - The Physical Science Basis. S. Solomon et al. (editors), Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, UK and New York, NY, USA, ISBN 0-521-70596-7, or determined by ARB if such information is not available in the IPCC Fourth Assessment Report.

(20) “High Efficiency Exterior Lighting” means a lighting technology that, when installed on the vehicle, is expected to reduce the total electrical demand of the exterior lighting system by a minimum of 60 watts when compared to conventional lighting systems. To be eligible for this credit the high efficiency lighting must be installed in the following components: parking/position, front and rear turn signals, front and rear side markers, stop/brake lights (including the center-mounted location), taillights, backup/reverse lights, and license plate lighting.

(21) “Improved condensers and/or evaporators” means that the coefficient of performance (COP) of air conditioning system using improved evaporator and condenser designs is 10 percent higher, as determined using the bench test procedures described in SAE J2765 “Procedure for Measuring System COP of a Mobile Air Conditioning System on a Test Bench,” when compared to a system using standard, or prior model year, component designs. SAE J2765 is incorporated by reference herein. The manufacturer must submit an engineering analysis demonstrating the increased improvement of the system relative to the baseline design, where the baseline component(s) for comparison is the version which a manufacturer most recently had in production on the same vehicle design or in a similar or related vehicle model. The dimensional characteristics (e.g., tube configuration/thickness/spacing, and fin density) of the baseline component(s) shall be compared to the new component(s) to demonstrate the improvement in coefficient of performance.

(22) “Mild hybrid gasoline-electric vehicle” means a vehicle that has start/stop capability and regenerative braking capability, where the recaptured braking energy over the FTP is at least 15 percent but less than 75 percent of the total braking energy, where the percent of recaptured braking energy is measured and calculated according to 40 CFR §600.108(g).

(23) “Model Type” means a unique combination of car line, basic engine, and transmission class.

(24) “2012 through 2016 MY National Greenhouse Gas Program” means the national program that applies to new 2012 through 2016 model year passenger cars, light-duty-trucks, and medium-duty passenger vehicles as adopted by the U.S. Environmental Protection Agency on April 1, 2010 (75 Fed. Reg. 25324, 25677 (May 7, 2010)).

(25) “2017 through 2025 MY National Greenhouse Gas Program” means the national program that applies to new 2017 through 2025 model year passenger cars, light-duty-trucks, and medium-duty passenger vehicles as adopted by the U.S. Environmental Protection Agency as codified in 40 CFR Part 86, Subpart S, except as follows:
For model years 2021 through 2025, the “2017 through 2025 MY National Greenhouse Gas Program” means the national program that applies to new 2021 through 2025 model year passenger cars, light-duty-trucks, and medium-duty passenger vehicles as adopted by the U.S. Environmental Protection Agency as codified in 40 CFR Part 86, Subpart S, as last amended on October 25, 2016 that incorporates CFR sections 86.1818-12 (October 25, 2016), 86.1865-12 (October 25, 2016), 86.1866-12 (October 25, 2016), 86.1867-12 (October 25, 2016), 86.1868-12 (October 25, 2016), 86.1869-12 (October 25, 2016), 86.1870-12 (October 25, 2016), and 86.1871-12 (October 25, 2016).

(26) “Oil separator” means a mechanism that removes at least 50 percent of the oil entrained in the oil/refrigerant mixture exiting the compressor and returns it to the compressor housing or compressor inlet, or a compressor design that does not rely on the circulation of an oil/refrigerant mixture for lubrication.

(27) “Passive Cabin Ventilation” means ducts or devices which utilize convective airflow to move heated air from the cabin interior to the exterior of the vehicle.

(28) “Plug-in Hybrid Electric Vehicle” means “off-vehicle charge capable hybrid electric vehicle” as defined in the “California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes.”

(29) “Reduced reheat, with externally controlled, fixed-displacement or pneumatic variable displacement compressor” means a system in which the output of either compressor is controlled by cycling the compressor clutch off-and-on via an electronic signal, based on input from sensors (e.g., position or setpoint of interior temperature control, interior temperature, evaporator outlet air temperature, or refrigerant temperature) and air temperature at the outlet of the evaporator can be controlled to a level at 41°F, or higher.

(30) “Reduced reheat, with externally-controlled, variable displacement compressor” means a system in which compressor displacement is controlled via an electronic signal, based on input from sensors (e.g., position or setpoint of interior temperature control, interior temperature, evaporator outlet air temperature, or refrigerant temperature) and air temperature at the outlet of the evaporator can be controlled to a level at 41°F, or higher.

(31) “SC03” means the SC03 test cycle as set forth in the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium Duty Vehicles.”

(32) “Solar Reflective Paint” means a vehicle paint or surface coating which reflects at least 65 percent of the impinging infrared solar energy, as determined using ASTM standards E903-96 (Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres, DOI: 10.1520/E0903-96 (Withdrawn 2005)), E1918-06 (Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field, DOI: 10.1520/E1918-06), or C1549-

09 (Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer, DOI: 10.1520/C1549-09). These ASTM standards are incorporated by reference, herein.

(33) “Solar Roof Panels” means the installation of solar panels on an electric vehicle or a plug-in hybrid electric vehicle such that the solar energy is used to provide energy to the electric drive system of the vehicle by charging the battery or directly providing power to the electric motor with the equivalent of at least 50 Watts of rated electricity output.

(34) “Strong hybrid gasoline-electric vehicle” means a vehicle that has start/stop capability and regenerative braking capability, where the recaptured braking energy over the Federal Test Procedure is at least 75 percent of the total braking energy, where the percent of recaptured braking energy is measured and calculated according to 40 CFR §600.108(g).

(35) “Subconfiguration” means a unique combination within a vehicle configuration of equivalent test weight, road load horsepower, and any other operational characteristics or parameters which is accepted by USEPA.

(36) “US06” means the US06 test cycle as set forth in the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium Duty Vehicles.”

(37) “Worst-Case” means the vehicle configuration within each test group that is expected to have the highest CO_2 - equivalent value, as calculated in section (a)(5).

(g) Severability. Each provision of this section is severable, and in the event that any provision of this section is held to be invalid, the remainder of both this section and this article remains in full force and effect.

Note: Authority cited: Sections 38550, 38566, 39500, 39600, 39601, 43013, 43018, 43018.5, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43018.5, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106 and 43211, Health and Safety Code.

HISTORY

1. New section filed 8-8-2012; operative 8-8-2012 pursuant to Government Code section 11343.4 (Register 2012, No. 32).

2. New subsection (a)(3)(C)4., amendment of subsections (a)(6)(C)1.-2 and (a)(7)(E), new subsection (a)(11), amendment of subsection (b)(4)(A), new subsections (c)-(c)(3), subsection relettering, amendment of newly designated subsections (f)(13) and (f)(17)1.-2., new subsection (f)(25) and subsection renumbering filed 12-31-2012; operative 12-31-2012 pursuant to Government Code section 11343.4 (Register 2013, No. 1).

3. Amendment of section heading and subsections (a)(1)(A)1.-2., (a)(1)(B)1., (c) and (f)(25) and amendment of Note filed 12-12-2018; operative 12-12-2018 pursuant to Government Code section 11343.4(b)(3) (Register 2018, No. 50).

This database is current through 10/4/19 Register 2019, No. 40

13 CCR § 1961.3, 13 CA ADC § 1961.3

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