ORAL ARGUMENT NOT YET SCHEDULED

No. 16-1430

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

TRUCK TRAILER MANUFACTURERS ASSOCIATION, INC.,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents.

On Petition for Review of Decision of the U.S. Environmental Protection Agency and the U.S. Department of Transportation

STATE INTERVENORS' OPPOSITION TO PETITIONER TRUCK TRAILER MANUFACTURERS ASSOCIATION'S INITIAL OPENING BRIEF

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1), the undersigned counsel certifies as follows:

A. Parties and Amici.

Petitioner is the Truck Trailer Manufacturers Association, Inc. Respondents are the United States Environmental Protection Agency; Andrew R. Wheeler in his official capacity as Administrator of the United States Environmental Protection Agency; National Highway Traffic Safety Administration; and James C. Owens, in his official capacity as Deputy Administrator of the National Highway Traffic Safety Administration. Respondent-Intervenors are the California Air Resources Board; the Center for Biological Diversity; the Environmental Defense Fund; the Natural Resources Defense Council; the Sierra Club; the Union of Concerned Scientists; and the States of Connecticut, Iowa, Massachusetts, Oregon, Rhode Island, Vermont and Washington.

B. Rulings Under Review.

The agency actions under review are "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2," 81 Fed.Reg. 73,478 (Oct. 25, 2016).

C. Related Cases.

This case was not previously before this Court or any other court. This case was formerly consolidated with *Racing Enthusiasts & Suppliers Coalition v. EPA*, No. 16-1447, a case involving a challenge to different provisions of the final rule challenged here. On December 26, 2019, this Court severed this case from *Racing Enthusiasts* and continued to hold that case in abeyance.

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GLOSSARY

EISA	Energy Independence and Security Act of 2007
EPA	United States Environmental Protection Agency
NHTSA	National Highway Traffic Safety Administration
TTMA	Truck Trailer Manufacturers Association, Inc.

STATEMENT OF THE ISSUES[1]

1. Whether tractor-trailers and standalone trailers are "vehicles" subject to NHTSA's regulatory authority under the Energy Independence and Security Act, 49 U.S.C. § 32902(k).

2. Whether the regulations setting out the joint process for establishing compliance with each Agency's substantive standards can continue to function with respect to NHTSA's fuel economy standards even in the absence of EPA's emissions standards.

PERTINENT STATUTES AND REGULATIONS

Pertinent statutes and regulations are reproduced in the Addendum to this brief.

STATEMENT OF THE CASE

This Memorandum adopts in full the Public Health and Environmental Respondent-Intervenors' Background discussion (NGO Br. 3-8), with the following additions.

Congress created the national fuel economy program as part of the Energy Policy and Conservation Act for the express purpose of "conserv[ing] energy" and

[1] State Respondent-Intervenors also fully support the arguments regarding EPA's independent statutory authority to regulate greenhouse gas emissions from trailers made in the Public Health and Environmental Respondent-Intervenors' brief. *See* ECF _____ (May 12, 2020) ("NGO Br.").

"provid[ing] for [the] improved energy efficiency of motor vehicles." Pub. L. No. 94–163, § 2, 89 Stat. 871 (1975). Congress reaffirmed this purpose in 2007 with the passage of the Energy Independence and Security Act (EISA), the stated purpose of which was to "move the United States toward greater independence and security, to increase the production of clean renewable fuels, to protect consumers, [and] to increase the efficiency of products, buildings, and vehicles[.]" Pub. L. No. 110-140, 121 Stat. 1492 (2007).

In Title I of EISA, Congress enacted the "Ten-in-Ten Fuel Economy Act", which, in pertinent part, required the Secretary of Transportation, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency (EPA), to prescribe separate average fuel economy standards for "work trucks and commercial medium-duty or heavy-duty on-highway vehicles." 49 U.S.C. § 32902(b).

Congress prescribed a process to govern NHTSA's development of "a fuel efficiency improvement program designed to achieve the maximum feasible improvement" for medium- and heavy-duty vehicles: (1) a study by the National Academy of Sciences, Pub. L. No. 110-140, § 108(a); (2) a subsequent study by NHTSA, 49 U.S.C. § 32902(k)(1); and then (3) a rulemaking to develop the regulations themselves, *id.* § 32902(k)(2). Congress made clear that before regulating heavy-duty vehicles, NHTSA must study "the appropriate metric for

measuring and expressing commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency performance," considering "the work performed by such on-highway vehicles and work trucks and types of operations in which they are used." *Id.* § 32902(k)(1). And Congress specifically tasked EPA with developing compliance procedures for those standards. *Id.* § 32904(c).

Following this process, NHTSA in collaboration with EPA issued fuel-efficiency and greenhouse gas emission standards for medium- and heavy-duty vehicles, which included specific standards for trailers. The Public Health and Environmental Respondent-Intervenors' description of these regulations is incorporated herein. NGO Br. 4-8.

Because the Agencies developed a joint process for establishing and verifying manufacturers' compliance with each Agency's respective standards, it is important to understand how that process functions with respect to NHTSA's standards. For trailers, the compliance process is essentially four steps.[2] *First*, manufacturers perform (or arrange for) emissions testing and modeling of their trailers "using the equations and technologies specified" by EPA. 49 C.F.R. §§ 535.6(e)(3), 535.10(b); 40 C.F.R. §§ 1037.501, 1037.515. *Second*, manufacturers use the results of the equations as inputs to a further equation

[2] EPA's compliance process regulations for trailers are located in 40 C.F.R. part 1037. NHTSA's regulations are located in 49 C.F.R. part 535.

supplied by NHTSA in order "to calculate equivalent fuel consumption." 49 C.F.R. §§ 535.6, 535.6(e)(4), 535.10(b). *Third*, manufacturers report the equivalent fuel consumption results to the Agencies via EPA's database. 49 C.F.R. § 535.8(a); 49 U.S.C. § 32907(b). The Agencies reserve the right to separately request any necessary information from manufacturers. 49 C.F.R. § 535.8(g), (j). *Fourth*, EPA conducts "any verification testing required to validate the manufacturer's submitted final data," and reports the results to NHTSA. 49 C.F.R. § 535.8(h)-(j); 40 C.F.R. § 1037.755; 49 U.S.C. § 32904(e). NHTSA and EPA reserve the right to separately verify manufacturers' testing and calculations for purposes of compliance with their respective standards. 49 C.F.R. § 535.6.

SUMMARY OF ARGUMENT

Congress mandated in EISA that NHTSA establish fuel economy standards for three categories of vehicles: (A) passenger automobiles, (B) non-passenger automobiles, and (C) work trucks and commercial medium-duty or heavy-duty on-highway vehicles. 49 U.S.C. § 32902(b). NHTSA's fuel economy standards for trailers are authorized because both tractor-trailers, and trailers themselves, are "commercial medium- or heavy-duty on-highway vehicles," defined by Congress as any "on-highway vehicle with a gross vehicle weight rating of 10,000 pounds or more." *See* 49 U.S.C. § 32901(a)(7).

TTMA does not dispute that trailers move on highways and weigh 10,000 pounds or more; rather, TTMA claims that a trailer is not a "vehicle" because it does not use fuel. Br. of Pet'r TTMA at 37-39, ECF 1827990 (Feb. 10, 2020) ("TTMA Br."). Congress's definition, however, nowhere requires the use of fuel. Both as commonly understood and as historically used by NHTSA, the term "vehicle" has a broad meaning that encompasses those vehicles, like trailers, that are drawn by mechanical power. Moreover, a reading of the term that excludes trailers would contravene EISA's stated purpose of improving the fuel economy of the commercial vehicles used on America's highways.

NHTSA correctly identifies many of the flaws in TTMA's arguments in arguing that its interpretation is reasonable. However, NHTSA's interpretation is not only reasonable; it is the only permissible interpretation. EISA clearly mandates that NHTSA implement a "fuel efficiency improvement program" for heavy-duty on-highway vehicles that achieves "the *maximum feasible improvement*." 49 U.S.C. § 32902(k)(2) (emphasis added). It requires NHTSA to comprehensively consider all practical aspects of heavy-duty commercial highway vehicle activity—e.g., the work performed and "total overall energy consumption"—before implementing its regulatory program. 49 U.S.C. § 32902(k)(1). These far-reaching directives are incompatible with the artificially narrow definition of the term "vehicle" that TTMA urges.

These statutory provisions unambiguously authorize NHTSA's fuel economy standards. EPA's Clean Air Act authority for its greenhouse gas standards is likewise sound, as argued by the Agencies and other Respondent-Intervenors. Nevertheless, NHTSA's separately authorized and independent standards would stand on their own even if the Court were to find that EPA's standards exceed that agency's authority. TTMA improperly seeks to apply severance—a remedy for partial invalidity of a single agency's regulations—to separate standards adopted by two *different* agencies. Here, the Agencies stated that the standards are independent and severable.

Through EISA, Congress created a statutory structure contemplating a joint compliance process for independent, but aligned, standards, and the Agencies' properly promulgated regulations implement that joint compliance process. NHTSA and EPA's jointly-promulgated regulations setting out testing and calculation procedures as part of the joint process for establishing and verifying compliance with each Agency's standards can still serve these functions with respect to NHTSA's standards should EPA's substantive standards be invalidated. Thus, these compliance process regulations are severable from EPA's substantive standards.

Even if the Court finds that EPA lacks authority for its standards and its compliance process regulations cannot be severed, the Court should remand the

Agencies' joint compliance process regulations without vacatur so NHTSA (acting alone or with EPA) can correct any discerned defect in the Agencies' compliance process for NHTSA's standards. Vacatur would be unnecessarily disruptive and would result in significant adverse effects to human health and the environment.

STANDARD OF REVIEW

This Memorandum adopts in full the Standard of Review as provided in the Public Health and Environmental Respondent-Intervenors' brief. NGO Br. 10-11.

ARGUMENT

I. EISA UNAMBIGUOUSLY REQUIRES NHTSA TO REGULATE THE FUEL ECONOMY OF TRAILERS

A. The Plain and Unambiguous Meaning of the Term "Vehicle" Includes Trailers

Congress required NHTSA to establish fuel economy standards for any "on-highway vehicle with a gross vehicle weight rating of 10,000 pounds or more." *See* 49 U.S.C. § 32901(a)(7) (defining commercial medium-duty or heavy-duty on-highway vehicles). Both the plain meaning of the term "vehicle" and NHTSA's historical understanding of the term confirm that, viewed either as one-half of the tractor-trailer combination vehicle or alone, trailers meet this definition. *Nat'l Envtl. Dev. Assoc.'s Clean Air Project v. EPA*, 891 F.3d 1041, 1048 (D.C. Cir. 2018) (explaining that in questions of statutory interpretation, courts "begin with the text") (internal quotation marks and citations omitted).

At the time of EISA's enactment, Black's Law Dictionary defined "vehicle" as "[s]omething used as an instrument of conveyance," or "[a]ny conveyance used in transporting passengers or things by land, water, or air." Black's Law Dictionary (8th ed. 2004). Moreover, elsewhere in Title 49, Subtitle VI, which encompasses "Motor Vehicle and Driver Programs" (including EISA), Congress twice defined the term "motor vehicle" as "a vehicle driven or drawn by mechanical power and manufactured primarily for use on public streets, roads, and highways[.]" 49 U.S.C. § 30102(a)(7) (governing the Motor Vehicle Safety Act); 49 U.S.C. § 32101(7) (governing Part C of Subtitle VI with the exception of Chapter 329). These definitions, which predate EISA, encompass the trailer. And indeed, NHTSA has since 1968 defined a trailer as "a motor vehicle," *see* 49 C.F.R. § 571.3, and has regulated trailers as such, *see, e.g., id.* §§ 571.106, 571.108.

While Congress did not expressly incorporate these definitions of "motor vehicle" into EISA,[3] it was aware of them when drafting the Act. *Bragdon v. Abbott*, 524 U.S. 624, 631 (1998) ("Congress' repetition of a well-established term carries the implication that Congress intended the term to be construed in accordance with pre-existing regulatory interpretations."). Yet notably, when Congress provided definitions for the particular categories of vehicles NHTSA is

[3] Congress instead used the broader term "vehicle," which it left undefined.

to regulate separately under EISA, it did not exclude trailers. *See* 49 U.S.C. § 32901(a)(7), (19). In contrast, Congress did exclude medium-duty passenger vehicles from its definition of "work truck," showing its willingness to exclude categories of vehicles where desired. *See id.* § 32901(a)(19).

Congress' use of vehicle weight and purpose to define the heavier duty category of vehicles further confirms Congress' intent to *include all* means of conveyance that travel on highways and meet the relevant weight criteria. *See, e.g.*, 49 U.S.C. § 32901(a)(19) (defining "work truck" as "a vehicle . . . rated at between 8,500 and 10,000 pounds gross vehicle weight" that is not a medium-duty passenger vehicle); 49 U.S.C. § 32901(a)(7) (defining "commercial medium- and heavy-duty on-highway vehicle" as any "on-highway vehicle with a gross vehicle weight rating of 10,000 pounds or more"). No one disputes that trailers are a means of conveyance that meet the weight rating and travel on highways; thus, trailers are necessarily encompassed by this broad definition.

Congress' use of the term "gross vehicle weight rating" (*see* TTMA Br. 45-46) does not change this analysis. Since well before Congress drafted EISA, NHTSA has defined "gross vehicle weight rating" as "the value specified by the manufacturer as the loaded weight of a single vehicle." 49 C.F.R. § 571.3. For combination vehicles, the weight can also be articulated as the "gross combination weight rating," which means "the value specified by the manufacturer as the

loaded weight of a combination vehicle." *Id.* § 571.3.[4] Applying these definitions, a trailer can have a gross vehicle weight rating based on the loaded weight of the trailer alone, or can be included in a gross combination weight rating, based on the loaded weight of the tractor-trailer combined.

TTMA's argument that the term "gross vehicle weight rating" necessarily excludes trailers misses the mark. First, it relies on materials published *after* Congress enacted EISA and an agency pamphlet concerning "trailer[s] for *noncommercial*, personal use." TTMA Br. 45-46 (emphasis added). Congress cannot be presumed to have drawn on documents that did not yet exist or are unrelated to commercial tractor-trailers. Second, trailers, on their own, can satisfy the gross vehicle weight rating established by Congress. And third, Congress was defining an entire category of medium- and heavy-duty vehicles, many of which are not combination vehicles (e.g. bucket trucks, pickup trucks, garbage trucks, and delivery vehicles). Thus, the suggestion that Congress "would have chosen the other term—gross combined weight rating—had it wanted to refer to the combined vehicle and trailer" (*id.* at 46) disregards that the use of that term might well have excluded vehicles Congress intended to include. Congress' use of a more

[4] NHTSA incorporated these same definitions into its regulations under EISA. 49 C.F.R. § 523.2.

generally applicable weight rating confirms, yet again, that Congress intended its definition to be *inclusive*.

Moreover, that Congress intended the term "vehicle" to cover trailers is unambiguous in the "context" of the "overall statutory scheme." *PDK Labs. Inc. v. DEA*, 362 F.3d 786, 796 (D.C. Cir. 2004). Congress enacted EISA in 2007 to fill gaps left by fuel economy achievements under the Energy Policy and Conservation Act (P.L. 94-163), passed in 1975. *See* S. Rep. No. 110-278, at 5 (April 7, 2008). Congress intended "to reduce fuel consumption," and thereby simultaneously, *inter alia*, reduce American dependence on foreign oil and the cost of gasoline. *Id.* at 2. As TTMA acknowledges, EISA is designed to serve these same purposes by improving the "fuel economy" of certain categories of vehicles, including medium- and heavy-duty on-highway vehicles. *See* Br. 37.

EISA directs NHTSA to create a "fuel efficiency improvement program" for "commercial medium- and heavy-duty on-highway vehicles" that will achieve the "*maximum feasible improvement*." 49 U.S.C. § 32902(k)(2) (emphasis added). Rather than set an initial minimum standard fuel economy as Congress did for passenger vehicles (49 U.S.C. § 32902(b)(2)(4)), Congress laid out a process to govern NHTSA's development of the first fuel efficiency regulations for this category of vehicles. This process included a study by the National Academy of Sciences, Pub. L. No. 110-140, § 108(a), a subsequent study by NHTSA, 49 U.S.C.

§ 32902(k)(1), and a rulemaking to develop the regulations themselves, *id.* § 32902(k)(2).

Congress directed NHTSA to comprehensively consider the practical aspects of commercial highway vehicle activity in developing its regulations. Among other things, Congress instructed NHTSA to determine "the appropriate metric for measuring and expressing commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency performance," which takes into consideration "*the work performed* by such on-highway vehicles and work trucks and *types of operations in which they are used*," in addition to their "*functionality*, use, duty cycle, . . . and *total overall* energy consumption." 49 U.S.C. § 32902(k)(1) (emphases added).

In so doing, Congress rejected the incorporation of the existing measure of "fuel economy," developed for light-duty vehicles, into the medium- and heavy-duty vehicle standards, because the existing definition did not take into consideration "the work performed" by these larger, industrial vehicles. *See* 49 U.S.C. § 32901(a)(11). Indeed, pursuant to Section 108 of EISA, the National Academy of Sciences studied the issue and determined that gas mileage "is not the appropriate measure for [medium- and heavy-duty vehicles]," and rather, the "most meaningful metric of fuel efficiency will be in relation to the work performed, such as fuel consumption per unit payload carried." *See* Technologies and Approaches

to Reducing the Fuel Consumption of Medium- and Heavy-Duty Vehicles (2010 NAS Study) at 2 (JA__).

Taking into consideration the "work performed" by tractor-trailers—as Congress requires NHTSA to do—trailers have "fuel economy," because they require the consumption of fuel to convey goods. Improvements in the fuel economy of trailers would improve the fuel efficiency of the tractor-trailer. *See* 81 Fed. Reg. 73,478, 73,521 (Oct. 25, 2016) ("Inherently, trailers are designed to be pulled by a tractor, which in turn affects the fuel efficiency of the tractor-trailer as a whole."); Factors and Considerations for Establishing a Fuel Efficiency Regulatory Program for Commercial Medium- and Heavy-Duty Vehicles (2010 NHTSA Study) at 31-35 (JA__) (summarizing the impact on fuel consumption of different trailer features). NHTSA's trailer regulations are expected to result in a 9 percent increase in fuel savings by model year 2027, separate from any fuel savings attributable to tractors alone. 81 Fed. Reg. at 73482; *see also* 2010 NAS Study at Appendix F (JA__). Thus, NHTSA must regulate both parts of the tractor-trailer to achieve the "maximum feasible improvement" in this category of vehicle.

B. Congress' Intent that the Term "Vehicle" Include Tractor-Trailers is Consistent with its Colloquial Use of the Term "Truck"

TTMA notes that Congress used the term "truck" in the legislative history and an uncodified section of EISA directing the scope of the National Academy of Science's study. Br. 43-44. Contrary to TTMA's assertion, the plain meaning and common usage of the word "truck" includes tractor-trailers. *See, e.g.*, 2010 NAS Study at 1 (JA__) (defining seven types of "trucks" including the tractor trailer, box truck, bucket truck, and pickup truck); Dictionary.com, https://www.dictionary.com/browse/truck (defining "truck" as "any of various forms of vehicle for carrying goods and materials, usually consisting of a single self-propelled unit but also often composed of a trailer vehicle hauled by a tractor unit"). The Academy in fact understood this word in its colloquial sense, and used it interchangeably with the word "tractor-trailer." *See, e.g.*, 2010 NAS Study at 2 (JA__) ("A partially loaded *tractor trailer* would consume less fuel per mile than a fully loaded *truck*, but this would not be an accurate measure of the fuel efficiency of moving goods.") (emphasis added). There is no reason to view Congress' use of the word "truck" as excluding tractor-trailers.

Moreover, when it drafted the codified sections of EISA, Congress chose to use the word "vehicle," instead of truck. 49 U.S.C. § 32902(k); *see also id.* § 32902(b) (requiring regulations for "work *trucks*" but "medium-duty or heavy-

duty on-highway *vehicles*"). This demonstrates Congress's intent that NHTSA adopt fuel economy standards for all vehicles meeting the weight and purpose criteria. Put simply, the use of "vehicle" in the statutory mandate for the standards confirms that Congress intended to include all trucks *and more* within the scope of NHTSA's authority.

C. TTMA's Arguments that Trailers Are Not "Vehicles" Lack Merit

TTMA's primary challenge to NHTSA's authority to regulate trailers is the assertion that trailers do not "use fuel." Br. 40, 42, 47. This is both irrelevant and incorrect. Congress rejected a definition of medium- and heavy-duty vehicle that turns on the use of fuel. *Compare* 49 U.S.C. § 32901(a)(3) (defining "automobile" as "4-wheeled vehicle that is propelled by fuel, or by alternative fuel") *with* 49 U.S.C. § 32901(a)(7) (defining "commercial medium- and heavy-duty on-highway vehicle" without a fuel-based limitation). "[W]here Congress includes particular language in one section of a statute but omits it in another . . . , it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." *Keene Corp. v. United States*, 508 U.S. 200, 208 (1993) (internal quotation marks and citations omitted).

And in any event, trailers do "use" fuel in fulfilling their intended purpose of transporting goods. *See supra* at 13. Indeed, trailers "use" fuel in the same manner that tractors do—both require connection to an engine that then allows

them to move on a highway with the use of fuel.[5] That a trailer might occasionally be used for storage, without moving or consuming fuel (*see* TTMA Br. 37), is immaterial. Just as Congress conferred authority on NHTSA under the Motor Vehicle Safety Act to regulate trailer safety features, even though a stationary trailer does not raise safety concerns, Congress conferred authority to regulate trailer's fuel-economy, as trailers are ultimately intended for on-highway travel.

Further, TTMA widely misses the mark in arguing that the regulation of trailers is equivalent to the regulation of wheelbarrows, car-top carriers, and bicycle racks. *See* TTMA Br. at 39, 41. Unlike the trailer, these items obviously do not satisfy the elements of the definition of a "medium- and heavy-duty on-highway vehicle," and they are not an inextricable component of a combination vehicle, as the tractor and trailer segments are for the tractor-trailer.

As NHTSA notes, the fact that EISA separately authorizes a program for rating the fuel-efficiency "effect[s] of tires," is similarly inapposite. Br. for Resp'ts at 22-23, ECF 1839164 (Apr. 21, 2020) ("Resp. Br.") (*citing* 49 U.S.C. § 32304A). That Congress singled out tires, separate from vehicles, for regulation underscores that Congress wanted a comprehensive approach to reducing fuel consumption and understood tires could make important contributions to

[5] "Vehicles" are regulated separately from "engines" because the design of the specific vehicle has a significant influence on the emissions the engine produces. *See* 76 Fed. Reg. 57,106, 57,115 (Sept. 15, 2011).

maximizing the fuel-efficiency of on-highway vehicles. It in no way suggests, let alone establishes, that Congress intended a *narrow* definition or provided NHTSA authority to adopt a narrow interpretation of "commercial medium- or heavy-duty vehicles" such that it would be prevented from setting standards for trailers that likewise contribute substantially to fuel consumption.

And finally, TTMA's reference to the federal criminal code's treatment of the trailer (Br. 41) is misplaced. As the Agencies point out, "different courts' extrapolation of language from a disparate statute and area of the law are not to be given substantial weight." Resp. Br. at 38 (citing *Department of Homeland Sec. v. MacLean*, 574 U.S. 383, 398 (2015)).

II. NHTSA'S STANDARDS REMAIN EFFECTIVE EVEN IF EPA DOES NOT HAVE INDEPENDENT AUTHORITY TO REGULATE TRAILERS

As discussed, NHTSA's standards are valid, and this remains true regardless of whether the Court finds that EPA exceeded its statutory authority in issuing its own standards. For the reasons explained in the briefs filed by the Agencies and other Respondent Intervenors, EPA's standards are also within its authority. However, if this Court finds otherwise, it should nonetheless reject TTMA's baseless attempt to distort principles of severability in order to invalidate NHTSA's separate and independent standards. Further, the Agencies' joint compliance process can continue to function with respect to NHTSA's standards even in the absence of EPA's standards.

A. NHTSA's Fuel Economy Standards are Independent from EPA's Greenhouse Gas Standards

Principles of severability govern a court's analysis of whether the partial invalidity of an agency's regulation requires the invalidation of some or all of the other provisions of that agency's regulation. *See, e.g.*, *Verizon v. FCC*, 740 F.3d 623, 659 (D.C. Cir. 2014). The doctrine applies to other regulatory provisions adopted by "the agency" that adopted the invalid provision, *Davis County Solid Waste Mgmt. v. U.S. EPA*, 108 F.3d 1454, 1459 (D.C. Cir. 1997), not provisions independently adopted by a different agency pursuant to its own statutory authority. TTMA offers no support for its theory that a defect in one agency's regulation may somehow invalidate a regulation issued by a different agency pursuant to independent statutory authority. Each of the eight cases TTMA cites in support of its severability argument (*see* Br. 27-36) deals with severing part(s) of an action of a single agency.[6] That analysis is inapposite here.

EPA's "statutory obligation" to regulate greenhouse gas pollution is "wholly independent of DOT's mandate to promote energy efficiency." *Massachusetts v.*

[6] *See, e.g., Fin. Planning Ass'n v. SEC*, 482 F.3d 481 (D.C. Cir. 2007) (challenging authority of a single agency (SEC) to promulgate a single rule exempting certain broker-dealers from the Investment Advisers Act).

EPA, 549 U.S. 497, 531–32 (2007) (agencies have "independent" rulemaking authority even if there is some "overlap" between their two spheres). The Clean Air Act directs EPA to regulate pollutants that endanger human health and welfare, while EISA directs NHTSA to regulate fuel economy. As the Agencies explained in the rulemaking, "the trailer standards finalized here *will implement our respective statutory obligations*." 81 Fed. Reg. 73644-73645 (emphasis added); *see id.* at 73969. Although the Agencies aligned compliance with their standards to "avoid inconsistency," *Massachusetts*, 549 U.S. at 532, the standards arise from different authority, and have different goals and compliance schedules.[7]

Indeed, in the context of the Phase 1 rules (where "EPA and NHTSA collaborated" on joint standards as they did here), this Court recently explained that "even were [the Court] to vacate the EPA standards, the NHTSA standards would" remain. *Delta Const. Co. v. EPA*, 783 F.3d 1291, 1296 (D.C. Cir. 2015). That was because, though jointly promulgated, the NHTSA standards were "a separate action" with independent legal effect. *Id.* This Court rejected an argument that "the joint rule[s] create [ ] an indivisible 'National Program,'" such

[7] The passage in *Delta Const. Co. v. EPA*, 783 F.3d 1291 (D.C. Cir. 2015), on which the Agencies rely for their repeated assertion that standards for vehicular greenhouse-gas emissions and fuel economy are "effectively identical," concerned 2014-2018 standards for heavy-duty vehicles. *See* Resp. Br. 1, 6, 45; *see also* 76 Fed. Reg. 57125. Whether or not that was true of those particular standards, it is not true of fuel-economy and greenhouse-gas-emission standards generally.

that "the fuel economy standards cannot be bifurcated from the greenhouse gas emission standards," and instead concluded that "*nothing in NHTSA's standards even suggests that they are dependent on EPA's standards*." *Id.* at 1297 (emphasis added). This Court should decline TTMA's unsupported invitation to apply severability analysis to independently authorized standards adopted by two different agencies.

Further, even if a severability analysis were appropriate, the agency's intent is key to the severability inquiry. *Sierra Club v. FERC*, 867 F.3d 1357, 1366 (D.C. Cir. 2017). The court must ask whether the agency "would have adopted" the remaining provisions absent the invalid rules, and "whether the remainder of the regulation could function sensibly without the stricken provision." *Verizon*, 740 F.3d at 659; *see also Davis County*, 108 F.3d at 1459-60. Here, the Agencies made the independence and severability of their standards clear throughout the rulemaking process: "[T]he NHTSA fuel consumption standards are independent of the EPA greenhouse gas standards and vice versa… *The agencies therefore regard each of these standards as legally severable*." Response to Comments at 486 (JA__) (emphasis added); *see also* 81 Fed. Reg. 73644-73645, 73969. And there is no indication that NHTSA's substantive standards cannot function sensibly in the absence of the EPA's substantive standards. That is the end of the matter.

B. The Joint Compliance Process Regulations Can Continue to Function Even if EPA's Substantive Standards Are Invalidated

While TTMA's statutory authority arguments are focused exclusively on the Agencies' independent substantive standards, TTMA's severability argument focuses on the Agencies' jointly promulgated regulations setting out the process for establishing and verifying compliance with each Agency's standards—regulations whose content TTMA does not even contest. Those compliance process regulations can continue to function with respect to NHTSA's standards even in the absence of EPA's standards.

1. Congress Established a Role for EPA in the Regulatory Framework for Fuel Economy Standards

Even if EPA's compliance process regulations were not authorized under the Clean Air Act, they are authorized as part of the regulatory framework for implementing EISA, which assigned EPA a role independent of its Clean Air Act duties. *See* 49 U.S.C. § 32910(d). EPA explicitly relied upon this authority when promulgating the process regulations for establishing and verifying compliance with NHTSA's fuel economy standards for trailers. 76 Fed. Reg. 57130 ("(a) EPA Testing Authority," describing EPA's testing authority as deriving from its duties under 49 U.S.C. § 32904(c)); 81 Fed. Reg. 73512 (adopting by reference EPA's discussion of its authority in the Phase 1 rule promulgated in 2011 for purposes of the Phase 2 rule promulgated in 2016).

In enacting EISA, Congress mandated that NHTSA develop its fuel economy standards for heavy-duty vehicles in consultation with EPA. See 49 U.S.C. § 32902(b), (k). In addition, Congress directed EPA to perform validation testing and calculations to verify compliance with NHTSA's standards for heavy-duty vehicles alongside its own Clean Air Act testing.[8] See 49 U.S.C. §§ 32904(a)(1), (c), (e), and 32902(b)(1)(C). That EPA function under EISA is separate and distinct from EPA's own Clean Air Act authority.

In addition to specifically directing EPA to perform this role, Congress gave NHTSA broad authority to establish this framework of joint regulatory responsibilities. Indeed, Congress mandated that NHTSA, in consultation with EPA, promulgate regulations concerning "appropriate test methods" and "measurement metrics," among other aspects of NHTSA's fuel economy program for heavy-duty vehicles. 49 U.S.C. § 32902(k)(2); *see also id.* § 32902(k)(1)(A). And Congress gave the Agencies the flexibility to establish this joint regulatory structure, including authorizing EPA to "prescribe regulations to carry out duties of the Administrator under this chapter." *Id.* § 32910(d).

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[8] This is consistent with EPA's pre-existing duty under the Energy Policy and Conservation Act performing these same functions to verify compliance with NHTSA's standards for light-duty vehicles. While 49 U.S.C. § 32902(k)(2) gives NHTSA broad discretion to determine how to implement a fuel efficiency improvement program, including compliance procedures, that section's list of *commands* to NHTSA does not include "calculate average fuel economy"; Congress specified that EPA should perform that function in the first instance.

The Agencies' joint adoption of testing and calculation procedures is exactly what Congress had in mind in EISA. Consistent with their mandate to develop a fuel efficiency improvement program that is "cost-effective" and "technologically feasible," the Agencies "worked with industry, states, and other stakeholders" to develop a joint regulatory structure allowing manufacturers to establish compliance with both EPA's emissions standards and NHTSA's fuel economy standards via a single streamlined process. See 81 Fed. Reg. 73479-73480; 76 Fed. Reg. 57132. That process was reasonable and lawful.

2. EPA's Compliance Process Regulations are Severable from EPA's Substantive Standards

Even if EPA's substantive emissions standards were invalid (they are not), its compliance process regulations are severable. As discussed, severability of an agency action "turns on the agency's intent" and on whether the remainder of the regulation can function sensibly on its own. *Sierra Club*, 867 F.3d at 1366; *see supra* at 20. Here, those considerations make clear that EPA's compliance process regulations remain valid in any event.

TTMA asserts that "[i]f EPA lacks statutory authority to prescribe emissions standards for trailers, it is not even possible to comply with NHTSA's fuel consumption standards." Br. 31. This is incorrect. There is a single process for verifying compliance with both Agencies' standards (detailed in in the foregoing Statement of the Case), but the *existence* of EPA's *substantive standards* is

irrelevant to the *process of verifying compliance* with NHTSA's standards. All that matters is the existence of the Agencies' process regulations setting forth the steps for conducting testing and calculating compliance. As TTMA notes, "the NHTSA compliance equation simply applies a constant coefficient to the EPA compliance equation." Br. 31-32. There is no reason manufacturers cannot walk through the established process if they are only obliged to comply with NHTSA's standards.

As discussed *supra*, to the extent any agency validation testing and calculations are necessary to confirm manufacturers' compliance with NHTSA's fuel economy standards, EISA directs EPA to validate regardless of the existence of EPA's own standards, and the Agencies structured their regulations accordingly. 49 U.S.C. § 32904(e); 49 C.F.R. § 535.8(h)-(j); 40 C.F.R. § 1037.755. While Congress and the Agencies chose to give EPA primary responsibility for validating the testing and calculations performed by manufacturers, NHTSA "reserve[s] the right to verify separately … the results of any testing and measurement established by manufacturers" and receives the data necessary to do so from manufacturers, enabling NHTSA to perform validation testing and calculate average fuel economy in the event EPA is unable or unwilling to do so. 49 C.F.R. §§ 535.6 and 535.8. Thus, the joint regulatory structure for establishing compliance with each Agency's

standards can still function for NHTSA's standards in the absence of EPA's standards.

It is inconceivable that Congress would have created a statutory structure contemplating a shared compliance process[9] for totally independent agency standards[10] if it did not intend that process to apply to either set of standards independently. EISA required EPA to adopt its compliance process regulations regardless of the existence its own Clean Air Act standards (49 U.S.C. §§ 32904(a)(1), (c), (e), and 32902(b)(1)(C)), and at least authorized EPA to do so if the Agencies determined such a structure to be the best way to implement a heavy-duty fuel efficiency improvement program (*id.* § 32902(k)(1)(A) and (k)(2)). Accordingly, Congress and the Agencies clearly intended EPA's testing and calculation regulations to be severable from its substantive standards.

The functional operation of EPA's compliance process regulations would in no way be impaired by the absence of the regulation containing EPA's trailer emissions standards. 40 C.F.R. § 1037.107. But even if they were, the wholesale invalidation of the Agencies' regulations would still be unwarranted.

> It is a routine feature of severability doctrine that a court may invalidate only some applications even of indivisible text, so long as the valid applications can be separated from invalid ones. As the

[9] "To the extent practicable, fuel economy tests shall be carried out with emissions tests …" 49 U.S.C. § 32904(c).

[10] "[N]othing in NHTSA's standards even suggests that they are dependent on EPA's standards." *Delta Const. Co., Inc.*, 783 F.3d at 1297.

> Supreme Court has explained, when a court encounters statutory or regulatory text that is invalid as applied to one state of facts and yet valid as applied to another, it should try to limit the solution to the problem by, for instance, enjoining the problematic applications while leaving other applications in force.

NRDC v. Wheeler, 955 F.3d 68, 81-82 (D.C. Cir. 2020) (internal quotation marks and citations omitted). Thus, should this Court determine that EPA's greenhouse gas standards for trailers were unauthorized, routine application of the severability remedy in this case could simply take the form of an order enjoining application of EPA's compliance procedure regulations to EPA's substantive standards, while permitting application to NHTSA's standards.

The fact that EPA did not include a severability clause does not alter this conclusion. TTMA asserts that "[t]his Court properly treats the absence of a severability clause as good evidence that the agencies did not intend severability." Br. 29. However, neither of the cases TTMA cites supports this assertion. Rather, in each case, this Court simply noted the absence of severability clause without taking the further step of assigning weight to this absence. In fact, this Court has stated that:

> [o]ur inquiry does not end simply because the Regulation contains no severability clause. The Supreme Court has held that the ultimate determination of severability will rarely turn on the presence or absence of such a clause. In assessing severability, we must contemplate whether [the Agency] would have enacted the other challenged provisions in the absence of a permit requirement. In such an inquiry, the presumption is always in favor of severability.

Cmty. for Creative Non-Violence v. Turner, 893 F.2d 1387, 1394 (D.C. Cir. 1990) (internal quotation marks and citations omitted).

3. Even if EPA's Standards and Compliance Process Regulations were Entirely Invalidated, Both Agencies' Regulations Pertaining to NHTSA's Standards Should be Remanded Without Vacatur

Assuming, *arguendo*, that EPA's standards and compliance process regulations are entirely invalidated, TTMA concludes that "all portions of the Final Rule pertaining to trailers … must be vacated." Br. 27. But vacatur is neither required nor appropriate here. In *Allied–Signal, Inc. v. Nuclear Regulatory Comm'n*, the Court explained that "whether to vacate [an inadequately supported rule] depends on [1] the seriousness of the order's deficiencies ... and [2] the disruptive consequences of an interim change that may itself be changed." 988 F.2d 146, 150-151 (D.C. Cir. 1993) (internal quotation marks and citations omitted). This case thus articulates two equitable factors this Court considers in determining whether to vacate an agency's decision on remand, either of which may be dispositive.[11]

[11] *See id* at 150-154 ("[W]e here give little weight to the possibility that the Commission could pull a reasonable explanation out of the hat. Nonetheless, vacating the [rule] would give [regulated entities] a peculiar windfall… Accordingly, we refrain from vacating…); *Fox Television Stations, Inc. v. F.C.C.*, 280 F.3d 1027, 1048-1049 (D.C. Cir. 2002) ("Applying [the *Allied-Signal*] test … we cannot say [] the Rule is likely irredeemable… For this reason alone, a remand rather than vacatur is indicated… In these circumstances, the other factor to be considered … is only barely relevant.").

In cases considering the first *Allied-Signal* factor, this Court has remanded without vacating a regulation when "an agency may be able readily to cure a defect." *Heartland Regional Med. Ctr. v. Sebelius*, 566 F.3d 193, 198 (D.C. Cir. 2009). These cases dealt with agency actions that were inadequately explained or justified (s*ee, e.g.*, *id.*; *Fox Television Stations, Inc.*, 280 F.3d at 1048-1049), or where the agency failed to follow proper rulemaking procedure (*Fertilizer Inst. v. EPA*, 935 F.2d 1303, 1312 (D.C. Cir. 1991)). Nevertheless, the reasoning underpinning this Court's decisions applies equally here. NHTSA (acting alone or with EPA) has authority under EISA to implement a compliance process. If the Court discerns a defect in the Agencies' compliance process for NHTSA's standards arising from a lack of Clean Air Act authority by EPA, and that defect cannot be remedied via severance, NHTSA (acting alone or with EPA) can adjust the regulations establishing the compliance process.[12]

The second *Allied-Signal* factor also supports remand without vacatur because vacating NHTSA's standards and/or either Agencies' compliance process regulations would be unnecessarily disruptive and harmful. Notably, Congress intended to afford manufacturers regulatory stability, as EISA provides "not less than" "4 full model years of regulatory lead-time" and "3 full model years of

[12] While NHTSA granted a petition to reconsider its trailer standards, nothing in the record indicates the agency has taken any action toward changing this 4-year-old rule.

regulatory stability" for heavy-duty fuel economy standards. 49 U.S.C. § 32902(k)(3). NHTSA's trailer standards have been in place for four years, and uncertainty and disruption will result if the entire compliance process is abruptly vacated in order to address a problem stemming from a different statutory scheme. This is unnecessary since NHTSA has authority for its standards and the existing compliance process can function in the interim as to NHTSA's standards alone.

This Court has also "frequently remanded without vacating when a rule's defects are curable and where vacatur would at least temporarily defeat ... the enhanced protection of the environmental values covered by" the rule at issue. *U.S. Sugar Corp. v. EPA*, 844 F.3d 268, 270 (D.C. Cir. 2016) (internal quotation marks and citations omitted); *see also NRDC v. EPA*, 489 F.3d 1250, 1265 (D.C. Cir. 2007) (similar). Here, NHTSA concluded its standards would reduce air pollutant emissions and improve air quality, "result[ing] in reduced adverse health effects … nationwide." Final Environmental Impact Statement Summary at 8, 14 (JA__,__). NHTSA also determined that regulated vehicles and engines were responsible for "approximately 7.6 percent of total U.S. CO2 emissions" in 2014. *Id* at 20 (JA__). Without NHTSA's standards, "total CO2 emissions from HD vehicles in the United States will increase substantially," *id* at 20 (JA__), and thus NHTSA's standards would "make an important contribution to reducing the risks associated with climate change," *id* at 22-23 (JA__-__).

Accordingly, even if the Court finds that EPA lacks authority for its standards and that its compliance process regulations cannot be severed, the Court should remand all the EISA compliance process regulations without vacating them.

CONCLUSION

For the foregoing reasons, Respondent-State Intervenors urge this Court to deny TTMA's Petition for Review.

Dated: May 12, 2020

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[13] For purposes of ECF-3(b) of this Court's Administrative Order Regarding Electronic Case filing (May 15, 2009), counsel for the California Air Resources Board hereby represents that the other parties listed in the signature blocks have consented to the filing of this memorandum.

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CERTIFICATE OF COMPLIANCE

I hereby certify that this filing complies with the requirements of Fed. R. App. P. 27(d)(1)(E) because it has been prepared in 14-point Times New Roman, a proportionally spaced font.

I further certify that this filing complies with the type-volume requirements of Fed. R. App. P. 27(d)(2)(C) because it contains 6,497 words, excluding the parts of the filing exempted under Fed. R. App. P. 32(f), according to Microsoft Word.

Dated: May 12, 2020

/s/ Ryan R. Hoffman
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CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing OPPOSITION TO PETITIONER TRUCK TRAILER MANUFACTURERS ASSOCIATION'S INITIAL OPENING BRIEF on all parties via the Court's electronic case filing system.

Dated: May 12, 2020

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ORAL ARGUMENT NOT YET SCHEDULED

No. 16-1430

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

TRUCK TRAILER MANUFACTURERS ASSOCIATION, INC.,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents.

On Petition for Review of Decision of the U.S. Environmental Protection Agency and the U.S. Department of Transportation

ADDENDUM OF PERTINENT STATUTES AND REGULATIONS IN SUPPORT OF STATE INTERVENORS' OPPOSITION

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Energy Independence and Security Act of 2007

49 U.S.C. § 32901. Definitions.

(a) General.--In this chapter--

* * *

(3) except as provided in section 32908 of this title, "automobile" means a 4-wheeled vehicle that is propelled by fuel, or by alternative fuel, manufactured primarily for use on public streets, roads, and highways and rated at less than 10,000 pounds gross vehicle weight, except—

(A) a vehicle operated only on a rail line;

(B) a vehicle manufactured in different stages by 2 or more manufacturers, if no intermediate or final-stage manufacturer of that vehicle manufactures more than 10,000 multi-stage vehicles per year; or

(C) a work truck.

* * *

(7) "commercial medium- and heavy-duty on-highway vehicle" means an on-highway vehicle with a gross vehicle weight rating of 10,000 pounds or more.

* * *

(11) "fuel economy" means the average number of miles traveled by an automobile for each gallon of gasoline (or equivalent amount of other fuel) used, as determined by the Administrator under section 32904(c) of this title.

* * *

(14) "manufacturer" means--

(A) a person engaged in the business of manufacturing automobiles, including a predecessor or successor of the person to the extent provided under regulations prescribed by the Secretary; and

(B) if more than one person is the manufacturer of an automobile, the person specified under regulations prescribed by the Secretary.

* * *

(17) "non-passenger automobile" means an automobile that is not a passenger automobile or a work truck.

(18) "passenger automobile" means an automobile that the Secretary decides by regulation is manufactured primarily for transporting not more than 10 individuals, but does not include an automobile capable of off-highway operation that the Secretary decides by regulation—

(A) has a significant feature (except 4-wheel drive) designed for off-highway operation; and

(B) is a 4-wheel drive automobile or is rated at more than 6,000 pounds gross vehicle weight.

(19) "work truck" means a vehicle that—

(A) is rated at between 8,500 and 10,000 pounds gross vehicle weight; and

(B) is not a medium-duty passenger vehicle (as defined in section 86.1803–01 of title 40, Code of Federal Regulations, as in effect on the date of the enactment of the Ten-in-Ten Fuel Economy Act).

* * *

49 U.S.C. § 32902. Average Fuel Economy Standards.

(a) Prescription of standards by regulation.—At least 18 months before the beginning of each model year, the Secretary of Transportation shall prescribe by regulation average fuel economy standards for automobiles manufactured by a manufacturer in that model year. Each standard shall be the maximum feasible average fuel economy level that the Secretary decides the manufacturers can achieve in that model year.

(b) Standards for automobiles and certain other vehicles.—

(1) In general.—The Secretary of Transportation, after consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency, shall prescribe separate average fuel economy standards for—

(A) passenger automobiles manufactured by manufacturers in each model year beginning with model year 2011 in accordance with this subsection;

(B) non-passenger automobiles manufactured by manufacturers in each model year beginning with model year 2011 in accordance with this subsection; and

(C) work trucks and commercial medium-duty or heavy-duty on-highway vehicles in accordance with subsection (k).

(2) Fuel economy standards for automobiles.—

(A) Automobile fuel economy average for model years 2011 through 2020.—The Secretary shall prescribe a separate average fuel economy standard for passenger automobiles and a separate average fuel economy standard for non-passenger automobiles for each model year beginning with model year 2011 to achieve a combined fuel economy average for model year 2020 of at least 35 miles per gallon for the total fleet of passenger and non-passenger automobiles manufactured for sale in the United States for that model year.

(B) Automobile fuel economy average for model years 2021 through 2030.—For model years 2021 through 2030, the average fuel economy required to be attained by each fleet of passenger and non-passenger automobiles manufactured for sale in the United States shall be the maximum feasible average fuel economy standard for each fleet for that model year.

(C) Progress toward standard required.—In prescribing average fuel economy standards under subparagraph (A), the Secretary shall prescribe annual fuel economy standard increases that increase the applicable average fuel economy standard ratably beginning with model year 2011 and ending with model year 2020.

(3) Authority of the Secretary.—The Secretary shall—

(A) prescribe by regulation separate average fuel economy standards for passenger and non-passenger automobiles based on 1 or more vehicle attributes related to fuel economy and express each standard in the form of a mathematical function; and

(B) issue regulations under this title prescribing average fuel economy

standards for at least 1, but not more than 5, model years.

(4) Minimum standard.—In addition to any standard prescribed pursuant to paragraph (3), each manufacturer shall also meet the minimum standard for domestically manufactured passenger automobiles, which shall be the greater of—

(A) 27.5 miles per gallon; or

(B) 92 percent of the average fuel economy projected by the Secretary for the combined domestic and non-domestic passenger automobile fleets manufactured for sale in the United States by all manufacturers in the model year, which projection shall be published in the Federal Register when the standard for that model year is promulgated in accordance with this section.

* * *

(k) Commercial medium- and heavy-duty on-highway vehicles and work trucks.—

(1) Study.—Not later than 1 year after the National Academy of Sciences publishes the results of its study under section 108 of the Ten-in-Ten Fuel Economy Act, the Secretary of Transportation, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency, shall examine the fuel efficiency of commercial medium- and heavy-duty on-highway vehicles and work trucks and determine—

(A) the appropriate test procedures and methodologies for measuring the fuel efficiency of such vehicles and work trucks;

(B) the appropriate metric for measuring and expressing commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency performance, taking into consideration, among other things, the work performed by such on-highway vehicles and work trucks and types of operations in which they are used;

(C) the range of factors, including, without limitation, design, functionality, use, duty cycle, infrastructure, and total overall energy consumption and operating costs that affect commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency; and

(D) such other factors and conditions that could have an impact on a

program to improve commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency.

(2) Rulemaking.—Not later than 24 months after completion of the study required under paragraph (1), the Secretary, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency, by regulation, shall determine in a rulemaking proceeding how to implement a commercial medium- and heavy-duty on-highway vehicle and work truck fuel efficiency improvement program designed to achieve the maximum feasible improvement, and shall adopt and implement appropriate test methods, measurement metrics, fuel economy standards, and compliance and enforcement protocols that are appropriate, cost-effective, and technologically feasible for commercial medium- and heavy-duty on-highway vehicles and work trucks. The Secretary may prescribe separate standards for different classes of vehicles under this subsection.

(3) Lead-time; regulatory stability.—The commercial medium- and heavy-duty on-highway vehicle and work truck fuel economy standard adopted pursuant to this subsection shall provide not less than—

(A) 4 full model years of regulatory lead-time; and

(B) 3 full model years of regulatory stability.

49 U.S.C. § 32904. Calculation of average fuel economy

(a) Method of calculation.—

(1) The Administrator of the Environmental Protection Agency shall calculate the average fuel economy of a manufacturer subject to—

(A) section 32902(a) of this title in a way prescribed by the Administrator; and

(B) section 32902(b)-(d) of this title by dividing—

(i) the number of passenger automobiles manufactured by the manufacturer in a model year; by

(ii) the sum of the fractions obtained by dividing the number of passenger automobiles of each model manufactured by the manufacturer in that model year by the fuel economy measured for that model.

(2) (A) In this paragraph, "electric vehicle" means a vehicle powered primarily by an electric motor drawing electrical current from a portable source.

(B) If a manufacturer manufactures an electric vehicle, the Administrator shall include in the calculation of average fuel economy under paragraph (1) of this subsection equivalent petroleum based fuel economy values determined by the Secretary of Energy for various classes of electric vehicles. The Secretary shall review those values each year and determine and propose necessary revisions based on the following factors:

(i) the approximate electrical energy efficiency of the vehicle, considering the kind of vehicle and the mission and weight of the vehicle.

(ii) the national average electrical generation and transmission efficiencies.

(iii) the need of the United States to conserve all forms of energy and the relative scarcity and value to the United States of all fuel used to generate electricity.

(iv) the specific patterns of use of electric vehicles compared to petroleum-fueled vehicles.

* * *

(c) Testing and calculation procedures.--The Administrator shall measure fuel economy for each model and calculate average fuel economy for a manufacturer under testing and calculation procedures prescribed by the Administrator. However, except under section 32908 of this title, the Administrator shall use the same procedures for passenger automobiles the Administrator used for model year 1975 (weighted 55 percent urban cycle and 45 percent highway cycle), or procedures that give comparable results. A measurement of fuel economy or a calculation of average fuel economy (except under section 32908) shall be rounded off to the nearest .1 of a mile a gallon. The Administrator shall decide on the

quantity of other fuel that is equivalent to one gallon of gasoline. To the extent practicable, fuel economy tests shall be carried out with emissions tests under section 206 of the Clean Air Act (42 U.S.C. 7525).

* * *

(e) Reports and consultation.—
The Administrator shall report measurements and calculations under this section to the Secretary of Transportation and shall consult and coordinate with the Secretary in carrying out this section.

49 U.S.C. § 32907. Reports and tests of manufacturers

* * *

(b) Records, reports, tests, information, and inspection.—

(1) Under regulations prescribed by the Secretary or the Administrator of the Environmental Protection Agency to carry out this chapter, a manufacturer shall keep records, make reports, conduct tests, and provide items and information. On request and display of proper credentials, an officer or employee designated by the Secretary or Administrator may inspect automobiles and records of the manufacturer. An inspection shall be made at a reasonable time and in a reasonable way.

(2) The district courts of the United States may--

(A) issue an order enforcing a requirement or request under paragraph (1) of this subsection; and

(B) punish a failure to obey the order as a contempt of court.

49 U.S.C. § 32910. Administrative

* * *

(d) Regulations.--The Administrator may prescribe regulations to carry out duties of the Administrator under this chapter.

Pub. L. No. 110-140, § 108, 121 Stat. 1504 (Dec. 19, 2007)

(a) In General.—As soon as practicable after the date of enactment of this Act, the Secretary of Transportation shall execute an agreement with the National Academy of Sciences to develop a report evaluating medium-duty and heavy-duty truck fuel economy standards, including—

(1) an assessment of technologies and costs to evaluate fuel economy for medium-duty and heavy-duty trucks;

(2) an analysis of existing and potential technologies that may be used practically to improve medium-duty and heavy-duty truck fuel economy;

(3) an analysis of how such technologies may be practically integrated into the medium-duty and heavy-duty truck manufacturing process;

(4) an assessment of how such technologies may be used to meet fuel economy standards to be prescribed under section 32902(k) of title 49, United States Code, as amended by this subtitle; and

(5) associated costs and other impacts on the operation of medium-duty and heavy-duty trucks, including congestion.

(b) Report.—The Academy shall submit the report to the Secretary, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Energy and Commerce of the House of Representatives, with its findings and recommendations not later than 1 year after the date on which the Secretary executes the agreement with the Academy.

Code of Federal Regulations

Title 40. Protection of Environment
Chapter I. Environmental Protection Agency Regulations
Subchapter U. Air Pollution Controls
Part 1037. Control of Emissions from New Heavy-Duty Motor Vehicles

40 C.F.R. § 1037.501 General testing and modeling provisions

This subpart specifies how to perform emission testing and emission modeling required elsewhere in this part.

(a) Except at specified in subpart B of this part, you must demonstrate that you meet emission standards using emission modeling as described in §§ 1037.515 and 1037.520. This modeling depends on several measured values as described in this subpart F. You may use fuel-mapping information from the engine manufacturer as described in 40 CFR 1036.535 and 1036.540, or you may use powertrain testing as described in § 1037.550.

(b) Where exhaust emission testing is required, use equipment and procedures as described in 40 CFR part 1065 and part 1066. Measure emissions of all the exhaust constituents subject to emission standards as specified in 40 CFR part 1065 and part 1066. Use the applicable duty cycles specified in § 1037.510.

(c) See 40 CFR 86.101 and 86.1813 for measurement procedures that apply for evaporative and refueling emissions.

(d) Use the applicable fuels specified 40 CFR part 1065 to perform valid tests.

(1) For service accumulation, use the test fuel or any commercially available fuel that is representative of the fuel that in-use vehicles will use.

(2) For diesel-fueled vehicles, use the appropriate diesel fuel specified for emission testing. Unless we specify otherwise, the appropriate diesel test fuel is ultra-low sulfur diesel fuel.

(3) For gasoline-fueled vehicles, use the gasoline for "general testing" as specified in 40 CFR 86.1305.

(e) You may use special or alternate procedures as specified in 40 CFR 1065.10.

(f) This subpart is addressed to you as a manufacturer, but it applies equally to anyone who does testing for you, and to us when we perform testing to determine if your vehicles meet emission standards.

(g) Apply this paragraph (g) whenever we specify the use of standard trailers. Unless otherwise specified, a tolerance of ± 2 inches applies for all nominal trailer dimensions.

(1) The standard trailer for high-roof tractors must meet the following criteria:

(i) It is an unloaded two-axle dry van 53.0 feet long, 102 inches wide, and 162 inches high (measured from the ground with the trailer level).

(ii) It has a king pin located with its center 36 ± 0.5 inches from the front of the trailer and a minimized trailer gap (no greater than 45 inches).

(iii) It has a simple orthogonal shape with smooth surfaces and nominally flush rivets. Except as specified in paragraph (g)(1)(v) of this section, the standard trailer does not include any aerodynamic features such as side fairings, rear fairings, or gap reducers. It may have a scuff band no more than 0.13 inches thick.

(iv) It includes dual 22.5 inch wheels, standard tandem axle, standard mudflaps, and standard landing gear. The centerline of the tandem axle assembly must be 145 ± 5 inches from the rear of the trailer. The landing gear must be installed in a conventional configuration.

(v) For the Phase 2 standards, include side skirts meeting the specifications of this paragraph (g)(1)(v). The side skirts must be mounted flush with both sides of the trailer. The skirts must be an isosceles trapezoidal shape. Each skirt must have a height of 36 ± 2 inches. The top edge of the skirt must be straight with a length of 341 ± 2 inches. The bottom edge of the skirt must be straight with a length of 268 ± 2 inches and have a ground clearance of 8 ± 2 inches through that full length. The sides of the skirts must be straight. The rearmost point of the skirts must be mounted 32 ± 2 inches in front of the centerline of the trailer tandem axle assembly. We may approve your request to use a skirt with different dimensions if these specified values are impractical or inappropriate for your test trailer, and you propose alternative dimensions that provide an equivalent or comparable degree of aerodynamic drag for your test configuration.

(2) The standard trailer for mid-roof tractors is an empty two-axle tank trailer 42 ± 1 feet long by 140 inches high and 102 inches wide.

(i) It has a 40 ± 1 feet long cylindrical tank with a 7000 ± 7 gallon capacity, smooth surface, and rounded ends.

(ii) The standard tank trailer does not include any aerodynamic features such as side fairings, but does include a centered 20 inch manhole, side-centered ladder, and lengthwise walkway. It includes dual 24.5 inch wheels.

(3) The standard trailer for low-roof tractors is an unloaded two-axle flatbed trailer 53 ± 1 feet long and 102 inches wide.

(i) The deck height is 60.0 ± 0.5 inches in the front and 55.0 ± 0.5 inches in the rear. The standard trailer does not include any aerodynamic features such as side fairings.

(ii) It includes an air suspension and dual 22.5 inch wheels on tandem axles.

(h) Use a standard tractor for measuring aerodynamic drag of trailers. Standard tractors must be certified at Bin III (or more aerodynamic if a Bin III tractor is unavailable) for Phase 1 or Phase 2 under § 1037.520(b)(1) or (3). The standard tractor for long trailers is a Class 8 high-roof sleeper cab. The standard tractor for short trailers is a Class 7 or Class 8 high-roof day cab with a 4 x 2 drive-axle configuration.

40 C.F.R. § 1037.515 Determining CO_2 emissions to show compliance for trailers.

This section describes a compliance approach for trailers that is consistent with the modeling for vocational vehicles and tractors described in § 1037.520, but is simplified consistent with the smaller number of trailer parameters that affect CO_2 emissions. Note that the calculated CO_2 emission rate, e_{CO2}, is equivalent to the value that would result from running GEM with the same input values.

(a) Compliance equation. Calculate CO_2 emissions for demonstrating compliance with emission standards for each trailer configuration.

(1) Use the following equation:

$$e_{CO2} = \left(C_1 + C_2 \cdot TRRL + C_3 \cdot \Delta C_d A + C_4 \cdot WR\right) \cdot C_5$$

Eq. 1037.515-1

Where:

C_i = constant values for calculating CO_2 emissions from this regression equation derived from GEM, as shown in Table 1 of this section. Let C_5 = 0.988 for trailers that have automatic tire inflation systems with all wheels, and let C_5 = 0.990 for trailers that have tire pressure monitoring systems with all wheels (or a mix of the two systems); otherwise, let C_5 1.

TRRL = tire rolling resistance level as specified in paragraph (b) of this section.

ΔC_d A = the $\Delta C_d A$ value for the trailer as specified in paragraph (c) of this section.

WR = weight reduction as specified in paragraph (d) or (e) of this section.

Table 1 of § 1037.515—Regression Coefficients for Calculating CO_2 Emissions

Trailer category	C_1	C_2	C_3	C_4
Long dry box van	76.1	1.67	-5.82	-0.00103
Long refrigerated box van	77.4	1.75	-5.78	-0.00103
Short dry box van	117.8	1.78	-9.48	-0.00258
Short refrigerated box van	121.1	1.88	-9.36	-0.00264

(2) The following is an example for calculating the mass of CO_2 emissions, e_{CO2}, from a long dry box van that has a tire pressure monitoring system for all wheels, an aluminum suspension assembly, aluminum floor, and is designated as Bin IV:

C_1 = 76.1

$C_2 = 1.67$

TRRL = 4.6 kg/tonne

$C_3 = -5.82$

$\Delta C_dA = 0.7\ m^2$

$C_4 = -0.00103$

WR = 655 lbs

$C_5 = 0.990$

$e_{CO2} = (76.1 + 1.67 + (–5.82 \cdot 0.7) + (–0.00103 \cdot 655)) \cdot 0.990$

$e_{CO2} = 78.24$ g/ton-mile

(b) Tire rolling resistance. Use the procedure specified in § 1037.520(c) to determine the tire rolling resistance level for your tires. Note that you may base tire rolling resistance levels on measurements performed by tire manufacturers, as long as those measurements meet this part's specifications.

(c) Drag area. You may use ΔC_dA values approved under § 1037.211 for device manufacturers if your trailers are properly equipped with those devices. Determine ΔC_dA values for other trailers based on testing. Measure C_dA and determine ΔC_dA values as described in § 1037.526(a). You may use ΔC_dA values from one trailer configuration to represent any number of additional trailers based on worst-case testing. This means that you may apply ΔC_dA values from your measurements to any trailer models of the same category with drag area at or below that of the tested configuration. For trailers in the short dry box vans and short refrigerated box vans that are not 28 feet long, apply the ΔC_dA value established for a comparable 28–foot trailer model; you may use the same devices designed for 28–foot trailers or you may adapt those devices as appropriate for the different trailer length, consistent with good engineering judgment. For example, 48–foot trailers may use longer side skirts than the skirts that were tested with a 28–foot trailer. Trailer and device manufacturers may seek preliminary approval for these adaptations. Determine bin levels based on ΔC_dA test results as described in the following table:

Table 2 of § 1037.515—Bin Determinations for Trailers Based on Aerodynamic Test Results
[ΔC_dA in m^2]

If a trailer's measured ΔC_dA is . . .	designate the trailer as . .	and use the following value for ΔC_dA
≤0.09	Bin I	0.0
0.10-0.39	Bin II	0.1
0.40-0.69	Bin III	0.4
0.70-0.99	Bin IV	0.7
1.00-1.39	Bin V	1.0
1.40-1.79	Bin VI	1.4
>1.80	Bin VII	1.8

(d) Weight reduction. Determine weight reduction for a trailer configuration by summing all applicable values, as follows:

(1) Determine weight reduction for using lightweight materials for wheels as described in § 1037.520(e).

(2) Apply weight reductions for other components made with light-weight materials as shown in the following table:

Table 3 of § 1037.515—Weight Reductions for Trailers
[pounds]

Component	Material	Weight reduction

		(pounds)
Structure for Suspension Assembly[1]	Aluminum	280
Hub and Drum (per axle)	Aluminum	80
Floor[2]	Aluminum	375
Floor[2]	Composite (wood and plastic)	245
Floor Crossmembers[2]	Aluminum	250
Landing Gear	Aluminum	50
Rear Door	Aluminum	187
Rear Door Surround	Aluminum	150
Roof Bows	Aluminum	100
Side Posts	Aluminum	300
Slider Box	Aluminum	150
Upper Coupler Assembly	Aluminum	430

(e) Off-cycle. You may apply the off-cycle provisions of § 1037.610 to trailers as follows:

(1) You may account for weight reduction based on measured values instead of using paragraph (d) of this section. Quantify the weight reduction by measuring the weight of a trailer in a certified configuration and comparing it to the weight

[1] For tandem-axle suspension sub-frames made of aluminum, apply a weight reduction of 280 pounds. Use good engineering judgment to estimate a weight reduction for using aluminum sub-frames with other axle configurations.
[2] Calculate a smaller weight reduction for short trailers by multiplying the indicated values by 0.528 (28/53).

of an equivalent trailer without weight-reduction technologies. This qualifies as A to B testing under § 1037.610. Use good engineering judgment to select an equivalent trailer representing a baseline configuration. Use the calculated weight reduction in Eq. 1037.515–1 to calculate the trailer's CO_2 emission rate.

(2) If your off-cycle technology reduces emissions in a way that is proportional to measured emissions as described in § 1037.610(b)(1), multiply the trailer's CO_2 emission rate by the appropriate improvement factor.

(3) If your off-cycle technology does not yield emission reductions that are proportional to measured emissions, as described in § 1037.610(b)(2), calculate an adjusted CO_2 emission rate for your trailers by subtracting the appropriate off-cycle credit.

(4) Note that these off-cycle provisions do not apply for trailers subject to design standards.

40 C.F.R. § 1037.755 Information provided to the Department of Transportation.

After receipt of each manufacturer's final report as specified in § 1037.730 and completion of any verification testing required to validate the manufacturer's submitted final data, we will issue a report to the Department of Transportation with CO_2 emission information and will verify the accuracy of each manufacturer's equivalent fuel consumption data required by NHTSA under 49 CFR 535.8. We will send a report to DOT for each vehicle manufacturer based on each regulatory category and subcategory, including sufficient information for NHTSA to determine fuel consumption and associated credit values. See 49 CFR 535.8 to determine if NHTSA deems submission of this information to EPA to also be a submission to NHTSA.

Code of Federal Regulations

Title 49. Transportation
Subtitle B. Other Regulations Relating to Transportation
Chapter V. National Highway Traffic Safety Administration, Department of Transportation

Part 535. Medium- and Heavy-Duty Vehicle Fuel Efficiency Program

49 C.F.R. § 535.6 Measurement and calculation procedures.

This part describes the measurement and calculation procedures manufacturers use to determine annual fuel consumption performance results. Manufacturers use the fuel consumption results determined in this part for calculating credit balances specified in § 535.7 and then determine whether they comply with standards as specified in § 535.10. Manufacturers must use EPA emissions test results for deriving NHTSA's fuel consumption performance rates. Consequently, manufacturers conducting testing for certification or annual demonstration testing and providing CO_2 emissions data to EPA must also provide equivalent fuel consumption results to NHTSA for all values. NHTSA and EPA reserve the right to verify separately or in coordination the results of any testing and measurement established by manufacturers in complying with the provisions of this program and as specified in 40 CFR 1037.301 and § 535.9. Any carry over data from the Phase 1 program may be carried into the Phase 2 only with approval from EPA and by using good engineering judgment considering differences in testing protocols between test procedures.

(a) Heavy-duty pickup trucks and vans. This section describes the method for determining the fuel consumption performance rates for test groups and for fleets of complete heavy-duty pickup trucks and vans each model year. The NHTSA heavy-duty pickup truck and van fuel consumption performance rates correspond to the same requirements for EPA as specified in 40 CFR 86.1819-14.

(1) For the Phase 1 program, if the manufacturer's fleet includes conventional vehicles (gasoline, diesel and alternative fueled vehicles) and advanced technology vehicles (hybrids with powertrain designs that include energy storage systems, vehicles with waste heat recovery, electric vehicles and fuel cell vehicles), it may divide its fleet into two separate fleets each with its own separate fleet average fuel consumption performance rate. For Phase 2,

manufacturers may calculate their fleet average fuel consumption rates for a conventional fleet and separate advanced technology vehicle fleets. Advanced technology vehicle fleets should be separated into plug-in hybrid electric vehicles, electric vehicles and fuel cell vehicles.

(2) Vehicles in each fleet should be selected and divided into test groups or subconfigurations according to EPA in 40 CFR 86.1819–14(d).

(3) Use the EPA CO_2 emissions test results for each test group, in grams per mile, for the selected vehicles.

(i) Use CO_2 emissions test results for vehicles fueled by conventional and alternative fuels, including dedicated and dual-fueled (multi-fuel and flexible-fuel) vehicles using each fuel type as specified in 40 CFR 86.1819–14(d)(10).

(ii) Use CO_2 emissions test results for dual-fueled vehicles using a weighted average of the manufacturer's emission results as specified in 40 CFR 600.510–12(k) for light-duty trucks.

(iii) All electric vehicles are deemed to have zero emissions of CO_2, CH_4, and N_2O. No emission testing is required for such electric vehicles. Assign the fuel consumption test group result to a value of zero gallons per 100 miles in paragraph (a)(4) of this section.

(iv) Use CO_2 emissions test results for cab-complete and incomplete vehicles based upon the applicable complete sister vehicles as determined in 40 CFR 1819–14(j)(2).

(v) Use CO_2 emissions test results for loose engines using applicable complete vehicles as determined in 40 CFR 86.1819–14(k)(8).

(vi) Manufacturers can choose to analytically derive CO_2 emission rates (ADCs) for test groups or subconfigurations. Use ADCs for test groups or subconfigurations in accordance with 40 CFR 86.1819–14 (d) and (g).

(4) Calculate equivalent fuel consumption results for all test groups, in gallons per 100 miles, from CO_2 emissions test group results, in grams per miles, and round to the nearest 0.001 gallon per 100 miles.

(i) Calculate the equivalent fuel consumption test group results as follows for compression-ignition vehicles and alternative fuel compression-ignition vehicles. CO_2 emissions test group result (grams per mile)/10,180 grams per gallon of diesel fuel) x (10^2) = Fuel consumption test group result (gallons per 100 mile).

<Text of subsection (a)(4)(ii) effective until June 29, 2020.>

(ii) Calculate the equivalent fuel consumption test group results as follows for spark-ignition vehicles and alternative fuel spark-ignition vehicles. CO_2 emissions test group result (grams per mile)/8,877 grams per gallon of gasoline fuel) x (10^2) = Fuel consumption test group result (gallons per 100 mile).

<Text of subsection (a)(4)(ii) effective June 29, 2020.>

(ii) Calculate the equivalent fuel consumption test group results as follows for spark-ignition vehicles and alternative fuel spark-ignition vehicles. CO_2 emissions test group result (grams per mile)/((8,887 grams per gallon of gasoline fuel) x (10^{-2})) = Fuel consumption test group result (gallons per 100 mile).

(5) Calculate the fleet average fuel consumption result, in gallons per 100 miles, from the equivalent fuel consumption test group results and round the fuel consumption result to the nearest 0.001 gallon per 100 miles. Calculate the fleet average fuel consumption result using the following equation.

$$\text{Fleet Average Fuel Consumption} = \frac{\sum[\text{Fuel Consumption Test Group Result}_i \times \text{Volume}_i]}{\sum[\text{Volume}_i]}$$

Where:

Fuel Consumption Test Group Result$_i$ = fuel consumption performance for each test group as defined in 49 CFR 523.4.

Volume$_i$ = production volume of each test group.

(6) Compare the fleet average fuel consumption standard to the fleet average fuel consumption performance. The fleet average fuel consumption performance

must be less than or equal to the fleet fuel consumption standard to comply with standards in § 535.5(a).

(b) Heavy-duty vocational vehicles and tractors. This section describes the method for determining the fuel consumption performance rates for vehicle families of heavy-duty vocational vehicles and tractors. The NHTSA heavy-duty vocational vehicle and tractor fuel consumption performance rates correspond to the same requirements for EPA as specified in 40 CFR 1037, subpart F.

(1) Select vehicles and vehicle family configurations to test as specified in 40 CFR 1037.230 for vehicles that make up each of the manufacturer's regulatory subcategories of vocational vehicles and tractors. For the Phase 2 program, select powertrain, axle and transmission families in accordance with 40 CFR 1037.231 and 1037.232.

(2) Follow the EPA testing requirements in 40 CFR 1037.230 and 1037.501 to derive inputs for the Greenhouse gas Emissions Model (GEM).

(3) Enter inputs into GEM, in accordance with 40 CFR 1037.520, to derive the emissions and fuel consumption performance results for all vehicles (conventional, alternative fueled and advanced technology vehicles).

(4) For Phase 1 and 2, all of the following GEM inputs apply for vocational vehicles and other tractor regulatory subcategories, as follows:

(i) Model year and regulatory subcategory (see § 535.3 and 40 CFR 1037.230).

(ii) Coefficient of aerodynamic drag or drag area, as described in 40 CFR 1037.520(b) (tractors only for Phase 1).

(iii) Steer and drive tire rolling resistance, as described in 40 CFR 1037.520(c).

(iv) Vehicle speed limit, as described in 40 CFR 1037.520(d) (tractors only).

(v) Vehicle weight reduction, as described in 40 CFR 1037.520(e) (tractors only for Phase 1).

(vi) Automatic engine shutdown systems, as described in 40 CFR 1037.660 (only for Phase 1 Class 8 sleeper cabs). For Phase 1, enter a GEM input value of 5.0 g/ton-mile, or an adjusted value as specified in 40 CFR 1037.660.

(5) For Phase 2 vehicles, the GEM inputs described in paragraphs (b)(4)(i) through (v) of this section continue to apply. Note that the provisions related to vehicle speed limiters and automatic engine shutdown systems are available for vocational vehicles in Phase 2. The additional GEM inputs that apply for vocational vehicles and other tractor regulatory subcategories for demonstrating compliance with Phase 2 standards are as follows:

(i) Engine characteristics. Enter information from the engine manufacturer to describe the installed engine and its operating parameters as described in 40 CFR 1036.510 and 1037.520(f).

(ii) Vehicle information. Enter information in accordance with 40 CFR 1037.520(g) for the vehicle and its operating parameters including:

(A) Transmission make, model and type;

(B) Drive axle configuration;

(C) Drive axle ratio, k_a;

(D) GEM inputs associated with powertrain testing include powertrain family, transmission calibration identifier, test data from 40 CFR 1037.550, and the powertrain test configuration (dynamometer connected to transmission output or wheel hub).

(iii) Idle-reduction technologies. Identify whether the manufacturer's vehicle has qualifying idle-reduction technologies, subject to the qualifying criteria in 40 and 1037.660 and enter values for stop start and neutral idle technologies as specified in 40 CFR 1037.520(h).

(iv) Axle and transmission efficiency. Manufacturers may use axle efficiency maps as described in 40 CFR 1037.560 and transmission efficiency maps as described in 40 CFR 1037.565 to replace the default values in GEM.

(v) Additional reduction technologies. Enter input values in GEM as follows to characterize the percentage CO_2 emission reduction corresponding to certain technologies and vehicle configurations, or enter 0 as specified in 40 CFR 1037.520(j):

(A) Intelligent controls

(B) Accessory load

(C) Tire-pressure systems

(D) Extended-idle reduction

(E) Additional GEM inputs may apply as follows:

(1) Enter 1.7 and 0.9, respectively, for school buses and coach buses that have at least seven available forward gears.

(2) If the agencies approve an off-cycle technology under § 535.7(f) and 40 CFR 1037.610 in the form of an improvement factor, enter the improvement factor expressed as a percentage reduction in CO_2 emissions. (Note: In the case of approved off-cycle technologies whose benefit is quantified as a g/ton-mile credit, apply the credit to the GEM result, not as a GEM input value.)

(vi) Vehicles with hybrid power take-off (PTO). For vocational vehicles, determine the delta PTO emission result of the manufacturer's engine and hybrid power take-off system as described in 40 CFR 1037.540.

(vii) Aerodynamic improvements for vocational vehicles. For vocational vehicles certified using the Regional duty cycle, enter ΔC_dA values to account for using rear fairings and a reduced minimum frontal area as specified in 40 CFR 1037.520(m) and 1037.527.

(viii) Alternate fuels. For fuels other than those identified in GEM, perform the simulation by identifying the vehicle as being diesel-fueled if the engine is subject to the compression-ignition standard, or as being gasoline-fueled if the engine is subject to the spark-ignition standards. Correct the engine or

powertrain fuel map for mass-specific net energy content as described in 40 CFR 1036.535(b).

(ix) Custom chassis vehicles. A simplified versions of GEM applies for custom chassis vehicle subject § 535.5(b)(6) in accordance with 40 CFR 1037.520(a)(2)(ii).

(6) In unusual circumstances, manufacturers may ask EPA to use weighted average results of multiple GEM runs to represent special technologies for which no single GEM run can accurately reflect.

(7) From the GEM results, select the CO_2 family emissions level (FEL) and equivalent fuel consumption values for vocational vehicle and tractor families in each regulatory subcategory for each model year. Equivalent fuel consumption FELs are derived in GEM and expressed to the nearest 0.0001 gallons per 1000 ton-mile. For families containing multiple subfamilies, identify the FELs for each subfamily.

(c) [Reserved]

(d) Heavy-duty engines. This section describes the method for determining equivalent fuel consumption family certification level (FCL) values for engine families of heavy-duty truck tractors and vocational vehicles. The NHTSA heavy-duty engine fuel consumption FCLs are determined from the EPA FCLs tested in accordance with 40 CFR 1036, subpart F. Each engine family must use the same primary intended service class as designated for EPA in accordance with 40 CFR 1036.140.

(1) Manufacturers must select emission-data engines representing the tested configuration of each engine family specified in 40 CFR part 86 and 40 CFR 1036.235 for engines in heavy-duty truck tractors and vocational vehicles that make up each of the manufacture's regulatory subcategories.

(2) Standards in § 535.5(d) apply to the CO_2 emissions rates for each emissions-data engine in an engine family subject to the procedures and equipment specified in 40 CFR part 1036, subpart F. Determine equivalent fuel consumptions rates using CO_2 emissions rates in grams per hp-hr measured to at least one more decimal place than that of the applicable EPA standard in 40 CFR 1036.108.

(i) Use the CO_2 emissions test results for engines running on each fuel type for conventional, dedicated, multi-fueled (dual-fuel, and flexible-fuel) engines as specified in 40 CFR part 1036, subpart F.

(ii) Use the CO_2 emissions result for multi-fueled engines using the same weighted fuel mixture emission results as specified in 40 CFR 1036.235 and 40 CFR part 1036, subpart F.

(iii) Use the CO_2 emissions test results for hybrid engines as described in 40 CFR 1036.525.

(iv) All electric vehicles are deemed to have zero emissions of CO_2 and zero fuel consumption. No emission or fuel consumption testing is required for such electric vehicles.

(3) Use the CO_2 emissions test results for tractor engine families in accordance with 40 CFR 1036.501 and for vocational vehicle engine families in accordance with 40 CFR part 86, subpart N, for each heavy-duty engine regulatory subcategory for each model year.

(i) If a manufacturer certifies an engine family for use both as a vocational engine and as a tractor engine, the manufacturer must split the family into two separate subfamilies in accordance with 40 CFR 1036.230. The manufacturer may assign the numbers and configurations of engines within the respective subfamilies at any time prior to the submission of the end-of-year report required by 40 CFR 1036.730 and § 535.8. The manufacturer must track into which type of vehicle each engine is installed, although EPA may allow the manufacturer to use statistical methods to determine this for a fraction of its engines.

(ii) The following engines are excluded from the engine families used to determine fuel consumption FCL values and the benefit for these engines is determined as an advanced technology credit under the ABT provisions provided in § 535.7(e); these provisions apply only for the Phase 1 program:

(A) Engines certified as hybrid engines or power packs.

(B) Engines certified as hybrid engines designed with PTO capability and that are sold with the engine coupled to a transmission.

(C) Engines with Rankine cycle waste heat recovery.

(4) Manufacturers generating CO_2 emissions rates to demonstrate compliance to EPA vehicle standards for model years 2021 and later, using engine fuel maps determined in accordance with 40 CFR 1036.535 and 1036.540 or engine powertrain results in accordance with 40 CFR 1036.630 and 40 CFR 1037.550 for each engine configuration, must use the same compliance pathway and model years for certifying under the NHTSA program. Manufacturers may omit providing equivalent fuel consumption FCLs under this section if all of its engines will be installed in vehicles that are certified based on powertrain testing as described in 40 CFR 1037.550.

(5) Calculate equivalent fuel consumption values from the emissions CO_2 FCLs levels for certified engines, in gallons per 100 hp-hr and round each fuel consumption value to the nearest 0.0001 gallon per 100 hp-hr.

(i) Calculate equivalent fuel consumption FCL values for compression-ignition engines and alternative fuel compression-ignition engines. CO_2 FCL value (grams per hp-hr)/10,180 grams per gallon of diesel fuel) x (10^2) = Fuel consumption FCL value (gallons per 100 hp-hr).

<Text of subsection (d)(5)(ii) effective until June 29, 2020.>

(ii) Calculate equivalent fuel consumption FCL values for spark-ignition engines and alternative fuel spark-ignition engines. CO_2 FCL value (grams per hp-hr)/8,877 grams per gallon of gasoline fuel) x (10^2) = Fuel consumption FCL value (gallons per 100 hp-hr).

<Text of subsection (d)(5)(ii) effective June 29, 2020.>

(ii) Calculate equivalent fuel consumption FCL values for spark-ignition engines and alternative fuel spark-ignition engines. CO_2 FCL value (grams per hp-hr)/((8,887 grams per gallon of gasoline fuel) x (10^{-2})) = Fuel consumption FCL value (gallons per 100 hp-hr).

(iii) Manufacturers may carryover fuel consumption data from a previous model year if allowed to carry over emissions data for EPA in accordance with 40 CFR 1036.235.

(iv) If a manufacturer uses an alternate test procedure under 40 CFR 1065.10 and subsequently the data is rejected by EPA, NHTSA will also reject the data.

(e) Heavy-duty trailers. This section describes the method for determining the fuel consumption performance rates for trailers. The NHTSA heavy-duty trailers fuel consumption performance rates correspond to the same requirements for EPA as specified in 40 CFR part 1037, subpart F.

(1) Select trailer family configurations that make up each of the manufacturer's regulatory subcategories of heavy-duty trailers in 40 CFR 1037.230 and § 535.4.

(2) Obtain preliminary approvals for trailer aerodynamic devices from EPA in accordance with 40 CFR 1037.150.

(3) For manufacturers voluntarily complying in model years 2018 through 2020, and for trailers complying with mandatory standards in model years 2021 and later, determine the CO_2 emissions and fuel consumption results for partial- and full-aero trailers using the equations and technologies specified in 40 CFR part 1037, subpart F. Use testing to determine input values in accordance with 40 CFR 1037.515.

(4) From the equation results, use the CO_2 family emissions level (FEL) to calculate equivalent fuel consumption FELs are expressed to the nearest 0.0001 gallons per 1000 ton-mile.

(i) For families containing multiple subfamilies, identify the FELs for each subfamily.

(ii) Calculate equivalent fuel consumption FEL values for trailer families. CO_2 FEL value (grams per 1000 ton-mile)/10,180 grams per 1000 ton-mile of diesel fuel) x (10^3) = Fuel consumption FEL value. The equivalent fuel consumption FELs are expressed to the nearest 0.0001 gallons per 1000 ton-mile.

49 C.F.R. § 535.8 Reporting and recordkeeping requirements

(a) General requirements. Manufacturers producing heavy-duty vehicles and engines applicable to fuel consumption standards in § 535.5, for each given model

year, must submit the required information as specified in paragraphs (b) through (h) of this section.

(1) The information required by this part must be submitted by the deadlines specified in this section and must be based upon all the information and data available to the manufacturer 30 days before submitting information.

(2) Manufacturers must submit information electronically through the EPA database system as the single point of entry for all information required for this national program and both agencies will have access to the information. In special circumstances, data may not be able to be received electronically (i.e., during database system development work). The agencies will inform manufacturer of the alternatives can be used for submitting information. The format for the required information will be specified by EPA in coordination with NHTSA.

(3) Manufacturers providing incomplete reports missing any of the required information or providing untimely reports are considered as not complying with standards (i.e., if good-faith estimates of U.S.-directed production volumes for EPA certificates of conformity are not provided) and are liable to pay civil penalties in accordance with 49 U.S.C. 32912.

(4) Manufacturers certifying a vehicle or engine family using an FEL or FCL below the applicable fuel consumption standard as described in § 535.5 may choose not to generate fuel consumption credits for that family. In which case, the manufacturer is not required to submit reporting or keep the associated records described in this part for that family.

(5) Manufacturers must use good engineering judgment and provide comparable fuel consumption information to that of the information or data provided to EPA under 40 CFR 86.1865, 1036.250, 1036.730, 1036.825, 1037.250, 1037.730, and 1037.825.

(6) Any information that must be sent directly to NHTSA. In instances in which EPA has not created an electronic pathway to receive the information, the information should be sent through an electronic portal identified by NHTSA or through the NHTSA CAFE database (i.e., information on fuel consumption credit transactions). If hardcopy documents must be sent, the information should be sent to the Associate Administrator of Enforcement at 1200 New Jersey Avenue, NVS–200, Office W45–306, SW., Washington, DC 20590.

(b) Pre-model year reports. Manufacturers producing heavy-duty pickup trucks and vans must submit reports in advance of the model year providing early estimates demonstrating how their fleet(s) would comply with GHG emissions and fuel consumption standards. Note, the agencies understand that early model year reports contain estimates that may change over the course of a model year and that compliance information manufacturers submit prior to the beginning of a new model year may not represent the final compliance outcome. The agencies view the necessity for requiring early model reports as a manufacturer's good faith projection for demonstrating compliance with emission and fuel consumption standards.

(1) Report deadlines. For model years 2013 and later, manufacturer of heavy-duty pickup trucks and vans complying with voluntary and mandatory standards must submit a pre-model year report for the given model year as early as the date of the manufacturer's annual certification preview meeting with EPA and NHTSA, or prior to submitting its first application for a certificate of conformity to EPA in accordance with 40 CFR 86.1819–14(d). For example, a manufacturer choosing to comply in model year 2014 could submit its pre-model year report during its precertification meeting which could occur before January 2, 2013, or could provide its pre-model year report any time prior to submitting its first application for certification for the given model year.

(2) Contents. Each pre-model year report must be submitted including the following information for each model year.

(i) A list of each unique subconfiguration in the manufacturer's fleet describing the make and model designations, attribute based-values (i.e., GVWR, GCWR, Curb Weight and drive configurations) and standards;

(ii) The emission and fuel consumption fleet average standard derived from the unique vehicle configurations;

(iii) The estimated vehicle configuration, test group and fleet production volumes;

(iv) The expected emissions and fuel consumption test group results and fleet average performance;

(v) If complying with MY 2013 fuel consumption standards, a statement must be provided declaring that the manufacturer is voluntarily choosing to comply early with the EPA and NHTSA programs. The manufacturers must also acknowledge that once selected, the decision cannot be reversed and the manufacturer will continue to comply with the fuel consumption standards for subsequent model years for all the vehicles it manufacturers in each regulatory category for a given model year;

(vi) If complying with MYs 2014, 2015 or 2016 fuel consumption standards, a statement must be provided declaring whether the manufacturer will use fixed or increasing standards in accordance with § 535.5(a). The manufacturer must also acknowledge that once selected, the decision cannot be reversed and the manufacturer must continue to comply with the same alternative for subsequent model years for all the vehicles it manufacturers in each regulatory category for a given model year;

(vii) If complying with MYs 2014 or 2015 fuel consumption standards, a statement must be provided declaring that the manufacturer is voluntarily choosing to comply with NHTSA's voluntary fuel consumption standards in accordance with § 535.5(a)(4). The manufacturers must also acknowledge that once selected, the decision cannot be reversed and the manufacturer will continue to comply with the fuel consumption standards for subsequent model years for all the vehicles it manufacturers in each regulatory category for a given model year;

(viii) The list of Class 2b and 3 incomplete vehicles (cab-complete or chassis complete vehicles) and the method used to certify these vehicles as complete pickups and vans identifying the most similar complete sister- or other complete vehicles used to derive the target standards and performance test results;

(ix) The list of Class 4 and 5 incomplete and complete vehicles and the method use to certify these vehicles as complete pickups and vans identifying the most similar complete or sister vehicles used to derive the target standards and performance test results;

(x) List of loose engines included in the heavy-duty pickup and van category and the list of vehicles used to derive target standards and performance test results;

(xi) Copy of any notices a vehicle manufacturer sends to the engine manufacturer to notify the engine manufacturers that their engines are subject to emissions and fuel consumption standards and that it intends to use their engines in excluded vehicles;

(xii) A fuel consumption credit plan as specified § 535.7(a) identifying the manufacturers estimated credit balances, planned credit flexibilities (i.e., credit balances, planned credit trading, innovative, advanced and early credits and etc.) and if needed a credit deficit plan demonstrating how it plans to resolve any credit deficits that might occur for a model year within a period of up to three model years after that deficit has occurred; and

(xiii) The supplemental information specified in paragraph (h) of this section.

Note to paragraph (b): NHTSA may also ask a manufacturer to provide additional information if necessary to verify compliance with the fuel consumption requirements of this section.

(c) Applications for certificate of conformity. Manufacturers producing vocational vehicles, tractors and heavy-duty engines are required to submit applications for certificates of conformity to EPA in accordance with 40 CFR 1036.205 and 1037.205 in advance of introducing vehicles for commercial sale. Applications contain early model year information demonstrating how manufacturers plan to comply with GHG emissions. For model years 2013 and later, manufacturers of vocational vehicles, tractors and engine complying with NHTSA's voluntary and mandatory standards must submit applications for certificates of conformity in accordance through the EPA database including both GHG emissions and fuel consumption information for each given model year.

(1) Submission deadlines. Applications are primarily submitted in advance of the given model year to EPA but cannot be submitted any later than December 31 of the given model year.

(2) Contents. Each application for certificates of conformity submitted to EPA must include the following equivalent fuel consumption.

(i) Equivalent fuel consumption values for emissions CO_2 FCLs values used to certify each engine family in accordance with 40 CFR 1036.205(e). This provision applies only to manufacturers producing heavy-duty engines.

(ii) Equivalent fuel consumption values for emission CO_2 data engines used to comply with emission standards in 40 CFR 1036.108. This provision applies only to manufacturers producing heavy-duty engines.

(iii) Equivalent fuel consumption values for emissions CO_2 FELs values used to certify each vehicle families or subfamilies in accordance with 40 CFR 1037.205(k). This provision applies only to manufacturers producing vocational vehicles and tractors.

(iv) Report modeling results for ten configurations in terms of CO_2 emissions and equivalent fuel consumption results in accordance with 40 CFR 1037.205(o). Include modeling inputs and detailed descriptions of how they were derived. This provision applies only to manufacturers producing vocational vehicles and tractors.

(v) Credit plans including the fuel consumption credit plan described in § 535.7(a).

(3) Additional supplemental information. Manufacturers are required to submit additional information as specified in paragraph (h) of this section for the NHTSA program before or at the same time it submits its first application for a certificate of conformity to EPA. Under limited conditions, NHTSA may also ask a manufacturer to provide additional information directly to the Administrator if necessary to verify the fuel consumption requirements of this regulation.

(d) End of the Year (EOY) and Final reports. Heavy-duty vehicle and engine manufacturers participating in the ABT program are required to submit EOY and final reports containing information for NHTSA as specified in paragraph (d)(2) of this section and in accordance with 40 CFR 86.1865, 1036.730, and 1037.730. Only manufacturers without credit deficits may decide not to participate in the ABT or may waive the requirement to send an EOY report. The EOY and final reports are used to review a manufacturer's preliminary or final compliance information and to identify manufacturers that might have a credit deficit for the given model year. For model years 2013 and later, heavy-duty vehicle and engine manufacturers complying with NHTSA's voluntary and mandatory standards must submit EOY and final reports through the EPA database including both GHG emissions and fuel consumption information for each given model year.

(1) Report deadlines.

(i) For model year 2013 and later, heavy-duty vehicle and engine manufacturers complying with NHTSA voluntary and mandatory standards must submit EOY reports through the EPA database including both GHG emissions and fuel consumption information within 90 days after the end of the given model year and no later than March 31 of the next calendar year.

(ii) For model year 2013 and later, heavy-duty vehicle and engine manufacturers complying with NHTSA voluntary and mandatory standards must submit final reports through the EPA database including both GHG emissions and fuel consumption information within 270 days after the end of the given model year and no later than September 30 of the next calendar year.

(iii) A manufacturer may ask NHTSA and EPA to extend the deadline of a final report by up to 30 days. A manufacturer unable to provide, and requesting to omit an emissions rate or fuel consumption value from a final report must obtain approval from the agencies prior to the submission deadline of its final report.

(iv) If a manufacturer expects differences in the information reported between the EOY and the final year report specified in 40 CFR 1036.730 and 1037.730, it must provide the most up-to-date fuel consumption projections in its final report and identify the information as preliminary.

(v) If the manufacturer cannot provide any of the required fuel consumption information, it must state the specific reason for the insufficiency and identify the additional testing needed or explain what analytical methods are believed by the manufacturer will be necessary to eliminate the insufficiency and certify that the results will be available for the final report.

(2) Contents. Each EOY and final report must be submitted including the following fuel consumption information for each model year. EOY reports contain preliminary final estimates and final reports must include the manufacturer's final compliance information.

(i) Engine and vehicle family designations and averaging sets.

(ii) Engine and vehicle regulatory subcategory and fuel consumption standards including any alternative standards used.

(iii) Engine and vehicle family FCLs and FELs in terms of fuel consumption.

(iv) Production volumes for engines and vehicles.

(v) A summary as specified in paragraph (g)(7) of this section describing the vocational vehicles and vocational tractors that were exempted as heavy-duty off-road vehicles. This applies to manufacturers participating and not participating in the ABT program.

(vi) A summary describing any advanced or innovative technology engines or vehicles including alternative fueled vehicles that were produced for the model year identifying the approaches used to determinate compliance and the production volumes.

(vii) A list of each unique subconfiguration included in a manufacturer's fleet of heavy-duty pickup trucks and vans identifying the attribute based-values (GVWR, GCWR, Curb Weight, and drive configurations) and standards. This provision applies only to manufacturers producing heavy-duty pickup trucks and vans.

(viii) The fuel consumption fleet average standard derived from the unique vehicle configurations. This provision applies only to manufacturers producing heavy-duty pickup trucks and vans.

(ix) The subconfiguration and test group production volumes. This provision applies only to manufacturers producing heavy-duty pickup trucks and vans.

(x) The fuel consumption test group results and fleet average performance. This provision applies only to manufacturers producing heavy-duty pickup trucks and vans.

(xi) Manufacturers may correct errors in EOY and final reports as follows:

(A) Manufacturers may correct any errors in their end-of-year report when preparing the final report, as long as manufacturers send us the final report by the time it is due.

(B) If manufacturers or the agencies determine within 270 days after the end of the model year that errors mistakenly decreased he manufacturer's balance of fuel consumption credits, manufacturers may correct the errors and recalculate the balance of its fuel consumption credits. Manufacturers may not make any corrections for errors that are determined more than 270 days after the end of the model year. If manufacturers report a negative balance of fuel consumption credits, NHTSA may disallow corrections under this paragraph (d)(2)(xi)(B).

(C) If manufacturers or the agencies determine any time that errors mistakenly increased its balance of fuel consumption credits, manufacturers must correct the errors and recalculate the balance of fuel consumption credits.

(xii) Under limited conditions, NHTSA may also ask a manufacturer to provide additional information directly to the Administrator if necessary to verify the fuel consumption requirements of this regulation.

(e) Amendments to applications for certification. At any time, a manufacturer modifies an application for certification in accordance with 40 CFR 1036.225 and 1037.225, it must submit GHG emissions changes with equivalent fuel consumption values for the information required in paragraphs (b) through (e) and (h) of this section.

(f) Confidential information. Manufacturers must submit a request for confidentiality with each electronic submission specifying any part of the for information or data in a report that it believes should be withheld from public disclosure as trade secret or other confidential business information. Information submitted to EPA should follow EPA guidelines for treatment of confidentiality. Requests for confidential treatment for information submitted to NHTSA must be filed in accordance with the requirements of 49 CFR part 512, including submission of a request for confidential treatment and the information for which confidential treatment is requested as specified by part 512. For any information or data requested by the manufacturer to be withheld under 5 U.S.C. 552(b)(4) and 49 U.S.C. 32910(c), the manufacturer shall present arguments and provide evidence in its request for confidentiality demonstrating that—

(1) The item is within the scope of 5 U.S.C. 552(b)(4) and 49 U.S.C. 32910(c);

(2) The disclosure of the information at issue would cause significant competitive damage;

(3) The period during which the item must be withheld to avoid that damage; and

(4) How earlier disclosure would result in that damage.

(g) Additional required information. The following additional information is required to be submitted through the EPA database. NHTSA reserves the right to ask a manufacturer to provide additional information if necessary to verify the fuel consumption requirements of this regulation.

(1) Small businesses. For model years 2013 through 2020, vehicles and engines produced by small business manufacturers meeting the criteria in 13 CFR 121.201 are exempted from the requirements of this part. Qualifying small business manufacturers must notify EPA and NHTSA Administrators before importing or introducing into U.S. commerce exempted vehicles or engines. This notification must include a description of the manufacturer's qualification as a small business under 13 CFR 121.201. Manufacturers must submit this notification to EPA, and EPA will provide the notification to NHTSA. The agencies may review a manufacturer's qualification as a small business manufacturer under 13 CFR 121.201.

(2) Emergency vehicles. For model years 2021 and later, emergency vehicles produced by heavy-duty pickup truck and van manufacturers are exempted except those produced by manufacturers voluntarily complying with standards in § 535.5(a). Manufacturers must notify the agencies in writing if using the provisions in § 535.5(a) to produce exempted emergency vehicles in a given model year, either in the report specified in 40 CFR 86.1865 or in a separate submission.

(3) Early introduction. The provision applies to manufacturers seeking to comply early with the NHTSA's fuel consumption program prior to model year 2014. The manufacturer must send the request to EPA before submitting its first application for a certificate of conformity.

(4) NHTSA voluntary compliance model years. Manufacturers must submit a statement declaring whether the manufacturer chooses to comply voluntarily

with NHTSA's fuel consumption standards for model years 2014 through 2015. The manufacturers must acknowledge that once selected, the decision cannot be reversed and the manufacturer will continue to comply with the fuel consumption standards for subsequent model years. The manufacturer must send the statement to EPA before submitting its first application for a certificate of conformity.

(5) Alternative engine standards. Manufacturers choosing to comply with the alternative engine standards must notify EPA and NHTSA of their choice and include in that notification a demonstration that it has exhausted all available credits and credit opportunities. The manufacturer must send the statement to EPA before submitting its EOY report.

(6) Alternate phase-in. Manufacturers choosing to comply with the alternative engine phase-in must notify EPA and NHTSA of their choice. The manufacturer must send the statement to EPA before submitting its first application for a certificate of conformity.

(7) Off-road exclusion (tractors and vocational vehicles only).

(i) Tractors and vocational vehicles primarily designed to perform work in off-road environments such as forests, oil fields, and construction sites may be exempted without request from the requirements of this regulation as specified in 49 CFR 523.2 and § 535.5(b). Within 90 days after the end of each model year, manufacturers must send EPA and NHTSA through the EPA database a report with the following information:

(A) A description of each excluded vehicle configuration, including an explanation of why it qualifies for this exclusion.

(B) The number of vehicles excluded for each vehicle configuration.

(ii) A manufacturer having an off-road vehicle failing to meet the criteria under the agencies' off-road exclusions will be allowed to request an exclusion of such a vehicle from EPA and NHTSA. The approval will be granted through the certification process for the vehicle family and will be done in collaboration between EPA and NHTSA in accordance with the provisions in 40 CFR 1037.150, 1037.210, and 1037.631.

(8) Vocational tractors. Tractors intended to be used as vocational tractors may comply with vocational vehicle standards in § 535.5(b). Manufacturers

classifying tractors as vocational tractors must provide a description of how they meet the qualifications in their applications for certificates of conformity as specified in 40 CFR 1037.205.

(9) Approval of alternate methods to determine drag coefficients (tractors only). Manufacturers seeking to use alternative methods to determine aerodynamic drag coefficients must provide a request and gain approval by EPA in accordance with 40 CFR 1037.525. The manufacturer must send the request to EPA before submitting its first application for a certificate of conformity.

(10) Innovative and off-cycle technology credits. Manufacturers pursuing innovative and off-cycle technology credits must submit information to the agencies and may be subject to a public evaluation process in which the public would have opportunity for comment if the manufacturer is not using a test procedure in accordance with 40 CFR 1037.610(c). Whether the approach involves on-road testing, modeling, or some other analytical approach, the manufacturer would be required to present a final methodology to EPA and NHTSA. EPA and NHTSA would approve the methodology and credits only if certain criteria were met. Baseline emissions and fuel consumption and control emissions and fuel consumption would need to be clearly demonstrated over a wide range of real world driving conditions and over a sufficient number of vehicles to address issues of uncertainty with the data. Data would need to be on a vehicle model-specific basis unless a manufacturer demonstrated model-specific data was not necessary. The agencies may publish a notice of availability in the Federal Register notifying the public of a manufacturer's proposed alternative off-cycle credit calculation methodology and provide opportunity for comment. Any notice will include details regarding the methodology, but not include any Confidential Business Information.

(11) Credit trades. If a manufacturer trades fuel consumption credits, it must send EPA and NHTSA a fuel consumption credit plan as specified in § 535.7(a) and provide the following additional information:

(i) As the seller, the manufacturer must include the following information:

(A) The corporate names of the buyer and any brokers.

(B) A copy of any contracts related to the trade.

(C) The averaging set corresponding to the engine families that generated fuel consumption credits for the trade, including the number of fuel consumption credits from each averaging set.

(ii) As the buyer, the manufacturer or entity must include the following information in its report:

(A) The corporate names of the seller and any brokers.

(B) A copy of any contracts related to the trade.

(C) How the manufacturer or entity intends to use the fuel consumption credits, including the number of fuel consumption credits it intends to apply for each averaging set.

(D) A copy of the contract with signatures from both the buyer and the seller.

(12) Production reports. Within 90 days after the end of the model year and no later than March 31st, manufacturers participating and not-participating in the ABT program must send to EPA and NHTSA a report including the total U.S.-directed production volume of vehicles it produced in each vehicle and engine family during the model year (based on information available at the time of the report) as required by 40 CFR 1036.250 and 1037.250. Trailer manufacturers must include a separate report including the total U.S.-directed production volume of excluded trailers as allowed by § 535.3(e). Each manufacturer shall report by vehicle or engine identification number and by configuration and identify the subfamily identifier. Report uncertified vehicles sold to secondary vehicle manufacturers. Small business manufacturers may omit reporting. Identify any differences between volumes included for EPA but excluded for NHTSA.

(13) Transition to engine-based model years. The following provisions apply for production and ABT reports during the transition to engine-based model year determinations for tractors and vocational vehicles in 2020 and 2021:

(i) If a manufacturer installs model year 2020 or earlier engines in the manufacturer's vehicles in calendar year 2020, include all those Phase 1 vehicles in its production and ABT reports related to model year 2020

compliance, although the agencies may require the manufacturer to identify these separately from vehicles produced in calendar year 2019.

(ii) If a manufacturer installs model year 2020 engines in its vehicles in calendar year 2021, submit production and ABT reports for those Phase 1 vehicles separate from the reports it submits for Phase 2 vehicles with model year 2021 engines.

(h) Public information. Based upon information submitted by manufacturers and EPA, NHTSA will publish fuel consumption standards and performance results.

(i) Information received from EPA. NHTSA will receive information from EPA as specified in 40 CFR 1036.755 and 1037.755.

(j) Recordkeeping. NHTSA has the same recordkeeping requirements as the EPA, specified in 40 CFR 86.1865–12(k), 1036.250, 1036.735, 1036.825, 1037.250, 1037.735, and 1037.825. The agencies each reserve the right to request information contained in reports separately.

(1) Manufacturers must organize and maintain records for NHTSA as described in this section. NHTSA in conjunction or separately from EPA may review a manufacturers records at any time.

(2) Keep the records required by this section for at least eight years after the due date for the end-of-year report. Manufacturers may not use fuel consumption credits for any engines if it does not keep all the records required under this section. Manufacturers must therefore keep these records to continue to bank valid credits. Store these records in any electronic format and on any media, as long as the manufacturer can promptly send the agencies organized records in English if the agencies ask for them. Manufacturers must keep these records readily available. NHTSA may review them at any time.

(3) Keep a copy of the reports required in § 535.8 and 40 CFR 1036.725, 1036.730, 1037.725 and 1037.730.

(4) Keep records of the vehicles and engine identification number (usually the serial number) for each vehicle and engine produced that generates or uses fuel consumption credits under the ABT program. Manufacturers may identify these numbers as a range. If manufacturers change the FEL after the start of production, identify the date started using each FEL/FCL and the range of

vehicles or engine identification numbers associated with each FEL/FCL. Manufacturers must also identify the purchaser and destination for each vehicle and engine produced to the extent this information is available.

(5) The agencies may require manufacturers to keep additional records or to send relevant information not required by this section in accordance with each agency's authority.

(6) If collected separately and NHTSA finds that information is provided fraudulent or grossly negligent or otherwise provided in bad faith, the manufacturer may be liable to civil penalties in accordance with each agency's authority.

49 C.F.R. § 535.10 How do manufacturers comply with fuel consumption standards?

* * *

(b) Model year compliance. Manufacturers are required to conduct testing to demonstrate compliance with CO_2 exhaust emissions standards in accordance with EPA's provisions in 40 CFR part 600, subpart B, 40 CFR 1036, subpart F, 40 CFR part 1037, subpart R, and 40 CFR part 1066. Manufacturers determine equivalent fuel consumption performance values for CO_2 results as specified in § 535.6 and demonstrate compliance by comparing equivalent results to the applicable fuel consumption standards in § 535.5.

Part 571. Federal Motor Vehicle Safety Standards

49 C.F.R. § 571.3 Definitions

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Gross combination weight rating or GCWR means the value specified by the manufacturer as the loaded weight of a combination vehicle.

Gross vehicle weight rating or GVWR means the value specified by the manufacturer as the loaded weight of a single vehicle.

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Trailer means a motor vehicle with or without motive power, designed for carrying persons or property and for being drawn by another motor vehicle.

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