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

Business Climate Initiative Action d/b/a ZERO EMISSION TRANSPORTATION ASSOCIATION, *Petitioner*, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY and LEE M. ZELDIN, in his official capacity as Administrator of the United States Environmental Protection Agency, *Respondents*.	No. 26-1039

PETITION FOR REVIEW

Pursuant to Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1), Federal Rule of Appellate Procedure 15(a), and D.C. Circuit Rule 15(a)(1), Business Climate Initiative Action d/b/a the Zero Emission Transportation Association (ZETA) hereby petitions this Court for review of the final action of Respondents Lee M. Zeldin, Administrator, United States Environmental Protection Agency, and United States Environmental Protection Agency (EPA), entitled "Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act," published at 91 Fed. Reg. 7686 (Feb. 18, 2026). A copy of EPA's final action is attached to this petition.

Dated: February 20, 2026

Respectfully submitted,

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CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, Business Climate Initiative Action d/b/a Zero Emission Transportation Association (ZETA) submits the following disclosure statement.

ZETA is an association of companies committed to advocating for the advancement of the electric vehicle supply chain (*see* membership list here: https://www.zeta.org/about (last visited Feb. 20, 2026)). Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and D.C. Circuit Rule 26.1, ZETA states that it is a non-profit, tax-exempt organization incorporated in the District of Columbia. ZETA has no parent corporation, and no publicly held company has 10% or greater ownership in ZETA. ZETA is a "trade association" within the meaning of Circuit Rule 26.1.

Dated: February 20, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on February 20, 2026, I caused a true and correct copy of this Petition for Review to be served via first class U.S. mail, postage prepaid, by placing a copy in a properly addressed envelope in a U.S. mail receptacle at 353 N. Clark Street, Chicago, IL on the following:

Administrator Lee M. Zeldin
United States Environmental Protection Agency
Office of the Administrator
Mail Code 1101A
1200 Pennsylvania Avenue NW
Washington, DC 20460

Correspondence Control Unit
Office of General Counsel
United States Environmental Protection Agency
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1200 Pennsylvania Avenue NW
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The Honorable Pamela J. Bondi
Attorney General of the United States
United States Department of Justice
950 Pennsylvania Avenue NW
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Dated: February 20, 2026

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 85, 86, 600, 1036, 1037, and 1039

[EPA–HQ–OAR–2025–0194; FRL–12715–02–OAR]

RIN 2060–AW71

Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act

AGENCY: Environmental Protection Agency (EPA)

ACTION: Final rule.

SUMMARY: In this action, the U.S. Environmental Protection Agency (EPA) is rescinding the Administrator's 2009 findings of contribution and endangerment and repealing all greenhouse gas (GHG) emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines to effectuate the best reading of Clean Air Act (CAA) section 202(a)(1). The EPA determines that CAA section 202(a)(1) does not authorize the Agency to prescribe emission standards in response to global climate change concerns for multiple reasons, including the best reading of the statutory terms ''air pollution,'' ''cause,'' ''contribute,'' and ''reasonably be anticipated to endanger.'' This statutory interpretation is corroborated by application of the major questions doctrine. The EPA further determines that GHG emission standards for new motor vehicles and engines do not impact in any material way the public health and welfare concerns identified in the Administrator's prior findings in 2009. On these multiple and independent bases, the EPA concludes that it lacks statutory authority to regulate GHG emissions in response to global climate change concerns under CAA section 202(a)(1), and is not finalizing the additional bases for repeal set out in the proposed rule.

DATES: This final action is effective on April 20, 2026. The incorporation by reference of certain material listed in the action was approved by the Director of the Federal Register as of March 27, 2023, June 17, 2024, and June 21, 2024.

ADDRESSES:

Docket: The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2025–0194. Publicly available docket materials are available either electronically at *www.regulations.gov* or in hard copy at Air and Radiation Docket and Information Center, EPA Docket Center, EPA/DC, EPA WJC West Building, 1301 Constitution Ave. NW, Room 3334, Washington, DC. For further information on EPA Docket Center services and the current status, please visit us online at *www.epa.gov/dockets.*

Public Participation: Docket: All documents in the docket are listed on the *www.regulations.gov* website. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form through the EPA Docket Center at the location listed in the **ADDRESSES** section of this document.

FOR FURTHER INFORMATION CONTACT: For information about this final action, contact Alan Stout, Transportation Sector Impacts and Standards Division, Office of Transportation and Air Quality, Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; telephone number: (734) 214–4805; email address: *stout.alan@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. Throughout this document the use of ''we,'' ''us,'' or ''our'' is intended to refer to the EPA. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

° C Degree Celsius
ABT Averaging, banking, and trading
ACC Advanced Clean Cars
ACT Advanced Clean Trucks
AEO Annual Energy Outlook
ANPRM Advanced notice of proposed rulemaking
APA Administrative Procedure Act
ASTM American Society for Testing and Materials
BEV Battery electric vehicle
BRICK Building Blocks for Relevant Ice and Climate Knowledge
CAA Clean Air Act
CAFE Corporate Average Fuel Economy
CBI Confidential Business Information
CFR Code of Federal Regulations
CH_4 Methane
CI Confidence interval
cm Centimeter
CO Carbon monoxide
CO_2 Carbon dioxide
CO_2e Carbon dioxide equivalent
Cong. Rec. Congressional Record
CRA Congressional Review Act
CWG Climate Working Group
CY Calendar year
D.C. Circuit U.S. Court of Appeals for the District of Columbia Circuit
DHS U.S. Department of Homeland Security
DRIA Draft Regulatory Impact Analysis
EIA Energy Information Administration
EISA Energy Independence and Security Act
EPA U.S. Environmental Protection Agency
EPCA Energy Policy and Conservation Act of 1975
EV Electric vehicle
EVSE Electric vehicle supply equipment
E.O. Executive Order
FaIR Model Finite amplitude Impulse Response (v2.2.3) climate emulator model
FCEV Fuel cell electric vehicles
FEL Family emission limit
FIP Federal Implementation Plan
FR Federal Register
GHG Greenhouse gas
GMST Global mean surface temperature
GSLR Global sea level rise
GVWR Gross vehicle weight rating
H.R. Rep. House of Representative Report
HC Hydrocarbons
HD Heavy-duty
HDV Heavy-duty vehicle
HFC Hydrofluorocarbon
ICE Internal-combustion engine
ICEV Internal-combustion engine vehicles
ICR Information collection request
IPCC United Nations Intergovernmental Panel on Climate Change
IRA Inflation Reduction Act
LD Light-duty
LDV Light-duty vehicle
MAGICC Model for the Assessment of Greenhouse Gas Induced Climate Change
MD Medium-duty
MDV Medium-duty vehicle
MMT Million metric tons
MOVES EPA's MOtor Vehicle Emission Simulator
Mt Megatonnes
MY Model year
N_2O Nitrous oxide
NAAQS National Ambient Air Quality Standards
NAS National Academy of Sciences
NASEM National Academies of Sciences, Engineering, and Medicine
NCA5 Fifth National Climate Assessment
NHTSA National Highway Traffic Safety Administration
NMOG + NO_X Nonmethane organic gases and oxides of nitrogen
NO_2 Nitrogen dioxide
NO_X Oxides of nitrogen
NTTAA National Technology Transfer and Advancement Act
O_3 Ozone
OBBB One Big Beautiful Bill Act
OBD Onboard diagnostics
OMB Office of Management and Budget
OMEGA Model Optimization Model for reducing Emissions of GHGs from Automobiles
PHEV Plug-in Hybrid Electric Vehicles
PFCs Perfluorocarbons
PM Particulate Matter
$PM_{2.5}$ Fine particulate matter
ppmv Parts per million by volume
PRA Paperwork Reduction Act
PSD Prevention of Significant Deterioration
Pub. L. Public Law
RESS Renewable Energy Storage System
RFA Regulatory Flexibility Act

RFS Renewable Fuel Standard
RIA Regulatory Impact Analysis
S. Rep. Senate Report
SAB Science Advisory Board
SCC Social Cost of Carbon
SDWA Safe Drinking Water Act
SF_6 Sulfur hexafluoride
SIP State Implementation Plan
SO_2 Sulfur dioxide
SOx Sulfur oxides
SSP2–4.5 Shared socioeconomic pathway 2 with a radiative forcing of 4.5 watts per square meter by 2100
Stat. Statutes at Large
U.S. United States
U.S.C. U.S. Code
UMRA Unfunded Mandates Reform Act
USGCRP U.S. Global Change Research Program
VOCs Volatile Organic Compounds
yr Year

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I. General Information

A. Does this action apply to me?

This action relates to companies that manufacture, sell, or import into the United States light-, medium-, or heavy-duty motor vehicles and engines. Potentially affected categories and entities include the following:

NAICS Code[a]	NAICS Title
336110	Automobile and Light Duty Motor Vehicle Manufacturing
336120	Heavy Duty Truck Manufacturing
336211	Motor Vehicle Body Manufacturing
336213	Motor Home Manufacturing
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing
336390	Other Motor Vehicle Parts Manufacturing
333618	Other Engine Equipment Manufacturing
423110	Automobile and Other Motor Vehicle Merchant Wholesalers
811198	All Other Automotive Repair and Maintenance

[a] NAICS Association. NAICS & SIC Identification Tools. Available online: *https://www.naics.com/search.*

This table is not intended to be exhaustive but rather provides a guide for readers regarding entities potentially affected by this action. This table lists the types of entities that the EPA is presently aware could potentially be affected by this action. Other types of entities not listed in the table could also be affected. To determine whether your entity is regulated by this action, you should carefully examine the applicability criteria found in Code of

Federal Regulations (CFR) Title 40, parts 85, 86, 600, 1036, and 1037. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action is available on the internet at *https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-rescission-greenhouse-gas-endangerment.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the final action and key technical documents at this same website.

C. Judicial Review and Administrative Review

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) by April 20, 2026. Under CAA section 307(b)(2), the requirements established by this final action may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

CAA section 307(d)(7)(B) further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to convene a proceeding for reconsideration ''[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment, (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. Environmental Protection Agency, Room 3000, WJC South Building, 1200 Pennsylvania Ave. NW, Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460.

II. Executive Summary

A. Introduction

In this final action, the EPA rescinds the Administrator's 2009 standalone decision entitled ''Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,'' 74 FR 66496 (Dec. 15, 2009) (''Endangerment Finding'') and repeals all GHG emission standards for light-duty (LD), medium-duty (MD), and heavy-duty (HD) vehicles and engines manufactured or imported into the United States (U.S.) for model years (MY) 2012 to 2027 and beyond. Upon review of the underlying actions, recent decisions by the U.S. Supreme Court, and the robust public response to the proposal, the EPA concludes that we lack statutory authority to maintain this novel and transformative regulatory program. The appropriate policy response to global climate change concerns is a decision vested in Congress, and Congress did not decide the Nation's policy response to these concerns when it enacted CAA section 202(a)(1) to address domestic air pollution problems nearly sixty years ago, or in any subsequent amendment thereto. Relatedly, the EPA concludes that regulating GHG emissions from new motor vehicles and engines under CAA section 202(a)(1) has no material impact on global climate change concerns animating the Agency's regulatory efforts since 2009, much less the adverse public health or welfare impacts attributed to such global climate trends. Climate impact modeling submitted during the public comment period, and confirmed by our own analysis, demonstrates that even the complete elimination of all GHG emissions from all new and existing vehicles in the U.S. would have only *de minimis* impacts that fall well within the standard margin of error for global temperature and sea level measurement. This evidence further supports our conclusion that the regulation of GHG emissions falls outside the scope of air pollution problems Congress addressed when enacting CAA section 202(a)(1) and, separately, leads us to conclude that maintaining GHG emission standards under CAA section 202(a)(1) would be unreasonable given their futility and the immense burdens they place on regulated parties, consumers, and the economy.

The EPA recognizes the gravity of this decision to the many stakeholders who submitted comments for and against to the proposal, including with respect to global climate change concerns and the burdens of our GHG regulatory program on manufacturers, auto workers, and American consumer choice and affordability. We closely reviewed the diverse array of scientific and technical information submitted in response to the proposal. The Administrator continues to harbor concerns regarding the scientific analysis contained in the Endangerment Finding, including because the decision severed the statutory analysis in multiple respects to assert the power to regulate GHG emissions in response to global climate change concerns. However, the Administrator is not basing this action on a new finding under CAA section 202(a)(1). Rather, we conclude that the EPA lacks statutory authority to resolve these questions under CAA section 202(a)(1). As recently as 2008, the Agency correctly understood that the statute was enacted to control air pollution that threatens health and welfare through local and regional exposure, and that launching a GHG emissions program under this authority would result in an unprecedented expansion of regulatory power with profound adverse effects on the economy and American households. With this final action, we return to fundamental principles governing decision-making within our democratic system: ''Agencies have only those powers given to them by Congress,'' *West Virginia* v. *EPA,* 597 U.S. 697, 723 (2022), and ''the scope of an agency's own power'' is determined not by deference to asserted expertise, but by ''the best reading of the statute,'' which is fixed at the time of enactment. *Loper Bright Enters.* v. *Raimondo,* 603 U.S. 369, 400–01 (2024).

In 2009, the EPA took the unprecedented step of asserting authority to regulate GHG emissions in a standalone action that broke new ground and launched the Agency into a course of regulation that fundamentally reshaped many aspects of the Nation's economic and social life.[1] In the Endangerment Finding, we interpreted CAA section 202(a)(1) for the first time to authorize regulation of domestic emissions from new motor vehicles and engines based on global climate change concerns rather than air pollution that endangers public health or welfare

[1] *See also* ''Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA's Response to Public Comments'' (''EF RTC''), available in a Memorandum to Docket entitled ''EPA's Response to Public Comments on the 2009 Endangerment and Cause or Contribute Findings for Greenhouse Gases: Volumes 1–11,'' Document ID EPA–HQ–OAR–2025–0149.

through local or regional exposure. 74 FR 66526–27. We relied on that interpretation to define both the relevant ''air pollution'' and the relevant ''air pollutant'' as the combination of six ''well-mixed GHGs''—carbon dioxide (CO_2), methane, nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—while reserving the right to include additional ''climate forcers'' in these definitions in the future. 74 FR 66516–17, 66536–37. We also asserted that because the statute is ''silent on [the] issue,'' CAA section 202(a)(1) grants ''procedural discretion'' to issue standalone findings that trigger a duty to regulate without considering the standards that must be issued in response. 74 FR 66501–02. The Administrator exercised this newfound discretion to make separate findings, without analyzing or promulgating any emission standards, that elevated global concentrations in the upper atmosphere of the six ''well-mixed GHGs'' constitute ''air pollution'' that may reasonably be anticipated to endanger public health and welfare, 74 FR 66516–36, and that GHG emissions from all potential classes of motor vehicles and engines contribute to such elevated global concentrations of GHGs in the upper atmosphere and therefore to air pollution that endangers public health and welfare, 74 FR 66536–45.

With respect to endangerment, the Administrator found that global concentrations of six ''well-mixed'' GHGs from all foreign and domestic sources ''constitute the largest anthropogenic driver of climate change'' and attributed climate change impacts to global GHG concentrations. 74 FR 66517. Next, the Administrator summarized literature reviews finding that climate change ''can increase the risk of morbidity and mortality'' indirectly through increased global temperature, air quality effects, and effects on extreme weather events and can impact welfare indirectly through impacts on sea level rise and coastal areas, food production and agriculture, forestry, water resources, energy, infrastructure, and settlements, and ecosystems and wildlife. 74 FR 66523–35. On that basis, the Administrator found that global concentrations of six ''well-mixed'' GHGs constitute ''air pollution'' that endangers public health and welfare. 74 FR 66516. For purposes of this preamble, we use the phrase ''global climate change concerns'' to refer to the public health and welfare risks the Administrator associated with global climate change in the Endangerment Finding and subsequent actions since 2009.

With respect to causation or contribution, the Administrator used annual emissions data for existing motor vehicles and engines from 2005 to project that all potential classes of new motor vehicles and engines would emit four GHGs—CO_2, methane, N_2O, and HFCs—that collectively amounted to 4.3 percent of annual global GHG emissions and implicitly would continue in future years. 74 FR 66543. The Administrator acknowledged that a greater degree of contribution would usually be required to meet the statute's contribution element ''when addressing a more typical local or regional air pollution problem.'' 74 FR 66539. Nevertheless, asserting discretion to interpret the ambiguous term ''contribute,'' the Administrator found that the ''unique'' nature of global climate change meant that ''contributors must do their part even if their contributions to the global climate change problem, measured in terms of percentage, are smaller than typically encountered when tackling solely regional or local environmental issues.'' 74 FR 66542–43. In other words, the Administrator justified the Endangerment Finding on the theory that although the situation was ''unique'' and the ''contribution'' of domestic new motor vehicles and engines was not in line with the Agency's prior course of regulation under CAA section 202(a)(1), action was needed because all source categories and all other nations must ''do their part'' to avoid ''a tragedy of the commons.'' *Id.* On that basis, the Administrator found that annual emissions from new motor vehicles and engines ''contributed'' to the ''air pollution,'' defined anew for those purposes as the accumulated global concentrations of the six ''well-mixed'' GHGs, that endangered public health and welfare by giving rise to global climate change concerns. 74 FR 66537.

The EPA subsequently relied on the Endangerment Finding to impose increasingly stringent GHG emission standards for new motor vehicles and engines and to attempt, largely without success, to extend the GHG initiative into additional CAA programs. In *Utility Air Regulatory Group* v. *EPA,* 573 U.S. 302 (2014) (*UARG*), the Supreme Court largely rejected our attempt to extend GHG emission standards to stationary sources subject to Title I and Title V requirements as exceeding our authority under the CAA, including because we admitted that applying the statutory scheme as written to GHG emissions from most covered stationary sources would be unworkable and attempted to rewrite the statute by regulation. And in *West Virginia* v. *EPA,* 597 U.S. 697 (2022), the Court vacated our attempt to shift the power grid away from using fossil fuels through GHG standards for existing power plants under CAA section 111(d). The Court held in both cases that the agency actions at issue implicated the major questions doctrine and that Congress must clearly authorize agencies to take actions that decide major questions of policy. Nevertheless, the EPA continued to retain and expand GHG emission standards for new motor vehicles and engines that impose billions of dollars in annual compliance costs on American businesses and consumers and reflect an increasing trend toward forcing a transition to the use of electric vehicles (EVs) rather than gasoline- or diesel-fueled motor vehicles and engines.[2] Meanwhile, global GHG concentrations in the upper atmosphere have continued to rise, driven primarily by increased emissions from foreign sources,[3] all without producing the degree of adverse impacts to public health and welfare in the U.S. anticipated in the 2009 Endangerment Finding.[4]

Upon reconsideration, the EPA now acknowledges that the Endangerment Finding and subsequent regulations exceeded the Agency's statutory authority under CAA section 202(a)(1). These actions rested on a profound misreading of the Supreme Court's decision in *Massachusetts* v. *EPA,* 549 U.S. 497 (2007), which vacated the denial of a petition for rulemaking in

[2] The EPA is not relying on the Regulatory Impact Analysis (RIA) prepared pursuant to Executive Order (E.O.) 12866 in any of the bases for this final action. Except where expressly stated, none of the legal bases for repeal in section V of this preamble reflect cost considerations, which are not relevant for purposes of this final action in determining the best reading of CAA section 202(a)(1). For the limited instances in which cost is relevant as a general consideration, we discuss cost separately from, and do not rely upon, the RIA prepared pursuant to E.O. 12866.

[3] Crippa, M. et al. (2023). GHG emissions of all world countries. *Publications Office of the European Union: https://doi.org/10.2760/953322.*

[4] The EPA is not relying on new findings by the Administrator with respect to global climate change concerns under CAA section 202(a)(1) as a basis for the rescission or repeals and is not finalizing the alternative basis set out in section IV.B of the preamble to the proposed rule. We are rescinding the Endangerment Finding and repealing all associated GHG emission standards for the reasons discussed in this preamble, which make it unnecessary and inappropriate to resolve outstanding scientific questions regarding global climate change concerns in the regulatory context of CAA section 202(a)(1). Nevertheless, the bases for this final action should not be understood as an additional endorsement or ratification of the scientific analysis in the Endangerment Finding. *See* section VI.A of this preamble for further discussion.

which we concluded that CO_2 and three other GHGs fell outside the statutory definition of ''air pollutant'' in CAA section 302(g) and should not be regulated for additional policy reasons. As we later explained in a 2008 advance notice of proposed rulemaking entitled ''Regulating Greenhouse Gas Emissions Under the Clean Air Act,'' the statute was ''enacted to control regional pollutants that cause direct health effects,'' and regulating GHG emissions under its provisions ''could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land.'' 73 FR 44354, 44355 (July 30, 2008) (''2008 ANPRM''). Intervening legal developments reinforce our conclusion that Congress did not decide the Nation's policy response to global climate change concerns in CAA section 202(a)(1), let alone clearly authorize the EPA to make that policy choice by prescribing emission standards that force a transition to EVs. Nor does climate impact modeling suggest that the EPA's initiative has been anything but futile, which further supports the conclusion that CAA section 202(a)(1) was not designed with such a problem in mind. The inability of the EPA's GHG emission standards to materially impact the identified risks both corroborates the interpretation of CAA section 202(a)(1) adopted in this final action and serves as an independent basis to revoke those standards, separate and apart from the question of statutory interpretation and of the nature of the EPA's authority under this provision.

The remainder of this section describes the need for regulatory action and the scope of this final action, the repeal of new motor vehicle and engine GHG emission standards for MYs 2012 to 2032 and beyond, and minor conforming adjustments to unrelated emission standards for new motor vehicles and engines that we are not altering as part of this rulemaking. We acknowledge that the EPA's decision to regulate new motor vehicle and engine GHG emissions has caused significant expenditure of resources by, and an imposition of burdens on, Federal, State, local, and private-sector entities, and consider those interests to the extent possible consistent with limits on our statutory authority. These interests emphasize the need for urgent action to avoid further expenditures in reliance on an unlawful regulatory framework that does not further public health or welfare in any material respect relevant to the global climate change concerns identified and relied upon in the 2009 Endangerment Finding.

Section III of this preamble sets out relevant background, including the EPA's prior positions on regulating GHGs, the Supreme Court's decision in *Massachusetts,* the EPA's response in the 2008 ANPRM and events leading up to the Endangerment Finding, the approach taken in the Endangerment Finding, and the regulations issued by the EPA since 2009 as a result of the Endangerment Finding. We also summarize the premises, assumptions, and conclusions in the Endangerment Finding and the developments since 2009 that led the Administrator to develop concerns sufficient to initiate reconsideration of the ongoing validity and reliability of the Endangerment Finding in early 2025.

Section IV of this preamble describes our legal authority to rescind the Endangerment Finding and repeal the resulting GHG emission standards issued under CAA section 202(a)(1). Because this final action does not impact fuel economy standards or emission standards for criteria pollutants and hazardous air pollutants regulated under the CAA, we explain the relationship between these regulations to set the outer bounds of the amendments at issue in this rulemaking. We summarize comments received on our authority for this final action, which largely acknowledged that the EPA may reconsider the prior actions covered by this rulemaking provided that we offer an adequate basis for the rescission and repeals, along with our responses to these comments.

Section V.A of this preamble finalizes the rescission and repeals of these prior actions on the basis that the Endangerment Finding exceeded our statutory authority under CAA section 202(a)(1). First, we conclude that the term ''air pollution'' as used in CAA section 202(a)(1) is best read in context as pollution that threatens health or welfare through local or regional exposure, consistent with the ordinary meaning of the term at the time of enactment, the statute's structure and history, and the EPA's longstanding practice before 2009. Second, we conclude that CAA section 202(a)(1) does not grant the Administrator ''procedural discretion'' to issue standalone findings that trigger a duty to regulate without analyzing and promulgating the required emission standards, or, conversely, to prescribe standards without making the requisite findings for the air pollutant emissions and class or classes of new motor vehicles or engines at issue. Third, we conclude that CAA section 202(a)(1) does not authorize the Administrator to sever the finding of endangerment from the finding of causation or contribution such that there is no nexus between the emissions at issue and the identified dangers to public health or welfare. Rather, CAA section 202(a)(1) requires the Administrator to find that the relevant air pollutant emissions from the class or classes of new motor vehicles or engines at issue cause, or contribute to, the same air pollution that the Administrator finds endangers public health or welfare, without relying on international emissions not covered by the statute. As the Supreme Court made clear in *Loper Bright,* we can no longer rely on statutory silence or ambiguity to expand our regulatory power. We also explain that the EPA reached contrary conclusions in the Endangerment Finding by redefining key statutory terms and misconstruing the Supreme Court's decision in *Massachusetts,* which, even on its own terms, did not purport to require the Agency to launch a GHG regulatory program under CAA section 202(a)(1). We briefly summarize the public comments received for and against this interpretation, including with respect to the meaning of ''air pollution'' in context and the scope of *Massachusetts,* as well as our general responses to these comments.

Section V.B of this preamble finalizes the rescission and repeals on the additional basis that the Nation's potential response to global climate change concerns is an issue that has significant economic and policy impacts, including to Americans' basic way of life, that Congress did not clearly authorize the EPA to decide by invoking authority to prescribe emission standards under CAA section 202(a)(1). We conclude, consistent with *West Virginia, UARG,* and other relevant precedents, that the Nation's policy response to global climate change concerns is a question for Congress to decide in the first instance. Because nothing in the statute clearly authorizes the Administrator to assert the power to resolve this major question by prescribing emission standards, let alone by mandating a shift toward EVs, we conclude that CAA section 202(a)(1) does not authorize the Endangerment Finding or subsequent regulations. We briefly summarize public comments received for and against this invocation of the major questions doctrine, including the assertion by some commenters that *Massachusetts* shields CAA section 202(a)(1) from this analysis, and our general responses to these comments.

Section V.C of this preamble sets out the robust public response to our request for comments on the efficacy of new motor vehicle and engine GHG emission standards in addressing the global climate change concerns animating the Endangerment Finding and subsequent regulations. We summarize the climate impact modeling submitted by commenters and the updated modeling we performed to evaluate the competing data and conclusions received. As explained below, we conclude that even the complete elimination of all GHG emissions from all new and existing LD, MD, and HD vehicles in the U.S. would not alter predicted trends in global mean surface temperature (GMST) [5] or global mean sea level rise (GSLR) [6] beyond *de minimis* levels that are below the accepted variability in GMST and GSLR measurement. Assuming for purposes of this final action the validity and the uncertainties inherent in the relevant models, the EPA estimates that the elimination of all U.S. vehicle and engine GHG emissions would result in an approximately 0.013 degree Celsius (°C) difference in GMST increase by 2050 compared to the baseline and an approximately 0.037 °C difference by 2100 compared to the baseline. Using similar methods, we estimate that this scenario would result in an approximately 0.09-centimeter (cm) difference in GSLR by 2050 compared to the baseline and an approximately 1.40 cm difference by 2100 compared to the baseline. For context, variability in GMST measurement from 2016 to 2025 was 0.14 °C, which is almost four times greater than the modeled GMST impact by 2100 of eliminating all U.S. vehicle and engine GHG emissions.[7]

Importantly, this scenario is a dramatic overestimation of the potential impacts of GHG emission standards, which apply only to new vehicles and engines and do not eliminate emissions from existing vehicles. Taking this reality into account, the anticipated impact of GHG emission standards under CAA section 202(a)(1) is a further fraction of the modeled impacts of eliminating all U.S. vehicle and engine GHG emissions. Under an illustrative scenario in which the modeled impacts are discounted by 50 percent, which generally reflects the emission reductions requirements of the EPA's most recent 2024 LD and MD Multi-Pollutant Emission Standards Rule and 2024 HD GHG Emission Standards Rule (together, 2024 GHG Emission Standards Rules) that further restricted GHG emissions from MY 2027 levels for MY 2032 and beyond, we estimate an approximately 0.007 °C difference in GMST increase by 2050 and 0.019 °C by 2100 and an approximately 0.005 cm difference in GSLR by 2050 and 0.7 cm by 2100, all of which amount to one percent or less of the total projected change from the baseline. We conclude that these impacts are *de minimis* and that the futility of GHG emission standards under CAA section 202(a)(1) further supports the understanding that Congress did not design that provision to authorize or require the Administrator to prescribe standards in response to global climate change concerns. In addition, we conclude that the futility of the GHG emission standards renders maintaining such regulations unreasonable, separate and apart from the validity of the Endangerment Finding, because the enormous costs imposed do not materially further public health or welfare. Under any legal standard, it is unreasonable for the EPA to impose trillions of dollars in costs on manufacturers and American consumers in exchange for results that do not materially further congressional objectives—at least absent an extraordinarily clear indication in the statutory text. We briefly summarize public comments received on these aspects of the proposal and set out our general responses, including the assertion by some commenters that *Massachusetts* requires EPA to ignore the practical effect of its regulations when making findings under CAA section 202(a)(1) and when promulgating the regulations required by such findings.

Section VI of this preamble describes the additional bases in the proposal that we are not finalizing in this action, including the alternative basis in section IV.B of the preamble to the proposed rule that the Administrator exercise discretion under CAA section 202(a)(1) to rescind the Endangerment Finding and repeal associated regulations by making a superseding finding. We received comments in support of this alternative basis, including from commenters asserting that the EPA compiled and analyzed the scientific record unreasonably in 2009 by severing the analysis of endangerment and contribution and issuing findings separately from emission standards and from commenters asserting that the scientific record did not then, or does not now, provide the certainty necessary to make such findings. We also received comments in opposition to this alternative basis, including from commenters asserting that the scientific record supporting the findings is ''overwhelming'' and has been strengthened in the intervening years. Although the Administrator continues to harbor concerns regarding many of the scientific inputs and analyses underlying the Endangerment Finding, we are not finalizing this alternative given our conclusion that the EPA lacks statutory authority to regulate in response to global climate change concerns under CAA section 202(a)(1). The legal interpretation finalized in this action means that we cannot resolve remaining scientific controversies in this regulatory context and renders it unnecessary and inappropriate to invoke the Administrator's authority to exercise judgment on these questions under that provision.[8] Furthermore, we explain that we are not finalizing several of the additional bases for repealing GHG emission standards set out in section V of the preamble to the proposed rule, which are similarly unnecessary given the predicate conclusion on the scope of our authority under CAA section 202(a)(1). We briefly summarize the input received on these alternatives in the interests of transparency and public engagement but are not responding to comments on these specific issues, which are outside the scope of the bases for this final action.

Section VIII of this preamble details the scope of the repeals, including its relationship to distinct regulatory programs and Federal preemption, the revisions to 40 CFR parts 85, 86, 600, 1036, 1037, and 1039 required to effectuate repeal of all new motor vehicle and engine GHG emission standards, and conforming adjustments to regulatory provisions that we did not reopen or propose to substantively revise. Specifically, we are not changing

[5] As GMST is a widely used metric for tracking temperature changes related to global climate change concerns, we use the term interchangeably with ''global temperature'' within this preamble and supporting documentation.

[6] As GSLR is a widely used metric for tracking sea level rise related to global climate change concerns, we use the term interchangeably with ''global sea level,'' ''sea level,'' and ''sea level rise'' within this preamble and supporting documentation.

[7] NOAA National Centers for Environmental Information, *Climate at a Glance: Global Time Series,* NOAAGlobalTemp, (Jan. 2026) *available at https://ncei.noaa.gov/access/monitoring/climate-at-a-glance/global/time-series/globe/land_ocean/tavg/ytd/12/1950-2025.*

[8] For similar reasons, and in light of concerns raised by some commenters about the draft report authored by the U.S. Department of Energy's Climate Working Group (CWG), the EPA is not relying on the May 27, 2025 CWG draft report entitled ''Impact of Carbon Dioxide Emissions on the U.S. Climate'' or the July 23, 2025 CWG report entitled ''A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate'' for any aspect of this final action.

elements of the regulations that are necessary for programs unrelated to the GHG emission standards, including emission standards for criteria pollutants, emission standards for hazardous air pollutants, or regulatory provisions related to the EPA's statutory role in vehicle fuel-economy standards administered by the National Highway Traffic Safety Administration (NHTSA).

As explained in detail below, the conclusions presented in sections V.A, V.B, and V.C of this preamble provide independent grounds for rescinding the 2009 Endangerment Finding and repealing the GHG emission standards. Moreover, the conclusions in section V.A of this preamble—that ''air pollution'' as used in CAA section 202(a)(1) is best read as pollution that threatens public health or welfare through local or regional exposure; that the Administrator cannot trigger the duty to regulate without analyzing and promulgating standards; and that the finding of endangerment cannot be severed from the finding of causation of contribution—are all also independent conclusions that stand on their own. Each basis for this final action presented in section V of this preamble is severable, and each basis alone provides sufficient justification to rescind the Endangerment Finding and repeal the GHG emission standards for new motor vehicles and engines. If any basis is determined in the course of judicial review to be invalid, that partial invalidation will not affect the other bases, and the EPA intends the remainder of this final action stand on the remaining basis or bases.

This preamble includes an overview of the EPA's rationale, including several technical documents developed in support of this final action, as well as summaries of comments received during the public hearing on the proposal, additional consultation and listening sessions, and via the rulemaking docket. For a full summary of comments received and our complete responses thereto, please see the ''Response to Comments'' document available in the docket for this rulemaking.[9] The final Regulatory Impact Analysis (RIA) for this rulemaking, on which we did not rely for any aspect of this final action, is also available in the docket for this rulemaking.[10]

B. Need for Regulatory Action

Immediately upon taking office in 2025, President Trump established as the policy of the United States new Executive Branch priorities for energy, transportation, and consumer choice and committed agencies to ensuring regulations remain within constitutional and statutory bounds. On January 20, 2025, the President issued E.O. 14154, entitled ''Unleashing American Energy,'' to address the burdens placed by unnecessary regulations on energy affordability, job creation, and national security.[11] The President directed the Administrator to submit recommendations to the Director of the Office of Management and Budget (OMB) on the legality and continuing applicability of the 2009 Endangerment Finding.[12] On February 19, 2025, the President issued E.O. 14219, entitled ''Ensuring Lawful Governance and Implementing the President's 'Department of Government Efficiency' Deregulatory Initiative,'' which further instructed agencies, including the EPA, to review existing regulations for consistency with the Constitution and the best reading of the authorizing statute.[13]

Upon confirmation by the Senate, Administrator Lee Zeldin committed the EPA to prioritizing its core statutory missions and ensuring that all regulatory actions are clearly grounded in statutory authority and the best reading of the law. As part of these efforts, and consistent with E.O. 14154, the Administrator initiated a review of the legality and applicability of the Endangerment Finding. On February 19, 2025, the Administrator submitted a memorandum to the OMB Director recommending that the EPA reconsider the Endangerment Finding to address legal and scientific developments that appeared to undermine the bases for that action and subsequent regulations.[14] The Administrator noted that recent Supreme Court decisions, including *Loper Bright, West Virginia, UARG,* and *Michigan* v. *EPA,* 576 U.S. 743 (2015), provided further instruction as to how we should interpret and apply the statutes Congress entrusted us to administer.[15] The Administrator further noted that the Endangerment Finding recognized significant uncertainties in its conclusions and assumptions that should be evaluated in light of more recent empirical data and scientific evidence.[16] Accordingly, the Administrator announced on March 12, 2025, that the EPA would reconsider the Endangerment Finding and subsequent actions to determine whether our GHG regulations have an adequate statutory basis and to seek public input on developments since 2009.[17]

On July 29, 2025, the Administrator signed a proposed rule setting out the results of the EPA's reconsideration to date and proposing to rescind the Endangerment Finding and repeal all GHG emission standards for LD, MD, and HD new motor vehicles and engines promulgated since 2009 under CAA section 202(a)(1). ''Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards,'' 90 FR 36288 (Aug. 1, 2025). We proposed that the term ''air pollution'' in CAA section 202(a)(1) is best read in context as referring to pollution that threatens public welfare through local or regional exposure, consistent with historical practice and principles of proximate cause, such that the EPA's regulatory authority does not extend to global climate change concerns. Relatedly, we proposed that the major questions doctrine applies to the question whether the EPA may decide the Nation's policy response to global climate change concerns and that Congress did not clearly delegate that decision when it authorized the Agency to prescribe emission standards for new motor vehicles and engines. We also proposed that the Endangerment Finding departed from the statute in additional ways by asserting ''procedural discretion'' to issue findings separately from the required standards and severing the question whether GHG emissions from motor vehicles and engines contribute to increases in global GHG concentrations from the question whether cumulative global GHG concentrations endanger public health and welfare.

In the alternative, we proposed that the Administrator exercise discretion under CAA section 202(a)(1) to issue a new finding that the conclusions reached in the Endangerment Finding

[9] ''Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act: Response to Comments.'' EPA 420–R–26–003. February 2026.

[10] ''Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act: Regulatory Impact Analysis.'' EPA–420–R–26–002. February 2026.

[11] Executive Order 14154, 90 FR 8353 (Jan. 29, 2025).

[12] *Id.* section 6(f).

[13] Executive Order 14219, 90 FR 10583 (Feb. 25, 2025).

[14] Memorandum from Lee Zeldin, Administrator, U.S. Environmental Protection Agency, to Russell Vought, Director, Office of Management and Budget (Feb. 19, 2025) (Feb. 19, 2025 Memo), available in the docket for this rulemaking.

[15] *Id.* at 1.

[16] *Id.* at 8.

[17] ''Trump EPA Kicks Off Formal Reconsideration of Endangerment Finding with Agency Partners'' (Mar. 12, 2025), *available at https://www.epa.gov/newsreleases/trump-epa-kicks-formal-reconsideration-endangerment-finding-agency-partners.*

are not supported by the scientific record, including because the EPA unreasonably compiled and analyzed the record in 2009 and because intervening developments have cast significant doubt on the Endangerment Finding's core premises and assumptions. For example, we proposed that data from 2009–2024 demonstrate that many of the predictive analyses relied upon in the Endangerment Finding were overly pessimistic and underestimated the ability of natural processes to compensate for the identified trends.

Finally, we proposed three alternative bases to repeal the GHG emission standards separate and apart from the proposed rescission of the Endangerment Finding. First, we proposed that there is no ''requisite technology,'' as required for emission standards to go into effect under CAA section 202(a)(2), that is capable of having a measurable impact on the global climate change concerns that were the basis of the Endangerment Finding. Second, we proposed that the Agency's GHG regulatory program is futile because emissions from covered vehicles have a *de minimis* impact on global climate change concerns and that this consideration bears on the proper interpretation and implementation of CAA section 202(a)(1). Third, we proposed that the GHG emission standards harm public health and welfare on balance by increasing prices and decreasing consumer choice, thereby slowing the replacement of older vehicles that are less safe and emit a greater volume and variety of air pollutants. We sought comment on these and additional issues throughout the proposal, including the EPA's authority to reconsider and rescind the Endangerment Finding, relevant data and information bearing on the efficacy of the GHG emission standards, and any additional reasons we should consider for repealing or retaining the Endangerment Finding and associated regulations.

C. Summary of Comments and Updates From the Proposal in This Final Action

This final action is informed by the significant public input received from a diverse array of stakeholders since publication of the proposal in the **Federal Register** on August 1, 2025. The EPA extended the original comment deadline of September 15, 2025, to September 22, 2025.[18] To facilitate participation, we held four days of virtual public hearings on August 19 through August 22, 2025, during which we heard oral testimony from more than 600 speakers. Consistent with the EPA's Tribal Consultation Policy, we also invited all federally recognized Tribes to participate in consultation, which resulted in four consultation sessions in addition to oral testimony and written submissions from several federally recognized Tribes and tribal organizations. For more information on public participation, see the public hearing, tribal consultation, and meeting summaries available in the docket for this rulemaking.

The EPA received approximately 572,000 written comments from more than 31,000 unique entities and 169 mass letter writing campaigns during the public comment period, including written submissions received in connection with the public hearing and Tribal consultation sessions. The EPA considered all input received during the public comment period in evaluating this final action, and all written comments, as well as a transcript of the public hearing, are available in the docket for this rulemaking.[19] Given the significant volume of comments received, this preamble includes summaries of relevant comments in the appropriate subsection, along with summaries of the EPA's responses. For more detailed descriptions of comments received and our responses, see the Response to Comments document available in the docket for this rulemaking.[20]

1. Issues Raised Regarding the Rulemaking Process

The EPA received comments on rulemaking process, including with respect to the length of the comment period and the content of the proposed rule. The EPA notes that most commenters did not raise concerns with these aspects of the rulemaking process and believes that the large volume of comments received and extensive participation in the public hearing demonstrate that interested stakeholders were able to submit views, data, and information for consideration. Below, we summarize comments received on the rulemaking process along with our responses.

Comment: Many commenters appreciated the chance to weigh in on the underlying science relevant to the Endangerment Finding and regulations under CAA section 202(a)(1) for the first time since 2009 and asserted that the rulemaking process allowed ample public participation and was consistent with statutory requirements.

Response: The EPA appreciates and agrees with these comments. As discussed in the proposed rule, we believe that public participation on regulatory issues of this magnitude is essential to good government. Because we are not finalizing many of the alternative bases for the proposed rescission and repeals, this final action does not resolve or substantively respond in full to issues raised in public comments that are outside the scope of the bases finalized in this action. We look forward to further engagement on these additional topics in the future. For further discussion of the alternative bases we are not finalizing, please see section VI of this preamble and the Response to Comments document.

Comment: Other commenters argued that we should have provided a longer comment period, including a comment period of up to six months, given the scope of this rulemaking and significant public interest in the underlying issues. Some of these commenters suggested that the statute requires providing a ''reasonable'' period for public comment. Others pointed to language in E.O. 12866 providing that ''a meaningful opportunity to comment on any proposed regulation . . . should include a comment period of not less than 60 days.''

Response: The EPA disagrees with these comments. The significant volume of comments received during the comment period, as well as the number of participants in the four-day public hearing, demonstrate that the interested public had a reasonable opportunity to participate in this rulemaking by engaging with the EPA. The public comment period fully satisfied the CAA's detailed requirements for public participation. For example, CAA section 307(d)(5) requires that the Administrator allow ''thirty days after completion of the [public hearing] to provide an opportunity for submission of rebuttal and supplementary information,'' [21] and CAA section 307(h) states the intent of Congress that the Administrator ''ensure a reasonable period for public participation of at least 30 days.'' [22] With respect to E.O. 12866, we note that the language cited generally tracks the less detailed rulemaking provisions of the

[18] 90 FR 39345 (Aug. 15, 2025).

[19] *See* 42 U.S.C. 7607(d)(1)(C), (d)(4)(B)(i), (d)(5)–(6). Note that although all public comments are posted in the docket, the EPA has not considered or responded separately to comments received after the close of the comment period on September 22, 2025.

[20] ''Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act: Response to Comments.'' EPA 420–R–26–003. February 2026.

[21] *See* 42 U.S.C. 7607(d)(5).

[22] *See* 42 U.S.C. 7607(h).

Administrative Procedure Act (APA) rather than the specific processes Congress established as applicable to this rulemaking in CAA section 307(d), and is intended as non-binding, general guidance for agency rulemakings that yields to more specific statutes and circumstances.[23]

Comment: Some commenters asserted that the proposed rule was procedurally flawed under CAA section 307(d)(3) for various reasons, including the assertion that we should have directly referenced, summarized, and included in the docket pertinent findings by the National Academy of Sciences (NAS). These commenters asserted that we should repropose with additional discussion of NAS materials, which, they assert, are central to the rulemaking.

Response: The EPA disagrees that the proposal was procedurally flawed in any manner that impacts this final action. The statement of basis and purpose included in the proposal satisfied the requirements of CAA section 307(d)(3)(A)–(C) by including not only the factual data, methodology, and major legal interpretations and policy considerations relevant to the proposal, but also a detailed discussion of relevant factual and legal developments since 2009 impacting the EPA's reconsideration.[24] With respect to the NAS, the statute references only ''pertinent findings, recommendations, and comments'' by the NAS and discussion of differences from the proposal only when it ''differs in any important respect.'' [25] In section IV.B of the preamble to the proposed rule, we explained that the Administrator had considered the most recently available scientific information, including assessments by the U.S. Global Change Research Program (USGCRP) and United Nations Intergovernmental Panel on Climate Change (IPCC). With respect to discussion of global climate change concerns, the NAS findings cited by these commenters or in previous EPA rulemakings rely upon, and are duplicative of, these assessments.[26] In other respects, the NAS findings deal with matters that were not pertinent to the substance of the proposal, including particular emissions-reduction technologies,[27] matters pertaining to criteria pollutant standards,[28] and how to utilize Social Cost of Carbon (SCC) methodologies in an RIA or similar analysis.[29]

In any event, commenters did not identify NAS materials pertinent to the bases on which we are relying in this final action. Whether CAA section 202(a)(1) authorizes the EPA to regulate in response to global climate change concerns by prescribing emission standards is a matter of statutory interpretation, not scientific analysis within the NAS's purview. As explained in section VI of this preamble, we are not finalizing the alternative proposal to base the rescission and repeals on a new finding by the Administrator under CAA section 202(a)(1). We note that the NAS developed and submitted during the public comment period for this rulemaking a new report responding to the concerns underlying the alternative proposal.[30] This submission and additional NAS materials regarding the science of climate change are not pertinent to the bases for this final action, which are legal in nature and rest on statutory interpretation, application of judicial precedent, and legal conclusions drawn from modeling generally accepted for purposes of predicting impacts within the causal framework endorsed by the Endangerment Finding. As discussed in section V.C of this preamble, the NAS has expressed approval for and encouraged the development of the underlying models the EPA is using in this action to evaluate comments received on futility and reach conclusions about the impact of futility on the legality of the Endangerment Finding and associated GHG emission standards.

Comment: Additionally, some commenters asserted that the proposed rule should have been made available to the Science Advisory Board (SAB) before publication. These commenters asserted that SAB input is centrally relevant to the rulemaking but generally acknowledged that the EPA did not submit the Endangerment Finding or subsequent reconsideration denials in 2010 and 2022 to the SAB for prior review.

Response: By statute, the Administrator is to make available to the SAB ''any proposed criteria document, standard, limitation, or regulation'' when such material ''is provided to any other Federal agency for formal review and comment.'' [31] The proposal for this rulemaking, which sought comment on rescinding the Endangerment Finding and related GHG emission standards, was not a ''criteria document, standard, limitation, or regulation'' that would impose obligations on the EPA or any regulated entities if finalized. We note that the EPA used the same interpretation to propose and finalize the Endangerment Finding, as well as issue the 2010 and 2022 denials of petitions for reconsideration, without prior SAB review. Whereas those actions obligated and maintained the obligation for the EPA to issue GHG emission standards that are subject to SAB review, the actions contemplated in the proposal would relieve the Agency of the obligation to maintain and issue regulations with SAB input as well as ongoing obligations for regulated parties. Nor did we submit the proposal to ''any other Federal agency for formal review and comment.'' The EPA has previously taken the position that ''formal'' consultation is not required for CAA section 202(a)(1) actions and that informal interagency review as part of the non-statutory E.O. 12866 process is

[23] *See* 58 FR 51735, 51740 (Oct. 4, 1993) (providing that ''each agency *should* afford the public a meaningful opportunity to comment on any proposed regulation, which *in most cases should* include a comment period of not less than 60 days'') (emphases added).

[24] 42 U.S.C. 7607(d)(3)(A)–(C).

[25] 42 U.S.C. 7607(d)(3).

[26] *See, e.g.,* 88 FR 29184, 29208, 29394 (May 5, 2023) (proposed HD GHG emission standards) (briefly citing NAS findings together with USGCRP and IPCC reports). To the extent commenters cited or intended to reference the September 2025 report developed, published, and submitted by the NAS during the comment period for the purposes of informing this rulemaking, we note that the Administrator could not have considered the September 2025 report when signing the proposal in July 2025.

[27] *See, e.g.,* 88 FR 29284–86 (discussing NAS findings on challenges and advantages associated with particular technologies for reducing vehicle emissions). The EPA notes that none of the bases finalized in this action, including the futility basis discussed in section V of this preamble, turn on the relative advantages of particular technologies in reducing GHG emissions from vehicles and engines. Rather, we are finalizing that GHG emission standards under CAA section 202(a)(1) do not have more than a *de minimis* impact on the health and welfare dangers identified in the Endangerment Finding because even the complete elimination of GHG emissions from new and existing LD, MD, and HD vehicles would not materially impact GMST or GSLR as a proxy for adverse impacts to public health and welfare.

[28] *See, e.g.,* 88 FR 29224 (discussing NAS materials related to particulate matter, ozone, NO_X, sulfur oxides (SO_X), and hazardous air pollutants). As noted at proposal, the EPA is not addressing criteria emission standards in this rulemaking, and incidental co-benefits of GHG emission standards are not pertinent to the legal bases on which we are relying in this final action.

[29] *See, e.g.,* 88 FR 29370–72 (discussing methodologies for estimating and utilizing SCC). As noted at proposal, the EPA has consistently viewed criticisms of the SCC methodology as out of scope because it played no role in the Endangerment Finding and is not relevant to the statutory standard for regulation under CAA section 202(a). Moreover, the U.S. Government is no longer using the SCC methodology for purposes of estimating costs and benefits.

[30] *See* Comment ID EPA–HQ–OAR–2025–0194–0756, NAS 2025, ''Effects of Human-Caused Greenhouse Gas Emissions on U.S. Climate, Health, and Welfare.'' Washington, DC: The National Academies Press.

[31] 42 U.S.C. 4365(c)(1).

not encompassed within the statutory term ''formal review and comment.'' [32]

Given the nature of the proposal and the legal bases on which the EPA relies in this final action, the possibility of SAB review is not material to the outcome of this rulemaking. Because we conclude that CAA section 202(a)(1) does not authorize the EPA to regulate in response to global climate change concerns, this final action does not turn on scientific findings made with respect to the validity, certainty, or extent of global climate change. We note that the D.C. Circuit has previously determined that failing to secure SAB review of the Endangerment Finding was not ''of such central relevance'' that there is a ''substantial likelihood'' the action ''would have been significantly changed'' absent such failure.[33] Commenters provided no reason to conclude that SAB review of this rulemaking to rescind the Endangerment Finding would be of central relevance for the first time, particularly given the ample recommendations already provided on previously promulgated GHG emission standards and the legal nature of the rationales being finalized.

Comment: Finally, commenters offered competing positions on the EPA's proposal to rescind the 2022 and 2010 denials of petitions for reconsideration entitled ''Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Action on Petitions,'' 87 FR 25412 (Apr. 29, 2022), and ''EPA's Denial of the Petitions to Reconsider the Endangerment and Cause or Contribute Finding for Greenhouse Gases Under Section 202(a) of the Clean Air Act,'' 75 FR 49556 (Aug. 13, 2010).[34] Supportive commenters argued that the 2022 and 2010 petitions raised a variety of valid procedural, legal, scientific, and transparency-related issues with the Endangerment Finding. Conversely, adverse commenters asserted that the EPA erred in proposing to rescind the petition denials at the same time as proposing to rescind the Endangerment Finding, which was the subject of the petitions for reconsideration. These commenters argued that we lack authority to rescind a petition denial and provided insufficient rationale in the proposal to support such a rescission.

Response: The EPA appreciates the comments received on this issue and is taking the opportunity to clarify that the 2022 and 2010 reconsideration petition denials no longer represent the Agency's views and should not be relied upon for any statements inconsistent with this final action. As explained at proposal, the petition denials already had no prospective legal effect and were not binding on the EPA or interested parties. We proposed to rescind the petition denials along with the Endangerment Finding and associated GHG emission standards to promote consistency and avoid confusion, as the petition denials relied in large part on the prior positions in those actions that we proposed to abandon. In this final action, we are repudiating the EPA's positions since 2009 to the extent and for the reasons set out in section V of this preamble. We are also finalizing rescission of the petition denials because those decisions affirmed the same legal positions and, moreover, decided scientific questions that are unnecessary and inappropriate for the Agency to address under CAA section 202(a)(1). For discussion of the EPA's authority to reconsider prior actions unless provided otherwise by the governing statute, see section IV of this preamble.

2. Updates From the Proposal in This Final Action

The EPA received supportive and adverse comments on virtually all substantive aspects of the proposal from a wide variety of stakeholders, including vehicle and engine manufacturers and suppliers, nearly all 50 States and the District of Columbia, elected representatives at the local, State, and Federal levels (including many members of the U.S House of Representatives and the U.S. Senate), consumer and labor groups, EV advocates, manufacturers, and suppliers, educational institutions, environmental groups, and individual citizens. With respect to the primary basis for the proposed repeal, we received detailed comments offering legal arguments for and against our proposed interpretation of the statute and the applicability and impact of the major questions doctrine. With respect to the alternative bases for the proposed repeal, we received extensive data, models, and arguments on virtually every aspect of climate science and climate impacts discussed at proposal. Submissions related to the alternative climate science basis for rescission and repeal in section IV.B of the preamble to the proposed rule constituted the largest share of public comments received. Commenters also submitted substantial information in response to our request for comment on the alternative rationales in section V of the preamble to the proposed rule, including data and modeling addressing the historical and potential impacts of GHG emission standards under CAA section 202(a)(1) on the global climate change concerns animating the Endangerment Finding, such as trends in GMST and GSLR.

The EPA is finalizing the primary basis for the rescission and repeals as proposed for the reasons stated in section V of this preamble. We conclude that the best reading of the statute does not authorize the EPA to prescribe GHG emission standards based on global climate change concerns and, moreover, that EPA erred in issuing the Endangerment Finding as a standalone action that severed the consideration of endangerment from the consideration of contribution and failed to engage with the standards that must issue when making such a finding. We further conclude, as proposed, that the major questions doctrine applies and bars the EPA from asserting the authority to decide the Nation's policy response to global climate change concerns, including by attempting to force a shift to EVs, based on language authorizing the Agency to prescribe emission standards. Finally, we conclude that the inability of GHG emission standards under CAA section 202(a)(1) to measurably impact the global climate change concerns identified in the Endangerment Finding further supports our interpretation of the statute and provides an additional reason to repeal the GHG emission standards.

In light of these conclusions, and as discussed further in section VI of this preamble, the EPA is not finalizing the alternative proposed bases for rescission and repeal. The robust public response to the alternative climate science basis revealed ongoing disagreement among commenters with respect to aspects of the scientific analysis underpinning the Endangerment Finding, including the certainty of the causal chain, the extent of endangerment attributable to U.S. new motor vehicle and engine

[32] *See* Resp. Br. 75–79, *Delta Constr. Co.* v. *EPA, No. 11–1428* (filed Nov. 24, 2014); *Coal. for Responsible Regulation, Inc.* v. *EPA,* 684 F.3d 102, 124 (D.C. Cir. 2012), reversed in part in *UARG,* 573 U.S. 302 (noting ''it is not clear that EPA provided the Endangerment Finding'' to any other agency and that petitioners failed to respond to the argument).

[33] *Coal. for Responsible Regulation,* 684 F.3d at 124 (quoting 42 U.S.C. 7607(d)(8)); *see also Am. Petrol. Inst.* v. *Costle,* 665 F.2d 1176, 1188–89 (D.C. Cir. 1981) (similar with respect to ozone standard not submitted for SAB review).

[34] As noted at proposal, the 2022 petition denials included a notice of decision in the **Federal Register**, brief letters communicating the denials to the petitioners, and a decision document entitled ''EPA's Denial of Petitions Relating to the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act'' (Apr. 21, 2022) (''2022 Denials''), available online at *https://www.epa.gov/system/files/documents/2022-04/decision_document.pdf.*

emissions, the countervailing domestic benefits of global climate change, and the capacity of natural and human systems to adapt and mitigate potential adverse impacts and the relevance of such topics to the analysis. However, we conclude that the EPA lacks statutory authority to regulate GHG emissions from new motor vehicles and engines in the first instance under CAA section 202(a)(1). Accordingly, although the Administrator continues to harbor concerns regarding the scientific determinations underlying the 2009 Endangerment Finding, we cannot resolve these questions under our regulatory authority in CAA section 202(a)(1), and comments received on these subjects are outside the scope of this final action. Similarly, the EPA's lack of authority to regulate GHG emissions from new motor vehicles and engines places comments on the alternative bases for repealing the standards—including the ''requisite technology'' requirement in CAA section 202(a)(2) and additional factors relative to standards-setting—outside the scope of this final action.

This final action removes all existing regulations that require new motor vehicle and engine manufacturers to measure, report, or comply with GHG emission standards. Specifically, the EPA is removing regulations in 40 CFR parts 85, 86, 600, 1036, and 1037 pertaining to the control of GHG emissions from LD, MD, and HD new motor vehicles and engines, including emission standards; test procedures; averaging, banking, and trading (ABT) requirements; reporting requirements; and fleet-average emission requirements.[35] As a result of these changes, motor vehicle and engine manufacturers no longer have future or current obligations for the measurement, control, or reporting of GHG emissions for any vehicle or engine, including for previously manufactured MYs. However, we did not reopen or modify any regulations necessary for criteria pollutant and air toxic measurement and standards, Corporate Average Fuel Economy (CAFE) testing, and associated fuel economy labeling requirements.

The EPA received comments from stakeholders related to the proposed revisions to the engine and vehicle GHG regulations. In general, we are finalizing the vast majority of the proposed regulatory changes for LD and MD engines and vehicles. For HD engines and vehicles, we are removing the GHG emission standards and related certification and compliance procedures, as proposed. However, in a change from the proposal, we are retaining the test procedures and compliance regulatory elements in the EPA regulations referenced by NHTSA in their regulatory program such that NHTSA can continue to implement its HD fuel efficiency program. Relevant comments and our responses are summarized in section VII of this preamble and the Response to Comments document accompanying this final action.

The EPA also received comments on our analyses included in the Draft Regulatory Impact Analysis (DRIA). A summary of these comments and the EPA's responses is included in the Response to Comments document accompanying this final action. The EPA made a number of updates to the analyses included in the final RIA, which is available in the docket for this rulemaking.

III. Background

A. The EPA's Historical Approach to CAA Section 202(a)(1)

Congress originally enacted the language that became CAA section 202(a)(1) as part of the Motor Vehicle Pollution Control Act of 1965, which required the Secretary of Health, Education, and Welfare to ''prescribe . . . standards, applicable to the emission of any kind of substance, from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause or contribute to, or are likely to cause or contribute to, air pollution which endangers the health or welfare of any persons.'' [36] Congress retained this language, while adding additional requirements for the content of emission standards, in the Air Quality Act of 1967,[37] and, later, incorporated it into the Clean Air Act of 1970, which transferred the Secretary's regulatory authority to the newly created EPA and directed the Agency to issue standards that achieved significant reductions in certain criteria pollutants in the near-term.[38] Separately, the 1970 CAA addressed emissions from existing vehicles and engines, stationary sources, and aircraft engines.[39] In the following decades, Congress repeatedly amended CAA section 202 to specify particular regulatory goals and to require the EPA to regulate certain pollutants. Some of these provisions instructed the EPA to use CAA section 202(a)(1) in particular ways, while others separately directed the regulation of specified classes of vehicles or engines or specified air pollutants. As subsequently amended,[40] CAA section 202 has remained a critical part of the comprehensive national framework for regulating air pollution, with Title II authorities for mobile sources working in tandem with the National Ambient Air Quality Standards (NAAQS) program and Title I authorities for stationary sources.[41] Emission standards issued under CAA section 202 trigger requirements and enforcement mechanisms that can impose substantial liabilities on manufacturers and other regulated parties. Additional provisions in Title II prohibit selling, importing, or marketing vehicles and engines not in compliance with applicable emission standards, with violations subject to injunctive relief and significant monetary penalties.[42]

In its first four decades administering the statute, the EPA invoked CAA section 202(a)(1) relatively infrequently and, in each case, to address local and regional air pollution problems through rulemakings that both prescribed

[35] ''Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards,'' 75 FR 25324 (May 7, 2010); ''Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles,'' 76 FR 57106 (Sept. 15, 2011); ''2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards,'' 77 FR 62624 (Oct. 15, 2012); ''Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles-Phase 2,'' 81 FR 73478 (Oct. 25, 2016); ''The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks,'' 85 FR 24174 (Apr. 30, 2020); ''Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards,'' 86 FR 74434 (Dec. 30, 2021); ''Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles,'' 89 FR 27842 (Apr. 18, 2024) (2024 LD and MD Multi-Pollutant Emission Standards Rule); ''Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles-Phase 3,'' 89 FR 29440 (Apr. 22, 2024) (2024 HD GHG Emission Standards Rule).

[36] Public Law 89–272, section 202(a), 79 Stat. 992, 992–93 (1965).

[37] Public Law 90–148, section 202(a), 81 Stat. 485, 499 (1967).

[38] Public Law 91–604, 84 Stat. 1690 (1970).

[39] *Id.*

[40] In the CAA Amendments of 1977, Congress replaced the phrase ''which endangers the public health or welfare'' with ''which may reasonably be anticipated to endanger public health or welfare.'' Public Law 95–95, section 401(d)(1), 91 Stat. 685, 791 (1977); Public Law 101–549, section 203, 104 Stat. 2399, 2474 (1990).

[41] *See West Virginia,* 597 U.S. at 707–11 (describing the relationship among the CAA's Title I programs).

[42] 42 U.S.C. 7522–24. By regulation, the EPA has established a number of compliance and enforcement mechanisms specific to particular emission standards regimes, including GHG emission standards. For example, we have adopted a credit system whereby regulated parties that do not achieve the standards for a particular MY may carry forward a deficit for a certain number of years, provided that the entity overcomply in future years or purchase credits to make up for the prior shortfall. 40 CFR 86.1865–12.

standards and set forth the Administrator's findings that the relevant air pollutant emissions cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.[43] From 1965 to 2009, we invoked CAA section 202(a)(1) in at least fifteen final rules governing LD, MD, and HD vehicle and engine and motorcycle emissions of hydrocarbons (HC) and other volatile organic compounds (VOCs), carbon monoxide (CO), oxides of nitrogen (NO_X), particulate matter (PM), and certain air toxics.[44] Where possible, we relied in these final rules on more specific authorities provided elsewhere in CAA section 202, including subsections (a)(3)(B)–(D) for HD vehicles, (a)(3)(E) for motorcycles, and (*l*) for air toxics. Each of these regulations involved criteria pollutants or compounds that Congress expressly enumerated in CAA section 202 through iterative statutory amendments and addressed in additional provisions throughout the statute.[45] We hewed closely to the vehicle and engine emission air pollution problems that Congress itself identified and did not use CAA section 202(a)(1) to expand into new regulatory arenas. As further explained in the following subsections, the EPA maintained this approach until 2009 and never invoked CAA section 202(a)(1) to regulate in response to global climate change concerns during this period.

B. Petitions for Rulemaking and Massachusetts v. EPA

In October 1999, a coalition of 19 environmental organizations petitioned the EPA to regulate the emission of four GHGs—CO_2, methane, N_2O, and HFCs—from new motor vehicles and engines under CAA section 202(a)(1). Petitioners claimed that these four GHGs were ''air pollutant[s]'' under CAA section 302(g), significantly contributed to global climate change, and met the statutory standard for regulation under CAA section 202(a)(1). Thus, petitioners claimed that the EPA had the authority and obligation to find that GHG emissions from new motor vehicles and engines cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare and to prescribe standards in response.

In September 2003, after receiving and responding to nearly 50,000 public comments on the relevant issues, the EPA denied the 1999 petitions in a final action titled ''Control of Emissions from New Highway Vehicles and Engines,'' 68 FR 52922 (Sept. 8, 2003) (''2003 Denial''). The 2003 Denial asserted three primary reasons for denying the petitions. First, after ''examin[ing] the fundamental issue of whether the CAA authorizes the imposition of control requirements'' to ''reduce the risk of global climate change,'' we concluded that ''CO_2 and other GHGs cannot be considered 'air pollutants' subject to the CAA's regulatory provisions for any contribution they may make to global climate change.'' 68 FR 52925. Citing the Supreme Court's decision in *FDA* v. *Brown & Williamson Tobacco Corp.,* 529 U.S. 120 (2000), we noted that the CAA does not address GHGs as a regulatory matter, including in then-recent amendments, and that the ''EPA has used these provisions to address air pollution problems that occur primarily at ground level or near the surface of the earth.'' 68 FR 52926. On this basis, we concluded that GHGs ''are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112, and 202'' because they categorically are not ''air pollutant[s]'' under the Act-wide definition in CAA section 302(g). 68 FR 52928. Second, we raised in the alternative several policy reasons for declining to regulate GHGs, including that regulating GHG emissions from motor vehicles and engines under the CAA would interfere with NHTSA's authority to implement fuel economy standards. 68 FR 52929. We also asserted that regulating GHG emissions from motor vehicle engines under the CAA would undermine then-President Bush's policy approach of addressing global climate change concerns comprehensively through voluntary actions and incentives, the promotion of research and technologies, and international negotiations. 68 FR 52930–31. That is, we reasoned that establishing GHG emission standards through unilateral action would ''result in an inefficient, piecemeal approach to addressing the climate change issue'' because ''all significant sources and sinks of GHG emissions'' should be considered in deciding the best way to achieve emissions reductions. 68 FR 52931.

In *Massachusetts,* the Supreme Court narrowly reversed the D.C. Circuit's decision upholding the EPA's denial of the 1999 petitions for rulemaking.[46] The Court took particular issue with the EPA's reading of the Act-wide definition in CAA section 302(g), ruling that ''[t]he Clean Air Act's sweeping definition of 'air pollutant' . . . embraces all airborne compounds of whatever stripe'' and provided no textual basis for excluding CO_2 or the three other GHGs raised in the petitions for rulemaking. 549 U.S. at 528–29. The Court also addressed the EPA's reliance on *Brown & Williamson,* which the majority construed as having found no congressional intent to ban the sale of tobacco products outright because such an application of the relevant statute would have been highly unlikely and because the Food and Drug Administration (FDA) had expressly refused to assert such authority in the past. *Id.* at 530–31. In contrast, in *Massachusetts,* the Court found that the CAA did not reflect a congressional intent to categorically exclude GHGs and, citing several EPA memoranda, that we had not similarly foresworn all authority to regulate GHGs as a categorical matter. *Id.*

Notably, the Court expressly declined to decide whether the EPA was required to issue an endangerment finding as to GHG emissions under the standard set out in CAA section 202(a)(1). *Id.* at 534 (''We need not and do not reach the question whether on remand EPA must make an endangerment finding.''). Nor did the Court address ''whether policy concerns can inform EPA's actions in the event that it makes such a finding.'' *Id.* at 534–35. Rather, the Court emphasized that the scope of its review of the denial of a rulemaking petition was ''extremely limited,'' *id.* at 527–28 (citation omitted), and held that we must respond to the petitions by deciding whether GHG emissions from new motor vehicles and engines meet the standard for regulation in CAA section 202(a)(1) or whether the science was too uncertain to make any determination, and that, in doing so, we must ''ground [our] reasons for action or inaction in the statute,'' *id.* at 535.[47]

[43] *See* 74 FR 66501, 66527, 66538, 66543 (Dec. 15, 2009) (acknowledging this regulatory history).

[44] *See* 72 FR 8428 (Feb. 26, 2007); 69 FR 2398 (Jan. 15, 2004); 66 FR 5002 (Jan. 18, 2001); 65 FR 59896 (Oct. 6, 2000); 65 FR 6698 (Feb. 10, 2000); 62 FR 54694 (Oct. 21, 1997); 62 FR 31192 (June 6, 1997); 60 FR 34326 (June 30, 1995); 60 FR 4712 (Jan. 24, 1995); 59 FR 48472 (Sept. 21, 1994); 59 FR 16262 (Apr. 6, 1994); 53 FR 43870 (Oct. 31, 1988); 49 FR 3010 (Jan. 24, 1984); 48 FR 48598 (Oct. 19, 1983); 45 FR 63734 (Sept. 25, 1980).

[45] *See* Public Law 101–549, section 203, 104 Stat. 2399, 2474 (1990); Public Law 91–604, section 6, 84 Stat. 1676, 1690 (1970).

[46] The D.C. Circuit majority had upheld the denial on the merits because ''the EPA Administrator properly exercised his discretion under section 202(a)(1) in denying the petition for rulemaking.'' Massachusetts v. EPA, 415 F.3d 50, 58 (D.C. Cir. 2005). The dissent argued that CAA section 202(a)'s breadth provided the EPA sufficient authority to regulate GHGs, that more specific authorization was not required, and that the EPA's policy justifications were inadequate reasons to deny the petitions. *Id.* at 67–82 (Tatel, J., dissenting).

[47] Writing for four members of the Court, Chief Justice Roberts would have dismissed the petitions for review for lack of Article III standing. 549 U.S. at 535 (Roberts, C.J., joined by Scalia, Thomas, and Alito, J.J., dissenting). Writing for the same four

Continued

C. The 2009 Endangerment Finding

The EPA responded to the Supreme Court's decision in *Massachusetts* by issuing the 2008 ANPRM. In the 2008 ANPRM, the Administrator began by noting it was ''clear that if EPA were to regulate [GHG] emissions from motor vehicles under the Clean Air Act,'' the interplay between CAA section 202(a)(1) and similarly worded statutory provisions ''could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land.'' 73 FR 44355. The Administrator cautioned that because the CAA was ''originally enacted to control regional pollutants that cause direct health effects,'' invoking authority to regulate GHG emissions ''would inevitably result in a very complicated, time-consuming, and, likely, convoluted set of regulations'' that ''would be relatively ineffective at reducing [GHG] concentrations'' and have a ''potentially damaging effect on jobs and the U.S. economy.'' *Id.*

The 2008 ANPRM echoed the Administrator's concerns by seeking public comment on invoking CAA section 202(a)(1) to regulate new motor vehicle and engine emissions in response to global climate change concerns. We acknowledged that the CAA ''was not specifically designed to address GHGs,'' 73 FR 44397, and that the EPA had historically interpreted and applied its CAA regulatory authorities as extending to local and regional air pollution problems, 73 FR 44408. We further noted that Congress was considering legislation to address the Nation's response to global climate change concerns and that, since *Massachusetts,* Congress had passed and the President had signed into law the Energy Independence and Security Act (EISA),[48] which amended provisions applicable to the EPA's Renewable Fuels Standard (RFS) program and NHTSA's CAFE standards program. 73 FR 44398. Finally, we noted that the EPA received additional petitions to regulate stationary sources and additional GHGs, including water vapor, all of which suggested that GHG emission regulations could not readily be limited to new motor vehicles and engines. 73 FR 44399 & n.26.

As to CAA section 202(a)(1), the 2008 ANPRM set out a framework for determining whether ''GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public welfare'' under CAA section 202(a)(1) or for ''explain[ing] why scientific uncertainty is so profound that it prevents making a reasoned judgment on such a determination.'' 73 FR 44398, 44421. We reviewed available information for CO_2, methane, and N_2O emissions and noted that HFCs, PFCs, and SF_6 are ''often grouped together'' and separately from the rest ''because they contain fluorine, typically have large global warming potentials, and are produced only through human activities.'' 73 FR 44401–02.[49] With respect to endangerment, we sought comment on whether GHGs could properly be considered air pollution that endangers public health or welfare because the potential health effects are indirect and the potential welfare effects may be positive on balance. 73 FR 44427. In addition, we sought comment on whether ''the unique characteristics and properties of each GHG . . . as well as current and projected emissions'' meant that each GHG should be analyzed individually or whether certain GHGs other than CO_2 were amenable to grouping. 73 FR 44428. With respect to causation or contribution, we presented motor vehicle and engine emissions data for each GHG separately and noted that emission trends had diverged between pollutants, with CO_2 emissions, for example, generally increasing since 1990 and N_2O emissions, for example, increasing from 1990 to 1995 and then falling substantially from 1995 to 2006 because of fuel and technology changes. 73 FR 44430. We also presented extensive information on potential regulatory approaches that could be triggered by a positive finding under CAA section 202(a)(1), including approaches specific to particular GHGs. 73 FR 44438–63.

Following a change in administration, however, the EPA proposed in April 2009 and finalized in December 2009 a much different approach to analyzing GHG emissions from new motor vehicles and engines under CAA section 202(a)(1). In the Endangerment Finding, the Administrator found that ''the science [was] sufficiently certain'' to compel a determination and interpreted *Massachusetts* as ''allow[ing] for the consideration only of science.'' 74 FR 66501. The Administrator interpreted *Massachusetts* as holding not only that ''GHGs fall within the definition of 'air pollutant' under the CAA,'' but also as standing for the proposition ''that EPA may regulate GHGs if required findings were made.'' EF RTC 11:5. While expressing a ''preference for comprehensive climate change legislation over the use of the current CAA to tackle climate change,'' the Administrator understood the Endangerment Finding as satisfying the EPA's ''duty'' and ''responsibility to respond to the Supreme Court's decision and to fulfill its obligations under current law.'' EF RTC 11:19.[50] In addition, the Administrator declined to consider any of the implementation challenges or options discussed in the 2008 ANPRM, asserting instead that CAA section 202(a) confers ''procedural discretion'' to issue standalone findings without considering a regulatory response because the statute ''is silent on this issue,'' 74 FR 66501, and interpreting *Massachusetts* as forbidding the EPA from considering in any respect the regulations that will result from an affirmative finding, 74 FR 66515.

The Administrator defined the relevant ''air pollution'' as ''the combined mix of six key directly-emitted, long-lived and well-mixed [GHGs] . . . which together, constitute the root cause of human-induced climate change and the resulting impacts on public health and welfare.'' 74 FR 66517. At times, the Administrator referred to the ''air pollution'' as the total concentration of GHGs in the atmosphere, *e.g., id.,* and at times as only the ''elevated atmospheric concentrations'' of GHGs in the atmosphere as compared to pre-industrial levels, *e.g.,* 74 FR 66523. In defining ''air pollution'' in this manner, the Administrator rejected arguments that the term as used in CAA section 202(a)(1) is limited to domestic concerns and airborne materials that cause direct human health effects, such as through inhalation. EF RTC 9:1–2. The Administrator reasoned that the treatment of ''air pollutant'' in

members of the Court, Justice Scalia would have denied the petitions on the grounds that the Administrator reasonably exercised judgment in declining to regulate and that CAA section 302(g)'s definition of ''air pollutant'' does not clearly encompass CO_2 and other GHGs that naturally occur in the ambient air. 549 U.S. at 549 (Scalia, J., joined by Roberts, C.J., and Thomas and Alito, J.J., dissenting).

[48] Public Law 110–140, 121 Stat. 1492 (2007).

[49] In the 2008 ANPRM, the EPA noted that the most recently available IPCC analysis concluded that ''[t]he anthropogenic combined heating effect (referred to as forcing) of [methane], N_2O, HFCs, PFCs and SF_6 is about 40% as large as the CO_2 cumulative heating effect since pre-industrial times.'' 73 FR 44423.

[50] Specifically, a variety of commenters on the proposed Endangerment Finding asserted that the Clean Air Act is ill-suited to address global climate change concerns, and that the EPA should await the results of ongoing debates and development of responsive legislation in Congress, for which both the President and the Administrator had expressed support. EF RTC 11:18–19.

Massachusetts extended to the term ''air pollution'' directly, without the need for analysis of the difference in terminology and statutory context, and did not specifically grapple with the EPA's prior practice. *Id.* Notably, the Administrator excluded other ''climate forcers'' from this definition, including black carbon, ozone-depleting substances, nitrogen trifluoride, water vapor, and ground-level ozone. 74 FR 66520. While maintaining that these ''climate forcers'' could be regulated in response to global climate change concerns, the Administrator found that these substances were sufficiently different from the six ''well-mixed'' GHGs to warrant separate consideration. *Id.* As to water vapor, the Administrator reasoned that ''the level of understanding is low'' and that the EPA ''plans to further evaluate the issues of emissions of water.'' *Id.* And as to ground-level ozone, the Administrator reasoned that although ''tropospheric ozone concentrations have exerted a significant anthropogenic warming effect since pre-industrial times,'' ozone was unlike the six directly emitted, ''well-mixed'' GHGs because it ''forms in the atmosphere from emission of precursor gases.'' *Id.*

The Administrator also defined the relevant ''air pollutant'' as ''a single air pollutant'' comprised of ''the same six long-lived and directly-emitted [GHGs],'' meaning the Endangerment Finding did not need to address the different characteristics or emission trends of any of the six selected GHGs individually. 74 FR 66536–37. The Administrator stated that ''if in the future other substances are shown to meet the same criteria they may be added to the definition of this single air pollutant'' for regulatory purposes. 74 FR 66537. Although new motor vehicles and engines ''do not emit all of the substances meeting the definition of well-mixed [GHGs]''—specifically, PFCs and SF_6—the Administrator found that ''the reasonableness of this grouping does not turn on the particular source category being evaluated in a contribution finding.'' *Id.*

With respect to endangerment, the Administrator began by excluding adaptation—human responses that reduce potential adverse impacts—and mitigation—independent measures that reduce the causes of potential adverse impacts—from the analysis of global climate change concerns. 74 FR 66513. The Administrator acknowledged that ''some level of autonomous adaptation will occur'' and that ''this separation means this approach may not reflect the actual conditions in the real world in the future, because adaptation and/or mitigation may occur and change the risks.'' *Id.* Nevertheless, the Administrator reasoned that ''it would be extremely hard to make a reasoned projection of human and societal adaptation and mitigation responses'' because they are ''largely political'' or ''individual personal judgments.'' *Id.* Next, the Administrator relied on IPCC Assessment Report 4 (AR4) projections to find that GMST would likely increase between 1.8 to 4 °C by 2100, with an uncertainty range of 1.1 to 6.4 °C. 74 FR 66519. Operating within this analytical framework, the Administrator found that elevated global concentrations of GHGs from all foreign and domestic sources were responsible for increased GMST that were responsible in turn for indirect health risks driven by (1) more frequent heat waves; (2) air quality effects, including increased formation of ozone, and (3) broader societal impacts related to increased frequency and severity of certain extreme weather events. 74 FR 66525.[51] The Administrator also found that GHG emissions could lead to welfare effects related to GSLR and other downstream impacts, including (1) food production and agriculture; (2) forestry; (3) water resources; and (4) energy infrastructure and settlements, although the evidence was uncertain for several categories that may see near-term benefits. 74 FR 66531–35.[52] Importantly, the Administrator acknowledged that the understanding of public health and welfare in the Endangerment Finding was atypical, particularly with respect to considering indirect effects and because ''[n]one of th[e] human health effects are associated with direct exposure to [GHGs],'' but asserted the approach was necessary given the ''unique'' challenge presented by global climate change. 74 FR 66527. The Administrator reasoned that many of the identified welfare impacts could be considered health impacts and that all such impacts could result indirectly from GHG ''air pollution,'' 74 FR 66528–29, and noted that the identified welfare impact pathways involved multiple causal steps, 74 FR 66531.[53] In reaching these conclusions, the Administrator rejected arguments that the endangerment analysis should focus on domestic emissions and impacts on domestic ambient air and that Congress expressly provided authority when it intended the EPA to consider non-domestic air pollution. EF RTC 9:1.[54]

With respect to contribution, the Administrator asserted broad authority to interpret the statutory standard because ''[t]he language of CAA section 202(a) is silent regarding how the Administrator is to make her contribution analysis.'' 74 FR 66544. Exercising that putative interpretive authority, the Administrator concluded that ''it is reasonable to consider that lower percentages contribute than one may consider when looking at a local or regional problem involving fewer sources of emissions,'' 74 FR 66545, because ''all contributors must do their part'' to avoid ''a tragedy of the commons, whereby no country or source category would be accountable for contributing to the global problem of climate change,'' 74 FR 66543. Next, the Administrator relied on data showing that existing motor vehicles and engines emitted four GHGs—CO_2, methane, and N_2O from engines, as well as HFCs from air conditioning units—that accounted for 4.3 percent of annual global GHG emissions at the time. On that basis, the Administrator found that annual GHG emissions from new motor vehicles and engines ''contribute to the air pollution'' consisting of the total global concentrations of the six ''well-mixed'' GHGs previously identified as a danger to public health or welfare. 74 FR 66537–39.

Crucially, the Endangerment Finding made clear that the EPA was acting independently from any new congressional mandate. Rather, the Administrator interpreted CAA section 202(a)(1) as setting out a standalone authority to issue findings that establish an obligation to regulate without considering implementation and purported to rest the Endangerment Finding solely on a scientific judgment

[51] The Administrator also noted that increased GMST could lead to changes in certain food- and water-borne pathogens and allergens (including increases in pollen resulting from increased plant growth at higher concentrations of CO_2) but did ''not plac[e] primary weight on these factors.'' 74 FR 66498, 66526.

[52] The Administrator relied on welfare impacts to water resources and sea level rise as providing ''the clearest and strongest support for an endangerment finding.'' 74 FR 66534.

[53] The Administrator noted that ''[a]s with public health,'' the analysis of ''welfare'' in the Endangerment Finding ''considered the multiple pathways'' through which ''the GHG air pollution'' could result in ''climate change'' that ''affects climate-sensitive sectors,'' which then leads to potential ''impact . . . on public welfare.'' 74 FR 66531.

[54] For example, commenters on the proposed Endangerment Finding pointed to CAA sections 115 (authorizing the EPA to require controls when domestic emissions cause or contribute to air pollution that endangers public health or welfare in another country that has adopted reciprocal protections for emissions into the United States), 179B (authorizing the EPA to account for the impact of international emissions on State attainment of the NAAQS under certain conditions), and Title VI (providing for various authorities and obligations to address emissions that damage the ozone layer). EF RTC 9:1; *see* 42 U.S.C. 7415, 7509a, 7671 *et seq.*

informed by the record as assembled by the Agency in 2009.

D. Implementation of the 2009 Endangerment Finding

In the years since issuing the Endangerment Finding, the EPA has promulgated GHG emission standards for various classes of new motor vehicles and engines in reliance on the Endangerment Finding and, as anticipated in the 2008 ANPRM, sought to expand the same analytical framework to regulatory provisions governing existing vehicles, stationary sources, aircraft, and oil and gas operations. For a full accounting of GHG emission standards adopted since 2009 under CAA section 202(a)(1), see sections VII.B and VII.C of this preamble.

In the Endangerment Finding, the EPA treated as out of scope the impacts of extending CAA section 202(a)(1) to address global climate change concerns on other CAA provisions with similar endangerment provisions. See, *e.g.,* EF RTC 11:20–23. However, the EPA soon finalized the first set of GHG emission standards for new motor vehicles and engines [55] alongside related rules establishing GHG emission thresholds for stationary source permitting under the Prevention of Significant Deterioration (PSD) program and Title V.[56] Several years later, the EPA again relied on the Endangerment Finding to extend the GHG regulatory program to new and existing stationary source performance standards and guidelines for power plants under CAA section 111.[57]

In *Coalition for Responsible Regulation,* the D.C. Circuit rejected petitions for review of the Tailpipe Rule, Triggering Rule, Tailoring Rule, and the underlying Endangerment Finding. As relevant here, the court read *Massachusetts* as precluding us from declining to regulate for policy reasons that ''were not part of the calculus'' and, citing generally to the entirety of the *Massachusetts* decision, as holding that the ''EPA indeed wields the authority to regulate greenhouse gases under the CAA.'' 684 F.3d at 118. Applying this reading, the court rejected petitioners' arguments that we should have considered the '''absurd'' ' results for stationary source permitting when issuing the Endangerment Finding. *Id.* The court understood the interpretation of the statutory definition of ''air pollutant'' in *Massachusetts* to apply anywhere that term is used in the substantive provisions of the CAA. *Id.* at 134–44. The court acknowledged that ''nothing in the CAA requires regulation of a substance simply because it qualifies as an 'air pollutant' under this broad definition.'' *Id.* at 135. Applying its understanding of *Massachusetts,* however, the court held that reading ''air pollutant'' as ''any regulated air pollutant'' was ''compelled by the statute'' and rejected petitioners' arguments that the PSD provisions should be read in context as focusing on localized ''air pollution'' problems. *Id.* at 134, 138.[58]

In *UARG,* the Supreme Court held that the EPA exceeded its authority under the CAA in its approach to extending stationary source permitting to cover GHG emissions. The Court rejected the D.C. Circuit's application of *Massachusetts* in this context as a ''flawed syllogism,'' 573 U.S. at 316, holding that ''while *Massachusetts* rejected EPA's categorical contention that greenhouse gases *could not* be 'air pollutants' for any purposes of the Act, it did not embrace EPA's current, equally categorical position that greenhouse gases *must* be air pollutants for all purposes regardless of the statutory context,'' *id.* at 319 (cleaned up). Rather, ''*Massachusetts* does not foreclose the Agency's use of statutory context to infer that certain of the Act's provisions use 'air pollutant' to denote not every conceivable airborne substance, but only those that may sensibly be encompassed within the particular regulatory program.'' *Id.* The Court went on to reject our interpretation that required a permit based on GHG emissions as '''incompatible' with 'the substance of Congress' regulatory scheme' '' and inconsistent with the principle that ''Congress . . . speak[s] clearly if it wishes to assign to an agency decisions of vast 'economic and political significance.' '' *Id.* at 322–24 (quoting *Brown & Williamson,* 529 U.S. at 156, 159).[59]

Soon thereafter, both courts weighed in on the extension of the GHG regulatory program to power plants under CAA section 111. The Supreme Court stayed the 2015 Clean Power Plan pending review by the D.C. Circuit, which had denied a stay.[60] The D.C. Circuit subsequently reviewed a later rulemaking that repealed the Clean Power Plan and replaced it in part.[61] In *American Lung Association* v. *EPA,* 985 F.3d 914 (D.C. Cir. 2021), a divided panel reinstated the 2015 Clean Power Plan and vacated the 2019 ACE Rule. Among other things, the panel majority held that the major questions doctrine has no application to the scope of our CAA section 111 authority, *id.* at 959–61, and rejected the argument that generation shifting was an impermissible use of our regulatory authority, *id.* at 966–68. The panel majority also rejected challenges to the endangerment and significant contribution bases for regulating GHGs under CAA section 111, citing *Coalition for Responsible Regulation* and stating that if ''greenhouse gas emissions by fossil-fuel-fired power plants'' do not ''significantly contribute'' to global climate change, it would be ''nigh impossible for any source of greenhouse gas pollution to cross that statutory threshold.'' *Id.* at 977.[62]

[55] 75 FR 25324 (May 7, 2010).

[56] ''Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs,'' 75 FR 17004 (Apr. 2, 2010) (''Triggering Rule''); ''Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,'' 75 FR 31514 (June 3, 2010) (''Tailoring Rule'').

[57] ''Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,'' 80 FR 64510 (Oct. 23, 2015) (''2015 NSPS''); ''Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,'' 80 FR 64662 (Oct. 23, 2015) (''Clean Power Plan''). The EPA also cited the Endangerment Finding to reach a similar conclusion for aircraft under CAA section 231. ''Finding That Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare,'' 81 FR 54422 (Aug. 15, 2016).

[58] The D.C. Circuit subsequently denied rehearing en banc. See Coal. for *Responsible Regulation* v. *EPA,* 2012 U.S. App. LEXIS 25997 (Dec. 20, 2012). Judge Brown dissented, arguing that the CAA was designed to address ''the harmful effects of poisoned air on human beings and their local environs,'' that such important policy decisions were for Congress to decide, and that the panel had overread ''dicta'' in *Massachusetts. Id.* at * 29–62. Then-Judge Kavanaugh also dissented, arguing that we exceeded our statutory authority in regulating GHG emissions under the PSD program by failing to read the term ''air pollutant'' in context and that the issue was ''plainly one of exceptional importance'' that Congress should decide. *Id.* at * 62–93.

[59] Writing for four Justices in a partial dissent, Justice Breyer argued that the statute could be interpreted to encompass certain stationary sources based on their volume of GHG emissions. 573 U.S. at 334–43 (Breyer, J., joined by Ginsburg, Sotomayor, and Kagan, J.J.). Writing for two Justices in a partial dissent from a different holding, Justice Alito argued that the case demonstrated that *Massachusetts* was wrongly decided and that the majority erred in holding that permitted sources that emit conventional pollutants could be required to install control technologies for GHGs. *Id.* at 343–50 (Alito, J., joined by Thomas, J.).

[60] *West Virginia* v. *EPA,* 136 S Ct. 1000 (2016).

[61] ''Affordable Clean Energy Rule,'' 84 FR 32520 (July 8, 2019) (''2019 ACE Rule'').

[62] In a partial dissent, Judge Walker argued that the 2015 Clean Power Plan (and aspects retained in the 2019 ACE Rule) violated the major questions doctrine because CAA section 111 does not include a clear statement of authority to regulate GHG emissions from power plants. *Am. Lung Ass'n,* 985 F.3d at 995–1003 (pointing to failed legislation in 2009 that would have provided the requisite authority to regulate GHG emissions from power plants).

In *West Virginia,* the Supreme Court reversed the D.C. Circuit's treatment of the major questions doctrine and held that the 2015 Clean Power Plan exceeded our authority to regulate existing sources under CAA section 111(d). The Court surveyed *UARG, Brown & Williamson,* and additional precedents to confirm that an agency must have more than ''a colorable textual basis'' to assert '' 'unheralded' regulatory power over 'a significant portion of the American economy.' '' 597 U.S. at 721–23 (quoting *UARG,* 573 U.S. at 324). In such cases, ''both separation of power principles and a practical understanding of legislative intent'' require the agency to ''point to 'clear congressional authorization' for the power it claims.'' *Id.* at 723 (quoting *UARG,* 573 U.S. at 324). The Court held that our reliance on CAA section 111(d) to regulate GHG emissions was ''a major questions case'' because we had asserted the power ''to substantially restructure the American energy market.'' *Id.* at 724. That provision ''had rarely been used in the preceding decades,'' and we had used it in an ''unprecedented'' manner ''to adopt a regulatory program that Congress had conspicuously and repeatedly declined to enact itself.'' *Id.* at 724–28. Since we lacked express authorization, the Court concluded that we lacked statutory authority for the 2015 Clean Power Plan. *Id.* at 732–35.[63]

Following the Endangerment Finding, the EPA also received multiple petitions for reconsideration from industry groups, States, and various organizations arguing that our approach in 2009 was legally and scientifically flawed and that external assessments by the IPCC, among others, had not adequately addressed recent criticisms of climate change science. The EPA denied these consolidated petitions in 2010 without notice and comment (''2010 Denials''). Reiterating the scientific assertions from the technical support document (TSD) used in 2009, we emphasized that we had conducted an independent review of outside assessments in issuing the Endangerment Finding and asserted that the core conclusions of the Endangerment Finding remained valid notwithstanding the flaws raised by the petitioners. The EPA also issued a volume of response documents defending the methodologies and experts relied upon and concluded that no new information warranted reconsideration. 75 FR 49556.[64]

In April 2022, the EPA denied, again without notice and comment, a new round of petitions for reconsideration and rulemaking asserting that the Endangerment Finding was legally and scientifically flawed and undermined by more recent scientific assessments (''2022 Denials''). We acknowledged that several recent studies contradicted assessments by the USGCRP and IPCC but reaffirmed our earlier position that such assessment reports are entitled to greater weight than dissenting views.[65] We also considered criticisms of the EPA's SCC methodology out of scope because ''the social cost of carbon played no role in the 2009 Endangerment Finding.'' [66] We further acknowledged that severing the endangerment and cause or contribute analysis from the development of subsequent regulations had impacted the EPA's approach to GHG emission standards, including because the SAB did not have the opportunity to review the Endangerment Finding as would otherwise have been required by the CAA.[67] Nevertheless, we reaffirmed our position that CAA section 202(a) grants ''procedural discretion'' to issue findings and emission standards separately and ''decline[d] to exercise that discretion'' differently.[68]

E. Reconsideration of the 2009 Endangerment Finding

Since the EPA published the 2009 Endangerment Finding, there have been developments in innovation, science, economics, and mitigation, as well as significant Supreme Court decisions that provide new guidance on how Federal agencies should interpret the statutory provisions that Congress has tasked them with administering.[69] Accordingly, the Administrator determined that the Endangerment Finding should be reconsidered to address legal and scientific developments that present reason to question the ongoing validity and reliability of its conclusions and to subject these important issues to public comment for the first time since 2009.

In initiating reconsideration, the Administrator explored all findings, support, questions, and ambiguities contained within the science relied upon by the Endangerment Finding. On July 29, 2025, the Administrator signed a proposed rule setting out the results of the EPA's reconsideration to date and proposing to rescind the Endangerment Finding and all GHG emission standards for LD, MD, and HD motor vehicles and engines promulgated since 2009 under CAA section 202(a)(1). At proposal, we noted that the Endangerment Finding itself and subsequent reports, studies, and analyses had acknowledged significant questions and ambiguities presented by the observable realities of the past nearly two decades and the recent findings of the scientific community. We also noted that there may be as-yet-unidentified issues or discrepancies present in the underlying technical analysis and scientific justifications offered in the Endangerment Finding. Finally, we noted that when confronted with science offering a diverse array of conclusions, methodologies, and explanations, the Administrator strove to inform his judgment to the most impartial extent possible.

In reviewing the public response to the proposal, the Administrator appreciated the wide variety of perspectives and significant interest in the issues raised for further consideration. In particular, the Administrator carefully examined the additional data, modeling, and information submitted in connection with our request for comment on the impact of the EPA's GHG emission standards for new motor vehicles and engines to date and the efficacy of such regulations in addressing the risks identified in the Endangerment Finding. The EPA has conducted further analysis to evaluate the competing perspectives on the ability of GHG emission standards to have a material (*i.e.,* non-*de minimis*) impact on global climate change concerns, with a particular focus on trends in GMST and GSLR—key metrics commonly derived from climate models and primary drivers of the Agency's causal analysis of endangerment in the 2009 Endangerment Finding.

As discussed in section IV of this preamble, the EPA concludes that it lacks statutory authority to resolve these questions through regulatory findings and emission standards under CAA section 202(a)(1). That conclusion led the Administrator to rest this final action on the legal bases proposed as the

[63] In dissent, Justice Kagan argued that the Court had obstructed the EPA's efforts to regulate GHG emissions: ''Today, the Court strips the [EPA] of the power Congress gave it to respond to 'the most pressing environmental challenge of our time.'' *West Virginia,* 597 U.S. at 753 (Kagan, J., joined by Breyer and Sotomayor, J.J., dissenting) (quoting *Massachusetts,* 549 U.S. at 505); *see also id.* at 755 (''This Court has obstructed EPA's effort from the beginning.'').

[64] The D.C. Circuit rejected several petitions for review of the 2010 Denials as part of the *Coalition for Responsible Regulation* decision. 684 F.3d at 124–26.

[65] 2022 Denials at 15–17.

[66] *Id.* at 30.

[67] *Id.* at 36 (noting that 42 U.S.C. 4365(c)(1) requires SAB consultation for a ''standard'' promulgated under CAA section 202(a) but asserting that requirement does not extend to ''findings'' issued under the same provision).

[68] *Id.* at 39.

[69] *See* Feb. 19, 2025 Memo at 1.

primary rationale for rescission of the Endangerment Finding and repeal of associated GHG emission standards, as explained in sections V.A and V.B of this preamble. As a separate but complementary basis for rescission and repeal, the Administrator finds that the available evidence indicates GHG emission standards under CAA section 202(a)(1) do not impact trends in GMST or GSLR in any material way, let alone the health and welfare impacts attributed to such trends in the Endangerment Finding. As discussed in section V.C of this preamble, this conclusion further indicates that the best reading of CAA section 202(a)(1) does not encompass the regulation of ''air pollution'' in the form of global climate change concerns and serves as an independent basis for repealing the GHG emission standards. For discussion of public comments received on the alternative climate science basis and the Administrator's decision not to finalize on that ground in favor of future opportunities for fact finding and public engagement, see section VI of this preamble.

IV. Legal Framework for Action

A. Rescission of the Endangerment Finding

The statutory authority for this final action is the same as that relied upon in the prior actions at issue: CAA section 202(a)(1), which requires the Administrator to ''prescribe'' and ''from time to time revise . . . standards'' for certain air pollutants emitted by new motor vehicles and new motor vehicle engines ''in accordance with the provisions of this section.'' [70] In addition, unless provided otherwise by statute, an agency may revise or rescind prior actions so long as it acknowledges the change in position, provides a reasonable explanation for the new position, and considers legitimate reliance interests in the prior position.[71]

Nothing in the language of the relevant statutory provision prohibits or conditions our general authority to rescind prior actions through rulemaking. CAA section 202(a)(1) grants the Administrator discretion to ''revise'' standards prescribed ''in accordance with the provisions of this section'' and does not require retaining the same level of stringency when revising or rescinding existing standards. Moreover, the statute neither authorizes the Administrator to issue standalone findings that trigger a duty to regulate nor prohibits the Administrator from rescinding such findings. Rather, CAA section 202(a)(1) requires the Administrator to prescribe standards for emissions of any air pollutant by classes of new motor vehicles or engines when, in his judgment, emissions of such air pollutant by such classes of new motor vehicles or engines ''cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' Notably, the EPA has consistently assumed that it has the statutory authority to rescind the Endangerment Finding in reviewing the merits of petitions for reconsideration since 2009 and did not state that we lack such reconsideration authority.[72]

The EPA acknowledges that rescinding the Endangerment Finding involves significant changes to the legal interpretations adopted in the Endangerment Finding and retained in subsequent actions. For example, the interpretation of CAA section 202(a) that we are finalizing precludes the EPA from issuing standalone endangerment and contribution findings and instead requires the Agency to make findings for particular air pollutant emissions and classes of new motor vehicles and engines as an integral step in a rulemaking to prescribe standards for such emissions and classes, consistent with our decades-long practice prior to 2009 in regulating non-GHG air pollutants. Furthermore, the interpretation of CAA section 202(a)(1) that we are finalizing in this action reverses the basis for the Endangerment Finding by concluding that global climate change concerns cannot satisfy the statutory standard for regulation under CAA section 202(a)(1). This interpretation is the best reading of the statute, and it is different from the final actions taken by the Agency since 2009 with respect to GHG emission standards under CAA section 202(a).[73] For example, we acknowledge that the EPA changed its position in 2009 and argued in actions finalized since that time and in briefs filed in defense of those actions that CAA section 202(a) authorizes us to regulate in response to global climate change concerns.[74] We also acknowledge that the EPA argued in actions finalized since 2009 and in briefs filed in defense of those actions that the major questions doctrine has no application to CAA section 202(a)(1).[75] However, intervening legal developments must be considered when evaluating these statements as they developed over time. We initially developed those novel positions without the benefit of the Supreme Court's decisions in *UARG, Michigan,* and *West Virginia,* which explained and applied the major questions doctrine to related GHG emission regulations. Moreover, we note that each of these major actions and rules predated the Supreme Court's decision in *Loper Bright,* which overruled *Chevron* deference to agency statutory interpretation and clarified that statutes have a single, best meaning.[76] In light of these decisions and upon further review of the EPA's prior statements on the applicability and impact of the major questions doctrine, we are finalizing, as proposed, a new position that more faithfully adheres to precedent and governing legal principles. For discussion of CAA section 202(a)(1) and related statutory provisions interpreted in this final action, see section V of this preamble.

The EPA is also finalizing that GHG emission standards for new motor vehicles and engines are futile because they have no material (*i.e.,* non-*de minimis*) impact on the global climate change concerns animating this regulatory program and is reaching two separate and independent conclusions as a result. First, we conclude that futility lends further support to the understanding that CAA section 202(a)(1) is best read to encompass ''air pollution'' that endangers human health and the environment through local and regional exposure and that domestic regulation can impact without requiring

[70] 42 U.S.C. 7521(a)(1).

[71] *See FDA* v. *Wages & White Lion Invs., L.L.C.,* 604 U.S. 542, 568–70 (2025); *FCC* v. *Fox Television Stations, Inc.,* 556 U.S. 502 (2009); *Motor Vehicle Mfrs. Ass'n* v. *State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29 (1983).

[72] *See, e.g.,* 2022 Denials at 7–10 (denying mandatory reconsideration under CAA section 307(d) and reviewing the petitions on the merits as rulemaking petitions under APA section 553(e)); 75 FR 49556, 49560–63 (Aug. 13, 2010) (denying mandatory reconsideration under CAA section 307(d) without asserting that the EPA lacked statutory authority to rescind or revise the Endangerment Finding).

[73] *See, e.g.,* 74 FR 66496 (Dec. 15, 2009); 75 FR 25324 (May 7, 2010); 76 FR 57106 (Sept. 15, 2011); 77 FR 62624 (Oct. 15, 2012); 81 FR 73478 (Oct. 25, 2016); 85 FR 24174 (Apr. 30, 2020); 86 FR 74434 (Dec. 30, 2021); 89 FR 27842 (Apr. 18, 2024); 89 FR 29440 (Apr. 22, 2024).

[74] *See, e.g.,* 74 FR 66496, 66524 (Dec. 15, 2009) (Endangerment Finding); 2022 Denials at 1; 75 FR 49556 (Aug. 13, 2010) (2010 Denials).

[75] *See, e.g.,* 89 FR 29440, 29468–70 (Apr. 22, 2024) (2024 HD GHG Emission Standards Rule) (arguing that regulation of GHG emissions under CAA section 202(a) in response to global climate change concerns is not a question of significant importance, that the EPA has clear congressional authorization, and that use of this authority since 2009 is not novel); 89 FR 27842, 27897 (Apr. 18, 2024) (2024 LD and MD Multi-Pollutant Emission Standards Rule) (same). In these final rules, the EPA also took the position—repudiated in this final action—that it is permissible to expect manufacturers to comply with GHG emission standards by shifting to EVs.

[76] 603 U.S. at 412–13 (overruling Chevron U.S.A., Inc. v. NRDC, Inc., 467 U.S. 837 (1984)).

international emissions reductions. Second, we conclude that futility warrants repeal of the GHG emission standards independent from the Endangerment Finding because they impose immense burdens without furthering any statutory objective. These additional bases for this final action represent a change from the novel position taken in actions and rulemakings since 2009 to prescribe and revise GHG emission standards under CAA section 202(a)(1).[77] For example, we asserted in the Endangerment Finding that the ability of GHG emission standards to impact global climate change concerns was outside the scope of the CAA section 202(a)(1) endangerment and contribution analysis, 74 FR 66501–02, that we could not consider the degree of emissions reductions that could be achieved by regulations issued as a result of the findings, 74 FR 66507–08, and that the ''unique'' nature of global climate change concerns justified accepting a different analysis than that traditionally applied to mobile-source air pollution problems, 74 FR 66538, 66543. In GHG emission standard rulemakings since 2009, we analyzed the impact of potential standards in terms of contribution, *i.e.,* tons of emissions, rather than impact on endangerment, *i.e.,* from trends in GMST and GSLR that lead in turn to the health and welfare impacts predicted in the Endangerment Finding. That is, we generally evaluated potential GHG emissions reductions (in tons of CO_2 equivalent)[78] and used SCC methodologies to attach a dollar value to such emissions reductions.[79] See section V.C of this preamble for further discussion of these additional rationales and the EPA's prior positions.

The EPA further acknowledges that repealing the GHG emission standards based on the proposed rescission of the Endangerment Finding is a departure from our position in rulemakings since 2009 that prescribed and revised GHG emission standards for LD, MD, and HD vehicles and engines under CAA section 202(a)(1). This rescission eliminates the statutory basis for those standards because we relied on the Endangerment Finding in each rulemaking to invoke our authority under CAA section 202(a)(1) without making the required findings for GHGs emitted by the class or classes of new motor vehicles or engines at issue in each rulemaking. To the extent we reaffirmed the Endangerment Finding in subsequent standard rulemakings, the conclusions we are finalizing in this action eliminate the improperly claimed statutory basis for such reaffirmations, all of which relied on the same underlying interpretation of CAA section 202(a)(1) as encompassing the regulation of GHG emissions based on global climate change concerns. See section VII of this preamble for further discussion of each prior rulemaking and the regulatory changes we are making to repeal all GHG emission standards currently in effect for new motor vehicles and engines on bases finalized in this action.

As discussed throughout this preamble, the EPA is finalizing these changes to comply with limits on our statutory authority under the best reading of CAA section 202(a)(1), adhere to the legal limits on our power to set national policy within our constitutional system of democratic government, and realign Agency resources to prioritize core statutory responsibilities that protect human health and the environment. Importantly, the Nation's policy response to global climate change concerns was a major issue in the 2024 presidential election, in which voters were presented with distinct legal and policy approaches and elected a candidate promising a change in policy. Under these circumstances, the election of a new Administration is an independent and sufficient basis for reassessing and revising legal interpretations to faithfully adhere to the best reading of the statute.[80] Democratic accountability is essential to the exercise of delegated authority by administrative agencies,[81] and retaining the Endangerment Finding and associated GHG emission standards without clear statutory authority would frustrate, not promote, constitutional values and the rule of law. The EPA lacks authority to retain the Endangerment Finding under the best reading of CAA section 202(a)(1), and the statute controls regardless of policy preferences.[82]

1. Issues Raised Regarding Rescission Authority

The EPA received substantial comments on the proposed bases for rescinding the Endangerment Finding but relatively few specifically addressing the separate question whether we have the authority to rescind, provided that the rescission is supported by adequate grounds. Most comments received on that issue agreed that the EPA may reconsider prior actions unless the relevant statute provides otherwise and further agreed that nothing in CAA section 202(a)(1) conditions or limits our ability to reconsider prior actions. We appreciate these comments and, as noted above, are finalizing this action based on the statutory authority conferred in CAA section 202(a)(1) and the background principle that agencies may reconsider, revise, and rescind prior actions unless provided otherwise by the relevant statute. Several commenters raised contrary arguments that did not change our view from proposal. For more detailed comment summaries and responses, see the Response to Comments document.

Comment: A few adverse commenters argued that rescinding the Endangerment Finding would not support repealing the associated GHG emission standards because the standards-setting rulemakings reaffirmed and reinforced the Endangerment Finding with additional evidence. Some of these commenters also argued that CAA section 202(a)(1) is a precautionary provision, which, they asserted, means that we cannot rescind the Endangerment Finding based on a lack of confidence in the assumptions made and conclusions stated in that action.

Response: The EPA disagrees that rescinding the Endangerment Finding would not impact subsequently issued GHG emission standards and notes that these commenters misunderstand the impact of our proposal that CAA section 202(a)(1) does not authorize regulating GHG emissions in response to global climate change concerns. The Agency has consistently maintained that, at

[77] *See, e.g.,* 74 FR 66496, 66524 (Dec. 15, 2009); 75 FR 25324 (May 7, 2010); 76 FR 57106 (Sept. 15, 2011); 77 FR 62624 (Oct. 15, 2012); 81 FR 73478 (Oct. 25, 2016); 85 FR 24174 (Apr. 30, 2020); 86 FR 74434 (Dec. 30, 2021); 89 FR 27842 (Apr. 18, 2024); 89 FR 29440 (Apr. 22, 2024).

[78] *See, e.g.,* 75 FR 25324 (May 7, 2010).

[79] *See, e.g.,* 89 FR 29440, 29675 (Apr. 22, 2024) (2024 HD GHG Emission Standards Rule) (''While the EPA did not conduct modeling to specifically quantify changes in climate impacts resulting from this rule in terms of avoided temperature change or sea-level rise, the Agency did quantify climate benefits by monetizing the emission reductions through the application of estimates of the social cost of greenhouse gases (SC–GHGs).''); 89 FR 27842, 28099 (Apr. 18, 2024) (2024 LD and MD Multi-Pollutant Emission Standards Rule) (same).

[80] *See State Farm,* 463 U.S. at 59 (Rehnquist, J., concurring in part and dissenting in part); PETA v. USDA, 918 F.3d 151, 158 (D.C. Cir. 2019) (''new administrations are entitled to reevaluate and modify agency practices, even longstanding ones''); Nat'l Ass'n of Home Builders v. EPA, 682 F.3d 1032, 1043 (D.C. Cir. 2012) (''the inauguration of a new President and the confirmation of a new EPA Administrator'' went ''a long way toward explaining why EPA'' changed policy).

[81] *See, e.g.,* U.S. Telecom Ass'n v. FCC, 855 F.3d 381 (D.C. Cir. 2017) (Brown, J., dissenting from denial of rehearing en banc); Elena Kagan, Presidential Administration, 114 Harv. L. Rev. 2245, 2252–53, 2332–34 (2001).

[82] *Loper Bright,* 603 U.S. at 403; *West Virginia,* 597 U.S. at 735; *UARG,* 573 U.S. at 325.

minimum, a finding that the relevant air pollutant emissions cause or contribute to air pollution that endangers public health or welfare is a prerequisite to prescribing emission standards. In the Endangerment Finding, we asserted that the statute's ''lack of specific direction'' with respect to the timing of findings and of associated regulations granted ''procedural discretion'' to issue the actions separately. 74 FR 66501. But we maintained that the findings created the predicate authority and obligation to issue associated emission standards and acknowledged that it was at least permissible to issue the findings and standards in a single action. 74 FR 66501–02.

Finalizing the rescission of the Endangerment Finding for lack of authority under CAA section 202(a)(1) necessarily means that we lack statutory authority to prescribe or maintain GHG emission standards for new motor vehicles and engines. Whether we cited to additional evidence ''reinforcing'' the Endangerment Finding in subsequent rulemakings—and whether that additional evidence would itself have been sufficient to satisfy CAA section 202(a)(1) absent the Endangerment Finding—is irrelevant, as each of these actions rested on the novel statutory interpretation adopted for the first time in the Endangerment Finding. The best reading of the statute identified and applied in this final action necessarily overrides the contrary interpretation relied upon in these prior actions and therefore eliminates the legal basis for those prior actions. See section V.A and V.B of this preamble for further discussion of CAA section 202 and the legal position taken by the EPA in actions since 2009. With respect to commenters' precautionary arguments, the EPA is not finalizing the proposed alternative basis for rescission and repeal based on a new climate science finding by the Administrator. See section VI of this preamble for further discussion of the bases we are not finalizing at this time.

Comment: Some commenters argued that the CAA limits our authority to rescind prior actions, quoting *NRDC* v. *Regan,* 67 F.4th 397, 401 (D.C. Cir. 2023), for the proposition that the EPA ''has no inherent authority'' to reconsider its decisions. These commenters asserted that CAA section 202(a)(1) is best read as limiting our rescission authority to reconsideration under CAA section 307 or extraordinary circumstances, such as mistake or fraud, and that Congress authorized us only to update emission standards based on developments in science, technology, and economics by providing that we must ''from time to time revise'' emission standards ''in accordance with the provisions of this section.'' According to these commenters, rescinding the Endangerment Finding and associated regulations exceeds that authority.

Response: The EPA disagrees with these comments, which misconstrue the statute and misapply relevant case law. The D.C. Circuit's divided opinion in *NRDC* addressed our withdrawal of a regulatory determination for a drinking water contaminant under the Safe Drinking Water Act (SDWA) in lieu of issuing a national primary drinking water regulation. The panel majority and separate opinion agreed that ''the power to decide is normally accompanied by the power to reconsider'' unless Congress has '' 'limit[ed] [the] agency's discretion to reverse itself.' '' 67 F.4th at 401 (quoting *New Jersey* v. *EPA,* 517 F.3d 574, 582–83 (D.C. Cir. 2008)). Interpreting the statutory language at issue, the panel majority concluded that SDWA section 1412 imposed such a limitation by mandating a sequential, two-step process under which the EPA ''shall'' propose a regulation within 24 months ''[f]or each contaminant that the Administrator determines to regulate'' in a final regulatory determination. *Id.* (quoting 42 U.S.C. 300g-1(b)(1)(A), (b)(1)(E)); but see *id.* at 408 (Pan, J., concurring in the judgment) (arguing that ''nothing in the [SDWA] forbids the EPA from withdrawing a determination to regulate'' because the ''statute is silent on that issue''). *NRDC* did not challenge the established background principle that agencies may reconsider prior actions taken under a statutory authority absent statutory indicia to the contrary, and the language of CAA section 202(a)(1) is different in virtually every respect from the content, sequence, and timing requirements in SDWA section 1412.

CAA section 202(a)(1) sets out authority to regulate under certain conditions and provides that such regulations should be revised over time. The statutory language ''from time to time revise'' refers to the emission standards promulgated when the Administrator exercises ''judgment'' to determine that an air pollutant emitted from new motor vehicles or engines causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. Beyond reference to the Administrator's ''judgment,'' the statute contains no language constraining or limiting the power to reconsider a finding. Nor does CAA section 202(a)(1) require the EPA to establish regulations by a certain date or for certain pollutants, unlike many other provisions in CAA section 202 and throughout the CAA.[83] Had Congress intended to restrict the repeal of CAA section 202(a)(1) emission standards based on the Administrator's findings of endangerment and contribution, it knew how to do so,as evidenced by provisions elsewhere in the statute imposing such restrictions.[84] Additional statutory language providing that emission standards must be revised ''in accordance with the provisions of this section'' merely clarifies that revised standards are subject to the same conditions as the original standards (*i.e.,* an applicable endangerment finding and the various substantive requirements for standards set out in CAA section 202(a)(2), (a)(3), *et seq.*). Finally, we note that this understanding of our reconsideration authority is rooted in consistent practice; as noted above, we assumed that we had such authority when denying reconsideration petitions on the merits in 2010 and 2022.

With respect to CAA section 307 and commenters' asserted mistake or fraud limitation, the EPA assumes commenters meant to suggest that we may only reconsider prior actions through mandatory reconsideration under CAA section 307(d) or by meeting common law standards originally developed for voiding a contract. We are not aware of any precedent establishing a mistake or fraud limitation and cannot agree that there is a plausible basis for doing so given the well-established principle that agencies may reconsider prior actions unless Congress provides otherwise. As to CAA section 307, this rulemaking followed the applicable procedural requirements set out in that provision. The mandatory reconsideration procedure in CAA

[83] *Compare* 42 U.S.C. 7409 (mandating NAAQS for criteria pollutants by a date certain), 7412 (mandating regulation of hazardous air pollutants from listed source categories by a date certain), 7429 (same for waste combustors), 7521(a)(3)(B)(ii) (mandating minimum emission standards for HD vehicles for certain pollutants by a date certain), 7521(a)(6) (mandating certain control devices for LD vehicles after a date certain), 7521(b), (g)–(*l*) (mandating various emission standards for enumerated pollutants by dates certain).

[84] Notably, Congress provided in CAA section 202(b)(1)(C) that the EPA cannot relax the pollutant-specific emission standards required ''under [CAA section 202(b)]'' when revising such standards ''under [section 202(a)(1)].'' 42 U.S.C. 7521(b)(1)(C). That limitation on revision authority does not apply to emission standards promulgated solely under CAA section 202(a) as an exercise of the Administrator's judgment. Comparable provisions appear elsewhere in the statute as well. *See, e.g.,* 42 U.S.C. 7502(e) (providing that if the EPA ''relaxes'' a NAAQS, it must within 12 months require ''controls which are not less stringent than the controls applicable to areas designated nonattainment before such relaxation'').

section 307(d)(7)(B) applies when a petitioner was unable to raise a centrally relevant objection during a public comment period, not to an EPA-initiated reconsideration.

Comment: A few commenters raised retroactivity concerns with the rescission and repeals, arguing that Congress must expressly authorize rules with retroactive effect and that repealing GHG emission standards for MY 2026 and earlier vehicles would be impermissibly retroactive. Some of these commenters cited *Bowen* v. *Georgetown University Hospital,* 488 U.S. 204 (1988), as setting out a clear statement rule for authority to issue retroactive rules.

Response: The EPA disagrees that repealing GHG emission standards for MY 2026 and earlier vehicles would have retroactive effect, as nothing in this final action ''attaches new legal consequences to events completed before its enactment.'' *Landgraf* v. *USI Film Prods.,* 511 U.S. 244, 270 (1994). As a practical matter, manufacturers have already completed virtually all of the activities necessary to comply with the GHG emission standards for prior MY vehicles. Motor vehicles and engines have been designed and sold with compliant control mechanisms, the proverbial eggs are, in that sense, already scrambled. Repealing the GHG emission standards for prior MYs relieves only a limited set of compliance obligations, including certain ongoing reporting requirements, and does not impose any new or additional obligations on regulated parties.[85] We conclude that repeal of the GHG emission standards for prior MYs is necessary notwithstanding the limited practical effect to ensure that our regulations are squarely grounded in statutory authority and avoid the inconsistency that would be created by retaining these regulations while repealing standards for future MY vehicles and engines. For further explanation of the impacts of the rescission and repeals, see section VII of this preamble and the Response to Comments document. For discussion of the distinct subject of reliance interests, see section IV.A.2 of this preamble.

2. Issues Raised Regarding Reliance Interests

To better assess potential reliance interests, the EPA sought comment on whether regulated parties or other stakeholders have relied in a significant and legally cognizable manner on our assertion of authority to regulate GHG emissions from new motor vehicles and engines and the requirements imposed pursuant to that asserted authority. We noted that such reliance may be relevant considerations to be weighed against competing rationales when deciding whether to change the Agency's position under relevant case law, including *DHS* v. *Regents of University of California,* 591 U.S. 1 (2020). Specifically, we sought comment on potential reliance interests by regulated parties that have expended resources complying with existing standards, including by pricing compliance into costs for consumers, and on potential reliance interests by other stakeholders on the Endangerment Finding and GHG emission standards.

With respect to regulated parties, we noted that because many compliance costs are incurred as part of research and development and during manufacturing, with the exception of the need to purchase compliance credits, this final action would have small to no impacts on MYs 2012–2024, limited impacts for MYs 2024–2026, and entirely relieve future regulatory obligations for MY 2027 and beyond. We also noted that the rescission and repeals would not mandate any particular response by regulated parties and would instead provide additional flexibility by relieving obligations. For discussion of regulatory tools available to address transitional compliance concerns, see sections III.A, VI.B, and VI.C of the preamble to the proposed rule. We also noted that regulated parties may have an interest in national uniformity and preemption and discussed the continued applicability of CAA section 209(a) and other sources of Federal preemption in sections III.A and VI.A of the preamble to the proposed rule.

With respect to other potential interests held by regulated parties and additional stakeholders, we noted that the rescission and repeals would have no impact on existing regulatory provisions for criteria pollutant and air toxics emission standards or for the separate economy and fuel-efficiency standards administered by NHTSA. We explained that general interests in regulating GHG emissions based on global climate change concerns would not justify retaining the GHG regulatory program for new motor vehicles and engines in the absence of statutory authority, and that potential dangers from exposure to the six gases combined in the Endangerment Finding would continue to be regulated when appropriate under other, more specific grants of statutory authority. For further discussion, see sections III.A and IV.A.2 of the preamble to the proposed rule. Finally, we recognized that the EPA has since relied on the Endangerment Finding as authority for GHG regulatory actions under other provisions of the CAA, including several vacated by the Supreme Court,[86] and noted that we would address those actions as appropriate in separate rulemaking proceedings.

The EPA received significant comments on reliance interests from a variety of regulated parties and interested stakeholders that reflected diverging views on whether we should consider reliance interests, what reliance interests we should consider, and how such interests should be addressed in this rulemaking. We agree with commenters' suggestion that under *Loper Bright,* it is unclear how reliance interests could justify retaining or prolonging a regulatory action that is inconsistent with the best reading of the statute. Nevertheless, we carefully reviewed public comments to assess whether any aspects of this final action should be adjusted to account for reliance interests where possible to do so consistent with our statutory authority. Ultimately, we are finalizing the primary legal basis for the rescission and repeals as proposed along with the additional futility conclusions discussed above. Reliance interests raised by adverse commenters did not change our proposed view that a lack of statutory authority necessitates rescinding the Endangerment Finding and repealing the GHG emission standards and deprives us of discretion to issue revised regulations establishing a phase-out or wind-down approach. For more detailed comment summaries and responses, see the Response to Comments document.

Comment: Commenters argued that reliance interests are irrelevant when an agency proposes to rescind a prior action that exceeded its statutory authority. These commenters argued that because the EPA lacked statutory authority to issue the Endangerment Finding and associated GHG regulations, no amount of reliance could justify continuing a program that wields a power neither Congress nor the Constitution granted to the Agency. At least one commenter also cited Justice Thomas's dissenting opinion in *Regents,* which argued that reliance interests are irrelevant when an agency rescinds an unlawful prior action. 591 U.S. at 60.

Response: The EPA appreciates these comments and agrees that reliance

[85] For example, any contractual provisions between the seller (*e.g.,* dealership) and a vehicle purchaser would not be changed or disrupted solely by operation of this final action.

[86] *See West Virginia,* 597 U.S. 697; *UARG,* 573 U.S. 302.

interests alone could not justify retaining or extending a regulation that exceeds our statutory authority. Particularly after *Loper Bright,* the relevance of reliance interests under such circumstances is unclear.[87] On one hand, courts have consistently held that agencies must consider significant reliance interests when exercising their authority to change positions. On the other, these cases typically addressed reliance interests in contexts where the agency faced a choice between competing policy options. Under *Chevron,* that included the choice between permissible interpretations of the relevant statute. Now that *Chevron* has been overruled, however, the range of agency discretion is considerably narrowed because the best reading of the statute controls. *Loper Bright,* 603 U.S. at 401–04. When the statute is best read as conferring discretion, courts use ordinary tools of interpretation to ''fix the boundaries of the delegated authority'' and ensure the agency reasonably exercises its discretion within those boundaries. *Id.* at 395.[88]

Relevant precedents decided before *Loper Bright* do not resolve the question whether the illegality of a prior agency action is a sufficient explanation for rescission under the change-in-position doctrine. In *Encino Motorcars, LLC* v. *Navarro,* 579 U.S. 211 (2016), for example, the Supreme Court applied the *Chevron* framework to an agency's decision to alter a longstanding statutory interpretation that applied an exemption to a class of employees. The Court found the change arbitrary and capricious because the agency failed to consider industry's legitimate reliance on the applicability of the exemption. *Id.* at 221–22. The decision appeared to assume for purposes of deciding the case that either interpretation could be permissible under *Chevron* and did not address whether, had the prior interpretation been unlawful, that determination would have been a sufficient explanation for the new interpretation.

In *Regents,* the Court found the rescission of a deferred action memorandum arbitrary and capricious for failing to consider legitimate reliance interests, even where the memorandum had provided that the deferred action program ''conferred no substantive rights.'' 591 U.S. at 30. That holding was informed by the Court's decision not to address whether the agency lacked statutory authority to issue the original memorandum. *Compare id.* at 25–28, 32, *with id.* at 40, 60 (Thomas, J., dissenting) (arguing that reliance interests were irrelevant because the agency was rescinding an unlawful action). Rather, the Court noted that the agency had taken the view that it retained discretion in deciding how to wind down the program, *id.* at 25, and assumed on that basis that the agency could have accommodated reliance interests given its ''considerable flexibility in carrying out its statutory responsibility,'' *id.* at 32.

The conclusion that we lack statutory authority under CAA section 202(a)(1) to regulate GHG emissions in response to global climate change concerns leaves us without discretion to issue revised regulations. There is no ''water under the bridge'' exception for unlawful agency action, and the change-in-position doctrine does not expand an agency's statutory authority for the purpose of addressing reliance interests. The Supreme Court previously rejected our efforts to reduce compliance burdens triggered by our GHG regulatory program in *UARG,* holding that the Tailoring Rule exceeded our statutory authority and demonstrated that the underlying Triggering Rule was itself unlawful. 573 U.S. at 328. Here, retaining or altering the GHG emission standards because of reliance interests would similarly require rewriting the statute to confer ''power that neither Congress nor the Constitution'' gave us. *Regents,* 591 U.S. at 60 (Thomas, J., dissenting). Adopting regulatory provisions to phase out or winddown the Endangerment Finding and GHG emission standards would be inconsistent with the conclusion that we lack statutory authority for the program, potentially rendering both aspects of the action arbitrary and capricious. CAA section 202(a)(1) is binary in this respect. Our authority to delay or adjust standards under additional provisions of CAA section 202 cannot be accessed without first passing through the narrow gate of CAA section 202(a)(1).

Nevertheless, as discussed below and further detailed in the Response to Comments document, we reviewed and considered reliance interests raised by stakeholders in the interest of transparency and public engagement. This discussion is not and should not be understood as a concession that such consideration is legally required, or that any disagreement with our consideration of particular reliance interests undermines this final action.

Comment: Many commenters supportive of the proposal argued that stakeholders could not have significant reliance interests warranting retention of the Endangerment Finding and GHG emission standards given the nature of the rescissions and repeals. These commenters noted that the rescission and repeals would relieve rather than impose obligations, and that manufacturers and others remain free to move forward with current plans and designs.

Response: The EPA agrees that this final action relieves compliance obligations under the CAA and does not require anything further of regulated parties with respect to GHGs. As noted at proposal, unlike the GHG emission standards, this final rescission and repeal action increases flexibility and does not require manufacturers to change plans if doing so would raise timing concerns within the MY structure of the new motor vehicle and engine market. With respect to informational labels and warranties, manufacturers may elect to proceed with implementation or not, and nothing in this final action invalidates existing labels or contracts entered into between or among manufacturers, suppliers, and purchasers. We acknowledge that regulated parties have already incurred compliance costs because of the GHG emission standards and, particularly with respect to MY 2026 and beyond vehicles, have yet to recoup such costs through sales. However, those costs were incurred because of the GHG emission standards rather than this final action and cannot legitimately be attributed to this final action. Nor is it the case that this final action deprives regulated parties of a benefit to which they would have been entitled by complying with the GHG emission standards. The ''benefit'' of compliance is the avoidance of enforcement actions and potential penalties under the CAA. This final action does not subject regulated parties to increased risk of enforcement.

The evaluation of reliance interests is a context-specific inquiry that turns on the structure of the regulatory program and the nature of related private

[87] Since *Loper Bright,* the Supreme Court has returned to the reliance interest prong of the change-in-position doctrine only in a case involving arbitrary and capricious claims that did not turn on questions of statutory interpretation. *See Wages & White Lion,* 604 U.S. at 567.

[88] In *Loper Bright,* the Supreme Court also stated that *Chevron*'s overruling is not a sufficient reason to invalidate ''specific agency actions'' upheld under the *Chevron* framework. 603 U.S. at 412. That *stare decisis* limitation does not apply to the rescission and repeals in this final action, which is a separate and subsequent decision in which the EPA is changing its interpretation of CAA section 202(a)(1) and repudiating our prior actions as exceeding our statutory authority. *See, e.g., Ohio Telecom Ass'n* v. *FCC,* 124 F.4th 993, 1002 (6th Cir. 2025) (courts are not bound by prior holdings applying the Chevron framework in the same statutory context when the agency action on review ''is not the 'specific agency action' '' upheld in the prior decision).

arrangements. Courts have recognized that asserted reliance interests may be unreasonable in light of the statutory scheme, *Am. Fuel & Petrochemical Mfrs.* v. *EPA,* 937 F.3d 559, 578 (D.C. Cir. 2019), and that the duty to consider reliance interests ''exists in tandem with the nature of the reliance interests at issue,'' *Am. Petrol. Inst.* v. *DOI,* 81 F.4th 1048, 1060 (10th Cir. 2023). CAA section 202 recognizes the MY structure of the vehicle market in various ways, including by distinguishing between ''new'' and existing vehicles, and we have prescribed emission standards on an MY basis for decades. Regulated parties are aware that emission standards may be changed and updated for future MYs, and, as explained above, face minimal ongoing regulatory obligations with respect to past MYs. Cases involving legally significant reliance interests by regulated parties have almost always involved agency actions that increase regulatory obligations. See, *e.g., Encino Motorcars,* 579 U.S. at 223. Where, as here, the agency action relieves regulatory obligations, regulated parties are not harmed by the additional flexibility of choosing between maintaining their existing plans or altering them as they see fit. See, *e.g., Arizona* v. *EPA,* 77 F.4th 1126, 1130 (D.C. Cir. 2023) (finding no standing to challenge compliance deadline extension because the rule ''in no way prevented primacy states from proceeding on the original schedule'').

For these reasons, we do not believe that existing compliance investments by regulated parties are the type of significant reliance interests that warrant special consideration in the context of this rulemaking. Even taking them into account, however, such reliance interests do not expand the EPA's statutory authority under CAA section 202(a)(1). As explained above, the best reading of the statute precludes us from maintaining a GHG emission standard program for vehicles and engines. For further discussion of the bases for this final action, see section V of this preamble. For discussion of more specific compliance-related concerns, including facility investments and compliance credits, see the comment and response summaries below and the Response to Comments document.

Comment: Some commenters asserted that regulated parties have invested substantially in complying with the GHG emission standards, including by operating, constructing, and announcing facilities to manufacture EVs, and that such investments by various actors in the supply chain since 2007 amount to $211 billion. These commenters also asserted that American manufacturers have been at the forefront of developing and deploying responsive technologies, many of which are already in production and use. Several of these commenters argued that we have not justified proceeding with the rescission and repeals given these investments, while others suggested that we should consider a more limited repeal of the most recent GHG emission standards rather than a broader rescission of the Endangerment Finding.

A different set of commenters contested the relevance of such reliance interests, arguing that many of these investments predate the EPA's most recent GHG emission standards, that the most recent GHG emission standards improperly bail out automakers' bad EV investments, and that automakers are already retreating from EV production for independent reasons.

Response: The EPA acknowledges that certain regulated parties have invested significantly in EV production and technologies that have been or could be used to comply with the GHG emission standards. We also acknowledge that those companies have already reaped significant value from this program by selling credits to other companies over the years. As discussed above, however, nothing in this final action precludes market participants from continuing to make such investments or removes any benefit capable of engendering cognizable reliance interests. Nor are such investments capable of expanding the EPA's statutory authority under CAA section 202(a)(1).

In general, we do not believe that the investments in EVs and related technologies raised by commenters should be attributed exclusively to the EPA's current GHG emission standard requirements. The new motor vehicle and engine market is complex and informed by a wide variety of economic and regulatory considerations. As several commenters recognized, some of these investments predate our most recent GHG emission standards rulemakings in 2024 for MYs 2027 and beyond, and some predate the Endangerment Finding. With respect to economic influences, we note that EV demand has been subject to significant fluctuation and declines unrelated to this rulemaking. The decline in demand is attributable in part to Congress, which recently repealed certain tax credits and subsidies for EVs and disapproved three prior EPA preemption waivers for EV-forcing California vehicle and engine regulations. Changes in consumer preferences are also relevant factors. The ability of market participants to earn a return on EV and related investments thus turns on a variety of factors that ultimately fall outside the Agency's regulatory wheelhouse. The CAA requires us to take cost into account in various ways, but it does not require the EPA to ensure that EV investments turn a profit.

Comment: Several commenters asserted that automakers have relied on the EPA's GHG emission standards to export vehicles and engines overseas on the understanding that products meeting our standards will generally also meet international emission standards. These commenters argued that the rescission and repeal of U.S. GHG emission standards will create uncertainty and raise costs for regulated parties based on this additional export market concern.

Response: The EPA disagrees that possible challenges facing automakers in complying with international emission standards are legitimate reliance interests that counsel against the rescission and repeals. We question the premise that automakers assume their products will comply with applicable emission standards in export markets, as GHG emission standards are not in place for new vehicles and engines (or the same classes of new vehicles and engines) in all export markets and vary significantly among nations where such GHG emission standards are in place and applicable to imports. We also note that many automakers structure design, marketing, and production strategies to account for differing emission standards across various markets, both for GHG emissions and for emissions of criteria pollutants and air toxics. Regardless, as discussed above, nothing in this final action prevents regulated parties from maintaining current plans to the extent that they believe doing so is a convenient way to more easily participate in export markets.

Comment: Several commenters raised concerns about the GHG compliance credit regime that some regulated parties have used to comply with the existing regulations. These commenters argued that companies have accumulated credits over the past 15 years and, in some cases, already booked those credits as assets. Several of these commenters presented this as a reason not to finalize the rescission and repeals, while others requested a wind-down period.

Response: The EPA has consistently maintained that regulated parties lack a property right in compliance credits or

their use to demonstrate compliance.[89] We note that the relevant universe of compliance credits potentially impacted by this final action is much smaller than some commenters suggest, as credits are specific to compliance years and expire after five years.[90] Credits for MY 2020 and previous vehicles are expired, and potential credits for MY 2026 and beyond vehicles are not yet in place. These considerations lead us to conclude that the impact on stakeholders arising from compliance credit issues will be relatively small and temporary. Additionally, as discussed within the Response to Comments document, the EPA has reduced the value of emission credits within trading programs previously.

More fundamentally, our lack of statutory authority to retain the GHG emission standards means that we lack discretion to issue revised regulations that incorporate a phase-out or wind-down approach to address concerns related to this compliance mechanism.

Comment: Some commenters asserted that State and local governments have relied on the EPA's GHG regulatory program as a baseline to craft climate policy and invested substantial resources in EV manufacture and development, EV infrastructure, including charging stations, and transportation electrification more generally. Several of these commenters also asserted that States have relied on co-pollutant reductions from the GHG emission standards to satisfy their compliance obligations under the NAAQS for criteria pollutants. These commenters argued that, given such reliance interests, the EPA should first conclude its rescission of the Endangerment Finding, including any subsequent litigation, before repealing the associated GHG emission standards.

Response: The EPA acknowledges the comments and information received from many States and local governmental entities, including both the comments summarized above and comments from States urging us to finalize the proposed rescission and repeals. We are aware that State and local governments have, at various times, encouraged and supported the EPA's GHG regulatory program and undertaken initiatives to address perceived global climate change concerns. We disagree that this final action disrupts State and local policy initiatives that have used the Endangerment Finding or subsequent actions as a baseline, however. So long as such policy initiatives are consistent with applicable Federal law, they may continue, and nothing in this final action changes the status quo for such initiatives. To the extent commenters refer more generally to a practice of supporting and imitating aspects of the EPA's GHG regulatory program, that practice does not depend upon our continuing to maintain the program. To the extent commenters refer to information, funding, or technical support that has been integrated into such programs, we note that any such provisions are not part of the Endangerment Finding or GHG emission standards subject to rescission and repeal and that commenters did not point to a specific counterexample that should be considered in this rulemaking. Nothing in this final action addresses any separate statutory obligation the EPA may have to provide information, make grants, or provide technical support.

With respect to commenters' assertions about State and local government investments in EV technology and infrastructure, we disagree that such reliance interests counsel against the rescission and repeals for substantially the same reasons discussed above regarding regulated parties. Nothing in this final action precludes such investments, and nothing in the prior actions and rules subject to this final action entitled States or local governments to any particular benefits or return on their investments. The extent to which such investments end up supporting these entities' policy goals turns on a complex combination of unrelated regulatory and economic factors.

Finally, with respect to the NAAQS program, we note that the EPA has not established air quality criteria or NAAQS for GHGs under CAA sections 108 and 109, either individually or under the Endangerment Finding's definitional grouping of the six ''well-mixed'' GHGs. As explained in section VI of this preamble, this final action does not impact any of the EPA's criteria pollutant emission standards that are more directly relevant to NAAQS attainment or NHTSA's separate fuel-economy and fuel-efficiency regulations that also may result in co-benefits. We acknowledge that many regulated parties elected to comply with the GHG emission standards using technologies that also produce reductions in criteria pollutant emissions, including by shifting toward EVs or otherwise installing control equipment with co-benefits. Nevertheless, we disagree that such co-benefits engender significant reliance interests relevant to this rulemaking or that such considerations justify retaining the GHG regulatory program in the absence of statutory authority, particularly because the EPA has additional, express statutory authorities to address criteria pollutant emissions relevant to NAAQS attainment.

As a practical matter, criteria pollutant emission reductions attributable to the GHG emission standards are small in absolute terms and unlikely to materially impact States' attainment of the NAAQS. In recent GHG emission standard rulemakings, we stated our expectation that manufacturers would comply with the standards by shifting to EV production, which we predicted would lower criteria pollutant emissions from new motor vehicles, increase emissions from the power sector to accommodate additional electricity demand, and marginally decrease emissions attributed to fossil-fuel refineries given decreased demand for diesel and gasoline. For the 2024 HD GHG Emission Standards Rule, for example, we estimated small net decreases in NO_X, VOCs, and sulfur dioxide (SO_2) emissions and a small net *increase* in fine particulate matter ($PM_{2.5}$) emissions.[91] For context, the emission decreases projected for HD vehicles amount to less than 1 percent of national NO_X emissions and less than 0.01 percent of VOC and SO_2 emissions for 2024.[92] As discussed above, this final action has the potential to alter vehicle emissions on a prospective basis given the MY-by-MY nature of the market and the applicability of CAA section 202(a) emission standards to ''new'' motor vehicles and engines. Thus, any criteria pollutant emission reductions realized in practice as a co-benefit of GHG emission standards for

[89] *See* 40 CFR 86.1865–12(k)(2) (''There are no property rights associated with CO_2 credits generated under this subpart. Credits are a limited authorization to emit the designated amount of emissions. Nothing in this part or any other provision of law shall be construed to limit EPA's authority to terminate or limit this authorization through a rulemaking.'').

[90] *See* 73 FR 25692 (May 7, 2010) and 40 CFR 86.1865–12(k)(2). Relatedly, see 40 CFR 86.1861–17(b)(3) (LD and MD vehicle credits); 40 CFR 1036.740(d) (HD engine credits), and 1037.740(c) (HD vehicle credits).

[91] *See, e.g.,* 89 FR 29440, 29455 (Apr. 22, 2024).

[92] *Compare id.* (estimating NO_xemission reductions of 53,051 tons, VOC emission reductions of 7,272 tons, and SO_2 emission reductions of 295 tons), *with* U.S. Environmental Protection Agency: Air Pollutant Emissions Trends Data (Apr. 2025) (estimating NO_X emissions of 6,940,000 tons, VOC emissions of 12,783,000 tons, and SO_2 emissions of 1,675,000 tons). National emissions are the appropriate comparator because NAAQS attainment is evaluated by criteria pollutant levels from all sources. Estimates in the 2024 HD GHG Emission Standards Rule evaluated emissions from all HD vehicles MY 2027 and beyond regardless of in-use location.

MY 2025 and earlier are not impacted by this final action. Moreover, this final action does not require regulated parties to change existing plans, but rather, provides additional flexibility moving forward, meaning whether any and by how much anticipated reductions occur in practice turns on decisions by multiple independent actors.

For these reasons, we cannot agree that States have significant reliance interests in the permanence of GHG emission standards in connection with NAAQS attainment. Potential impacts are limited to marginal foregone emissions reductions in future years. The co-benefits estimated in prior rulemakings are necessarily speculative because they turn on compliance decisions by manufacturers in future years and purchasing decisions by consumers (*i.e.,* whether manufacturers comply as expected by shifting to EVs or adopting different technologies, and whether consumer demand for vehicles and engines, including relative demand for traditional vehicles versus EVs, plays out as expected). Reductions in such co-benefits are also uncertain because they depend on how regulated parties choose to proceed in future years in light of this final action. Separate and apart from this rulemaking, CAA section 202(a) makes clear that the content of the EPA's vehicle and engine emission standards are subject to revision at any time, and we have repeatedly revised the GHG emission standards for future MYs since 2010.[93] See, *e.g., Am. Fuel & Petrochemical Mfrs.,* 937 F.3d at 578 (finding reliance on particular biofuel volume decisions unreasonable given the EPA's express discretion to revise requirements).

The appropriate mechanisms for addressing these concerns are the EPA's express statutory authorities bearing on criteria pollutant emissions and the NAAQS. We encourage States to participate in future rulemakings for criteria pollutant emission standards under CAA section 202 and other rulemakings impacting criteria pollutant emissions from stationary sources. NAAQS attainment is evaluated based on measured levels in the ambient air, and the statute provides a number of regulatory tools to the EPA and States to promote attainment. For example, the EPA may account for the impact of exceptional events and international emissions under certain circumstances and require States to adopt additional controls when their emissions contribute to nonattainment in another State. And States have discretion in formulating plans to attain the NAAQS, which may include certain mobile-source compliance programs, additional controls for new and existing stationary sources, and other emissions-reduction strategies. For additional discussion of our efforts to assist States in attaining the NAAQS, see the authorities, programs, and guidance documents referenced in the Response to Comments document.

Comment: Commenters with a variety of perspectives asserted that we failed to consider the interests of vehicle purchasers, including those with future commitments to purchase clean vehicles and past purchasers of vehicles with battery warranties and certain in-use performance requirements. Several of these commenters also stated that current GHG emission standards were projected to save consumers thousands of dollars per vehicle in fuel costs over the life of the car given continued improvements in efficiency and the availability of cleaner vehicle models, including from increased EV market penetration.

Response: The EPA disagrees that such interests counsel against finalizing the rescission and repeal and notes that commenters misconstrue the impact of this final action and the requirements in the GHG emission standards. Nothing in this final action requires regulated parties to change existing plans, and that logic applies to future purchase commitments as well. If States, municipalities, or businesses wish to fulfill existing purchase requirements or choose to purchase such vehicles in the future, they remain free to do so. Commenters provided no reason to believe that these voluntary purchase agreements were entered into to facilitate compliance with the GHG emission standards, and we are not aware of any reason that States, municipalities, or businesses not subject to the standards (*i.e.,* not manufacturers or suppliers) would be involved in the design or production of compliance vehicles or engines. To the extent commenters meant to assert that the purchases were intended to satisfy local emission-reduction targets, many such targets are voluntary, and nothing in this final action prevents entities from proceeding with or adjusting existing strategies. With respect to past purchases, the battery warranty and in-use performance requirements cited by commenters are not set to begin until MY 2027. For this reason, purchasers cannot reasonably have relied on these requirements for past purchases, and any battery warranties or performance guarantees were entered into on a voluntary basis separately from regulatory requirements. See the Response to Comments document for additional discussion of emissions warranties and limited additional ongoing obligations for certain MY 2025 and earlier vehicles.

As to estimated fuel cost savings arising from the predicted impacts of increased market penetration of EVs, we note that fuel costs savings per vehicle for the consumer were not a substantive justification for the Endangerment Finding. Rather, we included the discussion cited by commenters in the RIAs completed for more recent standards rulemakings. Commenters did not support their contention that existing purchasers reasonably relied on the estimated fuel costs savings per vehicle from the GHG emission standards in purchasing a vehicle. Moreover, as discussed in the DRIA and RIA for this final action, we significantly adjusted prior estimates of the cost savings attributable to GHG emission standards. Our prior estimates were based on interdependent assumptions and predictions regarding future choices by unrelated actors and global fluctuations in fossil-fuel and energy supply and demand. Intervening events since our estimates in 2024, including legislative, policy, and global market changes, have already demonstrated the significant range of uncertainty inherent in the analysis. See the RIA for this final action and subsequent sections of this preamble for further discussion.

Comment: Finally, several commenters argued generally that we failed to consider reliance interests involving the U.S. economy, national security, global geopolitics, and global trade. These commenters argued that we must consider these interests to finalize a valid rule.

Response: The EPA does not believe these general assertions raise specific and legitimate reliance interests that could or must be taken into account in this rulemaking as *reliance* interests. Case law provides that such generalized concerns are not the type of reliance interests that require special consideration.[94] We endeavored to take

[93] Unlike CAA sections 109, 111, 112, and 129, for example, CAA section 202(a)(1) requires the EPA to revise new motor vehicle and engine emission standards ''from time to time'' without mandating a particular review timeline or date-certain deadline for periodic revisions. *Compare* 42 U.S.C. 7521(a)(1), *with id.* 7409(d)(1), 7411(b)(1)(B), 7412(d)(6), (f)(2), 7429(a)(5).

[94] *See, e.g., Am. Petrol. Inst.,* 81 F.4th at 1061 (''general assertions of reliance simply do not rise to the level of ongoing and serious reliance interests necessary to trigger a duty . . . to provide a more detailed explanation''); *Am. Hosp. Ass'n* v. *Azar,* 983 F.3d 528, 540 (D.C. Cir. 2020) (rejecting general assertion of reliance interests where party

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these general concerns into account in this rulemaking when appropriate, including by carefully reviewing and considering the ways in which Congress addressed international emissions issues in the CAA. However, as discussed in section V of this preamble, the controlling statutory language in CAA section 202(a) does not authorize the Agency to regulate GHG emissions in response to such global concerns. The possibility that interpreting CAA section 202(a) to authorize regulation in response to global climate change concerns would render the statute broad enough to encompass global political and economic relations reinforces our view of the best reading of the statute.

B. Repeal of New Motor Vehicle and Engine GHG Emission Standards

As noted above, CAA section 202(a)(1) directs the Administrator to prescribe ''standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' This core directive has remained substantially the same since Congress enacted the Motor Vehicle Pollution Control Act of 1965.[95] Thus, a necessary condition to regulating emissions from new motor vehicles and engines is a finding—an ''endangerment finding''—that emissions of an air pollutant from a class or classes of new motor vehicles or engines cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.

For the reasons discussed in sections V.A and V.B of this preamble, we are rescinding the Endangerment Finding for GHG emissions from new motor vehicles and new motor vehicle engines and, on that basis, repealing all existing GHG emission standards for passenger cars, light-duty trucks, motorcycles, buses, medium-duty vehicles, and heavy-duty vehicles and engines. The Endangerment Finding has served as the EPA's basis for regulating GHG emissions from new motor vehicles and new motor vehicle engines since 2009. Absent findings of endangerment and causation or contribution, the EPA lacks statutory authority to prescribe standards for those emissions under CAA section 202(a)(1). Thus, we must cease prescribing and enforcing standards applicable to the emission of that pollutant from new motor vehicles or new motor vehicle engines and are rescinding existing standards no longer authorized by statute.

For the reasons discussed in section V.C of this preamble, we also find that the futility of GHG emission standards for new motor vehicles and engines warrants repealing the standards separate and apart from the rescission of the Endangerment Finding. Courts have long recognized the background principle that Congress does not intend agencies to expend resources on fruitless efforts, particularly when those efforts come at the expense of express statutory obligations for which material progress is more readily achievable. Given the immense costs to manufacturers, auto workers, and American consumers, as well as the burden of administration placed on the EPA and other relevant Federal and State entities, it would be unreasonable to retain a regulatory program that does not materially further any statutory objective relevant to the global climate change concerns relied upon by the Agency in the 2009 Endangerment Finding. This conclusion is consistent with the precautionary nature ascribed by relevant court decisions to the statutory language of CAA section 202(a)(1), which we recognize does not require showing that emission standards entirely or even substantially address the identified dangers. Rather, the available information indicates that GHG emission standards have no impact at all on the adverse impacts identified in the Endangerment Finding beyond a *de minimis* level that falls well below inherent variability in measurements of GMST and GSLR.

Accordingly, the EPA is repealing all standards and associated test procedures adopted to limit the emission of GHGs under CAA section 202(a)(1) for highway LD, MD, and HD vehicles and engines. The EPA notes that, for LD vehicles, the Energy Policy and Conservation Act of 1975 (EPCA) [96] and the 2007 EISA authorize NHTSA to administer the CAFE program and fuel economy labeling program. These statutes also direct the EPA to determine compliance values for manufacturers subject to the CAFE program and the fuel economy labeling program. Importantly, these statutory obligations are distinct from the EPA's authority under CAA section 202(a) and from the EPA's decisions since 2009 to regulate GHG emissions under CAA section 202(a). As explained in section VII of this preamble, we did not propose to reopen and are not finalizing in this rulemaking any changes to regulatory provisions related to our statutory roles in these NHTSA programs. Likewise, we did not propose to reopen and are not finalizing in this rulemaking any changes to criteria pollutant and air toxics standards for highway LD, MD, and HD vehicles and engines under CAA section 202(a).

V. Rescission of the Endangerment Finding

In this section, the EPA provides its bases for rescinding the 2009 Endangerment Finding that initiated the Agency's unprecedented assertion of authority to regulate GHG emissions in response to global climate change concerns. Upon careful review of the text, structure, and history of CAA section 202(a)(1) and related provisions and consideration of comments received on the rationales set out in sections IV.A and V.C of the preamble to the proposed rule, we are finalizing that the Endangerment Finding and GHG regulatory program for new motor vehicles and engines exceeds the EPA's statutory authority for multiple, independent reasons. This conclusion leads us to finalize the proposed repeal of the GHG emission standards in the relevant provisions of Title 40 of the CFR as detailed in section VII of this preamble.

Section V.A of this preamble sets out our determination that CAA section 202(a) does not authorize the EPA to prescribe standards for GHG emissions based on global climate change concerns. Consistent with the Agency's practice before 2009, we conclude that this provision contains important limitations on what would otherwise be a boundless authority. First, CAA section 202(a)(1) is best read as authorizing the EPA to identify and regulate ''air pollution'' that threatens to endanger health and welfare through local and regional exposure. Second, CAA section 202(a)(1) is best read as requiring the EPA to apply the statutory standard for regulation as a whole by issuing findings as an integral predicate step of an emission standards rulemaking and, in doing so, evaluating whether new motor vehicle and engine emissions cause or contribute to the danger posed by the relevant air pollution. We apply the traditional tools of statutory interpretation to CAA section 202(a)(1) and related provisions, as informed by the Supreme Court's decisions in *Loper Bright* and *UARG.* We also explain how the inability of GHG emission standards to have a material (*i.e.,* non-*de minimis*) impact on the dangers attributed to global climate change in the Endangerment

''identified no reliance interests the action might be upending'').

[95] Public Law 89–272, 79 Stat. 992, 992–93.

[96] Public Law 94–163, 89 Stat. 871 (1975).

Finding informs our statutory interpretation.

Section V.B of this preamble explains our determination that CAA section 202(a)(1) lacks the clear congressional authorization required for the EPA to assert authority to regulate GHG emissions in response to global climate change concerns. We review the Supreme Court's precedents applying the major questions doctrine, including *UARG* and *West Virginia,* to conclude that the Nation's policy response to global climate change concerns is a question of significant economic and political importance and that Congress did not clearly empower the EPA to decide by authorizing the Administrator to ''prescribe . . . standards'' for emissions from new motor vehicles and engines. We further explain that a limiting construction of CAA section 202(a)(1) is necessary to avoid serious constitutional concerns with the breadth of the provision required by the logic adopted in the Endangerment Finding.

Section V.C of this preamble explains our determination, informed by comments and supporting data received in response to the proposed rule, that GHG emission standards have not and cannot materially diminish the health and welfare impacts attributed to global climate change by the Endangerment Finding in any non-*de minimis* way. As presented below, the results of our modeling indicate that even the elimination of all GHG emissions from vehicles in the United States (both new and existing, and inclusive of LD, MD, and HD vehicles) would not yield impacts beyond a level that is well below the range of inherent variability in measurement for trends in GMST and GSLR. We conclude that these findings lend further support to the basis for rescission in section V.A of this preamble given the language of CAA section 202(a)(1) and the background principles that Congress does not require futile efforts or include *de minimis* concerns in general statutory terms. We further conclude that these findings support repealing the GHG emission standards separate and apart from the rescission of the Endangerment Finding because it is unreasonable to impose immense costs that do not further any legitimate statutory purpose.

Each of the legal bases finalized in this action is separate and independent from the others, and the EPA would rescind the Endangerment Finding and repeal the GHG emission standards on any one of these bases standing alone. The EPA's lack of statutory authority for the Endangerment Finding and related regulations would require rescission and repeal even if the major questions doctrine did not apply. Similarly, the major questions doctrine would require finalizing this action even if the EPA had a plausible textual basis for asserting the authority to regulate GHG emissions in response to global climate change concerns. Each of these bases would require finalizing this action even if the futility of the GHG emission standards program were not established in the record or were not an adequate basis for this final action. Conversely, the futility of the GHG emission standards program would support repealing the GHG emission standards even if there were an adequate legal basis to retain the Endangerment Finding.

''Wisdom too often never comes, and so one ought not to reject it merely because it comes late.'' *Henslee* v. *Union Planters Nat'l Bank & Tr. Co.,* 335 U.S. 595, 600 (1949) (Frankfurter, J., dissenting). Because the Endangerment Finding and the regulations that rely upon it exceed the EPA's authority in multiple respects, fundamental legal principles underpinning our constitutional system compel corrective action. The Endangerment Finding must be rescinded, and the regulatory program it initiated must be, repealed.

A. Best Reading of CAA Section 202(a)(1)

The Endangerment Finding announced an interpretation of CAA section 202(a)(1) that permitted the EPA to prescribe standards in response to global climate change concerns rather than air pollution that threatens public health or welfare through local or regional exposures. We asserted that the statute's ''silence'' granted us ''procedural discretion'' to issue standalone findings without considering the regulatory response required by those findings. In setting out our standalone findings, we severed the endangerment analysis (based on health and welfare harms attributed primarily to trends in GMST and GSLR) from the cause or contribution analysis (based on the estimated share of domestic GHG emissions from all new and existing motor vehicles and engines in global GHG emissions from all anthropogenic sources). In the endangerment analysis, we acknowledged that none of the health effects of concern were associated with direct exposure to GHGs, and in the contribution analysis, we acknowledged that combatting the identified risks would require all contributors—both domestic and international and from all anthropogenic sources—to ''do their part.'' Throughout, we assumed that the Supreme Court's decision in *Massachusetts* compelled us to read the statute as authorizing the regulation of GHG emissions under CAA section 202(a)(1).

In important respects, the Endangerment Finding and the Supreme Court's decision in *Massachusetts* straddled a transitional period regarding the standards for statutory interpretation and understandings of agency authority. The breadth of agency discretion, and the question whether Congress reserves major policy questions for itself, were sharply disputed. Judicial decisions in the intervening fifteen years have significantly clarified the law. In *Loper Bright,* the Supreme Court overruled the *Chevron* doctrine of deference to agency statutory interpretation, ruling that statutes ''have a single, best meaning'' that is '''fixed at the time of enactment''' and informed, but not dictated, by Executive Branch practice. 603 U.S. at 400–01 (quoting *Wis. Cent. Ltd.* v. *United States,* 585 U.S. 274, 284 (2018)). And in *West Virginia,* the Supreme Court built upon its decisions in *UARG* and *Brown & Williamson,* among others, by confirming that an agency must have more than ''a colorable textual basis'' to claim authority to decide major questions of policy that Congress generally reserves for itself. 597 U.S. at 723.

In this subsection, we explain that the best reading of CAA section 202(a)(1), as informed by *Loper Bright* and principles of statutory interpretation, does not authorize the EPA to assert jurisdiction over GHG emissions based on global climate change concerns in a standalone endangerment finding. Scientific understanding of environmental issues may be continuously evolving, but the scope of the EPA's authority under CAA section 202(a)(1) is fixed by the terms Congress used when enacting and amending the language of CAA section 202(a)(1) from 1965 to 1977. Regardless whether GHGs are ''agents of air pollution'' under the Act-wide definition of ''air pollutant'' in CAA section 302(g), we cannot regulate under CAA section 202(a) unless emissions of the air pollutant by new motor vehicles and engines ''cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' Because the ordinary meaning, structure, and history of CAA section 202(a)(1) and related provisions demonstrate that this language targets ''air pollution'' that threatens public health or welfare through local or regional exposure, the ''six well-mixed'' GHGs defined by reference to global climate change concerns cannot satisfy this standard. The futility of GHG emission standards in addressing the

health and welfare impacts attributed to global climate change further reinforces this interpretation. For these reasons, and on account of the additional procedural and analytical errors discussed below, we are rescinding the Endangerment Finding.

1. Final Rationale

Congress originally enacted the language of CAA section 202(a) in the Motor Vehicle Pollution Control Act of 1965 and retained it, with minor revisions, in 1967, the 1970 CAA, and the 1977 amendments. The key language in CAA section 202(a)(1) provides:

> The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.[97]

Since 1977, CAA section 302(g) has defined the term ''air pollutant'' throughout the statute as ''any air pollution agent or combination of such agents . . . which is emitted into or otherwise enters the ambient air.'' [98] CAA section 302(h) also provides that any reference to ''effects on welfare includes, but is not limited to, effects on'' the environment, property, transportation hazards, and ''on economic values and on personal comfort and well-being.'' [99]

The EPA concludes that this statutory language is best read as authorizing the Agency to identify and regulate, as an integral part of a rulemaking prescribing emission standards, emissions that cause or contribute to air pollution that endangers public health and welfare through local or regional exposure. This reading is consistent with the ordinary meaning of key terms and the statutory structure, our decades-long implementation of the statute prior to 2009, and background principles of statutory interpretation, including default rules for proximate cause. This reading is also consistent with the Supreme Court's decision in *Massachusetts,* which addressed distinct issues arising out of the denial of a petition for rulemaking and must, as a matter of *stare decisis,* be read in harmony with subsequent decisions bearing on the EPA's authority and statutory interpretation, including *UARG, West Virginia,* and *Loper Bright.*

Air Pollution. The EPA is finalizing as proposed that CAA section 202(a)(1) is best read as authorizing the Agency to regulate emissions that cause or contribute to air pollution that endangers public health or welfare through local or regional exposure. For the purposes of this final action, we use the phrase local or regional exposure to distinguish air pollution that impacts public health and welfare by its presence in the ambient air from ''air pollution'' consisting of six ''well-mixed'' GHGs that, as conceptualized in the Endangerment Finding, impacts public health and welfare only indirectly and not by its mere presence in the ambient air. As discussed below, this aspect of the final action effectively returns the EPA to its interpretation of CAA section 202(a)(1) prior to 2009 and the ordinary meaning of the terms Congress selected.

In CAA section 202(a)(1), Congress identified the object of the regulatory authority conferred in the remainder of the section—''air pollution which may reasonably be anticipated to endanger public health or welfare.'' The EPA's emission standards for new motor vehicles and engines were a key part of the congressional design for combatting air pollution problems impacting the Nation throughout the 1960s and 1970s, particularly in high-population areas. Congress debated these issues extensively in advance of the 1970 CAA by reference to the air pollution impacting Americans every day, with smog, criteria pollutants, and air toxics taking center stage.[100] To address the perceived need for a rapid response, Congress paired the preexisting language imported into CAA section 202(a)(1) [101] with new language in CAA section 202(b)(1) requiring that emission standards contain significant, short-term reductions in CO, HC, and NO_X emissions from new LD vehicles and engines.[102] As discussed elsewhere in this preamble, Congress repeatedly returned to this strategy in the subsequent decades by adding language to CAA section 202 requiring that emission standards achieve further reductions for additional pollutants and classes of new motor vehicles and engines.

Particularly in light of this history, the term ''air pollution'' as used in CAA section 202(a)(1) must be construed in context with the specific air pollutants and air pollution concerns identified in the remainder of CAA section 202. Each of these listed pollution control targets share the common quality of causing or contributing to air pollution that adversely impacts public health or welfare through local or regional exposure to the air pollution itself. CAA section 202 specifically requires the EPA to prescribe emission standards with various minimum content for HCs, CO, NO_X, and PM, all of which harm human health and the environment through exposure (*e.g.,* inhalation and dermal contact) or by causing or contributing to air pollution that harms health and the environment through exposure (*e.g.,* smog and acid rain).[103] CAA section 202(*l*) also requires prescribing emission standards under CAA section 202(a)(1) for certain air pollutants that qualify as ''toxic'' or ''hazardous'' air pollutants, including benzene and formaldehyde.[104] Neither GHGs nor any of the individual ''six well-mixed'' GHGs defined in the Endangerment Finding by reference to global climate change concerns appear

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[97] 42 U.S.C. 7521(a)(1). The key terms ''cause, or contribute,'' ''air pollution,'' ''endanger,'' and ''health or welfare'' were introduced in 1965. Public Law 89–271, section 101, 79 Stat. 992, 992–93. The phrase ''may reasonably be anticipated to'' was added to the earlier phrase ''which endangers the public health or welfare'' in 1977. Public Law 95–95, section 401(d)(1), 91 Stat. 685, 791.

[98] 42 U.S.C. 7602(g). Notably, the statute does not separately define ''air pollution.''

[99] 42 U.S.C. 7602(h). This definition took its current form in the 1970 CAA and was amended in part in the 1990 CAA Amendments to add the final clause ''whether caused by transformation, conversion, or combination with other air pollutants.'' *See* Public Law 91–604, 84 Stat. 1676, 1710; Public Law 101–549, 104 Stat. 2399, 2470.

[100] *See, e.g.,* S. Rep. 91–1196, at 1, 7 (1970) (expressing ''concern with direct adverse effects upon public health'' and the need for ''definitive knowledge of the causal relationships between exposure to air pollution agents . . . and health or welfare under varying environmental conditions,'' particularly by reference to SO_x, PM, CO, HC, and oxidants and the role of mobile sources in urban pollution); *id.* at 18 (describing the three general categories of air pollution as criteria pollutants, hazardous air pollutants, and certain emissions unique to stationary sources); H.R. Rep. 91–1146, at 6 (1970) (explaining that mobile-source air pollution ''is particularly dangerous in the highly urbanized areas of our country''); 116 Cong. Rec. 32902 (1970) (statement of Sen. Muskie) (explaining that the draft legislation targeted mobile-source contribution to urban pollution, including by requiring ''emission standards for carbon monoxide, hydrocarbons, and nitrogen oxides''); *see also* 111 Cong. Rec. 10782 (1965) (statement of Sen. Muskie) (similarly emphasizing in advance of the original 1965 legislation that mobile sources accounted for ''50 percent of our national air pollution problem'' and focusing in particular on ''carbon monoxide,'' ''hydrocarbons,'' and ''nitrogen oxides'').

[101] *See, e.g.,* S. Rep. 91–1196, at 24 (''The regulatory authority in section 202(a) would be essentially the same as existing law . . . .''); H.R. Rep. 91–1783 (1970) (conf. report) (explaining that the House largely acceded to the Senate bill in relevant part).

[102] Public Law 91–604, section 6(a), 84 Stat. 1676, 1690. In subsequent amendments, Congress modified and expanded upon the provisions in CAA section 202(b)(1) to require that emission standards achieve further reductions for later model years. *See* 42 U.S.C. 7521(b)(1).

[103] *See, e.g.,* 42 U.S.C. 7521(a)(3)(A)(i), (b), (g), (h), (j), (k).

[104] 42 U.S.C. 7521(*l*). Such regulations may include fuel standards under issued under the EPA's fuel and fuel additive authority in CAA section 211.

anywhere in CAA section 202.[105] That pattern holds for the criteria pollutants identified in the CAA—CO, lead, ozone (O_3), nitrogen dioxide (NO_2), PM, and SO_2—as well as the initial list of hazardous air pollutants in CAA section 112(b)(1).[106]

We find it significant that in subjecting a number of air pollutants emitted by new motor vehicles and engines to regulation under CAA section 202, Congress did not include substances that are potentially indirectly harmful to public health or welfare based on elevated global concentrations in the upper atmosphere. That conspicuous omission supports the conclusion that emissions subject to regulation under CAA section 202(a) are those that cause or contribute to air pollution which itself endangers public health or welfare through local or regional exposure.[107] For certain regulated air pollutants, the emissions themselves are the air pollution that endangers public health or welfare, *i.e.,* emissions are the air pollution with adverse health and welfare impacts. An example is CO, which can be harmful, and even fatal, to humans at sufficient localized concentrations.[108] For other regulated air pollutants, emissions contribute to air pollution that endangers public health or welfare by interacting with other airborne chemicals or environmental factors such as sunlight to create the air pollution that endangers public health or welfare, *i.e.,* the emitted air pollutants are ingredients that create the air pollution that endangers public health or welfare in combination. An example is acid rain, in which air pollutants such as SO_2 interact locally and regionally with additional airborne chemicals to form acidic precipitation.[109] Another example is NO_X, which reacts with VOCs in the presence of heat and sunlight to create ground-level ozone as the airborne chemicals are carried by wind over geological features amenable to ground-level ozone formation.[110]

We also emphasize that expanding CAA section 202(a)(1) to encompass global climate change concerns required the EPA to take the admittedly ''unique'' approach of finding endangerment and contribution where the overwhelming majority of relevant emissions hails from international sources. Although we justified this approach by concluding as a policy matter that all sources must ''do their part'' to avoid a collective action problem, Congress has specifically provided in the CAA when and how the EPA may consider international emissions. For example, CAA section 115 authorizes the EPA to require controls for domestic emissions that contribute to air pollution that endangers public health or welfare in another country only when, among other things, that country has adopted reciprocal protections for emissions into the United States.[111] CAA section 179B authorizes the EPA to account for the impact of international emissions on NAAQS attainment under certain conditions.[112] Most importantly, Congress adopted a new regulatory regime in 1990—Title VI—in response to global concerns about depletion of the ozone layer, which contains its own findings, policies, and regulatory authorities that required the EPA to phase out domestic use of ozone-depleting substances.[113] None of these provisions encompass GHG emissions, and all support the conclusion that Congress does not presume that general authorities in the CAA encompass international emissions. Rather, Congress knows how to provide for the consideration of and regulation in response to international emissions, and has not done so for GHG emissions in the CAA section 202 provisions governing new motor vehicle and engine emissions.

The definition of ''air pollutant'' in CAA section 302(g) and the ordinary meaning of the undefined terms pollutant, pollution, and air pollution support this reading. At the time Congress added these terms to CAA section 202(a)(1), the term ''pollutant'' was defined as ''[a]nything that pollutes; especially, any gaseous, chemical, or organic waste that contaminates air, soil, or water,'' [114] and ''pollution'' was defined as ''[t]he contamination of soil, water or the atmosphere by the discharge of noxious substances.'' [115] The definition of the root word ''pollute''—''[t]o dirty, contaminate,'' confirms the relationship of these terms to concepts of contamination and toxicity.[116] The central concept is the addition of a contaminant, something that ''make[s] impure by contact or mixture.'' [117] CAA section 302(g) defines ''air pollutant'' is any ''air pollution agent or combination of such agents'' that ''is emitted into or otherwise enters the ambient air.'' [118] Read together with CAA section 202(a)—as the Supreme Court held we must in *UARG*—the underlying concept of dangerousness and contamination reinforces the conclusion that air pollution which endangers public health or welfare is air pollution (caused or contributed to by air pollutants) that itself endangers public health or welfare through local or regional exposures.

Contemporaneous usage of the term ''air pollution'' in the 1960s and 1970s further indicate the term was understood in this way when Congress adopted it into Title II of the CAA. Judicial decisions issued close in time to the public debates and enactment of the CAA Amendments of 1970 used the term exclusively in reference to local and regional exposure.[119] News reports

[105] Notably, in the last major amendments to the Clean Air Act in 1990, Congress specified ''*nonmethane* hydrocarbons (NMHC)'' when adding additional minimum requirements for HC, CO, NO_X, and PM emission standards at CAA section 202(g) and (h). Public Law 101–549, section 203, 104 Stat. 2399, 2474 (emphasis added) (codified at 42 U.S.C. 7521(g), (h)).

[106] 42 U.S.C. 7412(b)(1).

[107] As discussed herein, the references to GHGs in the CAA are in *non*-regulatory contexts in which Congress authorized funding for various forms of research and grant programs and the Renewable Fuel Standard (RFS) program. The choice to limit such references to non-regulatory solutions and the RFS program, which applies to refiners and importers, further supports the conclusion that the CAA section 202(a) regulatory authority for responding to endangerment does not encompass GHG emissions in connection with global climate change concerns.

[108] U.S. Environmental Protection Agency. (Last updated Oct. 7, 2025). Carbon Monoxide's Impact on Indoor Air Quality: *https://www.epa.gov/indoor-air-quality-iaq/carbon-monoxides-impact-indoor-air-quality.*

[109] U.S. Environmental Protection Agency. (Last updated Mar. 4, 2025). What is Acid Rain?: *https://www.epa.gov/acidrain/what-acid-rain.*

[110] U.S. Environmental Protection Agency. (Last updated Mar. 11, 2025). Ground-level Ozone Basics: *https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics.*

[111] 42 U.S.C. 7415.

[112] 42 U.S.C. 7509a.

[113] 42 U.S.C. 7671 *et seq.*

[114] *Pollutant,* Am. Heritage Dictionary 1015 (1970); *see also Pollutant,* 3 Webster's Third New Int'l Dictionary 1756 (1966) (''something that pollutes: a polluting substance, medium or agent'').

[115] *Pollution,* Am. Heritage Dictionary 1015 (1970); *see also Pollution,* 3 Webster's Third New Int'l Dictionary 1756 (1966) (''the action of polluting or the state of being polluted: defilement, desecration, impurity, uncleanness'').

[116] *Pollute,* Am. Heritage Dictionary 1015 (1970); *see also Pollute,* Black's Law Dictionary 1043 (5th ed 1979) (''To corrupt or defile. The contamination of soil, air and water by noxious substances and noises.''); *Pollute,* 3 Webster's Third New Int'l Dictionary 1756 (1966) (''to make physically impure or unclean: befoul, dirty, taint'').

[117] *Contaminate,* Am. Heritage Dictionary 156 (1970); *see also Contaminate,* 1 Webster's Third New Int'l Dictionary 491 (1966) (''to soil, stain, corrupt, or infect by contact or association'').

[118] 42 U.S.C. 7602(g).

[119] *See, e.g., Washington* v. *GM Corp.,* 406 U.S. 109, 115–16 (1972) (declining to exercise original jurisdiction over complaint alleging conspiracy to restrain the development of air pollution control devices for motor vehicles because, although ''Congress has largely preempted the field with regard to 'emissions from new motor vehicles,' . . . geophysical characteristics which define local and regional airsheds are often significant considerations in determining the steps necessary

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and legislative debates leading up to the 1970 Amendments similarly attacked air pollution problems arising from local and regional exposure, including smog and health and welfare impacts related to inhalation and physical contact.[120] This pattern of usage is consistent with subsequent legislative amendments to CAA section 202, which added provisions specific to criteria pollutants and air toxics fitting this profile, and with the EPA's course of mobile-source regulation until 2009. In reviewing the relevant history, including materials received during the public comment period, we have not identified an authoritative source suggesting that the ordinary meaning of ''air pollution'' would have included, without additional modifying language, gases that may endanger public health or welfare only on a global scale and through an attenuated and indirect causal chain.

The ''air pollution'' addressed in the Endangerment Finding is different in kind. In that decision, the Administrator defined the relevant ''air pollutant'' as six ''well-mixed GHGs'' and the relevant ''air pollution'' as total global concentrations of ''the combined mix of'' these GHGs ''which together, constitute the root cause of human-induced climate change and the resulting impacts on public health and welfare.'' 74 FR 66516. In contrast to the air pollution addressed expressly in CAA section 202 and elsewhere in the statute, GHGs do not endanger public health or welfare through local or regional exposure. Rather, the Endangerment Finding asserted that GHG ''air pollution'' would *lead to* increases in global temperature and change to ocean pH that, in turn, would *lead to* environmental phenomena, in combination with an open-ended universe of additional factors, which would potentially have adverse health and welfare impacts of varying severity in certain regions. Indeed, the Administrator expressly admitted at the time that the circumstances were ''unique'' because ''[n]one of th[e] human health effects'' identified in the Endangerment Finding ''are associated with direct exposure to greenhouse gases.'' 74 FR 66527. With respect to welfare effects, the Administrator acknowledged that the primary effects of concern could be considered health *or* welfare impacts [121] and that certain welfare impacts were ''effects on people that do not rise to the level of health effects'' but utilize the same causal chain. 74 FR 66527; see 74 FR 66531 (explaining that the Endangerment Finding considered the same causal ''pathways'' in analyzing ''public health'' and ''public welfare'').[122] Regulating GHG emissions based on global climate change concerns requires reading an additional instance of ''cause, or contribute'' into the statute, such that CAA section 202(a) encompasses the 'emission of air pollutants that cause, or contribute to, air pollution that causes, or contributes to, endangerment of public health or welfare.'

This interpretation is also supported by the best reading of the terms ''cause,'' ''contribute,'' and ''reasonably be anticipated to endanger.'' In enacting and amending CAA section 202(a)(1), Congress legislated against background legal principles, including principles of causation and proximate cause.[123] These ''default rules'' are ''presumed to have [been] incorporated, absent an indication to the contrary in the statute itself,'' [124] and nothing in the text of CAA section 202(a)(1) indicates that Congress intended to depart from ordinary legal meaning. Indeed, Congress affirmatively incorporated proximate cause principles when it added the phrase ''may reasonably be anticipated'' to the statute in 1977 amendments to the CAA. That phrasing is another way of saying ''reasonably foreseeable,'' a longstanding touchstone of proximate cause.[125] As a general matter, there is a point at which harm no longer has a sufficiently close connection to the relevant conduct to reasonably draw a causal link. Emissions from new motor vehicles and new motor vehicle engines in the United States do not have a sufficiently close connection to the adverse impacts identified in the Endangerment Finding to fit within the legal meaning of ''cause'' or ''contribute.'' This reading is complemented by the term ''reasonably'' in the phrase ''air pollution which may reasonably be anticipated to endanger public health or welfare.'' Like the terms ''cause'' and ''contribute,'' the term ''reasonably'' places an outer legal limit on the authority to anticipate dangers to public health and welfare from air pollution. The greater the number of causal links involved in anticipating such endangerment, the more difficult it is to qualify that anticipation as ''reasonable.''

Notably, contemporary understandings of terms used in the CAA section 302(h) definition of ''welfare'' also support the understanding that CAA section 202(a)(1) encompasses air pollution with adverse impacts from local or regional exposure. The statute provides that references to ''effects on welfare'' include ''effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate,'' damage to property, transportation hazards, and effects on economic values and personal comfort and well-being. The ordinary meaning of ''climate,'' an undefined term, was ''[t]he prevailing weather in a particular region'' or ''[a] region manifesting particular meteorological conditions.'' [126] Similarly, ''weather'' meant ''[t]he state of the atmosphere at a given time and place, described by temperature, moisture, wind velocity, and pressure.'' [127] Both terms must also be read together in context, including by reference to the other terms enumerated in the list.[128] Each of the other terms in

to abate air pollution''); *Friends of Earth* v. *FCC,* 449 F.2d 1164, 1165–66 (D.C. Cir. 1971) (addressing challenge to the FCC's treatment of automobile advertisements that petitioners alleged took a position on motor vehicle air pollution worsening local conditions in New York City, including ''dangerous hydrocarbons in the air'').

[120] *See, e.g., Coal. for Responsible Regulation,* 2012 U.S. App. LEXIS 25997, at *32–37 (Brown, J., dissenting from denial of rh'g en banc) (summarizing relevant history).

[121] For example, the EPA in the Endangerment Finding understood impacts on ''well-being'' as used in the CAA section 302(h) definition of ''welfare'' to be relevant ''whether [the impacts] resul[t] directly or indirectly from the pollution in the air.'' 74 FR 66528.

[122] The Agency acknowledged that difficult questions about the distinction between health and welfare impacts was something the ''EPA has not had to resolve'' in the past, ''as it has been clear whether the effects relate to public health or relate to public welfare, with no confusion over what category was at issue.'' 74 FR 66527. Rather than take this analytical difficulty as a sign that the causal chain was different in kind from the type of ''air pollution'' addressed by CAA section 202(a)(1), however, we proceeded to finalize a novel invocation of authority to regulate in response to global climate change concerns.

[123] *See, e.g., Bank of Am. Corp.* v. *City of Miami,* 581 U.S. 189, 201 (2017); *Lexmark Int'l, Inc.* v. *Static Control Components, Inc.*, 572 U.S. 118, 132 (2014); *Univ. of Tex. Sw. Med. Ctr.* v. *Nassar,* 570 U.S. 338, 347 (2013); *City of Oakland* v. *Wells Fargo & Co.,* 14 F.4th 1030 (9th Cir. 2021) (en banc).

[124] *Nassar,* 570 U.S. at 347.

[125] *Foreseeable,* 1 Webster's Third New Int'l Dictionary 890 (1966) (''being such as may reasonably be anticipated''); *see, e.g., Hicks* v. *United States,* 511 F.2d 407, 421 (D.C. Cir. 1975) (finding ''proximate cause'' satisfied because it was ''foreseeable'' that a hospital's release without warning of an alcoholic patient with a history of abusing his wife could result in harm to the patient's wife).

[126] *Climate,* Am. Heritage Dictionary 136 (1970); *see, e.g., Alameda Cons. Ass'n* v. *California,* 437 F.2d 1087, 1096 (9th Cir. 1971) (using ''climate'' to discuss local environmental conditions in San Francisco Bay); Levenson's Case, 194 N.E.2d 103, 105 (Mass. 1963) (using ''climate'' to address whether moving to another state with a different climate is a covered medical expense).

[127] *Weather,* Am. Heritage Dictionary 785 (1970).

[128] *See Fischer* v. *United States,* 603 U.S. 480, 487 (2024) (''[T]he canon of *noscitur a sociis* teaches that a word is 'given more precise content by the neighboring words with which it is associated.'

the definition refers to things and mechanisms of action that occur in a particular place or under regionally bounded conditions. The terms Congress used to define ''welfare'' speak to air pollution with adverse impacts from local and regional exposure, not global climate change concerns that require a very different and much longer causal chain. The definition is broad enough to encompass the various air pollutants and air pollution of concern, each of which interacts differently with the environment—smog, particulate matter, and the like. Congress understood that air pollution challenges varied from State-to-State and region to region, while, at the same time, recognizing that the most acute challenges—smog in highly populated urban areas, for example—had similarities that would benefit from national standards.[129] But none of the many terms listed in the definition of welfare would have been understood, absent modifying terms, to refer to global considerations. Nor has Congress added terms like ''global'' or ''change'' that would have expanded the scope of the effects on welfare encompassed within the definition.[130]

The Endangerment Finding largely avoided addressing these interpretive problems by severing the question whether GHG emissions from new motor vehicle engines contribute to GHG concentrations in the atmosphere from the question whether GHG concentrations in the atmosphere endanger public health and welfare. As discussed in further detail below, there is no basis in the statute for severing the inquiry in that way. Nevertheless, even with respect to endangerment and contribution in isolation, global climate change concerns involve causal relationships that are too uncertain, conjectural, remote, and convoluted by intervening and confounding factors to fit within the terms ''cause,'' ''contribute,'' and ''reasonably be anticipated to endanger'' as used in CAA section 202(a)(1). This understanding follows from the position discussed above that CAA section 202(a)(1) and the statute more generally were designed to address air pollution with harmful impacts from local and regional exposure and that are amenable to analysis using ordinary causation standards. In specifying that emissions may ''cause, *or* contribute to'' air pollution, and that air pollution need only ''be reasonably anticipated to endanger public health or welfare,'' Congress signaled that regulation may be appropriate when harm is not yet occurring or is not certain to occur. But that language bearing on the degree of certainty required does not override ordinary background principles governing the limits of an attenuated causal chain.

Ultimately, the Endangerment Finding did not reflect consideration of the interpretive principles or ordinary meaning of the relevant terms discussed above. With respect to ''air pollution,'' the Administrator in 2009 asserted an unlimited discretion to decide what the EPA may target through regulation by defining ''air pollution'' without reference to the best reading of the statutory term. 74 FR 66516–17. Neither the factors used to select the six GHGs—that they are (a) ''directly-emitted,'' (b) ''long-lived,'' and (c) ''well-mixed''—nor the reasons used to support this definition—that they (1) ''share common properties,'' (2) are ''estimated to be the primary cause of human-induced climate change,'' (3) are ''the common focus of climate change science research and policy analyses,'' (4) have not been ''assessed on an individual gas approach,'' and (5) that the Agency had combined certain pollutants in the past—are rooted in the ordinary meaning of ''air pollution'' or any other statutory term in CAA section 202(a)(1). *Id.* Instead, the Administrator extended discussion in *Massachusetts* of the CAA section 302(g) definition of ''air pollutant'' to the undefined term ''air pollution,'' reasoning that because the EPA could group multiple air pollutants into a ''combination of such agents,'' there was no relevant statutory limit to the Agency's discretion to identify subjects for regulation. 74 FR 66537. Nor did the Administrator in 2009 grapple with the ordinary meaning of the terms used in the CAA section 302(h) definition of welfare, including ''climate,'' consider the full range of evidence bearing on the ordinary meaning of ''reasonably be anticipated to endanger,'' or appropriately evaluate the full context and structure relevant to CAA section 202(a)(1). In short, we now conclude that the legal analysis conducted in the Endangerment Finding, as well the resulting interpretation, cannot be squared with the longstanding principles that now trump deference to agency statutory interpretation under *Loper Bright.*

In finalizing a different interpretation, we note that a limiting construction is necessary to avoid absurd results and potential conflict with the nondelegation doctrine. Because Congress cannot delegate legislative powers to the Executive Branch, statutes granting an agency regulatory authority must provide an intelligible principle to guide its exercise.[131] Our authority under CAA section 202(a)(1) to ''prescribe . . . standards'' for emissions by any class or classes of new motor vehicles and engines is limited by the requirement that the Administrator find such emissions cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare. The best reading of the statute recognized in this final action circumscribes this authority to air pollution that itself endangers health or welfare through local or regional exposure. Under the interpretation adopted in the Endangerment Finding, however, our authority under CAA section 202(a)(1) would have no readily discernible limiting principle, particularly in combination with the authority asserted to sever the analysis of endangerment and causation or contribution. Any ''air pollutant'' emitted by new motor vehicles or engines at more than *de minimis* volumes would trigger our authority and obligation to prescribe standards so long as emissions from any and all sources globally contributes to ''air pollution'' that, in turn, can be said to have any causal relationship to adverse impacts on public health and welfare, broadly defined.[132] Put another way, the

That 'avoid[s] ascribing to one word a meaning so broad that it is inconsistent with' 'the company it keeps' '' (citations omitted)); *Gustafson* v. *Alloyd Co.,* 513 U.S. 561, 575 (1995) (applying canon to interpret the broad term ''communication,'' as used in a statutory definition of ''prospectus,'' to mean only public-facing communications that offer securities).

[129] *See, e.g.,* S. Rep. 91–1196, at 1–8, 24 (1970) (discussing need for and intent of Senate bill that would eventually form much of the 1970 CAA by reference to urban pollution problems and areas in proximity to stationary and mobile sources and recognizing that ''protection of the public health and welfare requires definitive knowledge of the causal relationships between exposure to air pollution agents . . . under varying environmental conditions''); H.R. Rep. 91–1146, at 6 (1970) (similar for House bill that informed aspects of the 1970 CAA).

[130] As discussed further in this section of the preamble and the Response to Comments document, Congress has used such language to specify the relevance of global climate change concerns in more recent amendments to different programs. CAA section 211(o)(2)(B)(ii), for example, provides that the EPA must consider the impact of the production and use of renewable fuels on ''climate *change*'' when setting renewable fuel volumes under the RFS program. 42 U.S.C. 7545(o)(2)(B)(ii) (emphasis added); *see id.* 7545(o)(1) (defining various renewable fuels in part by reference to GHG emissions).

[131] *See, e.g., Gundy* v. *United States,* 588 U.S. 128 (2019).

[132] The consequences of this interpretation are not limited to mobile sources. When issuing the Endangerment Finding, the EPA understood that stationary sources would be subject to a variety of PSD and Title V permitting obligations related to GHG emissions.

Administrator in 2009 asserted authority to define the relevant ''air pollution'' without reference to any statutory limiting principle, leaving the EPA free to redefine the objectives of the regulatory scheme.

That limitless construction of CAA section 202(a)(1) cannot be reconciled with the Supreme Court's instructions regarding the scope of agency authority in *Loper Bright.* Statutes have a single, best meaning that may include ''a degree of discretion.'' 603 U.S. at 369. But that discretion does not extend to redefining statutory terms in a manner inconsistent with ordinary meaning. Although ''Congress has often enacted'' statutes that '''expressly delegate[]' to an agency the authority to give meaning to a particular statutory term,'' *Loper Bright,* 603 U.S. at 394–95 (quoting *Batterton* v. *Francis,* 432 U.S. 416, 425 (1977)), there is no such express delegation in CAA section 202.[133] Nor can extending CAA section 202(a)(1) to the regulation of GHGs in response to global climate change concerns plausibly be understood as '''fill[ing] up the details' of a statutory scheme.'' *Id.* (quoting *Wayman* v. *Southard,* 23 U.S. (10 Wheat.) 1, 43 (1825)). And ''air pollution'' is not a discretion-conferring ''term or phrase that 'leaves agencies with flexibility, such as 'appropriate' or 'reasonable.''' *Id.* (quoting *Michigan,* 576 U.S. at 752). Under these circumstances the ordinary meaning of ''air pollution'' controls. The EPA has a degree of discretion in identifying and regulating emissions that cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. But that discretion does not extend to redefining ''air pollution'' from the local and regional exposure problems understood at the time of enactment and addressed throughout the statute to global climate change concerns.[134]

Indeed, the Endangerment Finding did not even limit the definitions selected for ''air pollutant'' or ''air pollution'' to gases emitted by new motor vehicles or engines. Rather, the Administrator defined the terms to include any ''climate forcer'' that met the identified criteria and expressly reserved the right to add to the six ''well-mixed'' GHGs in future actions. 74 FR 66520–21. Nor were the identified criteria—that GHGs are long-lived, directly emitted, and well-mixed—tied to any statutory language that requires the EPA to retain them or prevents the Agency from further expanding the category. Instead, the Administrator asserted ''broad discretion to determine appropriate combinations of compounds that should be treated as a single air pollutant.'' 74 FR 66537. In other words, under this interpretation of CAA section 202(a)(1), the only limit on our authority to regulate in response to global climate change is the exercise of reasonable discretion.[135] The best reading of the statute, and the reading we restore in this final action, avoids this concern by giving the terms Congress selected their full and ordinary meaning.[136]

Under the logic of the Endangerment Finding, water vapor (H_2O) emissions from vehicles and engines could meet the standard for regulation because the presence of additional water from all human activities around the world can be said to contribute to water-based disasters. See 74 FR 66520. The EPA would have the authority, and statutory duty, to prescribe standards for water vapor that would then trigger various permitting obligations—indeed, water is a recognized GHG, albeit one the EPA declined to regulate on a discretionary basis in 2009. Nor does this logic recognize any statutory limits to regulating pollutants under the global climate change concerns reading of CAA section 202(a)(1) that are addressed more specifically by other provisions of the statute, including black carbon (a form of the criteria pollutant PM), ground-level ozone (formed by the criteria pollutant NO_x), and ozone-depleting substances (including those specifically addressed by Title VI and the Montreal Protocol). The Administrator declined to include these matters in the six ''well-mixed'' GHGs encompassed within the Endangerment Finding but remained open to future actions treating them as a climate issue. Because that reading effectively converts CAA section 202(a)(1) into a roaming license to ''prescribe . . . standards,'' the reading finalized in this action is more faithful to the governing principles of statutory interpretation.

The EPA is also finalizing that the futility of GHG emission standards in addressing the adverse health and welfare impacts predicted in the Endangerment Finding support this interpretation of CAA section 202(a)(1). At proposal, we sought comment on whether the EPA must consider the potential impact of regulation when applying CAA section 202(a)(1) and, if so, how this interpretation should inform any final action. We received significant comments on the efficacy of the EPA's GHG emission standards to date, particularly with respect to their limited impact on projected trends in GMST and GSLR and the relevance of the impacts of regulation on the interpretation of CAA section 202(a)(1). As discussed further in section V.C of this preamble, we conclude that even the complete elimination of GHG emissions from all new and existing LD, MD, and HD vehicles would have a *de minimis* impact on these values as a proxy for adverse health and welfare impacts. When accounting for the emissions reduction potential of GHG emission standards and their application only to new vehicles and engines, the *de minimis* nature of these impacts becomes even clearer. The trivial impacts of eliminating GHG emissions on trends in GMST and GSLR—which are less than one percent of the projected changes through 2050 and 2100 once the nature of the GHG emission standards are taken into account—are squarely in line with regulatory and judicial precedents treating values of approximately one percent or more as *de minimis.*

Courts have long recognized the ''background'' legal principle ''against

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[133] *See, e.g., Batterton,* 432 U.S. at 417 n.2 (interpreting statutory phrase ''by reason of the unemployment (as determined in accordance with standards prescribed by the Secretary)''); 42 U.S.C. 7410(m) (authorizing the application of sanctions under certain conditions ''in relation to any plan or plan item (*as that term is defined by the Administrator*)'') (emphasis added), 7411(i) (excluding from certain stationary source regulations ''country elevators (*as defined by the Administrator*)'') (emphasis added); 33 U.S.C. 1311(b)(1)(A) (requiring application of ''the best practicable control technology currently available *as defined by the Administrator*'') (emphasis added).

[134] In reaching this conclusion, we are mindful that the Sixth Circuit recently applied *Loper Bright* to hold that the FCC exceeded its statutory authority in a 2024 order that subjected broadband internet service providers to ''net-neutrality principles.'' *Ohio Telecom Ass'n,* 124 F.4th at 997. With respect to mobile broadband, the FCC had interpreted ''the public switched network'' to include not only the traditional telephone numbers comprising the network at the time the statute was enacted, but also public internet protocol (''IP'') addresses. *Id.* at 1011. The court rejected this approach, holding as a matter of statutory interpretation that ''delegation is not unfettered'' and that ''nothing in the statute . . . permits the FCC to effectively change the statute's original meaning of 'the public switched network' . . . by adding 'public IP addresses' to adapt to new technology.'' *Id.* at 1012 (citing *Loper Bright,* 603 U.S. at 395).

[135] *See Whitman* v. *Am. Trucking Ass'ns,* 531 U.S. 457, 474 (2001) (''The idea that an agency can cure an unconstitutionally standardless delegation of power by declining to exercise some of that power seems to us internally contradictory. The very choice of which portion of the power to exercise—that is to say, the prescription of the standard that Congress had omitted—would *itself* be an exercise of the forbidden legislative authority.'').

[136] *See Feliciano* v. *DOT,* 605 U.S. 38, 55 n.6 (2025) (recognizing that ''considerations of constitutional avoidance might counsel in favor of a narrowing construction of certain laws''); Crowell v. Benson, 285 U.S. 22, 62 (1932) (summarizing constitutional avoidance principles); *Hignell-Start* v. *City of New Orleans,* 154 F.4th 353, 360 (5th Cir. 2025) (accepting city's interpretation of an ordinance that avoided constitutional problems).

which all enactments are adopted'' that general language does not encompass *de minimis* concerns. *Wis. Dep't of Rev.* v. *William Wrigley Jr., Co.,* 505 U.S. 214, 231 (1992); see *UARG,* 573 U.S. at 309 n.1. Unless the statute provides otherwise, agencies have implied authority to exempt *de minimis* concerns ''when the burdens of regulation yield a gain of trivial or no value.'' *Ala. Power Co.* v. *Costle,* 636 F.2d 323, 360–61 (D.C. Cir. 1979). This conclusion informs our interpretation of CAA section 202(a)(1) by suggesting that the provision does not encompass the attenuated chain of causation required to invoke the authority to regulate GHG emissions where regulations cannot have more than a trivial impact on the identified dangers to health and welfare. Nothing in the statutory language suggests that Congress intended to overcome this background principle, and the both the Supreme Court and the D.C. Circuit have recognized its applicability in comparable environmental contexts.[137] Put another way, the inability of new motor vehicle and engine GHG emission standards to have any material impact on the global climate change concerns relied upon by the Agency in the 2009 Endangerment Finding suggests that it is unreasonable to conclude that GHG emissions from new motor vehicles and engines cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. For further discussion, see section V.C of this preamble and the Response to Comments document.

Finalizing this interpretation effectively returns the EPA to its longstanding practice prior to 2009 of applying CAA section 202(a)(1) and related statutory endangerment provisions to air pollution that adversely impacts public health and welfare through local or regional exposure. As discussed further in sections III.A and V.B of this preamble, we historically utilized this authority on a relatively infrequent basis to prescribe standards for pollutants identified in the CAA itself, including NO_X, PM, HCs and other VOCs, and CO, and then only as a backstop when more specific CAA section 202 authorities were unavailable. The distinction between air pollution that harms public health and welfare through local and regional exposure and global ''air pollution'' consisting of GHG concentrations without any such direct impacts also played a role in our evaluation of waiver requests under CAA section 209.[138] Even in the Endangerment Finding, the Administrator recognized that ''*[n]one*'' of the identified health impacts were ''associated with direct exposure'' and that we had previously applied CAA section 202(a)(1) to the ''*more typical* local or regional air pollution problem.'' 74 FR 66527, 66538 (emphases added); see 74 FR 66531 (explaining that the Agency considered the same causal ''pathways'' in assessing public health and welfare impacts). In adopting a novel analytical approach in the Endangerment Finding, we failed to adequately address this prior practice and improperly relied on the Supreme Court's decision in *Massachusetts* for the proposition that CAA section 202(a)(1) authorizes emission standards in response to air pollution raising global climate change concerns. As discussed below, *Massachusetts* did not separately construe the scope of the EPA's authority to regulate under CAA section 202(a)(1), and the Court has since made clear in *UARG* and *West Virginia* that our authority to regulate an ''air pollutant'' encompassed within the Act-wide definition must be evaluated in the context of the particular statutory provision that confers authority to regulate.

In *Massachusetts,* the Supreme Court rejected the argument that GHGs are not ''air pollutants'' under the Act-wide definition, reasoning that CAA section 302(g)'s use of the word ''any'' in connection with ''air pollutant agent or combination of such agents, including any physical [or] chemical . . . substance'' was sufficiently broad to encapsulate the combination of GHGs at issue. 549 U.S. at 530. On this basis, the Court stated that the EPA ''has the statutory authority to regulate the emission of such gases from new motor vehicles.'' *Id.* at 532. The Court did not, however, separately decide whether including GHGs within the definition of ''air pollutant'' meant that we must find that GHGs meet the statutory standard for regulation under CAA section 202(a) because they cause or contribute to air pollution which endangers the public health or welfare. Rather, the Court emphasized that its review of the denial of the rulemaking petition was ''extremely limited'' and concluded its opinion by clarifying that it ''need not and do[es] not reach the question whether on remand EPA must make an endangerment finding.'' *Id.* at 527, 534.

Consistent with *Massachusetts,* and reading that decision in harmony with *UARG,* we interpret the CAA as setting out a broad, threshold definition of ''air pollutant'' on an Act-wide basis that must be interpreted in the context of each applicable, particular provision granting regulatory authority in order to determine whether that provision authorizes the EPA to regulate an air pollutant under that particular authority. For purposes of CAA section 202(a)(1), that means that even if GHGs are ''air pollutant[s]'' as defined on an Act-wide basis, they must meet the statutory standard for regulating emissions from new motor vehicles and engines before we may invoke our regulatory authority. Put simply, regardless whether GHGs are ''air pollutants'' as defined in CAA section 302(g), they must satisfy the same standard as any other emitted ''air pollutant'' by causing or contributing to ''air pollution which may reasonably be anticipated to endanger public health or welfare.''

This understanding is necessary to account for *UARG,* in which the Supreme Court distinguished between ''the Act-wide definition'' of air pollutant and the application of that definition to the Act's regulatory provisions. 573 U.S. at 320. The Court specifically addressed the holding in *Massachusetts,* adopting the argument that ''while *Massachusetts* rejected EPA's categorical contention that [GHGs] could not be air pollutants for any purposes of the Act, it did not embrace EPA's [then] current, equally categorical position that [GHGs] must be air pollutants for all purposes regardless of the statutory context.'' *Id.* (cleaned up).

In sum, CAA section 202(a)(1) does not provide authority to regulate GHGs based on global climate change concerns because that provision authorizes regulating only emissions that ''cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' The EPA must ''ground its reasons for action or inaction in the statute,'' *Massachusetts,* 549 U.S. at 535, and

[137] *See UARG,* 573 U.S. at 309 n.1; *Ala. Power,* 636 F.2d at 360–61; *see also EPA* v. *EME Homer City Generation, L.P.,* 572 U.S. 489 (2014) (approving of approach that did not require additional emissions reductions from States that contributed trivially to nonattainment in other States); *Ohio* v. *EPA,* 997 F.2d 1520, 1534–35 (D.C. Cir. 1993) (accepting *de minimis* approach to CERCLA five-year risk reviews because the statute did not clearly prohibit the approach and anything less would be contrary to legislative design).

[138] *See, e.g.,* ''California State Motor Vehicle Pollution Control Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles,'' 73 FR 12156, 12161 (Mar. 6, 2008) (denying California's waiver request for GHG emission standards on the ground that ''the different, and global, nature of the pollution at issue'' requires a different conceptual approach); *see also* ''The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program,'' 84 FR 51310, 51328–52 (Sept. 27, 2019) (summarizing and applying this interpretation).

''possess[es] only the authority that Congress has provided,'' *NFIB* v. *DOL,* 595 U.S. 109, 117 (2022). In finalizing this interpretation, we note that our actions must be consistent with ''the single, best meaning'' of the statute, '' 'fixed at the time of enactment''' and resolved through application of ''all relevant interpretive tools,'' and cannot expand our authority in response to pressing concerns based on statutory silence or ambiguity. *Loper Bright,* 603 U.S. at 400, 411 (quoting *Wis. Cent.,* 585 U.S. at 284). Properly interpreted, the statute confers ''regulatory flexibility'' to respond to ''changing circumstances and scientific developments,'' *Massachusetts,* 549 U.S. at 532, while bounding the scope of the EPA's authority to ''air pollution'' as that term was understood at the time of enactment.

Findings and Standards. The EPA is also finalizing as proposed that CAA section 202(a)(1) requires issuing emission standards together with the findings necessary to invoke our regulatory authority, rather than severing the regulatory action into separate endangerment and standards-setting proceedings. The statute begins by providing that the Administrator ''shall prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines,'' and follows this requirement by describing the scope of the duty to regulate air pollutant emissions ''which, in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' The best reading of the statute requires the Administrator, when prescribing any emission standard for new motor vehicles or engines, to find that the air pollutant or air pollutants emitted by the class or classes of new motor vehicles or engines subject to the standard cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

The Endangerment Finding severed this statutory language by finding endangerment and contribution in the abstract for all potential CAA section 202 sources with respect to GHGs. In so doing, the Administrator vastly increased the Agency's authority by removing the restrictions Congress placed on the issuance of emission standards. As a result of this new conception of authority, the EPA may issue a single endangerment finding in the abstract with respect to emissions from all sources potentially subject to CAA section 202 (and their existing-source counterparts) without addressing the danger posed by any particular source category or the causal role of that particular source category in any identified danger. The EPA relied on the Endangerment Finding to prescribe emission standards for various classes of new motor vehicles and engines, as well as a variety of other sources under distinct statutory authorities, without making the requisite findings or assessment of factors necessary to regulate the sources in question.[139] Congress enacted CAA section 202(a)(1) as an integrated regulatory provision for a reason, and giving effect to the language of the statute requires the issuance of emission standards only when the Administrator has made an integrated finding of both endangerment and cause or contribution. Put another way, it is impermissible for the Administrator to make findings that trigger a duty to regulate without prescribing the emission standards required in response to such a finding, just as the Administrator may not prescribe emission standards without making the findings required by the statute.

This interpretation is consistent with the EPA's implementation of CAA section 202(a)(1) and similar provisions of the CAA prior to 2009. In the Endangerment Finding, the Administrator acknowledged that ''typically endangerment and cause or contribute findings have been proposed concurrently with proposed standards under various sections of the CAA, including CAA section 201(a).'' 74 FR 66501. That has also been our approach to other similarly worded provisions in the statute, including in response to petitions seeking findings and action under CAA section 115.[140] We believe that our historical practice under CAA section 202(a)(1) reflects the better reading of the statute and is entitled to greater weight. As the Supreme Court explained in *Loper Bright,* such weight is ''especially warranted when an Executive Branch interpretation was issued roughly contemporaneously with enactment of the statute and remained consistent over time.'' 603 U.S. at 386.

In departing from the EPA's historical practice in the Endangerment Finding, the Administrator reasoned that ''[t]he text of CAA section 202(a) is silent on this issue'' and ''invoked the procedural discretion that is provided by CAA section 202(a)'s lack of specific direction.'' 74 FR 66501. We no longer maintain that CAA section 202(a)(1) is silent on the issue, as the statute sets out an integrated process that requires the EPA to prescribe standards when the Administrator finds certain conditions are met. When Congress intends a multi-step inquiry in the environmental context, it typically says so expressly. In the NAAQS program, for example, the CAA separates our authority to establish air quality criteria under CAA section 108 from our obligation to promulgate and revise NAAQS based on the criteria under CAA section 109, in addition to separating both of these regulatory steps from our duties to implement the NAAQS by reviewing State Implementation Plans (SIPs) or promulgating Federal Implementation Plans (FIPs) under CAA section 110 and related statutory provisions.[141] A particularly relevant analogy is Clean Water Act section 303(c)(4), which pairs the Administrator's authority to ''determin[e] that a revised or new [water quality standard] is necessary to meet the requirements of this chapter'' with the requirement that the Administrator ''shall promptly prepare and publish proposed regulations'' after making such a determination and ''promulgate any revised or new standard . . . not later than ninety days after he publishes such proposed standards.'' [142] Even if CAA section 202(a)(1) were ambiguous or silent in this respect, agencies may no longer assert delegated discretionary authority when the statute is amenable to a single, best reading under ordinary tools of statutory interpretation. As the Supreme Court held in *Loper Bright,* ''statutory ambiguity . . . is not a reliable indicator of actual delegation of discretionary authority to agencies.'' 603 U.S. at 411.

Severing the EPA's standards-setting authority from the findings that trigger a duty to exercise that authority shaped the analysis in the Endangerment Finding in a manner that ran counter to the statute. The Endangerment Finding first projected adverse public health and welfare impacts of global climate change and attributed those adverse impacts to

[139] *See* sections III.D and VII of this preamble for a summary of the EPA's rulemaking activities in response to the Endangerment Finding.

[140] 42 U.S.C. 7415(a); *see* Her Majesty the Queen v. EPA, 912 F.2d 1525, 1533–34 (D.C. Cir. 1990) (deferring to the EPA's interpretation of CAA section 115(a) as requiring an integrated action because the statute's text and structure ''creates a specific linkage between the endangerment finding and the remedial procedures'').

[141] *See* 42 U.S.C. 7408, 7409, 7410.

[142] 33 U.S.C. 1313(c)(4), (c)(4)(B). Various provisions of the SDWA and the Toxic Substances Control Act (TSCA) similarly articulate multi-step processes for determining risk and addressing risk through regulation using language that Congress did not include in CAA section 202. *See, e.g., NRDC,* 67 F.4th at 398–402 (discussing the two-step process for promulgating national primary drinking water regulations under SDWA section 1412).

all manmade sources of GHG emission around the world and then, separately, used data from existing CAA section 202(a) sources in the United States to find that new motor vehicles and engines in the United States contributed to global GHG air pollution. The Administrator treated adaptation (adjustments to the effect of climate change that lessen impacts) and mitigation (reductions in emissions and global GHG concentrations unrelated to CAA section 202(a)(1) regulation) as outside the scope. 74 FR 66512. Moreover, the Administrator declined to consider cost, asserting that the Endangerment Finding imposed no regulatory requirements as a standalone action and relying on the Supreme Court's decision in *Whitman* v. *American Trucking Associations,* 531 U.S. 457 (2001), that the EPA cannot consider cost in setting the NAAQS under CAA section 109(b)(1). 74 FR 66515. Nor did the Administrator consider potential beneficial impacts from climate change with respect to whether and which standards would be appropriate. See 74 FR 66524 (purporting to compare ''risks and benefits'' only with respect to endangerment).

Severance also shaped all subsequent standards prescribed and revised in reliance on the Endangerment Finding in a manner we now conclude was unlawful. The EPA asserted in subsequent rulemakings that there was no need to make particularized findings for the relevant source category because the Endangerment Finding identified public health and welfare dangers and contribution for all CAA section 202 source categories. Nor did we consider the impacts of adaptation or mitigation when prescribing standards—considerations that the Endangerment Finding also treated as out of scope. As a result, the decision to sever meant that the EPA has never meaningfully considered or invited public comments on the cost, effectiveness, and continued propriety of its GHG regulatory program.

These considerations should have been taken into account when the EPA triggered a duty to regulate in the Endangerment Finding by invoking our CAA section 202(a)(1) authority. CAA section 202(a)(2) expressly provides that ''[a]ny regulation prescribed under paragraph (1) of this subsection . . . shall'' provide adequate time for ''the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.'' [143] CAA section 202(a)(1) authorizes the Administrator to ''by regulation prescribe'' standards ''in accordance with the provisions of this section'' and does not separately authorize standalone findings, meaning any action taken ''under paragraph (1) of this subsection'' is subject to the considerations in paragraph (2). In addition, the Supreme Court explained in *Michigan* that ''agency action is lawful only if it rests 'on a consideration of the relevant factors,' '' 576 U.S. at 750 (quoting *State Farm,* 463 U.S. at 43), including ''at least some attention to cost,'' *id.* at 752.

Accordingly, we now conclude that the Administrator erred in analogizing the NAAQS program and the Supreme Court's decision in *Whitman* to avoid considering costs in the Endangerment Finding. Unlike CAA section 202(a)(1), the language in CAA section 109(b)(1) makes no reference to cost or implementation and focuses solely on the protection of public health. Nor does CAA section 109(b) include the lead time and technical feasibility concepts embedded in CAA section 202(a). And whereas CAA section 202(a)(1) sets out an integrated authority to prescribe emission standards when the provision's triggering condition is satisfied, CAA section 109(b)(1) uses mandatory language requiring the EPA to establish certain standards, the content and implementation of which are specified in various provisions throughout Title I of the Act. We further note that the Supreme Court's decision in *Massachusetts* did not address the question whether the EPA could issue standalone findings or bar the Administrator from taking cost and implementation concerns into account when exercising CAA section 202(a) authority. Rather, *Massachusetts* must be read together with *Michigan,* and the language of CAA section 202(a)(1) must be read in context to ''produc[e] a substantive effect that is compatible with the rest of the law.'' *UARG,* 573 U.S. at 321 (quoting *United Sav. Ass'n of Tex.* v. *Timbers of Inwood Forest Assocs.,* 484 U.S. 365, 371 (1988)).

Endangerment and Cause or Contribute. The EPA is also finalizing as proposed that CAA section 202(a)(1) requires the Agency to evaluate whether source emissions cause or contribute to air pollution and whether that air pollution poses endangerment in a single causal chain, rather than considering these issues in isolation by severing the inquiries. The relevant inquiry is whether ''the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines,'' in the judgment of the Administrator, ''cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' As explained in this section, the emission must cause or contribute to the danger posed by the air pollution to a sufficient extent to satisfy the standard for regulation.

In the Endangerment Finding, the Administrator made two distinct findings based on two distinct sets of assumptions. In the first, the Administrator found that the ''air pollution,'' defined as the combined global concentrations in the upper atmosphere of six ''well-mixed GHGs,'' CO_2, methane, N_2O, HFCs, PFCs, and SF_6, endangered public health or welfare by playing a causal role in global temperature increases, sea level rise, and other phenomena (including ocean pH changes), which, in turn, were then asserted to play a causal role in environmental phenomena with adverse impacts on public health and welfare. 74 FR 66516. In the second, the Administrator found that the quantity of the ''air pollutant'' (defined as the combination of same six ''well-mixed GHGs'') emitted by new motor vehicles and engines annually contributed to the ''air pollution.'' 74 FR 66536. The Administrator did not consider the extent to which emissions from CAA section 202(a)(1) sources have a more than *de minimis* effect on the *danger* identified with respect to elevated concentrations of GHGs in the upper atmosphere—let alone whether emissions from any particular class or classes of sources that the EPA intended to regulate had such an effect. Nor did the Administrator recognize the mismatch between ''air pollution'' consisting of global concentrations formed by GHG emissions past, present, and future and ''air pollutant'' emissions from new motor vehicles and engines on an annual basis, or the problems associated with measuring domestic contribution against an air pollution problem that necessarily requires global emissions to result in the identified danger.

Upon review, we no longer believe that the approach taken in the Endangerment Finding was consistent with the language of CAA section 202(a)(1) and the structure of the CAA, which requires making distinct findings for regulating distinct types of emission sources and authorizing different regulatory tools when such standards are met. For example, CAA section 111(b)(1)(A) authorizes the EPA to regulate emissions from listed categories of stationary sources if the Administrator determines those sources emit air pollutants that ''significantly contribute'' to air pollution that

[143] 42 U.S.C. 7521(a)(2).

endangers public health or welfare.[144] When that standard is met, CAA section 111(b)(1)(B) requires the EPA to regulate such emissions from such sources by setting standards of performance that, among other things, reflect the best system of emission reduction that has been adequately demonstrated in practice.[145] The CAA similarly sets out distinct standards for regulating and distinct modes of regulation for additional major source categories, including vehicles in use, aircraft engines, and separately addresses when and how to respond to international emissions that impact the United States. The Endangerment Finding effectively attributed the total GHG emissions coming from all of these various distinct sources within the United States, as well as from all international sources, to the mobile sources regulated under CAA section 202 without having made the requisite determinations for any of those sources and without considering the different regulatory tools Congress authorized for those sources as compared to CAA section 202(a) sources. Although the statute anticipates that ''air pollution'' may reflect contributions from multiple source categories, application of the global climate change concerns reading of CAA section 202(a)(1) leads to impermissible gaps between the contribution and endangerment analyses that the Endangerment Finding failed to address.

Whereas the identified ''air pollution'' leads to endangerment because of the sum total of all emissions, past, current, and projected, from all source categories foreign and domestic, the identified contribution of ''air pollutant emissions'' from new motor vehicles and engines was measured in annual terms. In other words, the Endangerment Finding compared the wrong figures in tying contribution to endangerment. The Administrator found contribution based on the conclusion that existing vehicles and engines constituted 4.3 percent of annual global GHG emissions. But the Administrator found endangerment based on the theory that ''air pollution'' consisting of total global concentrations of the six ''well-mixed'' GHGs endangered public health and welfare. This mismatch is not presented when analyzing the air pollution addressed expressly by the CAA because the mechanism of harm does not depend on centuries-long time horizons. Annual emissions of airborne lead, for example, are readily measurable against the total annual concentrations of airborne lead in areas of concern, and the health and welfare impacts of air pollution in the form of airborne lead can be analyzed on the same scale. By completely severing the contribution and endangerment analyses for the six ''well-mixed'' GHGs, the Endangerment Finding avoided grappling with this disconnect. The difficulties in analyzing the nexus between contribution and endangerment was not a problem to be avoided, but a further reason to conclude that CAA section 202(a)(1) was not designed to address global climate change concerns.

The Administrator also defined the relevant ''air pollution'' as the combined global concentration of six ''well-mixed GHGs'' but found that CAA section 202(a) sources emitted only four of them: CO_2, methane, NO_X, and HFCs. 74 FR 66538. As a result, the ''air pollution'' identified as endangering public health or welfare included PFCs and SF_6, and the ''air pollution'' used to conclude that CAA section 202(a) sources satisfy the regulatory standard did not. Contrary to the EPA's conclusion at the time, 74 FR 66541, that difference is material, as PFCs and SF_6 are asserted to have many times the global warming potential of CO_2.[146] Severing the endangerment and cause-or-contribute analysis allowed the Agency to compare apples and oranges in a manner inconsistent with the best reading of the statute.

The Endangerment Finding also did not limit the analysis of contribution to ''*new* motor vehicles or *new* motor vehicle engines'' in the United States, which are the only sources covered by the EPA's CAA section 202(a) authority.[147] Because the Administrator considered all sources in analyzing the danger posed by elevated concentrations of GHGs in the upper atmosphere, the endangerment analysis necessarily included emissions from foreign and domestic vehicles that had been in use for years or decades and were not ''new.'' Even when analyzing contribution, the Administrator used emission estimates from ''the entire fleet of motor vehicles in the United States for a certain calendar year'' rather than projecting emissions from new motor vehicles and engines over time. 74 FR 66543. That decision increased the absolute contribution figure by orders of magnitude, including because newer vehicles and engines tend to be more efficient and emit less.[148] Difficulties in disaggregating emission data from emission sources, however reasonable, do not license us to read the term ''new'' out of the statutory text.

We further conclude that severing the endangerment and cause or contribution findings leads to untenable results and lacks any limiting principle. To illustrate the problem, the same logic would allow the EPA to issue emission standards for water vapor (H_2O), another substance emitted by new motor vehicles and engines that is also considered a GHG. Considered in isolation, increased H_2O concentrations in the atmosphere from all human activities can be said to endanger public health or welfare by resulting in rain that leads to slip-and-fall injuries, drownings, and damage to crops, livestock, and property, including through pools, rivers, and floodwater, although water vapor is not itself harmful and is necessary to sustain life. Also considered in isolation, CAA section 202 sources can be said to ''contribute'' to elevated H_2O concentrations in the atmosphere from all anthropogenic sources, and these emissions of water vapor would thereby assertedly ''contribute'' to global climate effects similar to those attributed to other GHGs. CAA section 202(a)(1) does not contemplate prescribing emission standards for such an omnipresent, naturally occurring, and essential component of the ambient air because the text requires a unified analysis that ensures a nexus between the extent of contribution and the resulting danger. The logic of regulating water vapor appears absurd, but it is the same logic required to regulate GHGs under CAA section 202(a)(1). And the Administrator acknowledged in the Endangerment Finding that the statutory interpretation adopted in that action could support adding water vapor to the defined regulatory for ''climate forcing'' GHGs.

The decision to sever the analysis of endangerment from the analysis of contribution, combined with the decision to sever the Administrator's

[144] 42 U.S.C. 7411(b)(1)(A).

[145] 42 U.S.C. 7411(a)(1), (b)(1)(B). CAA section 111 also differentiates between new and existing stationary sources in a listed source category and limits the EPA's role with respect to existing sources by authorizing only emission guidelines implemented by the States. *See id.* 7411(d).

[146] U.S. Environmental Protection Agency. (Last updated Jan. 16, 2025). Understanding Global Warming Potentials: *https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.*

[147] 42 U.S.C. 7521(a)(1) (emphases added); *see, e.g., City of New York* v. *Chevron Corp.*, 993 F.3d 81, 101 (2d Cir. 2021) (''Together, the statute's silence on the issue of extraterritorial reach, the fact that the Act contemplates the need for reciprocal protections from foreign nations, and the State Department's lead role in setting foreign policy on environmental matters, all plainly demonstrate that the Clean Air Act regulates only domestic emissions.'').

[148] For additional discussion of improvements in new motor vehicles and engines relative to older vehicles and engines, see section VI.D of the preamble to the proposed rule.

findings from any standards prescribed as a result, produced an analysis that is incompatible with the statute. In the Endangerment Finding, the Administrator concluded that anything more than a trivial or *de minimis* contribution to elevated global GHG concentrations by CAA section 202(a) sources was sufficient to trigger regulation because the ''unique, global aspects of the climate change problem tend to support contribution at lower percentage levels of emissions than might otherwise be considered appropriate when addressing a more typical local or regional air pollution problem.'' 74 FR 66538. Because the Endangerment Finding did not consider the standards that the statute requires when the Administrator makes such a finding, we did not consider whether emission standards for new motor vehicles would be futile as a means to address the identified dangers of GHG emissions from all anthropogenic sources. As discussed in section V.C of this preamble, available modeling indicates that reducing GHG emissions from all vehicles and engines in the United States to zero would not have a measurable, material impact on trends in global temperature or sea level. Because our GHG emission standards apply only to new vehicles and engines and have not, to date, mandated the elimination of all emissions, their impact is only a fraction of the already *de minimis* impacts identified in the modelled scenario. It was foreseeable at the time that issuing the Endangerment Finding would trigger a duty to regulate and that stringent measures would be necessary under *all* of the EPA's separate statutory authorities, and not just CAA section 202(a), to have *any* potentially material impact on the identified harm. Refusing to consider these foreseeable consequences was inconsistent with the statutory scheme and, as explained further below, an unreasonable exercise of the authority we asserted.

Finally, the Administrator did not adequately consider the meaning in context of the statutory term ''endanger'' and failed to identify with sufficient rigor the purported danger linked to GHG emissions from new motor vehicles and engines. As used in CAA section 202(a)(1), ''endanger'' is not best read as meaning any predicted negative impact to any public health or welfare value, as that interpretation would render the constraint placed on the EPA's authority to prescribe standards essentially meaningless, thereby violating ordinary principles of statutory interpretation and raising constitutional nondelegation concerns. Severing the endangerment and contribution inquiries improperly allowed the Administrator to avoid this concern by concluding that new motor vehicle and engine emissions included more than *de minimis* GHG emissions, even if those emissions did not themselves contribute to a danger in any meaningful sense. See 74 FR 66543 (asserting that ''contributors must do their part even if their contributions to the global problem, measured in terms of percentage, are smaller than typically encountered'').

2. Summary of Comments and Updates Since Proposal

The EPA received comments from a variety of stakeholders supporting and criticizing the legal rationale set out in the proposed rule. Commenters supporting the rescission and repeals pointed to the Supreme Court's decisions in *West Virginia, UARG,* and *Loper Bright* as strongly supportive of what we proposed to be the best reading of CAA section 202(a)(1) and generally agreed that the Endangerment Finding erred in severing the statutory analysis in various ways. Commenters opposing the rescission and repeals generally argued that the Supreme Court's decision in *Massachusetts* and several subsequent precedents must be read as requiring the EPA to regulate GHG emissions and that the statute must be interpreted broadly to accomplish what they described as the preventative purposes of the statute. The final rationale set out in the preceding section of this preamble reflects this input by including certain interpretive evidence identified by commenters and additional analysis developed in response to arguments raised during the public comment period. In this subsection, we summarize major themes presented in the comments received along with our high-level responses. For detailed comment summaries and our full responses thereto, please see the Response to Comments document in the docket for this rulemaking.

Comment: Commenters supportive of the proposal generally agreed that the EPA exceeded its statutory authority under CAA section 202(a)(1) by issuing the Endangerment Finding and resulting standards. Some of these commenters emphasized agreement with our proposed interpretation of the term ''air pollution'' and the role that term plays in the provision, while others further agreed with our proposed understanding of the nature of the statutory analysis and the ways in which the Endangerment Finding erred in severing the analysis.

With respect to ''air pollution,'' commenters offered additional legislative history, regulatory history, or other support for interpreting the term as referring to pollution that adversely impacts health or welfare through local or regional exposure, such as smog. Several commenters recounted the air pollution concerns leading up to the 1965, 1970, and 1977 enactments in particular and emphasized that Congress and the public understood the problem in terms of increased urbanization, including in cities that crossed over State lines and made pollution control strategies by individual States and localities difficult with respect to mobile sources. These commenters provided further evidence in contemporary legislative history and other public materials that Congress understood the national air pollution problem being addressed in legislation as one related to criteria pollutants that lead to smog, primarily in urban areas, as well as air toxics. Several also pointed to additional provisions of the CAA, including general statements of purpose and the structure of the statute as a whole, to argue that Congress designed a regulatory scheme for regulating domestic emissions and domestic impacts in a manner that does not contemplate or authorize regulation in response to global climate change concerns. Several commenters also cited case law to argue that the CAA does not regulate extraterritorially. With respect to the ways in which the Endangerment Finding severed the statutory analysis, several commenters agreed that these considerations were relevant to statutory interpretation and authority as well as the quality or validity of the underlying analysis in the Endangerment Finding.

Response: The EPA agrees with these comments and is finalizing, as proposed, that the Endangerment Finding exceeded the Agency's statutory authority under CAA section 202(a)(1) in multiple respects. In addition to the further discussion incorporated into section V.A.1 of this preamble, we agree that viewed as a whole, the legislative history and other materials contemporary to the 1965, 1970, and 1977 enactments most relevant to interpreting the key statutory language in CAA section 202(a)(1) tend to undermine the interpretation adopted in the Endangerment Finding and support the interpretation we are finalizing in this action. While legislative history cannot trump the statutory text, widely publicized materials and evidence of common understanding at the time of enactment can be relevant to the

ordinary meaning of undefined terms. Here, that material supports the conclusion that ''air pollution'' as used in CAA section 202(a)(1) meant pollution that harms public health or welfare through local or regional exposure, rather than gases that are not harmful in that sense but may contribute to global phenomena on a far more attenuated chain of causation. We further agree that other provisions of the statute, including the findings and declarations of purpose in CAA section 101, support the interpretation finalized in this action by indicating that while Congress referenced and addressed local and regional problems, it did not reference global climate change concerns at all through the 1970s and even today uses express terms in the relatively few provisions that address GHGs, such as in the RFS and provisions authorizing certain grants and financial or technical assistance.

Comment: Adverse commenters argued that the EPA's proposed interpretation of CAA section 202(a)(1) is foreclosed in whole or in part by precedent. Many of those commenters argued that the Supreme Court's decision in *Massachusetts* unambiguously held that the EPA has authority to prescribe GHG emission standards for new motor vehicles and engines in response to global climate change concerns. Others also cited to subsequent cases, including the Supreme Court's decisions in *American Electric Power Co.* v. *Connecticut,* 564 U.S. 410, 426 (2011), *UARG,* and *West Virginia,* as well as the D.C. Circuit's decisions in *Coalition for Responsible Regulation* and *American Lung Association,* as individually or collectively precluding the EPA from evaluating and applying the best reading of CAA section 202(a)(1) and related provisions.

Response: The EPA disagrees with these comments, many of which significantly overread relevant precedent and misunderstand principles governing the scope of judicial decisions and statutory interpretation. Fundamentally, commenters' arguments stem from the flawed proposition that the Supreme Court held in *Massachusetts* that the EPA can or must regulate GHG emissions from new motor vehicles and engines in response to global climate change concerns. As detailed in section V.A.1 of this preamble, we no longer believe that this reading is accurate on its own terms, nor does it reflect the Court's subsequent holdings and rationale in *UARG, West Virginia,* and, more generally, *Michigan* and *Loper Bright.* The Court in *Massachusetts* rejected the policy reasons the Agency offered for declining to regulate and the interpretation of the statutory definition of ''air pollutant'' in CAA section 302(g) that the Agency relied upon to deny petitions for rulemaking in 2003. Contrary to the framing presented by some commenters, the Court found that the statute ''foreclose[d]'' the Agency's reading and is ''unambiguous'' only with respect to the ''air pollutant'' definition, holding that ''the definition embraces all airborne compounds of whatever stripe.'' 549 U.S. at 529 (citing 42 U.S.C. 7602(g)). Nor do commenters offer persuasive reasons to conclude that the Court's subsequent decision in *UARG,* which held that the term ''air pollutant'' as defined in the statute and construed in *Massachusetts* must be read in context of the regulatory provision in which it appears, applies to the entirety of the CAA *except* for CAA section 202(a)(1). 573 U.S. at 318–20 (''[*Massachusetts*] did not hold that EPA must always regulate [GHGs] as an 'air pollutant' everywhere that term appears in the statute, but only that EPA must 'ground its reasons for action or inaction in the statute,' rather than on 'reasoning divorced from the statutory text.' '' (quoting 549 U.S. at 532, 535)).

Similarly, we disagree with commenters' suggestions that additional precedents since *Massachusetts* purported to decide the interpretive issues addressed in this final action. In *American Electric Power,* for example, the Supreme Court held that federal common law was not the appropriate avenue for deciding ''whether and how to regulate carbon-dioxide emissions from powerplants.'' 564 U.S. at 426. Indeed, the Court has since confirmed in *West Virginia* that it ''said nothing about the ways in which Congress intended EPA to exercise its power'' under the CAA, particularly with respect to the regulation of stationary sources under CAA section 111(d). 597 U.S. at 730. Commenters' attempt to repeat similar arguments for *UARG* and *West Virginia* lack credibility given the questions presented in those cases and the reasoning adopted by the Court with respect to the questions presented. These comments largely did not engage with the interpretation of ''air pollution'' presented at proposal and finalized in this action, and the relatively small number that did failed to offer persuasive evidence that rebuts the ordinary meaning of the term or relevant contextual or structural indicators in the statutory text. For additional discussion of these cases, the D.C. Circuit's decisions in *Coalition for Responsible Regulation* and *American Lung Association,* and other issues bearing on statutory interpretation, see the Response to Comments document.

In this final action, the EPA is acting consistently with *Massachusetts* by ''ground[ing] its reasons for action or inaction in the statute'' and concluding that, given the best reading of the language in CAA section 202(a)(1), we lack authority to issue an affirmative finding that triggers our regulatory authority in response to global climate change concerns. 549 U.S. at 535.

Comment: Adverse commenters also asserted that the EPA's proposed interpretation gave inadequate weight to the statutory terms ''public health'' and ''welfare.'' These commenters generally argued that Congress delegated broad authority to the EPA to regulate any air pollutant emissions in response to any air pollution that may arise in the future, so long as we conclude such regulation further public health or welfare. Several of these commenters focused particularly on the statutory definition of welfare in CAA section 302(g), and particularly on the term ''climate,'' to argue that Congress wrote these concepts into the statute to give the Agency such broad authority.

Response: The EPA disagrees that the references in CAA section 202(a)(1) to ''public health'' and ''welfare'' confer discretion broad enough to identify and regulate any form of air pollution, including in the form of global climate change concerns. As discussed in section V.A.1 of this preamble, that interpretation, which we acknowledge is consistent with the interpretation adopted in the Endangerment Finding, is inconsistent with ordinary principles of statutory interpretation and would needlessly give rise to absurdity and nondelegation concerns that the statute itself does not create, properly interpreted. With respect to the statutory definition of ''welfare,'' we note that the ordinary meaning of the term ''climate'' at the time of enactment is nowhere near as broad as commenters suggest and that the term, as well as additional terms in the definition such as ''weather'' and ''visibility,'' must be read in the context of a much broader list that consists of terms having the physical property of being local or regional. For additional discussion, see the detailed explanation of the term ''welfare'' and additional statutory terms informed by proximate cause principles, including ''cause,'' ''contribute,'' and ''reasonably be anticipated to endanger,'' in the Response to Comments document.

B. Lack of Clear Congressional Authorization

The EPA is also finalizing as proposed that, in addition to the basis set out above, we lack the ''clear congressional authorization'' required under the major questions doctrine to decide the Nation's response to global climate change concerns. *West Virginia,* 597 U.S. at 723 (quoting *UARG,* 573 U.S. at 324). In this subsection, we conclude that the major questions doctrine applies to the Endangerment Finding because the global climate change concerns addressed in that action, and the mandatory duty to regulate triggered by that action, present a major question of undeniable political and economic significance. Until 2009, we had never used CAA section 202(a)(1) to assert authority over an entirely new subject, instead hewing closely to the air pollution problems that Congress identified in CAA section 202. To break with this longstanding practice, we developed a ''unique'' framework that broadened our statutory authority to prescribe emission standards in response to air pollution far enough to encompass global climate change concerns. The result was a new policy direction for the United States—one that Congress had repeatedly and recently declined to adopt—in which the EPA declared that every source and every nation must be required to ''do their part'' to combat global climate change. Implementation of the Endangerment Finding since 2009 has shown the extraordinary consequences of this assertion of authority, including an increasing trend toward forcing a shift from internal combustion engine (ICE) vehicles to EVs for virtually all classes of LD, MD, and HD vehicles.

Next, we conclude that Congress did not clearly authorize the EPA to decide this question when it empowered the Administrator to ''prescribe . . . standards'' for new motor vehicle and engine emissions under CAA section 202(a)(1). The general nature of the statutory text and the more specific authorities and commands throughout CAA section 202, as well as additional provisions throughout the CAA, leave no room for doubt that Congress knew how to, and did not, expressly authorize the regulation of vehicle and engine GHG emissions. On that basis, we determine that the Endangerment Finding and resulting GHG emission standards exceeded our statutory authority and must be rescinded. That conclusion follows from the Supreme Court's decisions in *UARG* and *West Virginia* and is consistent with *Massachusetts,* which held that GHGs fell within the definition of ''air pollutant'' but did not interpret the scope of our authority to regulate air pollutants that cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

1. Final Rationale

Applicability of the Major Questions Doctrine. In recent decisions construing the scope of the EPA's statutory authority to regulate GHGs, the Supreme Court has emphasized that the '' 'history and breadth of the authority' '' asserted by an agency and ''the 'economic and political significance' of that assertion'' provide '' 'a reason to hesitate before concluding that Congress' meant to confer such authority.'' *West Virginia,* 597 U.S. at 721 (quoting *Brown & Williamson,* 529 U.S. at 159–60); *accord UARG,* 573 U.S. at 324. Whether viewed as an ordinary tool of statutory interpretation that looks to the structure of the regulatory scheme [149] or a clear statement rule that implements nondelegation and separation of power principles,[150] the major questions doctrine requires us to identify ''more than a merely plausible textual basis'' when asserting authority to decide a significant policy issue on Congress' behalf. *Id.* at 723.

In *UARG,* the Supreme Court applied the major questions doctrine to reject our attempt to expand the number of stationary sources subject to the CAA's PSD and Title V permitting requirements based on their GHG emissions. 573 U.S. at 310–13.[151] The Court held that the EPA had ''exceeded its statutory authority when it interpreted the Clean Air Act to require PSD and Title V permitting for stationary sources based on their greenhouse gas emissions'' and ''may not treat greenhouse gases as a pollutant'' in this PSD and Title V contexts. *Id.* at 333. In reaching this conclusion, the Court found that our interpretation of the statute and related ''tailoring rule'' that exempted many sources to address workability concerns was ''unreasonable because it would bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization.'' *Id.* at 324. Citing earlier major questions doctrine precedents, the Court noted that ''a measure of skepticism'' is required when ''an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,' '' *id.* (quoting *Brown & Williamson,* 529 U.S. at 159), and that ''[w]e expect Congress to speak clearly if it wishes to assign to an agency decisions of vast 'economic and political significance,' '' *id.* (quoting *Brown & Williamson,* 529 U.S. at 160).

In *West Virginia,* the Supreme Court again applied the major questions doctrine to reject our attempt to shift the power grid away from using fossil fuels through GHG emission guidelines for existing power plants under CAA section 111(d). 597 U.S. at 711–15.[152] The Court noted that when interpreting a grant of regulatory authority, the inquiry includes the question ''whether Congress in fact meant to confer the power the agency has asserted.'' *Id.* at 721. The Court explained that the major questions doctrine applies when ''the 'history and breadth of the authority that [the agency] has asserted,' and the 'economic and political significance' of that assertion, provide 'a reason to hesitate before concluding that Congress' meant to confer such authority.'' *Id.* (quoting *Brown & Williamson,* 529 U.S. at 159–60). In such cases, ''both separation of powers principles and a practical understanding of legislative intent make us 'reluctant to read into ambiguous statutory text' the delegation claimed to be lurking there,'' and ''[t]he agency instead must point to 'clear congressional authorization' for the power it claims.'' *Id.* at 723 (quoting *UARG,* 573 U.S. at 324). Applying that standard, the Court held that our statutory authority to establish emission limits under CAA section 111(a)(1) and (d) ''is not close to the sort of clear authorization required by our precedents.'' *Id.* at 732.

The Endangerment Finding implicates the major questions doctrine for many of the same reasons the Supreme Court applied it in *UARG* and *West Virginia.* By asserting authority to regulate in response to global climate change concerns, the EPA '' 'claim[ed] to discover in a long-extant statute an unheralded power' representing a 'transformative expansion in [its] regulatory authority.' '' *West Virginia,* 597 U.S. at 724 (quoting *UARG,* 573 U.S. at 324). From 1965 to 2009, we invoked CAA section 202(a)(1) consistent with the more specific direction provided elsewhere in section 202 regarding the

[149] Biden v. Nebraska, 600 U.S. 477, 507–21 (2023) (Barrett, J., concurring).

[150] *West Virginia,* 597 U.S. at 735–51 (Gorsuch, J., concurring).

[151] *See* 42 U.S.C. 7470–92, 7661 *et seq.*

[152] *See* 42 U.S.C. 7411(d). The EPA had also issued GHG performance standards for new and modified fossil fuel-fired power plants under CAA section 111(b) that triggered the Agency's authority to issue guidelines for existing sources under CAA section 111(d). The new source standards were not before the Supreme Court in *West Virginia.*

air pollution Congress intended the EPA to address under this authority. As noted in section III.A of this preamble, the 15 final rules we identified as invoking CAA section 202(a)(1) prescribed standards for air pollution problems enumerated in the statute, including HC and other VOCs, NO_X, PM, and certain air toxics. Critically, Congress repeatedly amended the statute to instruct the EPA what, when, and how to regulate with respect to vehicle and engine emissions. For example, the 1970 CAA included instructions to regulate CO, HCs, and NO_X under CAA section 202(a) now codified as amended in CAA section 202(b).[153] The 1990 CAA amendments included additional instructions to regulate CO, certain HCs, NO_X, and PM.[154] These final rules carried out Congress' instruction to use CAA section 202 in particular ways and did not purport to use CAA section 202(a)(1) as a blanket authorization to explore new vistas on a discretionary basis.

Given this history, the novel use of CAA section 202(a)(1) in the Endangerment Finding is similar to the use of CAA section 111(d) addressed in *West Virginia.* There, the Supreme Court found that the EPA's use of the provision in a more limited fashion prior to the Clean Power Plan counseled in favor of applying the major questions doctrine, noting that '' 'just as established practice may shed light on the extent of power conveyed by general statutory language, so the want of assertion of power by those who presumably would be alert to exercise it, is equally significant in determining whether such power was actually conferred.' '' 597 U.S. at 725 (quoting *FTC* v. *Bunte Bros., Inc.,* 312 U.S. 349, 352 (1941)). We further note that the regulatory actions reviewed in *UARG* and *West Virginia* were predicated in part on the Endangerment Finding, and the PSD and Title V rules in *UARG* and existing source emission guidelines in *West Virginia* are similar in scope, approach, and economic impact as the GHG emission standards for new motor vehicles and engines promulgated to fulfill the mandatory duty triggered by the Endangerment Finding.

Moreover, as a consequence of the novel approach taken in the Endangerment Finding to endangerment and contribution, our GHG emission standards reflect an increasing trend toward mandating a shift from gasoline- and diesel-fueled vehicles to EVs on the theory that a substantial reduction in GHG emissions is necessary to address global climate change concerns.[155] This trend was evident in our earliest GHG emission standards rulemakings and became increasingly clear over time as the standards increased in stringency to the point where alternative compliance options were increasingly infeasible or unattractive for regulated parties. The underlying policy of forcing such a transition is also evident from the Agency's statements and actions on related issues. For further discussion of relevant regulatory history and implementation details, both of which generated significant public input during the comment period, see the Response to Comments document in the docket for this rulemaking.

Mandating a shift in the national vehicle fleet from one type of vehicle to another is indistinguishable from the emission guidelines at issue in *West Virginia,* which were calculated to force a shift from one means of electricity generation to another. This increasing regulatory trend has borne out over time given the limits of using GHG emission control technologies applicable to new motor vehicles and engines that comport with the magnitude of the problem identified in the Endangerment Finding. As discussed later in this preamble, even eliminating all GHG emissions from all U.S. vehicles and engines would have only a *de minimis* impact on GMST and GSLR trends as a proxy for adverse health and welfare impacts. See section V.C of this preamble and the Response to Comments document for further discussion.

It is '' 'highly unlikely that Congress would leave' to 'agency discretion' the decision'' whether and how many consumers and manufacturers in the United States may use the ICE in their vehicles. *West Virginia,* 597 U.S. at 729 (quoting *MCI Telecomms. Corp.* v. *AT&T Co.,* 512 U.S. 218, 231 (1994)). As the Supreme Court noted with respect to coal-based electricity generation, such a policy decision involves ''basic and consequential tradeoffs,'' and ''Congress certainly has not conferred a like authority upon EPA anywhere else in the Clean Air Act.'' *Id.* Until the Endangerment Finding, we had never invoked CAA section 202(a)(1) to regulate in response to global climate change concerns, whether through a fuel-shifting strategy or any other means. That history is telling because although CAA section 202(a)(1) has existed in substantially similar form since 1967, ''the EPA had never regulated in that manner, despite having issued many prior rules governing'' vehicle and engine emissions. *Id.* When Congress intended the EPA to regulate the type of fuels that propel vehicles, it provided express and detailed authority to do so in other provisions. CAA section 211 authorizes the Agency to regulate fuel and fuel additives, including by requiring registration and controlling or prohibiting the manufacture, distribution, or sale of fuel or fuel additives if the Administrator determines that ''any emission product of such fuel or fuel additive causes, or contributes, to air pollution or water pollution . . . that may reasonably be anticipated to endanger the public health or welfare'' or significantly impair the performance of any generally used emission control device.[156] Moreover, CAA section 211(o) sets out detailed requirements for the Agency's RFS program, which involves setting annual renewable fuel volume requirements applicable to refiners, blenders, distributors, and importers of transportation fuel.[157] Both of these provisions, with respect to the Nation's policy approach to GHGs generally and transportation fuel specifically, indicate that Congress knows how to establish policy on the subject and has declined to empower the EPA to decide for itself whether and how to respond to global climate change concerns.

Both before and since the Endangerment Finding, '' 'Congress considered and rejected' multiple times'' legislation that would have authorized or required the EPA to regulate GHG emissions from vehicles, engines, and additional sources. *West Virginia,* 597 U.S. at 731 (quoting *Brown & Williamson,* 529 U.S. at 144). This history is particularly relevant because of the established pattern through the 1990 CAA amendments of Congress adding additional emissions control authority and obligations to CAA section 202. From 2007 to 2009, Congress considered legislation—supported by the President and Administrator in office at the time of the Endangerment Finding—that would have authorized or required the EPA to prescribe emissions regulations for GHGs. For example, the Safe Climate Act of 2007 would have adopted findings and policies with respect to limiting global temperature increase, required various forms of international cooperation, and added a new Title VII to the CAA instructing the EPA to achieve phased GHG emission reduction targets and regulate GHG emissions

[153] Public Law 91–604, section 6, 84 Stat. 1676, 1691.

[154] Public Law 101–549, section 203, 104 Stat. 2399, 2474.

[155] 89 FR 27842, 27844 (Apr. 18, 2024).

[156] 42 U.S.C. 7545(a)–(c).

[157] 42 U.S.C. 7545(o).

under CAA section 202.[158] Similarly, the American Clean Energy and Security Act of 2009 would have required international cooperation and added new titles to the CAA requiring the EPA to, among other things, regulate GHG emissions under CAA section 202.[159] Neither bill was enacted through the legislative process, and Congress has since declined to adopt similar legislation.[160]

When Congress has addressed GHGs individually or collectively, it has not granted the EPA broad regulatory authority to ''prescribe . . . standards'' under CAA section 202(a)(1). As noted above, Congress enacted the RFS program to promote energy independence while reducing GHG emissions through a detailed regulatory scheme. With respect to HFCs, Congress enacted a comprehensive phaseout scheme in the 2020 American Innovation and Manufacturing (AIM) Act, which includes detailed instructions, timelines, and requirements for implementation and allows some uses to continue under certain conditions.[161] With respect to CO_2, Congress opted for a carrot rather than a stick by authorizing a tax credit to incentivize underground sequestration that mitigates emissions.[162] With respect to methane, Congress amended the CAA in 2021 through the Inflation Reduction Act of 2022 (IRA) to require us to establish a waste emissions charge for certain sources structured to incentivize emissions reductions over time.[163] When addressing GHGs and global climate change concerns more generally, Congress has used non-regulatory tools that incentivize, rather than mandate, changes in manufacturing and consumer choice, including through additional funding provisions in the IRA.[164] Multiple instances of recent legislation addressing GHGs individually and through distinct regulatory approaches suggests that Congress views such policy decisions as economically and politically significant and not adequately addressed by general statutory authorities enacted in response to different problems.

The EPA notes that Congress has continued to revise these air pollutant-specific measures and nonregulatory tools as part of an ongoing national debate over the appropriate response to global climate change concerns. On July 4, 2025, President Trump signed into law significant new legislation enacted by Congress, the One Big Beautiful Bill Act (OBBB),[165] which repealed several relevant measures adopted in the IRA and rescinded the EPA's appropriations to carry out several funding programs related to GHG emissions. Among other things, Congress prohibited the Agency from collecting the waste emission charge for methane for ten years beyond the original statutory collection date, rescinded funding to administer grant programs in CAA sections 132 and 135–38, and repealed CAA section 134, which had included a section-specific definition of ''greenhouse gas'' applicable to the grant program set out in that section.[166] This legislation, which was the product of substantial national debate and revised and rescinding funding for provisions of the IRA that were themselves the product of substantial national debate, indicates that the EPA erred in attempting to resolve significant policy issues on its own accord in the Endangerment Finding.

Congress has also recently disapproved several actions taken by the EPA with respect to GHG emissions. On May 19, 2025, President Trump signed into law a resolution adopted by Congress under the Congressional Review Act (CRA) to void our final rule implementing the waste emission charge added to the CAA in 2021.[167] And on June 12, 2025, President Trump signed into law three resolutions adopted by Congress under the CRA[168] to void waivers we granted under CAA section 209 that allowed California and participating States to enforce GHG emission regulations for motor vehicles and engines, up to and including zero-emission standards that mandated a shift to electric vehicles.[169] These disapproval resolutions further demonstrate the economic and political significance of the EPA's GHG emission regulations and reinforce the understanding that Congress intends to reserve such major questions of policy for itself. See *West Virginia,* 597 U.S. at 731–32.

Conclusion. Under the major questions doctrine, we conclude that the EPA lacks the ''clear congressional authorization'' required for the novel approach taken in the Endangerment Finding and resulting GHG emission standards and must rescind these actions. *West Virginia,* 597 U.S. at 723 (quoting *UARG,* 573 U.S. at 324). Our statutory authority under CAA section 202(a)(1) to ''prescribe . . . standards'' does not clearly authorize the EPA to regulate in response to global climate change concerns or, in issuing such regulations, to trend toward mandating a shift from gas- and diesel-fueled vehicles to EVs. This conclusion follows whether the major questions doctrine is viewed as an ordinary interpretive principle or a protection against violations of the separation of powers. As discussed previously in section V.A.1 of this preamble, an interpretation of CAA section 202(a)(1) that permits the EPA to define and regulate *any* ''air pollution'' the Agency believes may harm public health or welfare, broadly defined, would raise serious absurdity and nondelegation concerns. Properly interpreted, the statute does not and need not raise such concerns given the best reading of the statute or application of the major questions doctrine.

In *West Virginia,* the Supreme Court held that our authority under CAA section 111 ''to establish emission caps at a level reflecting 'the application of the best system of emission reduction . . . adequately demonstrated' '' did not

[158] H.R. 1590, 110th Cong. (2007). This bill was presented in the House of Representatives and never received a vote.

[159] H.R. 2454, 111th Cong. (2009). This bill, introduced on May 15, 2009—a month after the EPA proposed the Endangerment Finding—passed the House of Representatives on June 26, 2009, by a 219–212 margin but never received a vote in the Senate. The President and Administrator at the time expressed a strong preference for legislation but also a willingness to resolve legislative inaction by administrative means, and the Agency ultimately finalized the Endangerment Finding on December 7, 2009.

[160] Congress's pattern of not providing the EPA such authority extends long before the 2009 Endangerment Finding as well. *See Coal. for Responsible Regulation,* 2012 U.S. App. LEXIS 25997, at * 36–37 (Brown, J., dissenting from denial of rh'g en banc) (noting Congress expressly rejected proposals offered during the drafting of the 1990 CAA Amendments that would have authorized the EPA to regulate GHGs).

[161] Public Law 116–260, Div. S, 134 Stat. 1182, 2255–71 (codified at 42 U.S.C. 7675 *et seq.*).

[162] 26 U.S.C. 45Q. In 2020, Congress also instructed us to recommend improvements to SDWA permitting procedures for injection wells used in carbon sequestration and appropriated additional fundings for the ''Class VI'' permitting process. Public Law 116–260, Div. G, Title II, 134 Stat. 1182, 1507–16.

[163] Public Law 117–169, section 60113, 136 Stat. 1818, 2074 (codified at 42 U.S.C. 7436).

[164] *See, e.g.,* Public Law 117–169, sections 60101–03, 60107, 60114, 60201, 136 Stat. 1818, 2063–66, 2069, 2076, 2078 (codified at 42 U.S.C. 7432–35, 7437–38).

[165] Public Law 119–21.

[166] 42 U.S.C. 7434(c)(2) (2022).

[167] Public Law 119–2; *see* 90 FR 21225 (May 19, 2025).

[168] H.J. Res. 87; H.J. Res. 88; H.J. Res. 89; *see also* Diamond Alt. Energy, LLC v. *EPA, 606 U.S. 100, 107 n.1 (2025); Statement by the President (June 12, 2025): https://www.whitehouse.gov/briefings-statements/2025/06/statement-by-the-president/.*

[169] For example, California's Advanced Clean Cars II required an increasing amount of EVs to be sold so that by 2035 100 percent of new cars and light trucks sold in California would be zero-emission vehicles, including PHEV. *See* California Air Resources Board, California moves to accelerate to 100% new zero-emission vehicle sales by 2035, *available at https://ww2.arb.ca.gov/news/california-moves-accelerate-100-new-zero-emission-vehicle-sales-2035.*

clearly authorize the EPA to issue emission guidelines that addressed global climate change concerns by mandating a shift away from coal-generated electricity. 597 U.S. at 732. Similarly, in *UARG,* the Court held that our PSD and Title V authorities could not fully be extended to GHG emissions because those provisions ''are designed to apply to, and cannot rationally be extended beyond, a relative handful of large sources capable of shouldering heavy substantive and procedural burdens.'' 573 U.S. at 303. In these and other recent precedents, the Court has made clear that the express statutory authority required by major questions doctrine requires more than general language conferring ''a merely plausible textual basis for the agency action.'' *West Virginia,* 597 U.S. at 723.[170]

These cases control the analysis of our authority under CAA section 202(a). As in *West Virginia,* our statutory authority and the findings required to invoke that authority do not clearly authorize the approach taken in the Endangerment Finding and subsequent regulations. And as in *UARG,* our statutory authority to ''prescribe . . . standards'' for emissions of certain air pollutants does not clearly authorize using the CAA's vehicle-emission control scheme to address global climate change concerns. As discussed above, the Endangerment Finding did not limit itself to considering the impacts of GHG emissions from new motor vehicles and engines. Rather, the Endangerment Finding reviewed the totality of adverse impacts from climate change attributed to all anthropogenic sources of GHG emissions worldwide and asserted jurisdiction over CAA section 202(a) sources by finding they contributed to such impacts by emitting more than *de minimis* quantities of GHGs. That understanding has permeated our GHG emission rulemakings since 2009, and we have attempted to apply that framework to our distinct regulatory authorities across the rest of the CAA.

In *Massachusetts,* the Supreme Court disagreed with the EPA's argument that GHGs were not ''air pollutants'' because Congress had not revisited CAA section 202(a) in amending the CAA in 1990. 549 U.S. at 512–13. The Court found that our reliance on *Brown & Williamson* to support that argument was misplaced because unlike the ban on tobacco products at issue in that case, ''EPA jurisdiction would lead to no such extreme measures.'' *Id.* at 531. The Court also found that unlike the FDA's earlier statements on tobacco products, the ''EPA had never disavowed the authority to regulate greenhouse gases'' and had issued a memorandum in 1998 suggesting that we had such authority. *Id.*

Massachusetts did not consider or have reason to interpret the scope of the EPA's authority under CAA section 202(a) given our position in the 2003 Denial that GHGs are not ''air pollutant[s]'' under any provision of the statute. Rather, *Massachusetts* rejected our position that GHGs are ''categorically'' excluded from the CAA and remanded for the Administrator to determine whether four GHGs met the standard in CAA section 202(a). *UARG,* 573 U.S. at 320. Further, *Massachusetts* must be read together with the Supreme Court's decisions in *West Virginia* and *UARG,* which applied the major questions doctrine to statutory provisions similar to CAA section 202(a), as well as other relevant precedents decided since 2007.[171] The decision in *Massachusetts* necessarily does not reflect consideration of these precedents or additional legislative and regulatory developments since that time. As noted above, the EPA's rulemakings have not been limited to emission standards as anticipated in *Massachusetts,* but instead reflect an increasing trend toward mandating a transition toward EVs for virtually all classes of LD, MD, and HD vehicles.

2. Summary of Comments and Updates Since Proposal

The EPA received comments from a variety of stakeholders supporting and criticizing the legal rationale set out in the proposed rule. Commenters supporting the rescission and repeals pointed to *West Virginia* as virtually conclusive with respect to the applicability and outcome of the major questions doctrine analysis. These commenters generally agreed that the Endangerment Finding itself runs afoul of the doctrine by launching the EPA into a policy field that Congress has not decided whether and how to enter as a regulatory matter and, separately, that the EPA's increasing trend in GHG emission standard rulemakings toward forcing a shift toward EVs also runs afoul of the doctrine. Some commenters argued that the doctrine applied to the GHG emission standards but not the Endangerment Finding, including because the standards have increasingly trended toward forcing a shift to EVs. Commenters opposing the rescission and repeals generally argued that the Supreme Court's decision in *Massachusetts* must be read as shielding CAA section 202(a) from the major questions analysis. Some of these commenters also insisted that the regulation of GHG emissions from new motor vehicles and engines is not economically or politically significant, or that CAA section 202(a)(1) expressly authorizes the EPA to assert such authority by using broad language intended to achieve what they assert is the statute's precautionary purpose. The final rationale set out in the preceding section of the preamble reflects this input by including certain contentions raised by commenters and additional analysis developed in response to criticisms raised during the public comment period. In this subsection, we summarize major themes presented in the comments received along with our high-level responses. For detailed comment summaries and our full responses thereto, please see the Response to Comments document in the docket for this rulemaking.

Comment: Commenters supportive of the proposal agreed that prescribing GHG emission standards in response to global climate change concerns is a major question of social, economic, and political importance and that the EPA lacked clear congressional authorization to issue the Endangerment Finding and associated GHG emission standards authorized by that invocation of authority. These commenters argued that by purporting to resolve significant aspects of the climate change debate by deciding the Nation's policy response for itself in the first instance, the EPA asserted an unheralded authority that infringed on Congress's prerogatives. Several of these commenters argued that the Endangerment Finding preempted Congress by purporting to resolve an issue that was being actively debated and negotiated on the House and Senate floors in 2009 and identified additional instances in which Congress considered but declined to adopt legislation that would have granted the very authority that the EPA asserted in the Endangerment Finding. Such commenters also argued that congressional inaction means that we

[170] *See, e.g., Nebraska,* 600 U.S. at 506–07 (Department of Education lacked clear authority to forgive student loans under statutory language authorizing the Secretary to ''waive or modify any statutory or regulatory provision applicable to the student financial assistance programs . . . deem[ed] necessary in connection with a war or other military operation or national emergency''); Ala. Ass'n of Realtors v. HHS, 594 U.S. 758 (2021) (CDC lacked clear authority to impose eviction moratorium during the COVID–19 pandemic under language permitting ''such regulations as in [the Surgeon General's] judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases'').

[171] We note that recent Supreme Court decisions have not cited *Massachusetts* as a precedent applying, or declining to apply, the major questions doctrine. *See, e.g., Nebraska,* 600 U.S. 477; *West Virginia,* 597 U.S. 697.

never had authority to regulate GHGs in this manner, and that authority cannot be manufactured by placing the burden on Congress in the aftermath of the Endangerment Finding to affirmatively intervene to override the Agency's actions.

Response: The EPA agrees with the commenters that the major questions doctrine applies to the authority we asserted under CAA section 202(a)(1) for the first time in the 2009 Endangerment Finding. In that standalone action, the EPA established the legal foundation to regulate GHG emissions under CAA section 202(a)(1) and knowingly triggered a statutory obligation to regulate GHG emissions not only in the transportation sector, but in other respects as well, including the stationary source permitting context. The importance and extraordinary consequences of that decision were both foreseeable and foreseen by the EPA at the time, as evidenced by the 2008 ANPRM and statements made and actions taken by the EPA in 2009 and 2010. See, *e.g.,* 73 FR 44355 (''[I]f EPA were to regulate [GHG] emissions from motor vehicles under the Clean Air Act, then regulation of smaller stationary sources that also emit GHGs—such as apartment buildings, large homes, schools, and hospitals—could also be triggered. . . . The potential regulation of greenhouse gases under any portion of the [CAA] could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land.''); 74 FR 66502 (''Once the final affirmative contribution and endangerment findings are made, EPA has the authority to issue the final emission standards for new light-duty motor vehicles.''). Intervening events, including those addressed in *UARG* and *West Virginia,* have further demonstrated what was widely understood in 2009—the Endangerment Finding launched an entirely new field of regulation in which the EPA has applied, or attempted to apply, significant and costly regulations on virtually all major sectors of the American economy.

In this way, the EPA's invocation of authority in the Endangerment Finding followed by the mandatory issuance of regulations operates similarly to the assertion of authority to which the Supreme Court applied the major questions doctrine in *West Virginia.* The Agency's emission guidelines for existing power plants under CAA section 111(d) also imposed costs and forced generation shifting in an indirect manner. First, we issued regulations determining the amount of pollution reduction to be achieved; second, States were required to submit plans containing the emissions restrictions they intended to implement and enforce to achieve those reductions; and third, we would review those State plans for consistency with CAA requirements and allow them to enter into force through an approval or substitute State plans for a Federal plan in the event of disapproval. Similarly here, the EPA asserted authority in the Endangerment Finding that, by operation of law, triggered an obligation to prescribe GHG emission standards under CAA section 202(a)(1), triggered stationary source permitting requirements, and served as the basis for extending the reach of GHG emission regulations to additional sources, all as predicted in the 2008 ANPRM.

Further, the new motor vehicle standards issued by the EPA separately and independently trigger the major questions doctrine by forcing a transition toward the use of EVs rather than the ICE in a manner similar to the generation shifting at issue in *West Virginia.* As early as the EPA's first light-duty vehicle rule in 2010, the Agency relied on and knew its regulations would lead to increased EV production. *See* 75 FR 25324, 25332 (May 7, 2010) (noting that the ''commercialization of [EVs] and plug-in hybrids,'' as well as ''increased use of start-stop technology,'' were available avenues for compliance).

Comment: Adverse commenters asserted that the major questions doctrine does not apply to CAA section 202(a)(1) because of what they describe as a holding in *Massachusetts* that the regulation of GHGs under that provision is permissible and/or not a major question. These commenters cited to the Supreme Court's discussion of *Brown & Williamson* in that decision, along with statements made by the Agency in prior GHG emission standards rulemakings, to support the contention that the major questions analysis is inapplicable or that precedent establishes the requisite clear authorization.

Response: The EPA disagrees with these comments. As explained in section V.B.1 of this preamble and discussed further in the Response to Comments document, the Supreme Court drew no such distinctions in *West Virginia* when it held that the major questions doctrine applies to ''all corners of the administrative state,'' even if the ''regulatory assertions had a colorable textual basis.'' 597 U.S. at 721–23 (citation omitted). The Court did not appear to understand itself to be applying the major questions doctrine in *Massachusetts,* and has not, in subsequent cases, treated *Massachusetts* as an example of applying or declining to apply the doctrine. Rather, the Court in *Massachusetts* distinguished *Brown & Williamson* on its facts. That discussion does not stand for the proposition that CAA section 202(a)(1) is immune from major questions scrutiny, and many of the distinctions drawn in *Massachusetts* as to *Brown & Williamson* are now themselves distinguishable given the EPA's subsequent reasoning in the Endangerment Finding and actions taken to implement the Endangerment Finding since 2009.

Comment: Adverse commenters asserted that if major questions doctrine is relevant here, its principles cut against what they described as the EPA's novel interpretation of CAA section 202(a)(1). These commenters argued that for nearly 20 years, Congress has declined to overturn what commenters described as the judicial decisions upholding the EPA's authority to regulate GHG emissions or to amend CAA section 202 to restrict the Agency's authority in this respect. Commenters asserted that rescinding the Endangerment Finding would itself create an abrupt reordering in an area of economic and political significance and is an assertion of authority that would be both novel and dubious and potentially threaten the separation of powers.

Commenters asserted that under the major questions doctrine, the EPA is not able to reverse what they described as the Agency's longstanding interpretation dating back to the Endangerment Finding without being given authority by Congress to do so. Commenters stated that Congress has enacted numerous laws that have recognized GHGs are air pollutants subject to regulation under the CAA. Commenters argued that *Massachusetts* and the Endangerment Finding have been established law since 2009 and that Congress has known about and enacted legislation on numerous occasions that recognize and affirm the legal interpretations made by the Supreme Court in *Massachusetts* and by the Agency in the Endangerment Finding.

Response: The EPA disagrees with commenters and concludes the major questions doctrine supports the rescission of the Endangerment Finding and repeal of associated GHG emission standards. The EPA's interpretation of CAA section 202(a)(1) is not novel. As explained in sections III.A and IV.A of this preamble, it reflects the Agency's longstanding practice in applying CAA section 202(a)(1) for the four decades

prior to 2009. Moreover, rescinding the Endangerment Finding and repealing the associated GHG emission standards does not trigger the major questions doctrine because an agency's ability to reconsider, revise, and repeal prior actions is not an unheralded assertion of authority. As explained in section IV.A of this preamble, it is well established that an agency may reconsider, revise, and repeal prior actions unless the relevant statute provides otherwise, which is not the case here.

In addition, the EPA disagrees with commenters' representations of the scope of the Supreme Court's decision in *Massachusetts* and characterizations of congressional actions since 2009. Tellingly, commenters point to no occasion in which Congress has adopted legislation that expands the scope of the EPA's authority to regulate GHG emissions from mobile or stationary sources. As noted elsewhere in this preamble, Congress considered between 2007 and 2009 draft legislation—emphatically supported by President Obama and the Administrator who issued the Endangerment Finding—that would have substantially revised the CAA to give the EPA express authority to regulate GHG emissions, including under Title II. That legislation failed to pass, and the relatively limited number of non-regulatory provisions Congress has enacted since that time relate either to non-regulatory contexts or support our conclusion with respect to CAA section 202(a)(1) by indicating that Congress has adopted more detailed, particular solutions when it sought to address global problems, as with amendments to the RFS program and the AIM Act. This history falls well short of the standard courts have applied for inferring legislative acquiescence to either commenters' reading of *Massachusetts* or the EPA's assertion of authority in the 2009 Endangerment Finding. Ultimately, commenters appear to be asserting what is more properly understood as reliance interests on prior actions taken by the Agency. Because the EPA concludes that we lack statutory authority to regulate in response to global climate change concerns under CAA section 202(a)(1), we cannot respond to such asserted reliance interests by retaining the Endangerment Finding and associated GHG emission standards on that basis.

Indeed, commenters inadvertently reinforce why the major questions doctrine applies to the Endangerment Finding and necessitates its rescission. If rescission of the Endangerment Finding is significant enough to trigger the major questions doctrine, there is no persuasive reason to conclude that issuing the Endangerment Finding to initiate the resulting GHG regulatory program does not similarly trigger major questions scrutiny. Were commenters correct that only rescission triggers the doctrine, the result would be an untenable rule by which an Agency can expand its statutory authority through attrition even if application of the doctrine would otherwise require a different result.

Comment: Some commenters said that they support the EPA's application of the major questions doctrine to the vehicle standards that effectively mandated EVs as a purported emissions control measure for motor vehicles powered by ICEs. They stated that as the EPA points out in the proposed rule, effectively mandating a shift away from ICE vehicles under CAA section 202(a)(1) is conceptually indistinguishable from the EPA's failed attempt to mandate generation shifting by reduced utilization of coal-fired power plants under CAA section 111(d). Commenters argued that both actions involve claims of novel and expansive regulatory authority under longstanding law, both have fundamental effects on key national industries and on the national economy, Congress has grappled repeatedly over time with whether and how GHG emissions from these industries should be regulated, and neither action is grounded in a clear statutory mandate.

Commenters also said that the EPA's 2024 HD GHG Emission Standards Rule, without question, meet all the criteria for rescission under the major questions doctrine. These commenters argued that the Supreme Court in *West Virginia* held open the door for the rescission of what commenters described as sweeping EV truck mandates that impact broad segments of the national economy. Commenters argued that these standards are a direct analogue to the regulations invalidated in *West Virginia.*

Conversely, other commenters argued that the major questions doctrine does not apply to the 2024 GHG Emission Standards Rules and that the EPA did not explain or show awareness of its change in position from what these commenters described as the Agency's detailed consideration and rejection of major questions doctrine arguments in responding to comments on the 2024 GHG Emission Standards Rules.

Response: The EPA concludes that the major questions doctrine applies to the GHG emissions standards for LD, MD, and HD vehicles that the Agency promulgated in 2024, as discussed in the final rule preamble and with the Response to Comments document. We acknowledge that the Agency previously asserted that the 2024 GHG Emission Standards Rules did not violate the major questions doctrine. As explained in this final action, however, we now conclude that the arc of regulation since 2009 evinces a clear march toward requiring widespread adoption of EVs by manufactures and American consumers, such that the major questions doctrine applies in this respect as well. Accelerating the transition to EVs is realistically the only way for many regulated parties to comply with the stringent emission standards adopted in 2024. At least two auto manufacturers noted the compliance challenges with the current standards and cast doubt on their attainability, particularly in light of reduced EV demand. As demonstrated by the manufacturers' comments, the EPA's GHG emissions standards are difficult to achieve without increasing EV production.

Further, certain events have overtaken aspects of the EPA's analysis in its prior rulemakings. For example, the IRA was largely overtaken by the OBBB, and Congress has disapproved of the EPA's approval of the California waiver under the CRA. The market has also changed since the 2024 GHG Emission Standards Rules: EV demand is down, gas prices are generally down, and EV prices are generally higher than the EPA anticipated.

In effect, the main compliance option for the 2024 GHG Emission Standards Rules was for manufacturers to increase EV production. As discussed in greater detail in the Response to Comments document, the EPA first incentivized EV production in 2010 and projected that compliance with many of its standards in the years since then would include surpassing the amount of EVs that manufacturers would have produced based on market forces alone. The totality of the EPA's actions, when viewed holistically, show a clear path towards a changed reality on the ground of more EVs.

C. Eliminating GHG Emissions From Motor Vehicles and Engines Would Be Futile

The EPA is also finalizing as proposed that the Agency should not and need not make an endangerment finding under CAA section 202(a)(1) when exercising the regulatory authority conferred by that provision would have no meaningful impact on the identified dangers. The comments and data received in response to the proposed rule, as well as the modeling analysis we performed to evaluate these submissions, indicates that GHG

emission standards under CAA section 202(a)(1) have no more than a trivial effect on the key changes that the Endangerment Finding identified as causing adverse health and welfare impacts. The Endangerment Finding avoided confronting this question by severing the findings from consideration of the resulting regulations, and we focused in subsequent rulemakings on the emissions reductions potential of the standards rather than the impacts on health and welfare. Upon further review, we conclude that this approach is not consistent with the best reading of the statute or the requirement that regulations be reasonable and reasonably explained. CAA section 202(a)(1) instructs the EPA to regulate in furtherance of public health and welfare, not to reduce emissions regardless whether such reductions have any material health and welfare impact.

Specifically, we are finalizing that the potential for emission standards to yield more than *de minimis* gains for health or welfare are relevant and should be considered when applying CAA section 202(a)(1). We recognized in the Endangerment Finding that the relative contribution of GHG emissions to global concentrations from new motor vehicles and engines in the U.S. must be more than *de minimis* to invoke our authority but failed to carry this logic through to the remainder of the analysis. Background legal principles instruct that *de minimis* concerns are not encompassed within the scope of general statutory language, and the ability of regulation to address identified dangers is relevant to whether it can be said that that the emissions contribute to air pollution that endangers public health or welfare in the first instance. As discussed in this subsection, comments and our own analysis in response to comments provides that any potential impact is *de minimis.* Even a complete elimination of all GHG emissions from new motor vehicles and engines would not address the risks attributed to elevated global concentrations of GHGs. We are finalizing that this futility further demonstrates that CAA section 202(a)(1) does not, as a matter of text and structure, authorize or require the EPA to prescribe emission standards for GHG emissions from new motor vehicles and engines.

1. Final Rationale

As discussed in section VI.A of this preamble, the EPA recognizes that there are significant uncertainties related to climate modeling and recognizes that there is still significant dispute regarding climate science and modeling. However, the EPA is utilizing the climate modeling provided within this section to help illustrate that, even applying the assumptions of these climate models and uncertainties contained therein, that removing all GHG emissions from new and existing LD, MD, and HD vehicles and engines would not materially address the health and welfare dangers attributed to global climate change concerns in the Endangerment Finding.

The EPA utilized the EPA Optimization Model for reducing Emissions of GHGs from Automobiles (OMEGA model) to estimate the global GHG contributions from U.S. light- and medium duty vehicle engines, and the EPA's MOtor Vehicle Emission Simulator (MOVES model) to estimate the global contribution from U.S. heavy-duty vehicle engines (Table 1).[172] The baseline global emission scenario used for this analysis was Shared socioeconomic pathway 2 with a radiative forcing of 4.5 watts per square meter by 2100 (SSP2–4.5) (Table 1).

The EPA used the Finite amplitude Impulse Response (v2.2.3) climate emulator model (FaIR model) to quantify changes in global CO_2 concentration and global surface temperature associated with the marginal change in emissions from each vehicle scenario relative to the baseline. The FaIR model is an open-source emulator that reasonably reflects the best available information and science but does not include all possible Earth system processes. In FaIR, greenhouse gas lifetimes are based on a four-box decay model that is also a function of atmospheric and ocean temperatures and emissions of other gases. The model accounts for radiative forcing from greenhouse gases, aerosols, albedo changes due to land use, solar cycles, and volcanic eruptions, given an externally defined time path for each. FaIR uses three layers for the ocean component, as heat uptake by the ocean controls how fast atmospheric temperature changes after a change in radiative forcing. FaIRv2 includes uncertainty estimates that are based on a calibration to global climate models, historical observations, and parameter uncertainty ranges from the Intergovernmental Panel on Climate Change. Uncertainties in climate model parameters considered in FaIR, include the sensitivity of climate to increases in atmospheric CO_2 concentrations, forcing from aerosol interactions with radiation and clouds, forcing from black carbon on snow, and carbon cycle parameters. All simulations were run with historical volcanic and solar cycle forcing, with values held constant (solar) after 2022.

The EPA also used the Building Blocks for Relevant Ice and Climate Knowledge (BRICK) model to quantify changes in GSLR associated with the marginal temperature changes from each vehicle emissions scenario. BRICK is a semi-empirical, open-source model, with four sub-components that each model the physical changes in the four major contributors to GSLR—glaciers and ice caps, land water storage, and ice sheets, and thermal expansion—in response to changes in temperature. Similar to FaIR, the BRICK model is also designed with uncertain parameters intended to encompass the range of possible GSLR responses to a given input of temperature and ocean heat content. Uncertainties in GSLR parameters considered in BRICK include contributions from glaciers and ice caps and the Antarctic and Greenland ice sheets, as well as ocean thermal expansion, and were calibrated through a coupled physical-statistical framework, using an adaptive Markov chain Monte Carlo approach. Reduced complexity models like BRICK and FaIR allow for the flexibility to analyze custom scenarios, quantitatively discern changes between any scenarios, and characterize uncertainties surrounding global change. The National Academies of Sciences, Engineering and Medicine (NASEM) in a 2017 report endorsed the use of the FaIR model in a 2017 report, and the BRICK model was developed in response to recommendation 4–3 from the 2017 NASEM report.[173]

The EPA modeling described above projects that global atmospheric concentrations of CO_2 will be 420.5 parts per million by volume (ppmv) (with an associated 95 percent confidence interval (95 percent CI) of 419.1–422.1 ppmv) in 2027 and are projected to increase in the baseline scenario to a median of 475.4 ppmv by 2050 and 533.6 ppmv by 2100. The 95 percent CI reflects the uncertainty in the FaIR model input parameters and ranges from 461.8–484.3 ppmv in 2050 to

[172] Note that these scenarios did not include additional GHG emissions from upstream refinery or energy generation processes, nor additional emissions of hydrofluorocarbons (HFCs) from vehicle air conditioners. The EPA separately regulates emissions from stationary sources under statutory authorities outside the scope of this rulemaking and, pursuant to separately enacted legislation requiring a phase out of HFCs, regulates permissible uses of HFCs.

[173] National Academies of Sciences, Engineering, and Medicine. 2017. Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide. Washington, DC: The National Academies Press. A copy of this report is available in the docket for the rulemaking. Available online: *https://doi.org/10.17226/24651.*

482.5–565.4 ppmv in the year 2100. Relative to 2027, concentrations of CO_2 are projected to increase in 2050 and 2100, by 55.0 ppmv and 113.3 ppmv, respectively (Table 3). GHG emissions from on-road vehicle exhaust in the United States are projected to contribute 2.8 ppmv (or 5 percent) and 7.4 ppmv (or 7 percent) to this global increase by 2050 and 2100, respectively (Table 3).

The modeled GMST in 2027 is projected to be 1.35 °C above pre-industrial temperatures, defined as the average between 1850 and 1900 (Table 4). GMST in the baseline scenario is estimated to increase to 1.89 °C (95 percent CI: 1.44–2.37 °C) and 2.66 °C (95 percent CI: 1.86–3.87 °C) above preindustrial temperatures by the years 2050 and 2100, respectively. These changes are +0.53 °C (95 percent CI: 0.32–0.84 °C) and +1.28 °C (95 percent CI: 0.67–2.42 °C) above 2027 temperatures (Table 5). GHG emissions from on-road vehicle exhaust in the United States are projected to contribute to 0.013 °C (95 percent CI: 0.009–0.017 °C) (or 2 percent) of this increase in GMST by 2050 and 0.037 °C (95 percent CI: 0.024–0.054 °C) (or 3 percent) of this increase by 2100.

The modeled GSLR is estimated to be 25.8 cm higher in 2027 than during the preindustrial era (1850–1900). GSLR in the baseline scenario is projected to be 38.9 cm (95 percent CI: 28.0–49.1 cm) by 2050 and 94.3 cm (95 percent CI: 59.9–157.9 cm) by 2100 relative to preindustrial (Table 6). These increases are roughly 12.4 cm (95 percent CI: 9.4–20.3 cm) and 69.5 cm (95 percent CI: 35.2–132.7 cm) higher than 2027 levels (Table 7). GHG emissions from on-road vehicle exhaust in the United States contribute to roughly 0.09 cm (0.06–1.06 cm) (or ~1 percent) of this global increase in 2050 and 1.4 cm (0.39–4.77 cm) (or 2 percent) of this global increase by 2100.

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Table 1: Global CO_2 emissions (megatonnes (Mt) CO_2/year (yr)) (absolute and change relative to 2027) and contribution from U.S. on-road vehicles by scenario

Scenario	2027	2050	2100
#1 Baseline (SSP2-4.5)[a]	39,630	42,960 (+3,330)	14,480 (-25,150)
#2 All On-Road	1630	1390	1380
#2a. LD, MD Contribution	*1180*	*840*	*810*
#2b. HD Contribution	*450*	*550*	*560*

[a] Absolute emissions from the baseline scenario (SSP2-4.5) and the absolute change (Mt) in fossil CO_2 emissions relative to 2025.

*Table 2: Absolute global CO_2 concentrations (ppmv), by scenario**

Scenario	Estimated Median (95% Confidence Interval) (ppmv)		
	2027	2050	2100
#1 Baseline (SSP2-4.5)	420.5 (419.1-422.1)[174,175]	475.4 (461.8-484.3)	533.6 (482.5-565.4)
#2 Baseline without All On-Road Contribution	-	472.7 (459.4-481.3)	526.1 (477.7-556.8)
#2a. Baseline without LD, MD Contribution	-	*473.6 (460.3-482.3)*	*529.0 (479.6-560.2)*
#2b. Baseline without HD Contribution	-	*474.4 (461.0-483.2)*	*530.7 (480.6-562.1)*

*Contributions may not sum due to rounding.

*Table 3: Changes in global CO_2 concentrations (ppmv) relative to 2027, by scenario**

Scenario	Median concentration change (ppmv) and contribution from U.S. on-road vehicles[a]	
	2050	2100
#1 Baseline (SSP2-4.5)	+55.0 (41.9-63.6) ppmv	+113.3 (62.3-144.7) ppmv
#2 All On-Road	2.8 (2.3-3.0) ppmv (5%)	7.4 (4.8-8.8) ppmv (7%)
#2a. LD, MD Contribution	*1.8 (1.5-2.0) ppmv (3%)*	*4.5 (2.9-5.4) ppmv (4%)*
#2b. HD Contribution	*1.0 (0.8-1.1) ppmv (2%)*	*2.9 (1.9-3.5) ppmv (3%)*

[a] Percent change calculated as the absolute contribution in each year divided by the absolute increase in the baseline in that year relative to 2027.

*Contributions may not sum due to rounding.

*Table 4: GMST relative to pre-industrial (1850-1900), by scenario**

Scenario	Estimated Median (95% Confidence Interval) (°C)		
	2027	2050	2100
#1 Baseline (SSP2-4.5)	1.35 (1.06-1.64)[176,177]	1.89 (1.44-2.37)	2.66 (1.86-3.87)
#2 Baseline without All On-Road Contribution	-	1.88 (1.43-2.36)	2.62 (1.83-3.82)
#2a. Baseline without LD, MD Contribution	-	*1.88 (1.44-2.36)*	*2.63 (1.84-3.84)*
#2b. Baseline without HD Contribution	-	*1.88 (1.44-2.37)*	*2.64 (1.85-3.85)*

*Contributions may not sum due to rounding.

*Table 5: Change in GMST relative to 2027, by scenario**

Scenario	Median temperature change and contribution from U.S. on-road vehicles	
	2050	2100
#1 Baseline (SSP2-4.5)	+0.53 (0.32-0.84) °C	+1.28 (0.67-2.42) °C
#2 All On-Road	0.013 (0.009-0.017) °C (2%)	0.037 (0.024-0.054) °C (3%)
#2a. LD, MD Contribution	*0.008 (0.006-0.011) °C (2%)*	*0.022 (0.014-0.033) °C (2%)*
#2b. HD Contribution	*0.005 (0.003-0.006) °C (1%)*	*0.015 (0.009-0.021) °C (1%)*

*Contributions may not sum due to rounding.

*Table 6: GSLR (cm) relative to pre-industrial (1850-1900), by scenario**

Scenario	Estimated Median (95% Confidence Interval) (cm)		
	2027	2050	2100
#1 Baseline (SSP2-4.5)	25.8 (16.7-32.4)[176,178]	38.9 (28.0-49.1)	94.3 (59.9-157.9)
#2 Baseline without All On-Road Contribution	-	38.8 (27.9-48.9)	92.4 (59.4-156.3)
#2a. Baseline without LD, MD Contribution	-	*38.8 (28.0-49.0)*	*93.1 (59.6-157.2)*
#2b. Baseline without HD Contribution	-	*38.9 (28.0-49.1)*	*93.6 (59.7-157.5)*

*Contributions may not sum due to rounding.

*Table 7: Change in GSLR (cm) relative to 2027, by scenario**

Scenario	Median sea level change and contribution from U.S. on-road vehicles	
	2050	2100
#1 Baseline (SSP2-4.5)	+12.4 (9.4-20.3) cm	+69.5 (35.2-132.7) cm
#2 All On-Road	0.09 (0.06-1.06) cm (~1%)	1. 40 (0.39-4.77) cm (2%)
#2a. LD, MD Contribution	*0.06 (0.04-0.72) cm (<1%)*	*0.64 (0.24-2.89) cm (1%)*
#2b. HD Contribution	*0.03 (0.02-0.04) cm (<1%)*	*0.31 (0.15-2.06) cm (<1%)*

*Contributions may not sum due to rounding.

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As shown above, the changes in GHG emissions and global GHG concentrations by 2050 and 2100 resulting from the complete elimination of all GHG emissions from new and existing LD, MD, and HD vehicles in the United States would be relatively minor. Importantly, however, changes in global emissions rates and global concentrations are not the focus of the statutory standard for regulation in CAA section 202(a)(1). Rather, the statute instructs that the ultimate regulatory concern is impacts from air pollution on ''health or welfare.'' The appropriate indicator of impact is not emissions or concentrations, but health and welfare impacts. Given the speculative, multi-faceted, and multi-causal nature of the impacts cited in the Endangerment Finding (*e.g.,* hurricanes, floods, heat waves, ocean acidification, etc.), we used for purposes of this analysis the projected impacts of the elimination of U.S. LD, MD, and HD vehicle emissions on trends in GMST and GSLR.

In this analysis, we reviewed the projected impact on GMST and GSLR by applying two important qualifications. First, the projected impacts on GMST and GSLR are not themselves the adverse impacts on health and welfare relevant for purposes of the analysis. Rather, they are imperfect proxies for such adverse impacts, which we are assuming without accepting play a causal role in such adverse impacts. We did not apply a quantitative discount when analyzing the modeling performed for purposes of this final action. Nevertheless, it bears emphasis that the projected impacts on GMST and GSLR trends do not translate directly to adverse health and welfare impacts and do not account for additional factors, including adaptation and mitigation factors, that would necessarily inform such impacts. As discussed in section V.A of this preamble, the analytical difficulties, uncertainties, and multiple causal leaps involved in this exercise are themselves a reason to conclude that CAA section 202(a)(1) does not encompass emissions that can be said to lead to adverse health and welfare impacts only by constructing a global air pollution framework.

Second, the elimination of GHG emissions from all new and existing U.S. LD, MD, and HD vehicles substantially overestimates the impacts of the EPA's GHG emission standards. The standards apply only to ''new'' vehicles and engines, and fleet turnover (*i.e.,* the transition from existing vehicles to new vehicles covered by the standards) generally takes more than 20 years.[179] The most recent GHG emission standards finalized in 2024 phased in beginning in MY 2026 and increased in stringency through MY 2032 and beyond, meaning the full emissions reductions attributable to the standards would not be expected until well after 2052. Moreover, despite being the most stringent to date, the 2024 standards were projected to reduce GHG emissions by approximately 50 percent as compared to the preexisting standards for MY 2026 and beyond.[180] The appropriate discount between the modeled scenario (the elimination of all GHG emissions from vehicles) and the reductions achieved in practice by EPA GHG emission standards (*i.e.,* the difference between the scenario and the likely real-world scenario) turns on a variety of factors that are difficult to predict, including our regulatory decisions for MY 2032 and beyond, separate regulatory influences, and changes to the underlying economics, technologies, and consumer preferences. For illustrative purposes, we present below a scenario in which EPA GHG emission standards would eliminate an additional 50 percent of GHG emissions from LD, MD, and HD vehicles as compared to the baseline.

Under the 50 percent reduction scenario, retaining a GHG emission standards program for vehicles and engines would result in a 0.007 (0.005–0.009) °C impact on projected GMST through 2050 and 0.019 (0.012–0.027) °C impact on projected GMST through 2100. Retention would result in a 0.05 (0.03–0.053) cm impact on projected GSLR from 2027 to 2050 and 0.7 (0.20–2.39) cm impact on projected GSLR from 2027 to 2100. Again, this is an illustrative scenario and a rough estimate that pairs some analytic tools not intended for this purpose with other tools in the literature. As such, it cannot be assumed to translate with precision directly to specific adverse health or welfare impacts. Note, however, that these figures are themselves likely an overestimation of the actual predicted impact of GHG emission standards over the relevant time horizon because this illustrative 50 percent reduction scenario does not reflect what such standards would realistically achieve given technical and statutory constraints.

Whether viewed in terms of the complete elimination scenario or the illustrative 50 percent reduction scenario, these projections lead the EPA to determine that GHG emission standards under CAA section 202(a)(1) have no material impact (*i.e.,* beyond a *de minimis* level) on the global climate change concerns relied upon in the Endangerment Finding to justify regulation. This determination leads us to two independent conclusions. First, as discussed in section V.A of this preamble, the futility of GHG emission standards under CAA section 202(a)(1) further supports that the best reading of the statute does not encompass global climate change concerns within the scope of the ''air pollution'' that Congress authorized and required the EPA to address. And second, as discussed in this section below, the futility of GHG emission standards under CAA section 202(a)(1) renders retaining such standards unreasonable given the certain and immense costs and other direct adverse impacts of the standards.

Under any reasonable understanding, the predicted impacts of eliminating all U.S. GHG emissions from vehicles and engines on GMST and GSLR are *de minimis.* Even without accounting for the difference between total elimination under the modeled scenario and emission control using GHG standards under the discounted scenario, the predicted impacts through 2100 (0.013 °C as shown in Table 5) are below the

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[174] Average annual observed CO_2 concentrations in 2024 were 423 ppmv. Source: Trends in Atmospheric Carbon Dioxide (CO_2) from: *https://gml.noaa.gov/ccgg/trends/global.html.*

[175] Note that observed data do not exactly correspond with that modeled estimates, as the FaIR and BRICK modeling start in 1750 (or 1850) for estimation of both historical and future projected GHG concentrations, temperatures, and GSLR.

[176] Uncertainties in GSLR parameters considered in BRICK, include but are not limited to sea level rise contributions from glaciers and ice caps and the Antarctica and Greenland ice sheets, as well as ocean thermal expansion. The calibration of the 10,000 parameter sets is described in: Rennert, K., Errickson, F., Prest, B.C. *et al.* Comprehensive evidence implies a higher social cost of $CO_{2.}$ Nature 610, 687–692 (2022). *https://doi.org/10.1038/s41586-022-05224-9.*

[177] GMST observations in 2024 were 1.55 (1.42–1.68) °C relative to 1850–1900 to present from *https://wmo.int/publication-series/state-of-global-climate-2024.* The uncertainty in observed temperatures is due to the uncertainty in temperature before 1900, due to the sparsity of observations during that period.

[178] Observations of GSLR in 2024 are 22.5 cm relative to pre-industrial. Source: *https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level.*

[179] U.S. EPA. ''Population and Activity of Onroad Vehicles in MOVES5'' EPA–420–R–24–019, November 2024.

[180] For MY 2032 and beyond new motor vehicles, the EPA projected that the 2024 GHG emission standards final rules would result in a 50 percent reduction in new LD vehicle CO_2 emissions, a 41 percent reduction in new MD vehicle CO_2 emissions, and a 25–60 percent reduction in new HD vehicle CO_2 emissions (dependent on vehicle category). *See* 89 FR 27842, 27908–09 (Apr. 18, 2024); 89 FR 29440, 29451–52 (Apr. 22, 2024); 89 CFR 27914–915.

range of measurability for GMST and likewise for GSLR (1.4 cm as shown in Table 7).[181] Additionally, as stated previously, GMST variability from 2016–2025 was 0.14 °C, which is almost four times greater than the GMST change estimated in 2100 from eliminating all U.S. vehicle and engine GHG emissions.[182]

Once the figures are reduced to reflect the potential impact of EPA GHG emission standards, which only reduce, rather than eliminate, all GHG emissions from vehicles and engines for the reasons discussed above, the *de minimis* nature of the impact is even clearer. The reduced impact is approximately one percent of the model-projected change in GMST for 2050 and 2100.[183] The reduced impact is much less than one percent of the change in GSLR modeled for 2050 and 2100. As discussed in section V.A of this preamble, Congress does not include *de minimis* concerns in general statutory language, and agencies need not address *de minimis* concerns where doing so would yield trivial value under the statutory scheme.[184] The general instruction in CAA section 202(a)(1) to ''prescribe . . . standards'' for emissions that contribute to air pollution which may reasonably be anticipated to endanger public health or welfare does not override this background principle, and regulatory agencies and courts have consistently viewed impacts of one percent as *de minimis* and therefore not encompassed within general statutory language.[185]

Relevance to the best reading of CAA section 202(a)(1). In reaching this determination, we recognize that CAA section 202(a)(1) authorizes preventative regulation that need not fully ameliorate the identified harms. But in discussing the statute's preventative nature, the EPA and reviewing courts consistently understood that regulation must be capable of having *at least a material impact* on the identified danger.[186] The background legal principles discussed in section V.A of this preamble support this reading of the statutory standard.

The futility determination reached in this final action is different in kind from the policy arguments previously addressed in *Massachusetts* and *Coalition for Responsible Regulation,* which focused on the cost-benefit balance of potential regulatory responses and general concerns about the most efficient way to regulate in response to global climate change concerns. Rather, we conclude that CAA section 202(a)(1) requires that emission standards be capable of having a material impact on the identified danger for the Administrator to conclude that the emissions ''contribute'' to air pollution that may ''reasonably be anticipated'' to endanger public health and welfare. If controlling or eliminating the emissions would not materially impact the identified danger, the emissions do not ''contribute'' to the air pollution. And because the emitted ''air pollutant'' and the ''air pollution'' are defined in this context as the ''six well-mixed GHGs,'' the air pollution cannot ''*reasonably* be anticipated'' as endangering health or welfare in the CAA section 202(a) context if controlling or eliminating all vehicle and engine emissions would have no impact. Put another way, the inability of GHG emission standards to have any material impact demonstrates that GHG emissions from new vehicles and engines do not contribute to air pollution that endangers public health or welfare. That determination is relevant to the findings required by CAA section 202(a)(1).

The EPA recognized in the Endangerment Finding that CAA section 202(a) incorporates *de minimis* principles, stating that the contribution of motor vehicle and engine GHG emissions to the ''air pollution'' must be more than trivial. See 74 FR 66506, 66509, 66542–43. But we avoided consideration of this limitation in the remainder of the analysis by severing the endangerment and contribution findings from the analysis of responsive regulation. We asserted that requiring the Agency to show that control measures ''would prevent at least a substantial part of the danger'' would ''be an unworkable interpretation, calling for EPA to project out the result of perhaps not one, but even several, future rulemakings stretching over perhaps a decade or decades.'' 74 FR 66507–08. We further asserted that effectiveness would turn not only on CAA section 202(a) regulations, but also on ''the larger context of the CAA and perhaps even the global context'' based on our belief that all sources must ''do their part'' to avoid a collective action problem. 74 FR 66508. In this way, we deferred to future agency action any consideration whether regulation would have more than a *de minimis* impact. Upon reviewing multiple rounds of CAA section 202(a)(1) GHG emission standard rulemakings predicated on the Endangerment Finding, however, we acknowledge that the EPA never meaningfully returned to the question. Rather, we focused on estimates of GHG emission reductions and, in RIAs not relied upon to justify the standards, attempts to monetize such reductions using SCC methodology.[187] That was not consistent with the best reading of the statute, which provides that the proper focus is not on the emissions themselves, but on the possible dangers to health or welfare.

Emission standards for criteria pollutants and air toxics have markedly different impacts, and a comparison to the GHG emission standards is illustrative.[188] Unlike the GHG emission standards, the EPA's criteria pollutant and air toxic standards protect health and welfare by reducing emissions of air pollutants that have direct effects from local and regional exposure. Moreover, the standards achieve health and welfare benefits without relying on further action with respect to other sources (*i.e.,* stationary sources) or

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[181] *See* National Oceanic and Atmospheric Administration (NOAA), National Centers for Environmental Information, *Global Surface Temperature Anomalies-Methodology and Uncertainty,* estimating uncertainty in annual global mean surface temperature of approximately ±0.05 °C since 1950, increasing to ±0.1–0.2 °C in the late 19th Century. Available at *https://www.ncei.noaa.gov/access/monitoring/global-temperature-anomalies.*

[182] National Centers for Environmental Information, *Climate at a Glance.* NOAAGlobalTemp. Available at *https://ncei.noaa.gov/access/monitoring/climate-at-a-glance/global/time-series/globe/land_ocean/tavg/ytd/12/1950-2025.*

[183] For context, the Administrator relied in the Endangerment Finding on predictions that global temperature would increase from 1990 to 2100 between 1.8 to 4.0 °C. 74 FR 66519.

[184] *See, e.g., UARG,* 573 U.S. at 333; *Ala. Power,* 636 F.2d at 360–61.

[185] *See, e.g., UARG,* 573 U.S. at 333 (suggesting that an appropriate *de minimis* level of stationary source GHG emissions could be substantial in an absolute sense); *EME Homer,* 572 U.S. 489 (approving rule that did not require additional emissions reductions from States that contributed less than one percent to nonattainment in other States); In re Rail Freight Fuel Surcharge Antitrust Litig., 934 F.3d 619, 625 (D.C. Cir. 2019) (applying benchmark of five-to-six percent for the number of uninjured class members that destroy predominance in class certification context); *CareFirst of Md., Inc.* v. *First Care, P.C.*, 434 F.3d 263, 268 (4th Cir. 2006) (survey showing two percent consumer confusion *de minimis* in the trademark context); Arent v. Shalala, 70 F.3d 610, 617 (D.C. Cir. 1995) (accepting 10 percent *de minimis* threshold in FDA compliance regulation).

[186] *See, e.g., Ethyl Corp.* v. *EPA,* 541 F.2d 1, 29–32 (D.C. Cir. 1976) (en banc) (approving standards for lead content in gasoline supported by finding that lead emissions from gasoline were a ''significant source'' of total environmental exposure ''that was particularly suited to ready reduction'').

[187] *See, e.g.,* 89 FR 29440, 29675 (Apr. 22, 2024) (2024 HD GHG Emission Standards Rule); 75 FR 25324 (May 7, 2010) (Tailpipe Rule).

[188] For example, approximately 45 percent of NO_X, less than 10 percent of VOCs, and less than 10 percent of $PM_{2.5}$ and PM_{10} in the United States come from the transportation sector. *See https://www.epa.gov/transportation-air-pollution-and-climate-change/smog-soot-and-other-air-pollution-transportation.*

actions by other countries. Whether the EPA regulates criteria pollutant and air toxic emissions from power plants, for example, the CAA section 202(a) standards materially reduce the health and welfare impacts. Importantly, the risk-reduction benefits of those standards are *material* regardless whether other countries reduce emissions of the same pollutants.[189]

Independent basis for repealing GHG emission standards. Separate from the rescission of the Endangerment Finding, the EPA is finalizing the futility rationale as a standalone basis for repealing the GHG emission standards. Even if the CAA section 202(a)(1) authorized the Endangerment Finding as a standalone decision, it would be unreasonable and impermissible to retain a regulatory program that imposes immense costs while providing no material value in furtherance of a legitimate statutory objective. This alternative basis turns on the statutory language in CAA section 202(a) more generally, including the cost consideration requirements of CAA section 202(a)(2). As the Supreme Court explained in *Michigan,* agencies are bound to consider cost unless the statute expressly provides otherwise. Here, where the costs or regulation are certain and immense but the health and welfare value of regulation are uncertain and *de minimis,* it is unreasonable to maintain the GHG emissions program. For further discussion, see additional discussion in the sections of the preamble that follow and the Response to Comments document.

2. Summary of Comments and Responses and Updates to the Final Action

In response to the proposal, the Agency received a number of technical comments regarding the proposed futility basis, including comments on the impacts of total U.S. GHG emissions and U.S. motor vehicle GHG emissions to climate change effects. Multiple commenters provided projected changes in global CO_2 concentrations and global surface temperature changes for the years 2050 and 2100 for a range of modeled scenarios. These scenarios included modeled changes from the elimination of all U.S. CO_2, or elimination of all U.S. power sector CO_2 emissions (which the commenter indicated was of similar magnitude to the emissions from motor vehicles), or the elimination of all U.S. motor vehicle GHG emissions. Other commenters cited to climate modeling the EPA included in the light-duty vehicle GHG 2010 standard setting final rule. In general, the commenters utilized the Model for the Assessment of Greenhouse Gas Induced Climate Change (MAGICC) model, a model the EPA has used in the past. While the scenarios were not identical to the modeling described in section V.C.1 of this preamble which the EPA performed for this final action,[190] the EPA finds that in general commenters who performed climate modeling projected changes in global surface temperature impacts similar to the EPA's modeling. As discussed in detail in section V.C.1 of this preamble, the EPA finds the modeled projected impacts from the complete elimination of GHG emissions from US on-road vehicles to be *de minimis,* and the impacts from potential EPA GHG standards for U.S on-road vehicles, which would not result in a complete elimination of GHG emissions, to be even smaller and thus also *de minimis.* The Response to Comments document summarizes the comments we received regarding climate modeling projections and our detailed responses.

VI. Additional Proposed Bases for Rescission of the Endangerment Finding and Repeal of GHG Emission Standards the Agency Is Not Finalizing at This Time

In this section, the EPA discusses the alternative bases for rescinding the 2009 Endangerment Finding and repealing associated new motor vehicle and engine GHG emission standards that we presented for comment at proposal but are not finalizing at this time. The discussion below is provided in the interests of transparency and public engagement and should not be understood as presenting any views or conclusions related to the bases for this final action set out in section V of this preamble. As explained below and noted where appropriate in the Response to Comments document, the comments received on these alternative proposed bases are out of scope of this final action given our predicate conclusions that we lacked statutory authority to issue the Endangerment Finding and cannot retain or prescribe GHG emission standards for new motor vehicles and engines in response to global climate change concerns under CAA section 202(a)(1) and, separately, that the futility of GHG emission standards in addressing global climate change concerns renders it unreasonable to retain the standards.

A. Climate Science Alternative Basis

In the proposal, the EPA described an alternative rationale for rescinding the 2009 Endangerment Finding and repealing associated GHG emission standards for new motor vehicles and engines. Under that alternative proposed basis, the EPA stated that even if CAA section 202(a)(1) could be read to authorize regulation of GHG emissions from new motor vehicles and engines in response to global climate change concerns, the Administrator would exercise his judgement differently today in light of intervening scientific developments and limitations and uncertainties in the record for the Endangerment Finding. Although the Administrator continues to harbor concerns regarding the scientific determinations underlying the Endangerment Finding, the EPA has decided not to finalize this scientific alternative rationale at this time. As explained in section V of this preamble, the EPA is rescinding the Endangerment Finding based on the best reading of CAA section 202(a)(1), under which the EPA concludes that Congress did not authorize the Agency to regulate GHG emissions from new motor vehicles and engines in response to global climate change, and, separately, is repealing the GHG emission standards for the additional reason that futility renders it unreasonable to retain the standards. These legal conclusions are sufficient to support rescission of the Endangerment Finding and repeal of the related GHG emission standards without the additional scientific basis set out at proposal.

As the EPA does not adopt or rely on the proposed scientific alternative rationale in this final action, the Agency does not need to, and is not legally required to, respond to comments that address that unfinalized alternative. Nevertheless, in the interest of transparency and to assist the public in understanding the outcome of this rulemaking, the EPA provides the following summary of major themes raised by commenters regarding the proposed scientific alternative rationale. The EPA offers this summary for informational purposes only. The EPA does not (and, given the bases on which it finalizes this action, cannot) in this rulemaking resolve the underlying scientific debates described below, does not issue a new or revised scientific determination under CAA section 202(a)(1), and does not adopt or endorse any particular assessment, study, or

[189] To note, we acknowledge that criteria air pollution does come from other countries into the United States and the CAA allows for discounting those emissions when determining compliance with the NAAQS.

[190] *See* Memorandum to Docket EPA–HQ–OAR–2025–0194. ''Technical Memo on: Temperature, CO_2 Concentration, and Sea Level Rise Impacts of Greenhouse Gas Emissions from U.S. Motor Vehicles.''

comment as a statement of the Administrator's scientific judgement. The descriptions and responses that follow explain how the EPA has considered the comments in deciding not to finalize the scientific alternative rationale, but they are not necessary to, and do not form an independent basis for, the legal conclusions on which this final action rests. In light of the conclusions adopted in this final action with respect to the best reading of CAA section 202(a)(1) and the EPA's authority thereunder, we cannot resolve remaining uncertainty regarding these issues in this regulatory context.

Comments Asking the EPA to Characterize Whether the Science of Climate Change is ''Settled'': Several commenters asked the EPA to state more clearly whether the Agency views the science of climate change as settled or unsettled. Some commenters urged the EPA to state that climate science remains unsettled, and that significant disagreement persists on key issues related to climate sensitivity, extreme events, and projected impacts. Others urged the EPA to state that the science is settled to the extent relevant to the Endangerment Finding and pointed to statements by scientific organizations and assessments that describe strong or ''overwhelming'' consensus regarding the reality of climate change and the influence of human activities.

Response: The Administrator continues to harbor concerns regarding the scientific analysis underpinning the Endangerment Finding. A core tenet of empirical science is that it is falsifiable—that it can always be updated or changed in light of new evidence. The scientific record contains analyses that regularly reveal new uncertainties, challenge old assumptions, propose new interpretations of evidence, and reach differing conclusions. Analyses also explicitly question the weight that policymakers should place on particular projections or impact estimates, due in part to this uncertainty. Commenters generally recognized that relevant data is being collected on a continuing basis and analyzed against prior projections but drew very different conclusions from such data. Similarly, commenters drew very different conclusions from statements by scientific organizations that the consensus on these issues is strong or ''overwhelming,'' which certain commenters took as evidence of certainty and others took as reason to question the underlying data and analyses. We recognize the importance of these issues and the importance placed on them by many commenters. In light of the bases adopted for this final action, however, the EPA lacks authority to resolve these issues here for regulatory purposes under CAA section 202(a)(1).

Comments Asserting That Intervening Science No Longer Supports the 2009 Endangerment Finding: Some commenters supported the proposal's description of scientific uncertainty and agreed that the current record does not support the assumptions and conclusions of the Endangerment Finding. These commenters argued that experience since 2009 revealed limitations in global and regional climate models, including differences between model projections and certain observational records and reanalysis in specific regions or time periods. These commenters stated that projections of temperature change, sea level rise, and some categories of extreme events span wide ranges, and they contend that those ranges reduce confidence in the magnitude and timing of risks that the Endangerment Finding associated with anthropogenic GHG emissions.

Additionally, one commenter, for example, provides that there is significant bias in climate methodology that was relied upon in the Endangerment Finding. That commenter specifically provides that ''mainstream climate research'' has relied on a triply biased methodology that runs overheated models with inflated emission scenarios and ignores or minimized adaptation. The result, according to that commenter, is exaggerating the physical impacts of GHG emissions and harmfulness of such impacts.

Commenters also focused on causation and scale. These commenters emphasized that climate change is a global phenomenon and argued that GHG emissions from U.S. mobile sources represent a *de minimis* share of global GHG emissions. In their view, the available science does not support a sufficiently direct and quantifiable link between incremental changes in GHG emissions from U.S. vehicles and specific public health or welfare harms in the U.S. These commenters claimed that the Endangerment Finding relied too heavily on modeled scenarios and synthesis reports and did not fully account for natural variability, observational uncertainty, and adaptive capacity.

Response: The EPA acknowledges that some commenters view intervening scientific literature and observational experience as weakening the basis they believe underlay the Endangerment Finding. We also acknowledge that questions related to model performance, regional patterns of change, internal variability, and the magnitude of projected impacts will continue to be examined. As provided in this section, the existence of these differing approaches and viewpoints confirms that climate science, including climate-impact assessments, remains an active field of research and assessment rather than a closed or static record. Researchers continue to refine observational datasets, develop and evaluate models, improve methods for detecting and attributing observed changes, and explore alternative ways to characterize uncertainty and risk. Assessment bodies periodically revisit and synthesize this evolving literature, and authors continue to publish analyses that emphasize different aspects of the evidence. The EPA therefore views the scientific record as dynamic and subject to ongoing refinement, and the Agency does not, in this final action, attempt to resolve the scientific or methodological debates reflected in that record. In light of the bases adopted for this final action, the EPA lacks authority to resolve these issues here for regulatory purposes under CAA section 202(a)(1).

Comments Asserting That Scientific Assessments Since 2009 Have Strengthened the Basis for the 2009 Endangerment Finding: Other commenters disagreed with the scientific discussion in the proposal and with the claim that intervening science no longer supports the Endangerment Finding. These commenters emphasized that, in their view, major assessment reports completed since 2009, including the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report and the Fifth National Climate Assessment (NCA5), describe that the climate system has warmed; that human activities, particularly GHG emissions, have contributed substantially to observed warming since the mid-twentieth century; and that climate change already affects a wide range of physical, ecological, social, and economic outcomes. Commenters pointed to NCA5's finding that climate change is affecting every U.S. region and multiple sectors, including health, agriculture, infrastructure, and ecosystems, and that risks increase with additional emissions. Commenters also cited reports from the National Academies of Sciences (NAS), such as Climate Change: Evidence and Causes, and a 2025 review of GHG emissions and U.S. climate, health, and welfare which they describe as concluding that multiple lines of evidence link anthropogenic GHG emissions to observed warming and associated risks.

These commenters argued that, taken together, these assessments indicate that the scientific basis for concluding that GHG emissions may reasonably be anticipated to endanger public health and welfare has strengthened since 2009, not weakened. These commenters contended that the proposal downplayed or mischaracterized these assessments by emphasizing selected uncertainties without giving sufficient weight to their central conclusions.

Response: The EPA acknowledges that many commenters relied on IPCC, NCA5, and NAS reports to argue that mainstream scientific assessments continue to support and, in their view, reinforce the types of conclusions that informed the Endangerment Finding. The EPA further acknowledges that these assessments describe several conclusions, including that human influence has warmed the climate system and that climate change poses a range of risks to people and the environment.

At the same time, the EPA recognizes that the scientific record does not consist of a single set of results, but instead reflects a range of analyses that place different weight on particular datasets, models, and impact estimates. Some studies and assessments rely more heavily on global climate model ensembles and long-term series of surface temperature, ocean heat content, and sea level, while others emphasize satellite records, reanalysis products, and shorter-term regional observations. Different authors make different methodological choices about how to treat internal climate variability, combine observational datasets, and evaluate model performance at global, regional, or local scales.

The literature includes a range of results with varied degrees of confidence regarding probabilistic outcomes, which in turn may affect the weight decision makers should place in particular projections and in the quantification of specific climate-related risks. Similarly, impact analyses and integrated assessments apply different assumptions when translating projected physical changes into estimates of effects on health, agriculture, infrastructure, ecosystems, and the broader economy. Those analyses vary in their assumptions about population, economic growth, land use, technical change, adaptation, and behavioral responses. Some studies emphasize the potential for adaptation and innovation to reduce harms; others highlight the potential for compounding effects, distributional consequences, or low-probability, high-impact outcomes. These choices can lead to different estimates of the magnitude, timing, and regional distribution of impacts, even when starting from similar underlying physical projections.

Comments on Scientific Uncertainty, Assumptions, and What Remains Unknown: Commenters on both sides discussed the nature and implications of scientific uncertainty. Commenters who supported rescission on scientific grounds highlighted uncertainty in estimates of climate sensitivity, the representation of cloud and aerosol processes, regional precipitation changes, and how the frequency and intensity of specific extreme events may change in particular locations. These commenters argued that differences among observational datasets and model ensembles at certain scales make it difficult, in their view, to quantify reliably the magnitude of future climate change and associated impacts.

Other commenters agreed that uncertainties exist but emphasized that major assessments explicitly acknowledge and characterize these uncertainties while still reaching robust conclusions about several aspects of climate change. These commenters noted that the Global Change Research Act directs national assessments to discuss both scientific findings and scientific uncertainties, and argued that uncertainty often relates to the size, timing, or regional distribution of projected changes rather than the direction of change or the fundamental influence of GHG emissions on the climate system.

Commenters from multiple perspectives also discussed uncertainties and assumptions in the translation of physical climate changes to quantified health and welfare outcomes. These commenters observed that impact assessments must make assumptions about future population and economic growth, land use, technology, adaptation measures, and human behavior. Some commenters argued that such assumptions may overstate risks by underestimated adaptation and innovation. Others argued that the same assumptions may understate risks because they may not fully capture low-probability, high-impact outcomes, compounding effects, or distributional consequences.

Response: The EPA agrees that significant uncertain assumptions remain in the scientific record related to climate change and its impacts. Climate and impact modeling necessarily involve choices about emissions scenarios, socioeconomic pathways, and adaptation responses, as well as assumptions about processes within the climate system itself. The EPA also recognizes that different scientific bodies and authors may draw different inferences from the same underlying data when weighing these uncertainties. Major assessments, such as IPCC and NCA5, describe many of these uncertainties and present ranges of projected outcomes, while still expressing confidence in certain broad findings. Other analyses highlighted by commenters place relatively greater emphasis on the limits of current models and on the difficulty of quantifying net impacts.

Comments on Ongoing Scientific Debate and Future Assessments, Including a Possible 6th National Climate Assessment (NCA6): Several commenters asked the EPA to recognize explicitly that scientific research and debate about climate change will continue, regardless of the outcome of this rulemaking. These commenters pointed to ongoing work in universities, Federal and state agencies, and international institutions, and noted that the U.S. has historically produced periodic NCAs under the Global Change Research Act.

Some commenters referenced recent developments affecting Federal climate assessment activities, including actions that have affected contributors and online access to materials related to a future NCA6. These commenters argued that even if institutional arrangements change, scientific work on climate change will continue in peer reviewed literature and independent synthesis efforts. Some commenters urged the EPA to defer any change to the Endangerment Finding until after any new national or international assessment, while others argued that the existence of continuing debate and evolving research supports a decision not to rely on the Endangerment Finding.

In response, the EPA understands that scientific research and debate about climate change will continue during and after this Administration. Researchers will continue to publish new observations, attribution studies, model evaluations, and impact assessments. Domestic and international bodies may undertake additional synthesis efforts, including any future work related to a NCA6 or comparable report.

Comments on the EPA's use of the Proposed Scientific Alternative: Some commenters who opposed the proposed scientific alternative requested that if the EPA decides not to finalize that rationale, the Agency should make clear that the Agency is not relying on specific scientific critiques as a necessary or independent basis for rescinding the Endangerment Finding or

repealing vehicle GHG standards. These commenters expressed concern that references in the proposal could be misinterpreted as a new negative scientific judgement about climate change and its impacts. These commenters asked the EPA to clarify that the Agency is not issuing a new scientific determination under CAA section 202(a). Other commenters, including some who supported rescission on scientific grounds, urged the EPA to retain a version of the scientific alternative rationale in the final action to signal ongoing concerns about the treatment of uncertainty, model performance, and global versus domestic contributions to climate risk. These commenters argued that such a discussion would provide context for any future Agency considerations of climate-related issues, even if the EPA based this particular decision primarily on legal grounds.

Response: The EPA has considered these comments and, in this final action, is not finalizing the alternative climate science rationale and is not finalizing new findings by the Administrator with respect to global climate change concerns under CAA section 202(a)(1). The EPA does not rely on any specific critique of climate science as a necessary justification for this action. Given our conclusion that we lack legal authority to regulate in response to global climate change concerns under CAA section 202(a)(1), it would be unnecessary and inappropriate to resolve such questions in this regulatory context. The EPA includes this section to summarize major scientific themes commenters raised and to acknowledge that scientific research and debate about climate change will continue. This discussion does not endorse or reject any particular assessment, study, or comment letter in the docket with respect to assertions regarding global climate change science and has limited its responses to the bases being finalized in this final action. The EPA's conclusion in this final action is limited to the legal determination that CAA section 202(a) does not provide the authority to regulate GHG emissions from new motor vehicles or new motor vehicle engines for the purpose of addressing global climate change concerns, irrespective of how ongoing scientific debates are ultimately resolved.

B. There Is No Requisite Technology for Light- and Medium-Duty Vehicles That Meaningfully Addresses the Identified Dangers of the Six ''Well-Mixed'' GHGs

As stated in section V.C of this preamble, even if all GHG emissions were eliminated from all LD, MD and HD vehicles and engines, it would have a *de minimis* impact on public health or welfare. Therefore, there is no requisite control technology for LD and MD vehicles and engines that would meaningfully address the potential public health or welfare impacts since there is no technology that would completely eliminate all GHG emissions from vehicles.

However, due to the EPA's lack of authority under CAA section 202(a), the EPA does not believe that it is necessary to finalize this alternative basis for repeal. To note, as it relates to setting standards under CAA section 202(a)(2), the EPA must take into account requisite technology, giving appropriate consideration to the cost of compliance.

We therefore believe it is more appropriate to consider whether there is any ''requisite technology'' that could meet the statutory requirements when establishing standards than under this regulatory action.

C. There Is No Requisite Technology for Heavy-Duty Vehicles That Addresses the Identified Dangers of the Six ''Well-Mixed'' GHGs

As stated in section V.C of this preamble, even if all GHG emissions were eliminated from all LD, MD and HD vehicles and engines, it would have a *de minimis* impact on public health or welfare. Therefore, there is no requisite control technology for HD vehicles and engines that would meaningfully address the potential public health or welfare impacts since there is no technology that would completely eliminate all GHG emissions from vehicles.

However, due to the EPA's lack of authority under CAA section 202(a), the EPA does not believe that it is necessary to finalize this alternative basis for repeal. We therefore believe it is more appropriate to consider whether there is any ''requisite technology'' that could meet the statutory requirements when establishing standards than under this regulatory action.

D. More Expensive New Vehicles Prevent Americans From Purchasing New Vehicles That Are More Efficient, Safer, and Emit Fewer GHGs

In the proposal, the Agency described alternative bases that the Administrator could consider as rationale for the proposed repeal of the GHG standards. One of them was the negative impact that higher vehicle prices (from the GHG standards) may have on delaying the purchase of safer and lower emitting vehicles. In the proposal, the Agency noted that complying with GHG emission standards often requires manufacturers to design and install new and more expensive technologies, thereby increasing the price of new vehicles and reducing consumer demand. More expensive new vehicles are cost prohibitive for some consumers, and those consumers are likely to turn to the used vehicle market or continue using an older vehicle rather than purchase a new vehicle. The Agency stated in the proposal that all other things being equal, an increase in the price of new vehicles can result in consumers keeping their vehicles for longer periods, delaying the purchase of new vehicles, and decreasing the rate at which old vehicles in the national fleet are replaced by new vehicles (*i.e.,* fleet turnover). Contrary to the goals of the EPA's GHG emission standards and the intended purpose of CAA section 202(a), a delay in fleet turnover can negatively impact air quality because older vehicles tend to emit higher levels of air pollutants, including criteria pollutants and hazardous air pollutants, regulated by the EPA.[191] Slowing fleet turnover is of particular concern with respect to the EPA's 2024 GHG Emission Standards Rules because of the large increase in vehicle technology costs which will likely lead to large increases in purchase prices, and the impact battery electric and fuel cell vehicle technologies will have on purchasing decisions of consumers (for light-, medium-, and heavy-duty vehicle buyers). Increased prices and some consumers rejecting battery electric and fuel cell vehicle technologies may lead consumers to hold on to their existing vehicles longer. Vehicles are more likely to emit less air pollution with each subsequent model year because of improvements in technology, ordinary wear and tear that decreases the effectiveness of installed technology, and greater stringency in more recent regulations for criteria pollutants and hazardous air pollutants.[192] The Agency requested comment on this proposed alternative basis for the repeal of the vehicle and engine GHG standards.

The Agency notes that since the publication of the EPA proposal, NHTSA issued a proposal to change the CAFE standards for certain model years of vehicles after determining that previous rulemakings inappropriately considered alternative fuel technologies and the availability of compliance credits, which is prohibited pursuant to 49 U.S.C. 32902(h). In their proposal,

[191] A discussion of the impact of higher vehicle prices on slowing fleet turnover and thus increasing emissions can be found at 85 FR 24186 and 25039.

[192] *See* 90 FR 36313.

NHTSA evaluated its statutory factors in light of current circumstances and tentatively concluded that the existing standards exceed those that are maximum feasible. In addition, NHTSA conducted detailed modeling of the impact of various levels of fuel economy standards on new vehicle purchases and the impact on the in-use vehicle fleet.[193] NHTSA's proposal finds that more stringent fuel economy standards lead to higher vehicle prices, which in turn reduce vehicle fleet turnover.[194] NHTSA also finds that newer vehicles are safer than older vehicles (both for the driver/occupants of the newer vehicles and for safety of the in-use fleet overall). NHTSA also finds that newer vehicles generally emit lower emissions of certain criteria pollutants, depending upon the model year of the vehicle. In addition, in their proposal, NHTSA evaluated its statutory factors in light of current circumstances and tentatively concluded that the existing standards exceed those that are maximum feasible. The Agency received substantial supportive and adverse comments on this proposed alternative rationale for repeal of the GHG standards. Several comments included technical assessments and modeling to support the commenters' views.

As discussed elsewhere in this preamble, the Agency is repealing the GHG standards because we do not have authority to establish such standards under the CAA. The EPA is not basing the repeal on the proposed alternative rationale described in this section (section VI.D of this preamble). For this reason, the Agency has not responded to the comments received on this alternative rationale from the proposal.

Nevertheless, the Agency does believe that when establishing or revising emission standards under CAA section 202(a), the Administrator may consider the impacts of emission standards on safety, and in some cases is required to do so, such as standards established under CAA section 202(a)(3)(A).

VII. Repeal of New Motor Vehicle and Engine GHG Emission Standards

As discussed in sections III, IV, and VI of this preamble, the EPA is repealing all GHG emission standards for LD vehicles, MD vehicles, HD vehicles, and HD engines. This includes emission standards for the subset of four of the six ''well-mixed GHGs'' whose elevated concentrations in the upper atmosphere the Endangerment Finding identified as the ''air pollution'' in question that are actually emitted by such vehicles and engines—CO_2, N_2O, methane, and HFCs—as well as the compliance provisions for the GHG standards. These changes apply to all MYs of vehicles and engines, including MYs that have completed manufacture prior to the effective date of the final action.

This final action increases flexibility for vehicle manufacturers. Manufacturers will have no vehicle technology-mix constraints that arise from the EPA GHG standards and will be free to produce a range of technologies, including gasoline, diesel, alternative fuels, and plug-in electric vehicles. Thus, we do not anticipate material compliance difficulties on the part of manufacturers in response to this final action.

In section VII.A of this preamble, we discuss the anticipated impacts of repealing GHG emission standards under CAA section 202(a)(1) on the overall regulatory scheme for parties currently subject to the standards. As explained in this preamble section and elsewhere in this preamble, we did not reopen for comment or substantively revise any emission standards for criteria pollutants or hazardous air pollutants, nor did we reopen or substantively revise any regulatory provisions related to NHTSA's CAFE standards or the EPA's role in administering EPCA and EISA. This final action also does not impact Federal preemption for motor vehicle and engine emission standards under CAA section 209(a) or under EPCA and EISA, including with respect to GHGs. Regardless, whether we prescribe standards for GHG emissions from new motor vehicles or engines, CAA section 209(a) continues to apply by its own force to preempt State laws, regulations, and causes of action that adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or engines.

In section VII.B of this preamble, we describe regulatory amendments related to the LD and MD vehicle program. In section VII.C of this preamble, we describe regulatory amendments related to the HD engine and vehicle program. A memorandum submitted to the docket includes redline text highlighting changes to the regulations.[195]

The EPA's engine and vehicle programs are codified in Title 40 of the CFR. Specifically, the standard-setting parts for light- and medium-duty vehicles are located in 40 CFR part 85 and 86. The standard-setting part for HD engines is located in 40 CFR part 1036 and the standard-setting part for HD vehicles is 40 CFR part 1037. Each standard-setting part includes regulations describing emission standards and related requirements and compliance provisions for certifying engines or vehicles. Consistent with the proposed rule and explained in this preamble section and elsewhere in this preamble, the EPA is retaining measurement procedures, reporting requirements, and credit provisions for the LD program necessary for demonstrating compliance with NHTSA's CAFE standards and the EPA's fuel economy labeling program to meet our statutory obligations under EPCA and EISA. In response to comments on the proposed rule, we are revising the proposed approach for HD engines and vehicles subject to NHTSA's fuel-consumption standards to similarly retain measurement procedures and reporting requirements that are necessary for demonstrating compliance with NHTSA's standards.

Further, as explained in this section and elsewhere in this preamble, we did not reopen for comment and are not substantively revising emission standards or compliance provisions related to criteria pollutant exhaust emissions (*i.e.,* NO_X, HC, PM, and CO), air toxic emissions, or evaporative and refueling emissions.[196] We may consider those issues, as appropriate, in future rulemakings.

A. Scope and Impacts of Repealing the GHG Emission Standards

The repeal in this final action is limited to the regulatory provisions for GHG emission standards found in 40 CFR parts 85, 86, 1036, and 1037, with minor conforming adjustments to unrelated emission standards for new motor vehicles and engines in 40 CFR parts 600 and 1039. As detailed in sections VII.B and VII.C of this preamble, this final action does not revise emission standards for criteria pollutants or air toxics. The EPA may reconsider and propose to revise the regulatory provisions for those programs in a separate rulemaking action.

[193] National Highway Traffic Safety Administration. ''Draft Technical Support Document The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks.'' December 2025. Chapter 4.3.

[194] A discussion of the impact of higher vehicle prices on slowing fleet turnover can be found at 85 FR 24626 (Apr. 30, 2020).

[195] Memorandum to Docket EPA–HQ–OAR–2025–0194, ''Redline Version of EPA's Final Regulations for the Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act.'' February 2026.

[196] In this rulemaking, NO_X, HC, PM, and CO are sometimes described collectively as ''criteria pollutants'' because they are either criteria pollutants under the CAA or precursors to the criteria pollutants ozone and PM.

Similarly, we did not reopen for comment or propose to revise regulatory provisions necessary for NHTSA's CAFE standards or the EPA's co-administration of EPCA and EISA.

For this reason, the repealed provisions in this final action do not impact Federal preemption under EPCA, as amended by EISA, related to fuel economy standards. EPCA provides that when ''an average fuel economy standard prescribed under this chapter is in effect, a state or a political subdivision of a state may not adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards for automobiles covered by an average fuel economy standard under this chapter'' [197] unless the standards are identical or apply only to vehicles obtained for the use of the state or political subdivision.[198] We reiterate that the EPA did not reopen this issue in this rulemaking, as we did not propose to revise regulatory provisions necessary for NHTSA's CAFE standards or the EPA's co-administration of EPCA and EISA. In providing this information for better clarity on the scope of the final action, the EPA notes that we are not here ''undertak[ing] a serious, substantive reconsideration of the existing'' position. *Growth Energy* v. *EPA,* 5 F.4th 1, 21 (D.C. Cir. 2021).

The repealed provisions in this final action also do not impact Federal preemption under CAA section 209(a), which provides that ''[n]o State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part,'' including ''certification,'' ''inspection'' or ''approval'' requirements ''relating to the control of emissions from'' such vehicles or engines.[199] Because new motor vehicles and engines that have been subject to GHG emission standards remain subject to Title II of the CAA, the statute would by its own force continue to preempt ''any'' State or local law, regulation, or cause of action that adopts or attempts to enforce ''any standard relating to the control of emissions.'' Relatedly, the CAA continues to preempt Federal common-law claims for vehicle and engine emissions because Congress adopted a standard for when such emissions rise to the level of regulatory concern and ''delegated to EPA the decision whether and how to regulate'' such emissions. *Am. Elec. Power,* 564 U.S. at 426. The CAA also continues to preempt state common-law claims and statutes that seek to regulate out-of-state emissions, independently of CAA section 209(a)'s express preemption provision for mobile-source emissions. See *City of New York* v. *Chevron Corp.,* 993 F.3d 81, 98–100 (2d Cir. 2021); *cf. Int'l Paper Co.* v. *Ouellette,* 479 U.S. 481, 492 (1987). We retain our authority to prescribe emission standards for any air pollutant that, in the Administrator's judgment, causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare. See the Response to Comments document for more detailed comment summaries and responses.

The EPA's engine and vehicle programs are codified in Title 40 of the CFR. Specifically, the standard-setting parts for light- and medium-duty vehicles are located in 40 CFR parts 85 and 86. The standard-setting part for HD engines is located in 40 CFR part 1036 and the standard-setting part for HD vehicles is 40 CFR part 1037. Each standard-setting part includes regulations describing emission standards and related requirements and compliance provisions for certifying engines or vehicles.

B. Light- and Medium-Duty Vehicle GHG Program

Section VII.B.1 of this preamble provides background on the EPA's LD and MD vehicle GHG emission programs. In general, through a series of rulemakings beginning with MY 2010 for LD vehicles and MY 2014 for MD vehicles, the EPA increased the stringency of the GHG standards for these vehicles over time, in particular the CO_2 standard. The remainder of section VII.B of this preamble summarizes the comments received, and describes the changes to the LD and MD vehicle GHG regulations after considering those comments.

1. Background on the Light- and Medium-Duty Vehicle GHG Program

In 2010, the EPA relied on the Endangerment Finding to adopt the first GHG emission standards for passenger cars and light trucks for MYs 2012 through 2016 in a joint rulemaking with NHTSA.[200] In 2012, the EPA and NHTSA adopted another set of GHG standards (issued by the EPA) and fuel economy standards (issued by NHTSA) for passenger cars and light trucks for MYs 2017 and later in a joint rulemaking.[201] In 2020, the EPA and NHTSA revised the standards that had previously been adopted and extended them for MYs 2021 through 2026.[202] In 2021, we further revised GHG standards for passenger cars and light trucks for MYs 2023 through 2026.[203] For MD vehicles, we initially adopted GHG standards as part of the Phase 1 and Phase 2 HD GHG standards. In 2024, we adopted new standards for passenger cars, light trucks, and MD vehicles starting in MY 2027, effectively combining standards that had previously been maintained separately.[204]

The EPA has also taken various actions to comply with statutory obligations under EPCA and EISA. Enacted in 1975, EPCA requires NHTSA to establish a regulatory program for motor vehicle fuel economy (now known as CAFE standards) and requires the EPA to establish measurement procedures, data collection procedures, and rules for calculating average fuel economy values in support of NHTSA's CAFE standards. In 2007, Congress amended EPCA by enacting EISA, which required continuing increases in the stringency of CAFE standards for passenger cars and light trucks through MY 2020. EISA also authorized new fuel consumption standards for MD vehicles and HD engines and vehicles.[205] Those standards, and the EPA's HD engine and vehicle GHG programs, are detailed in section VII.C of this preamble.

To comply with EPCA and EISA, the EPA adopted regulations for fuel economy measurements, calculations, and reporting under 40 CFR part 600. The regulation at 40 CFR part 600 now includes additional provisions for measuring, calculating, and reporting fuel consumption values for MD vehicles. This regulatory structure was designed to maximize efficiency within the Federal government and minimize the burden on the engine and vehicle manufacturers by centralizing data submission. We share information with NHTSA as needed to support implementation of NHTSA's fuel economy and consumption standards.

2. Summary of Comments and Updates to the Light- and Medium-Duty Programs

Most comments related to GHG standards for LD and MD vehicles were focused on the proposed rescission of the Endangerment Finding and repeal of the GHG standards. Manufacturers suggested in comments that the EPA establish or determine that the model

[197] 49 U.S.C. 32919(a).

[198] 49 U.S.C. 32919(b)–(c).

[199] 42 U.S.C. 7543(a).

[200] 75 FR 25324 (May 7, 2010).

[201] 77 FR 62624 (Oct. 15, 2012).

[202] 85 FR 24174 (Apr. 30, 2020).

[203] 86 FR 74434 (Dec. 30, 2021).

[204] 89 FR 27842 (Apr. 18, 2024).

[205] 49 U.S.C. 32902(k).

year 2027 and later GHG standards in 40 CFR 86.1818–12 and 86.1819–14 are not appropriate, even if those standards are removed in this final action. The commenters suggested making such a determination to prevent future rulemaking action that would simply restore the standards as originally adopted. The EPA is removing the GHG emission standards for the reasons described in sections II, IV, and VI of this preamble. Because we are finalizing the conclusion that the EPA lacks authority to prescribe GHG emission standards in response to global climate change concerns under CAA section 202(a)(1), we are not putting in place alternative GHG emission standards.

Commenters also correctly identified several additional amendments to remove detailed regulatory provisions that become obsolete in the absence of GHG standards. We have amended the regulation to incorporate the suggested amendments as noted in the following section VII.B.3 of this preamble. See the Response to Comments document for more detailed summaries of and responses to comments related to specific LD and MD vehicle GHG regulations.

3. Changes to the Light- and Medium-Duty Vehicle GHG Regulations

The EPA's LD and MD vehicle emission regulations are spread across three CFR parts. 40 CFR part 85 includes various general compliance provisions for both criteria pollutant and GHG emissions. Many of those criteria pollutant provisions apply equally to highway motorcycles (but not for GHG emissions, as there are no EPA GHG requirements under 40 CFR part 85 for motorcycles). 40 CFR part 86 includes emission standards and certification provisions for both criteria pollutant and GHG emissions. 40 CFR part 600 includes measurement and reporting procedures related to fuel economy and GHG standards and to fuel economy labeling.

In the following preamble subsections, we describe the changes in this final action to remove and amend specific portions of each of these regulatory parts. The general approach is to remove the MY 2012 and later GHG emission standards for passenger cars and light trucks and the MY 2014 and later GHG emission standards for MD vehicles. We are also removing the testing and reporting requirements associated with the GHG emission standards. In keeping with our obligations under EPCA, as noted in section VII.B.1 of this preamble, we are not removing the testing and reporting requirements related to CAFE standards for passenger cars and light trucks. We are similarly preserving the testing and reporting provisions related to NHTSA's fuel-consumption standards for MD vehicles.

a. 40 CFR Part 85—Compliance Provisions for Light- and Medium-Duty Vehicles

This final action amends 40 CFR part 85 to remove all references to GHG emission standards and related provisions while retaining provisions that support our criteria pollutant emission program. In this preamble subsection, we describe several amendments that are necessary to remove GHG-related provisions from 40 CFR part 85 while ensuring that criteria pollutant emission standards are not substantively impacted. Table 8 provides a summary of amendments to 40 CFR part 85.

Table 8: Summary of changes to light-duty and medium-duty highway engine regulations under 40 CFR part 85

40 CFR Part 85	Amended sections
Subpart F—Exemption of Clean Alternative Fuel Conversions From Tampering Prohibition	85.525
Subpart P—Importation of Motor Vehicles and Motor Vehicle Engines	85.1515
Subpart S—Recall Regulations	85.1803, 85.1805
Subpart T—Emission Defect Reporting Requirements	85.1902
Subpart V—Warranty Regulations and Voluntary Aftermarket Part Certification Program	85.2103

The regulations at 40 CFR part 85, subpart F, provide an exemption from the general tampering prohibition for clean alternative fuel conversions. Specifically, the regulations describe how anyone modifying an in-use vehicle to run a different fuel can demonstrate that the fuel conversion maintains a level of emission control that qualifies them for an exemption from the tampering prohibition. This exemption generally allows for modifying vehicles already certified to emission standards in a way that does not cause the modified vehicle to exceed the emission standards that apply for the certified vehicle. The demonstration applies for both criteria and GHG emissions. We are amending 40 CFR 85.525 by removing the requirement to demonstrate compliance with GHG emissions. Program requirements related to criteria exhaust, evaporative, and refueling emissions and onboard diagnostics remain unchanged.

The regulation at 40 CFR 85.1515 describes the standards that apply for Independent Commercial Importers in their practice of importing used vehicles. We are only removing the provision that disallowed generation and use of GHG emission credits. We note further that the regulation requires Independent Commercial Importers to meet all the standards that apply under 40 CFR part 86. With the other changes described in this action, the removal of GHG standards from 40 CFR part 86, subpart S, applies equally to imported vehicles. Imported vehicles continue to be subject to criteria exhaust, evaporative, and refueling emission standards and requirements for onboard diagnostics as specified in 40 CFR part 86, subpart S.

We are revising the recall-related instructions for remedial plans and consumer notification in 40 CFR 85.1803 and 85.1805 to remove a reference to 40 CFR 86.1865–12(j)(3), which we are removing in this action. The referenced paragraph relates to recall provisions for vehicles that do not comply with GHG standards. We are also revising definitions of ''Emission-related defect'' and ''Voluntary emissions recall'' in 40 CFR 85.1902 where those definitions describe how manufacturers must report GHG-related defects differently than defects related to criteria pollutant emission standards.

Finally, we proposed to amend the warranty provisions for specified major emission control components in 40 CFR 85.2103 by removing the reference to batteries serving as a Renewable Energy Storage System (RESS) for electric vehicles and plug-in hybrid electric vehicles, along with all components needed to charge the system, store energy, and transmit power to move the vehicle. Some commenters supported this proposed change. Other commenters noted that RESS provisions are not limited to greenhouse gas emissions and that the Agency specifically connected the warranty provisions to its nonmethane organic gases and oxides of nitrogen ($NMOG+NO_X$) standards in the 2024 LD and MD Multi-Pollutant Emission Standards Rule.[206] Considering the connection to the EPA criteria pollutant program, which is out of scope of this rulemaking, we are not taking final action at this time on the proposal to remove batteries serving as a RESS for electric vehicles and plug-in hybrid electric vehicles from the list of specified major emission control components in 40 CFR 85.2103(d)(1). We may consider revisions in a future criteria pollutant rule. Note that we are nevertheless finalizing the proposed change to remove 40 CFR 85.2103(d)(3), which established the newly required battery monitor as the basis for making battery-related warranty claims; since we are removing the requirement to install these dashboard-mounted battery monitors in this rulemaking, warranty implementation will necessarily proceed without the benefit of information from the battery monitor.

b. 40 CFR Part 86—Emission Standards and Certification Requirements for Light- and Medium-Duty Vehicles

In general, we are amending 40 CFR part 86 to remove all GHG emission standards, references to such standards, and related provisions while retaining provisions that support our criteria pollutant emission program. In this preamble subsection, we describe several amendments that are necessary to remove GHG-related provisions from 40 CFR part 86 while ensuring that criteria pollutant emission standards are not substantively impacted. Table 9 provides a summary of the amendments to 40 CFR part 86.

Table 9: Summary of changes to light-duty and medium-duty highway engine regulations under 40 CFR part 86

40 CFR Part 86	Removed sections	Amended sections
—		86.1
Subpart S—General Compliance Provisions for Control of Air Pollution From New and In-Use Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Vehicles	86.1815-27, 86.1818-12, 86.1819-14, 86.1865-12, 86.1866-12, 86.1867-12, 86.1870-12	86.1801-12, 86.1803-01, 86.1805-12, 86.1805-17, 86.1806-27, 86.1807-01, 86.1809-12, 86.1810-09, 86.1810-17, 86.1811-17, 86.1811-27, 86.1816-18, 86.1822-01, 86.1823-08, 86.1827-01, 86.1828-01, 86.1829-15, 86.1830-01, 86.1835-01, 86.1838-01, 86.1839-01, 86.1841-01, 86.1844-01, 86.1845-04, 86.1846-01, 86.1848-10, 86.1854-12, 86.1861-17, 86.1868-12, 86.1869-12

We are amending the list of materials incorporated by reference in 40 CFR 86.1 by removing material that is referenced only in regulations that we are removing in this final action.

We are amending the applicability statements in 40 CFR 86.1801–12 by removing references to GHG standards and related compliance provisions. We are also removing the instruction related to work factor for vehicles above 14,000 pounds gross vehicle weight rating (GVWR) at 40 CFR 86.1801–12(a)(3) since that is meaningful only in the context of GHG standards. We adopted the work-factor provision in a 2016 final rule as a means of limiting the extent to which manufacturers would certify those larger HD vehicles in test groups along with chassis-certified MD vehicles.[207] Removing the instruction to calculate GHG standards based on a work factor appropriate for MD vehicles, without other compensating changes, could lead to a greater number of HD vehicles certified as MD vehicles. The work-factor provision was adopted as a means of addressing competing concerns from different manufacturers. As a result, we are limiting this provision to HD vehicles with a maximum value of 19,500 pounds GVWR. We believe this limitation is the best way to maintain a consistent approach for certifying affected vehicles.

We are amending the definitions in 40 CFR 86.1803–01 by removing several defined terms that are used only in regulatory provisions that we are removing in this final action. This includes removing the definition of ''configuration''; while this definition is no longer needed, we are retaining the slightly different definition of ''vehicle configuration,'' since that definition is needed to support standards related to criteria pollutants. We are accordingly amending several references across 40 CFR part 86, subpart S, to change from a generic reference to ''configuration'' and replace it with the specific reference to ''vehicle configuration.'' We are also amending 40 CFR 86.1803–01 by adding a definition for ''work factor'' that is consistent with the definition that is embedded in 40 CFR 86.1819–14. We adopted the definition of ''work factor'' in 40 CFR 86.1819–14 primarily as a means of accounting for specific vehicle characteristics in establishing GHG emission standards for MD vehicles. We are removing all of 40 CFR 86.1819–14 as described below. However, we are keeping the definition of work factor to support the definition

[206] 89 FR 27965 (Apr. 18, 2024).

[207] 81 FR 73478 (Oct. 25, 2016).

of ''medium-duty passenger vehicle,'' which relies on the work factor concept to categorize vehicles for applying criteria pollutant emission standards.

We are amending 40 CFR 86.1803–01 and 86.1809–12 by removing references to the air conditioning efficiency test as part of the consideration for determining what is a defeat device. We are eliminating the air conditioning efficiency test from the EPA certification program because it has been used only to generate GHG credits. Note that we are not removing the air conditioning efficiency credit provisions and measurement procedures from 40 CFR 86.1868–12 and 1066.845, which are used by manufacturers for compliance with fuel economy standards as described in 40 CFR 600.510–12(c)(3). If in the future NHTSA changes the fuel economy standards to no longer reference air conditioning efficiency credits, we intend to remove those provisions from 40 CFR 600.513 if they become obsolete.

We are amending useful life specifications in 40 CFR 86.1805–12 and 86.1805–17 by removing references to useful life for GHG standards. Useful life for all criteria exhaust, evaporative, and refueling emission standards and onboard diagnostics remain unchanged.

In response to public comments, we are amending 40 CFR 86.1806–27 to clarify we are excluding certain information items identified in 13 CCR 1968.2 because they are related to GHG emission standards.

We are amending labeling requirements in 40 CFR 86.1807–01 by removing the requirement for battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) to identify monitor family and battery durability family on the vehicle emission control information label. We are removing the battery monitoring and battery durability requirements in 40 CFR 86.1815–27 and therefore no longer need to include this family information as part of the certification process.

We are amending 40 CFR 86.1810–09(f)(2) by removing references to GHG emission standards. Manufacturer requirements to comply with altitude-related demonstration requirements for vehicles subject to the cold temperature standards for nonmethane hydrocarbon emissions remain unchanged.

We are amending 40 CFR 86.1810–17(j) by removing references to GHG emission standards. Small-volume manufacturers that modify a vehicle already certified by a different company must continue to meet other requirements as specified, such as those related to criteria exhaust, evaporative, and refueling emissions and onboard diagnostics.

We are amending 40 CFR 86.1811–17, 86.1811–27, and 86.1816–18 by removing references to GHG emission standards. We are not otherwise changing these sections, which establish criteria exhaust emission standards for LD and MD vehicles.

We are removing 40 CFR 86.1815–27, as proposed. We adopted this section to establish battery monitoring and battery durability requirements for BEVs and PHEVs. Since the earliest battery monitoring and battery durability requirements were scheduled to start in MY 2027, removing those requirements involves no immediate transition to discontinue compliance for certified vehicles.

We are removing 40 CFR 86.1818–12 and 86.1819–14. These sections described the GHG standards and implementing provisions for MY 2010 and later LD vehicles and for MY 2014 and later MD vehicles. We are discontinuing the requirement to demonstrate compliance with these GHG standards and note that this discontinuation applies as of the effective date of the final action. Manufacturers need not amend existing certificates for ongoing production for the current MY. Manufacturers will in any case not need to submit credit reports at the end of the current MY to demonstrate compliance with the fleet average CO_2 standards.

We are amending test group specifications in 40 CFR 86.1823–08 by removing durability demonstration requirements related to GHG emission standards.

We are amending the provisions for establishing test groups in 40 CFR 86.1827–01 by removing the reference to CO_2 emission standards.

We are amending testing specifications in 40 CFR 86.1829–15 by removing references to battery durability requirements and GHG emission standards, except where needed to account for emission measurements related to fuel economy labeling.

We are amending the compliance provisions 40 CFR 86.1835–01, 86.1838–01, 86.1841–01, 86.1848–10, and 86.1854–12 by removing references to GHG emission standards.

We are removing the description of battery monitor families and battery durability families and other GHG-related items from the reporting requirements in 40 CFR 86.1844–01.

We are amending carryover testing provisions in 40 CFR 86.1839–01 by removing references to accuracy requirements for battery monitoring for electric vehicles (EVs), which included battery electric vehicles and fuel cell electric vehicles, and PHEVs.

We are amending instructions for the application for certification in 40 CFR 86.1844–01 by removing references to refrigerant leakage rates and GHG emission standards.

We are amending in-use testing requirements in 40 CFR 86.1845–04 and 86.1846–01 by removing references to testing GHG emissions and testing related to battery monitor accuracy and battery durability for EVs and PHEVs. We are also amending 40 CFR 86.1845–04 by changing the nomenclature for the reference brake-specific CO_2 emission rate needed to perform calculations related to in-use testing for engines certified under 40 CFR 1036.635 for use in vehicles with high towing capacity.

We are removing requirements for battery durability testing and other GHG-related provisions in 40 CFR 86.1847–01 and 86.1848–10.

We are amending the credit provisions for criteria exhaust and evaporative emissions in 40 CFR 86.1861–17 by referencing the credit provisions in 40 CFR part 1036, subpart H, instead of 40 CFR part 1037, subpart H. We are removing several credit provisions in 40 CFR part 1037, subpart H, in this rule because they were needed only in relation to the GHG standards in 40 CFR part 1037, which we are removing in this rule. The referenced credit provisions in 40 CFR part 1037, subpart H, are equivalent to the analogous credit provisions in 40 CFR part 1036, subpart H. While the final action preserves some credit-related provisions in 40 CFR part 1037 in support of NHTSA's fuel consumption standards, we are finalizing as proposed the updated references to 40 CFR part 1036 to ensure the complete subpart of the EPA averaging, banking, and trading provisions can continue to apply under 40 CFR 86.1861–17. We are also amending 40 CFR 86.1861–17 by removing a reference to 40 CFR 86.1865–12(j)(3), which we are removing in this action.

We are removing 40 CFR 86.1865–12, which described the emission credit provisions related to the fleet average GHG standards. See the discussion related to 40 CFR 86.1818–12 and 86.1819–14 for the transition to discontinued GHG standards for the MY currently in production for the year when the final action is effective. More specifically, we will no longer recognize manufacturers' positive or negative GHG credit balances as of the effective date of the final action. Note also that we are removing 40 CFR 86.1865–12(j)(3), which describes recall provisions for

vehicles that do not comply with GHG standards. We recognize that a credit-based approach to recall is no longer appropriate without a GHG credit program. In the context of NMOG+NO_X standards, recall would involve identifying and correcting a vehicle defect to bring vehicles into compliance with standards. Accordingly, we are removing the provisions describing a credit-based remedy for noncompliance.

We are removing 40 CFR 86.1866–12, 86.1867–12, and 86.1867–31. These sections describe GHG credit programs for advanced technology and air conditioning leakage that served only in relation to the GHG standards that we are removing in this action.

We are amending the credit provisions for air conditioning efficiency and for off-cycle technologies in 40 CFR 86.1868–12 and 86.1869–12 by removing references to the fleet average GHG standards and adjusting the description to clarify that these credit provisions continue to serve as inputs for calculating fuel consumption improvement values and average fuel economy for LD program vehicles under 40 CFR 600.510–12. Note that the 2024 LD and MD Multi-Pollutant Emission Standards Rule included several changes to narrow the availability of air conditioning efficiency and off-cycle credits; those changes continue to apply in the context of fuel consumption improvement values and average fuel economy.[208]

We are removing 40 CFR 86.1870–12, which described a GHG credit program for full-size pickup trucks with hybrid technology. Those GHG credits were also used for calculating fuel consumption improvement values and average fuel economy for LD program vehicles under 40 CFR 600.510–12. However, we amended those credit provisions in the 2021 final rule to establish MY 2024 as the last year that manufacturers could generate those credits.[209] Because those credits are already discontinued for purposes of demonstrating compliance with EPA emission standards, manufacturers can no longer use those provisions to create fuel consumption improvement values under 40 CFR part 600.

c. 40 CFR part 600—Requirements Related to Fuel Economy for Light- and Medium-Duty Vehicles

In general, we are amending 40 CFR part 600 to remove all references to GHG emission standards and related provisions while retaining provisions that support compliance with CAFE standards and fuel economy labeling for passenger cars and light trucks. In the remainder of this preamble subsection, we describe several amendments needed to remove GHG-related provisions from 40 CFR part 600 without affecting provisions related to CAFE standards and fuel economy labeling. Table 10 provides a summary of the regulations we are either removing from or amending in 40 CFR part 600.

Table 10: Summary of changes to light-duty and medium-duty highway engine regulations under 40 CFR part 600

40 CFR Part 600	Removed sections	Amended sections
Subpart A—General Provisions		600.001, 600.002, 600.006, 600.007, 600.008, 600.010
Subpart B—Fuel Economy and Exhaust Emission Test Procedures		600.101, 600.111-08, 600.113-12, 600.114-12, 600.116-12, 600.117
Subpart C—Procedures for Calculating Fuel Economy and Carbon-related Exhaust Emission Values		600.206-12, 600.207-12, 600.210-12
Subpart F—Procedures for Determining Manufacturer's Average Fuel Economy	600.514-12	600.507-12, 600.509-12, 600.510-12, 600.512-12

We are amending the applicability statements in 40 CFR 600.001 by removing references to carbon-related exhaust emissions and fleet average CO_2 standards. We are also revising the reference in 40 CFR 600.001(a) to MD vehicles because the testing and reporting provisions remain only to support fuel-consumption standards that apply under 49 CFR part 535. Testing provisions will remain to describe (1) how passenger automobiles and light trucks (including MD passenger vehicles) must meet fuel economy standards, (2) how manufacturers must prepare fuel economy labels for those vehicles, and (3) how MD vehicles must meet fuel-consumption standards.

We are amending the definitions in 40 CFR 600.002 by removing the reference to fleet average CO_2 standards. We are also amending several definitions related to MD vehicles to preserve content referenced in 40 CFR 86.1819–14, which we are removing in this final action. We are amending these definitions to support NHTSA's implementation of fuel-consumption standards for MD vehicles.

We are amending the definition of Medium-Duty Passenger Vehicle ($MDPV_{FE}$) for purposes of fuel economy testing and reporting in 40 CFR 600.002 to align with the clarified definition published by NHTSA at 49 CFR 523.2 (89 FR 52945, June 24, 2024). Aligning these definitions is necessary to ensure the EPA's test procedures are properly applied to vehicles covered by fuel economy standards and labeling requirements.

As described for 40 CFR 86.1803–01, we are amending several references across 40 CFR part 600 to change from a generic reference to ''configuration'' and replace it with the specific reference to ''vehicle configuration.''

We are amending the information requirements in 40 CFR 600.006 through 600.010 by removing references to carbon-related exhaust emissions, GHG

[208] 89 FR 27842 (Apr. 18, 2024).

[209] 86 FR 74434 (Dec. 30, 2021).

emission standards, and reporting GHG-related information generally.

We are amending the testing overview in 40 CFR 600.101 and 600.111–08 by removing references to carbon-related exhaust emissions and fleet average CO_2 emissions.

We are amending the emission calculations in 40 CFR 600.113–12 by removing references to carbon-related exhaust emissions and other GHG emissions.

We are amending the interim testing provisions in 40 CFR 600.117 by removing paragraph (a)(5) since we are discontinuing GHG testing with in-use vehicles under 40 CFR 86.1845–04. We are also revising paragraphs (a)(6) and (b) to clarify that manufacturers do not adjust measured fuel economy values to account for fuel effects, whether they test with E0 or E10 gasoline.

We are amending the testing, calculation, and reporting specifications in 40 CFR 600.116–12, 600.507–12, 600.509–12, and 600.510–12 by removing references to carbon-related exhaust emissions. We are also removing GHG-specific utility factors in 40 CFR 600.116–12. We note that calculations related to off-cycle credits in 40 CFR 600.510–12(c)(3)(ii) continue to rely on carbon-related exhaust emissions as specified in 40 CFR 86.1869–12.

We are amending the reporting requirements in 40 CFR 600.512–12 by removing references to carbon-related exhaust emissions. This includes amending 40 CFR 600.512–12(c)(5)(i) to explain that the purpose for performing the calculations in 40 CFR 600.510–12(c)(3) is to support credit calculations for fuel economy improvement factors, rather than demonstrating compliance with the fleet average standard for carbon-related exhaust emissions. We are moving the existing reporting requirement for emission credits related to fuel consumption improvement values from 40 CFR 86.1865–12(l)(2)(iii), which we are removing in this final action, to 40 CFR 600.512–12(c)(3) to preserve the existing provisions needed for fuel economy reporting. We are also removing the reporting requirements in 40 CFR 600.514–12, which are solely related to GHG emissions.

C. Heavy-Duty Engine and Vehicle GHG Program

This section VII.C includes background on the EPA's HD GHG emission program and describes changes to the engine-based GHG regulations and the vehicle-based GHG regulations we are finalizing after considering comments.

1. Background on the Heavy-Duty Engine and Vehicle GHG Program

The EPA promulgated new GHG emission standards for HD engines and vehicles in three separate rulemakings. In 2011, the EPA established the first GHG standards for MY 2014 and later HD engines and vehicles in an action titled ''Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles'' (HD GHG Phase 1).[210] In 2016, the EPA set new GHG standards for MY 2021 and later HD engines and vehicles in an action titled ''Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2'' (HD GHG Phase 2).[211] Most recently, in 2024, the EPA finalized the 2024 HD GHG Emission Standards Rule, which set new CO_2 emission standards for MY 2032 and later HD vehicles that phase in starting as early MY 2027 for certain vehicle categories.[212] The phase-in revises MY 2027 GHG standards that were established previously under the EPA's HD GHG Phase 2 rulemaking.[213]

The EPA and NHTSA jointly issued the HD GHG Phase 1 and HD GHG Phase 2 rulemakings covering HD GHG emission and fuel efficiency standards. The EPA set GHG emission standards under CAA section 202(a), and NHTSA set fuel consumption standards under EISA.[214] The EPA and NHTSA programs were harmonized through MY 2026; however, NHTSA did not adopt changes in fuel consumption standards corresponding to the EPA's HD GHG Phase 3 standards. As a result, the CO_2 emission and fuel consumption standards diverged in MY 2027 and later.

The EPA's regulations include the test procedures along with a certification and compliance program, which is led by the EPA. As noted previously, this regulatory structure was designed to maximize efficiency within the Federal government and minimize the burden on the engine and vehicle manufacturers by centralizing data submission. Manufacturers submit data and information to the EPA and the EPA, in turn, shares information with NHTSA as needed to support NHTSA's implementation of its fuel consumption standards.[215]

2. Summary of Comments and Updates to the Heavy-Duty Engine and Vehicle Programs

Engine and vehicle manufacturers, trade associations for the manufacturers and suppliers, and other special interest groups commented specifically on the regulatory updates the EPA proposed for the HD engine and vehicle GHG programs. Many of these commenters raised a common concern that informed the approach we are finalizing for our HD engine and vehicle regulations: the HD industry's request to ensure no disruption to NHTSA's fuel efficiency program. Section VII.C.2 of this preamble summarizes comments related to that concern and describes the approach we are broadly applying to the regulations after considering those comments. We note that several commenters suggested more specific changes to regulatory sections we proposed to revise or remove, and some commenters identified additional regulatory sections we should consider revising or removing. In section VII.C.3 of this preamble, we summarize the comments related to specific regulatory text and changes we are finalizing after considering those comments. See the Response to Comments document for more detailed summaries of and responses to comments related to specific HD engine and vehicle GHG regulations.

Commenters responded to the EPA's request for comment on the relationship between the EPA's and NHTSA's regulations. As stated at proposal, NHTSA's medium- and heavy-duty fuel efficiency regulations in 49 CFR part 535 refer to several sections in the EPA's 40 CFR parts 1036 and 1037 that the EPA proposed to modify or remove. In the proposal, we also noted that NHTSA's reporting and recordkeeping regulation in 49 CFR 535.8(a)(6) directs manufacturers to submit information to the EPA, and 49 CFR 535.8(a)(6) also provides direction to manufacturers to send the information directly to NHTSA in instances where the EPA does not have an electronic pathway to receive the information.[216] We requested comment on whether any of the EPA's GHG test procedure, certification, and compliance program regulations should be retained with a CFR notation explaining that they only apply to NHTSA's HD fuel efficiency program. Regarding reporting, we also requested comment on the time required to transition from manufacturers supplying

[210] 76 FR 57106 (Sept. 15, 2011).

[211] 81 FR 73478 (Oct. 25, 2016).

[212] *See* 89 FR 29559–61 (Apr. 22, 2024).

[213] 89 FR 29440 (Apr. 22, 2024).

[214] 49 U.S.C. 32902(k).

[215] *See* 49 CFR 535.8; 40 CFR 1036.755 and 1037.755.

[216] *See* 49 CFR 535.8(a)(6).

data to the EPA to supplying the data directly to NHTSA.

Engine and vehicle trade organizations, individual manufacturers, and other organizations that commented on this topic expressed concern about the proposal to remove the EPA's GHG regulations, indicating that it would disrupt near-term certification for engine and vehicle manufacturers who would continue to be subject to fuel consumption standards under the NHTSA's fuel efficiency program. These commenters suggested that the EPA retain some or all of its GHG regulations until NHTSA is able to revise 49 CFR part 535 to independently implement their fuel efficiency program. In general, we agree with commenters that manufacturers should continue to have access to the regulations needed for NHTSA to effectively implement their program. At this time, NHTSA has not finalized regulations to update their HD fuel efficiency program under 49 CFR part 535. Therefore, after considering comments, and consistent with our request for comment on whether any of these provisions should be retained to support NHTSA's HD fuel efficiency program, we are only removing as proposed the EPA GHG standards in 40 CFR 1036.108, 1037.105, and 1037.106 and other provisions in 40 CFR parts 1036 and 1037 that only apply for the EPA. Relatedly, as discussed in more detail in section VII.C.3.c of this preamble, we are retaining regulatory provisions so that manufacturers will continue to submit their data and information to the EPA until NHTSA has updated their regulations and is prepared to accept the manufacturers' data and information directly.

To ensure NHTSA's fuel efficiency program remains implementable in the near-term, we are retaining the EPA regulations in 40 CFR parts 1036 and 1037 that NHTSA references. The Response to Comments document for this final action describes specific changes we are finalizing to remove the EPA's GHG standards and retain the necessary provisions for NHTSA's fuel efficiency program. We note here that we have generally replaced references to ''CO_2 standards'' with ''fuel consumption standards'' throughout 40 CFR parts 1036 and 1037. However, we have not removed all references to CO_2 *emissions* throughout these parts. CO_2 emissions remain the basis of many of the test procedures and compliance provisions used in NHTSA's fuel efficiency program. As such, we are retaining many of the requirements to measure and report CO_2 emissions in 40 CFR parts 1036 and 1037 to support the NHTSA's fuel efficiency program. To avoid extensive revisions throughout the parts, we are also amending the 40 CFR 1036.801 and 1037.801 definitions of ''we (us, our)'' to mean the EPA for issues related to criteria pollutant standards and to include NHTSA for testing, compliance, and approvals related to fuel consumption standards.

Another commenter expressed a preference that the EPA also retain its current responsibility for certification, noting that the Environment and Climate Change Canada (ECCC) currently accepts EPA certification and labeling for their greenhouse gas program, which simplifies the certification process for manufacturers exporting their vehicles to Canada. We will not be continuing to provide EPA certifications for GHG emissions because we are removing the GHG emission standards in this final action.

While some manufacturers expressed support for the broad rescission of all of the EPA's GHG regulations, other industry commenters focused their comments specifically on the HD GHG Phase 3 program, noting that the Phase 3 standards are infeasible and that the rule was an ''EV mandate'' in violation of the major questions doctrine. More consistently, commenters from the HD industry noted their urgent need for regulatory certainty regarding the HD GHG Phase 3 standards that are currently set to apply for MY 2027. These commenters indicated that this final action is likely to be challenged, which could lead to the possibility that the final action would be stayed and the existing GHG regulations would remain in place, including the more stringent standards beginning in MY 2027. One approach suggested by commenters to provide near-term certainty was that the EPA rescind the Phase 3 program separate from the Endangerment Finding rescission and allow industry to continue to meet the MY 2024 standards that are currently in place under the HD GHG Phase 2 program. Another suggested approach was that the EPA add a severability clause to the final action to allow for canceling or revising the GHG standards as originally adopted for MY 2027 and later vehicles and engines even if the Endangerment Finding or the broader GHG emission standards are not rescinded. The EPA is removing all GHG emission standards as noted in this preamble because we lack authority to set these standards. Therefore, we are not putting in place alternative GHG emission standards and are not committing to alternative GHG emission standards in a separate action. As stated previously, companies are still able to continue producing HD vehicles that meet the now non-existent HD engine and vehicle requirements if they so choose.

3. Changes to the Heavy-Duty Engine and Vehicle GHG Regulations

The EPA's HD engine and vehicle emission regulations are contained in two standard-setting parts. 40 CFR part 1036 includes the engine-based emissions regulations for both criteria pollutant and GHG emissions.[217] 40 CFR part 1037 includes the vehicle-based emission regulations for criteria pollutant exhaust emissions, evaporative and refueling emissions, and GHG emissions.

In the following preamble subsections, we describe the removal and amendment of specific portions of each of these regulatory parts. This action removes the MY 2014 and later HD GHG emission standards promulgated in HD GHG Phase 1, Phase 2, and Phase 3, collectively. As noted in section VII.C.2 of this preamble, in general we are retaining many provisions for NHTSA's fuel efficiency program under 49 CFR part 535. If NHTSA updates their regulations, then the EPA would consider a separate rulemaking to remove the remaining provisions related to the NHTSA fuel efficiency program, including the EPA's data collection responsibilities.

a. 40 CFR Part 1036—Emission Standards and Compliance Provisions for Heavy-Duty Engines

40 CFR part 1036 contains regulations related to the final action titled ''Control of Emissions from New and In-Use Heavy-Duty Highway Engines.'' 40 CFR part 1036 continues to include emission standards and compliance provisions for criteria pollutant emissions and evaporative and refueling emissions that remain unchanged, but we are removing emission standards and compliance provisions for GHG exhaust emissions (*i.e.,* CO_2, nitrous oxide (N_2O), and methane (CH_4) for HD engines) in this final action, consistent with our proposal. 40 CFR part 1036 is divided into nine subparts with three appendices. Subpart A defines the applicability of part 1036 and gives an overview of regulatory requirements. Subpart B describes the emission standards and other requirements that must be met to certify engines under

[217] Note that HD engine manufacturers are subject to criteria pollutant standards in 40 CFR part 86, subpart A, through MY 2026. In a recent rulemaking (88 FR 4296, Jan. 24, 2023), the EPA migrated criteria pollutant regulations from 40 CFR part 86, subpart A, to 40 CFR part 1036 with new requirements that apply to MY 2027 and later HD engines. *See* 88 FR 4326.

this part. Subpart C describes how to apply for a certificate of conformity for HD engines. Subpart D addresses testing of production engines and hybrid powertrains. Subpart E addresses in-use testing, while Subpart F describes how to test engines to demonstrate compliance with the emission standards. Subpart G describes requirements, prohibitions, and other provisions that apply to engine manufacturers, vehicle manufacturers, owners, operators, rebuilders, and all others. Subpart H describes how manufacturers can optionally generate, bank, trade, and use emission credits to certify HD engines. Subpart I includes definitions and other reference material. Appendix A includes a summary of previous emission standards. Appendix B includes the transient duty cycles. Appendix C includes engine fuel maps used in the certification of specific vehicles to meet the HD vehicle emission standards.

This preamble subsection includes an overview of the regulations related to the HD engine program we are removing or revising. In general, we are amending 40 CFR part 1036 to remove all GHG emission standards, references to such standards, and certain related provisions; however, most of 40 CFR part 1036 is retained as it is for the EPA's HD engine criteria pollutant emission program. As described in section VII.C.2 of this preamble, after considering comments, we are also retaining provisions to which NHTSA specifically refers in their fuel efficiency regulations of 49 CFR part 535. In this preamble subsection we describe the amendments we are finalizing for 40 CFR part 1036, which include revising or removing GHG-related provisions and clarifying when a provision is retained specifically for NHTSA's fuel efficiency program; some amendments are also needed to retain the efficacy of the EPA's criteria pollutant emission standards. Table 11 provides a summary of the regulations we are removing or amending in 40 CFR part 1036 or have retained specifically for NHTSA's fuel efficiency program.

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Table 11: Summary of changes to heavy-duty highway engine regulations under 40 CFR part 1036

40 CFR Part 1036	Sections removed as proposed	Amended sections	Provisions proposed to be deleted but retained for NHTSA programs[a]
Subpart A—Overview and Applicability		1036.1, 1036.5, 1036.15	
Subpart B—Emission Standards and Related Requirements	1036.108	1036.101, 1036.110, 1036.130, 1036.135, 1036.150	1036.115(b), 1036.130(c)
Subpart C—Certifying Engine Families	1036.241	1036.205,1036.231[b], 1036.235, 1036.245	1036.225(a) and (f), 1036.230(f), 1036.235(a)
Subpart D— Testing Production Engines and Hybrid Powertrains		1036.301	1036.301(b)-(d)
Subpart E—In-Use Testing		1036.415	
Subpart F—Test Procedures		1036.501, 1036.503[c], 1036.510, 1036.512, 1036.514, 1036.520, 1036.530, 1036.535, 1036.540, 1036.545, 1036.550, 1036.580	1036.505, 1036.510(e), 1036.512(e), 1036.535, 1036.540, 1036.543, 1036.550
Subpart G—Special Compliance Provisions	1036.625, 1036.635	1036.605[d], 1036.610	1036.610, 1036.615, 1036.620, 1036.630
Subpart H—Averaging, Banking, and Trading for Certification		1036.701, 1036.705, 1036.710, 1036.720, 1036.725, 1036.730, 1036.735, 1036.740, 1036.750	1036.745, 1036.755
Subpart I—Definitions and Other Reference Information		1036.815	Some definitions in 1036.801 and 1036.805, 1036.810(a)(2) and (3)
Appendices			Appendix C

[a] Many of these provisions are retained with revisions to clarify that they only apply for the NHTSA fuel efficiency program.
[b] We are moving 40 CFR 1037.231 to a new 40 CFR 1036.231, as proposed.
[c] We are adding a new 40 CFR 1036.503 to direct readers to the correct 40 CFR 1036.505. This change is intended to align with 49 CFR 535.6, which references 40 CFR 1036.503 for a description of engine data and information to support vehicle certification.
[d] We are finalizing similar revisions in 40 CFR 86.007-11(g) and 86.008-10(g) for MY 2026 and earlier engines for specialty vehicles.

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In 40 CFR part 1036, subpart A, we added clarification in a new 40 CFR 1036.1(e) noting that the test procedure and compliance elements that previously applied to GHG emission standards, now only apply to implement NHTSA's HD fuel efficiency standards in 49 CFR part 535. We are finalizing minor changes to 40 CFR 1036.5(a) to differentiate more clearly the certification requirements for MD vehicles from those for HD engines.

Within 40 CFR part 1036, subpart B, we are removing as proposed 40 CFR 1036.108, which included the GHG emission standards for CO_2, N_2O, and CH_4. We are retaining for NHTSA 40 CFR 1036.115(b) and 1036.130(c), which refer to fuel maps. As proposed, we are removing, and reserving to otherwise retain the existing section numbering, several paragraphs from 40 CFR 1036.150 that described interim provisions that have equivalent provisions in 49 CFR part 535 or only applied for the EPA's GHG program, including: 40 CFR 1036.150(b), (e), (g)–(j), (l), (p), (w) and (aa). While we did propose to remove paragraphs (d), (m), (n), and (q)–(s), these interim provisions apply for NHTSA's program, and we are

retaining them with revisions to remove references to GHG emission standards.

We did not propose changes to the onboard diagnostic (OBD) regulations in 40 CFR part 1036, subpart B but we received comments that GHG-related requirements are embedded within California's 2022 OBD–II regulations that the EPA incorporates by reference. Commenters requested that the EPA exclude active technology, CO_2 parameters, and reporting CO_2 results during an OBD demonstration in the same manner as we previously excluded other specific California OBD requirements that did not apply for meeting the EPA regulations. Since we are removing GHG standards and related requirements in this final action, we agree that it is appropriate to also remove the requirement to monitor GHG parameters as part of OBD. For the final action, to conform with our removal of the EPA GHG standards, we are adding new paragraphs 40 CFR 1036.110(b)(14) through (18) to exclude the definition of ''Active Technology'' and related standardization, data storage, certification documentation, and monitoring system demonstration requirements from the EPA OBD provisions under 40 CFR 1036.101.

In 40 CFR part 1036, subpart C, we are retaining for NHTSA references to family emission limit (FEL) and family certification limit (FCL) that we proposed to remove, and are generally replacing references to CO_2 FCLs or standards with more generalized text to apply for NHTSA. Also, for NHTSA, we are retaining with revisions 40 CFR 1036.230(f) and (g) that we proposed to remove. The revised 40 CFR 1036.230(f) and (g) now refer to 49 CFR part 535 and remove references to GHG standards in the description of how manufacturers divide their product lines into engine families. In 40 CFR 1036.230(f)(5) and throughout 40 CFR part 1036, we remove reference to EPA approvals related to GHG emissions. Therefore, under this final action, manufacturers would only need to obtain approval from NHTSA for elements related to their fuel efficiency program. We are also finalizing several revisions in 40 CFR 1036.235 to refer to 49 CFR part 535 and remove references to GHG emission testing requirements. In 40 CFR 1036.235(a), we are migrating text from 40 CFR 1037.235(a) that provides direction on how manufacturers select the test powertrain to replace GHG-related testing requirements in 40 CFR 1036.235(a)(4). We are retaining for NHTSA 40 CFR 1036.241 that we proposed to remove but are finalizing revisions to refer to 49 CFR part 535 and removing references to GHG standards in the description of how to demonstrate compliance.

Also in 40 CFR part 1036, subpart C, we are migrating as proposed the provisions that relate to powertrain families from the vehicle standard-setting part in 40 CFR 1037.231 to the engine standard-setting part as a new 40 CFR 1036.231 and are finalizing revisions described in this section VII.C.3.a of the preamble. In a previous rule (89 FR 29616, Apr. 22, 2024), we migrated the powertrain test procedure from the HD vehicle procedures (formerly 40 CFR 1037.550) to the HD engine procedures in 40 CFR 1036.545 because we expected powertrain testing to be primarily used by engine manufacturers. Similarly, we proposed to migrate the related provisions manufacturers would use to divide their product line into powertrain families by migrating the text from the vehicle program in 40 CFR 1037.231 to a newly created section in the engine program under 40 CFR 1036.231. We are finalizing that migration and modifying as proposed the text previously under 40 CFR 1037.231(b)(1), such that the new 40 CFR 1036.231(b)(1) no longer requires powertrains to share the same engine families described in 40 CFR 1036.230 but requires the engine share the same design aspects specified in 40 CFR 1036.230. Since a manufacturer may choose to certify the whole powertrain to the standards in 40 CFR part 1036, there would only be a powertrain family, not a certified engine family that contains just the engine. Similarly, and consistent with our approach for defining engine families in existing 40 CFR 1036.230, we see no need to limit the powertrain family based on the vehicle service class the powertrain goes into and therefore did not migrate the existing 40 CFR 1037.231(b)(2) that requires powertrain families to share vehicle service class groupings. We are also not migrating ''energy capacity'' as an example attribute in the new 40 CFR 1036.231(b)(10), since it is not needed for the criteria pollutant standards. Similarly, we are not migrating existing 40 CFR 1037.231(b)(11) since rated output of hybrid mechanical power technology is also not needed for a criteria pollutant family definition.

In 40 CFR part 1036, subpart D, we are retaining for NHTSA 40 CFR 1036.301 with revisions to refer to 49 CFR part 535 and remove references to CO_2 in the description of the requirements for selective enforcement audits.

As previously noted, we retained and did not reopen the in-use testing procedures in 40 CFR part 1036, subpart E, which apply for the criteria pollutant emission standards. More specifically, within the in-use test procedures, we are retaining references to measuring CO_2 for use in required chemical balance test procedures and to calculate the criteria pollutant emissions values for in-use testing. Also, in 40 CFR 1036.415(g), we are retaining the existing text requiring manufacturers to override any adjustable idle-reduction features on vehicles used for in-use testing; we are not taking action at this time on the proposed more general statement describing what it means to be adjustable.

In 40 CFR part 1036, subpart F, we are retaining for NHTSA test procedures related to developing engine data to support NHTSA's HD vehicle fuel efficiency program. We are retaining 40 CFR 1036.505, 1036.535, 1036.540, 1036.543, and 1036.550 and the fuel map duty cycle in Appendix C to part 1036 that we proposed to remove. In 40 CFR 1036.510, we are finalizing several revisions to paragraph (b), including replacing a reference to 40 CFR 1036.540(c)(2) with a reference to a new table we are including in that section as proposed that provides the same gear ratios based on engine service class from 40 CFR 1036.540. We are retaining 40 CFR 1036.510(e) and 1036.512(e), which described how to determine CO_2 emissions for plug-in hybrid powertrains using the HD engine Federal Test Procedure (FTP) and engine Supplemental Emissions Test (SET) and duty cycles, respectively, to support NHTSA's HD fuel efficiency program. In 40 CFR 1036.530(e), we are retaining the existing requirement that manufacturers measure CO_2 emissions for in-use testing, including the variable $e_{CO2FTPFCL}$. We are not taking action at this time on the revised variable e_{CO2FTP} that we proposed would represent the engine's brake-specific CO_2 over the FTP or SET duty cycle.

Powertrain testing, also described in 40 CFR part 1036, subpart F, is an option that manufacturers may use for certifying hybrid powertrains to the engine criteria pollutant standards in 40 CFR 1036.104 and the GHG emission standards in 40 CFR 1036.108. The powertrain test procedure in 40 CFR 1036.545 describes testing a powertrain that includes an engine coupled with a transmission, drive axle, and hybrid components, or a subset of these components. We retained and did not reopen most of 40 CFR 1036.545 related to the powertrain testing for criteria pollutants. We proposed to remove the portions related to the GHG program and revise several paragraphs to account for the removed GHG content; however,

we are retaining these provisions for NHTSA's fuel efficiency program with targeted revisions to replace references to the EPA's standards with NHTSA's standards. While we are retaining vehicle test procedures from 40 CFR part 1037, we are finalizing as proposed the revisions in 40 CFR 1036.545(d) to replace references to the 40 CFR 1037.565 vehicle test procedure with the relevant text from that procedure.

Throughout 40 CFR 1036.545, we are retaining existing requirements to create inputs for the Greenhouse gas Emission Model (GEM) tool that manufacturers use for compliance with NHTSA's fuel efficiency program. Vehicle manufacturers will continue to have access to GEM Phase 2, Version 4.0, including the hardware-in-the-loop (HIL) model within that version of GEM, that is incorporated by reference in 40 CFR 1037.810 and currently available on the EPA's website.[218] We also are retaining references to the use of utility factors, vehicle configurations, and vehicle-based duty cycles and test procedures that do not apply for the criteria pollutant program but apply to NHTSA's fuel efficiency program. We are removing as proposed 40 CFR 1036.545(p) which described the procedure to determine usable battery energy for plug-in hybrid powertrains that was added in the EPA's HD Phase 3 rule.

In 40 CFR part 1036, subpart G, we are revising 40 CFR 1036.605 to remove the EPA N_2O requirements for engines installed in specialty vehicles and the ability to generate or use credits and are finalizing similar changes in 40 CFR 86.007–11(g) and 86.008–10(g) for MY 2026 and earlier specialty vehicle engines. We are retaining 40 CFR 1036.610 with a revised section heading to remove reference to GHG emissions, because NHTSA's regulations in 49 CFR part 535 refer to these off-cycle technology test procedures. We are also retaining for NHTSA 40 CFR 1036.615 and 1036.620, with revisions to 40 CFR 1036.620 to remove references to CO_2 standards and banked credits, and the labeling requirement of paragraph (d). We are removing as proposed 40 CFR 1036.625, which described how to adjust CO_2 FEL values; the NHTSA regulations contain their own provisions for manufacturers to make adjustments to their compliance values and they do not refer to 40 CFR 1036.625.

We also are removing as proposed 40 CFR 1036.635, which described how manufacturers that certify engines for use in high-gross combined vehicle weight (GCWR) MD vehicles under 40 CFR part 1036 could comply with GHG standards under 40 CFR part 86, subpart S. With no need to describe the GHG-related flexibilities in 40 CFR 1036.635, the existing applicability provisions in 40 CFR 1036.1 and 1036.5 already cover the certification provisions for high-GCWR vehicles as they relate to criteria pollutants. Specifically, 40 CFR 1036.1 sets up the default of applying the standards and certification requirements from 40 CFR part 1036 to all engines installed in HD vehicles (generally vehicles above 8,500 pounds GVWR), while 40 CFR 1036.5 allows manufacturers to certify MD vehicles to the chassis-based program as described in 40 CFR 86.1801–12.

The NHTSA regulations under 49 CFR part 535 contain their own ABT provisions for calculating and using fuel consumption credits. In 40 CFR part 1036, subpart H, we are generally removing references to the EPA's CO_2 standards and are amending the calculation provisions to clarify they only apply for the EPA criteria pollutant credit calculations. We are retaining the ABT reporting provisions of 40 CFR 1036.730, since the EPA will continue to collect the information as described in 40 CFR 1036.755 for NHTSA's fuel efficiency program. The allowance for manufacturers to generate credit deficits under 40 CFR 1036.745 is required for NHTSA's ABT program for its fuel consumption standards. We are retaining for NHTSA 40 CFR 1036.745 and references to that section within subpart H, but are replacing the content of 40 CFR 1036.745 with a reference to NHTSA's fuel consumption credits provisions under 49 CFR 535.7.

In 40 CFR part 1036, subpart I, we proposed to remove GHG-specific symbols, abbreviations, and acronyms from 40 CFR 1036.805, and materials from 40 CFR 1036.810 that were only incorporated by reference in the test procedures we proposed to remove. Similarly, in 40 CFR 1036.801, we proposed to remove several GHG-specific definitions, and move transmission- and other powertrain-related definitions from the HD vehicle definitions in 40 CFR 1037.801 to the engine definitions in 40 CFR 1036.801, so they can be available to engine manufacturers using the powertrain test procedures in 40 CFR 1036.545. For the final action, we are retaining the provisions in 40 CFR 1036.801, 1036.805, 1036.810, and 1036.815 to provide for the implementation of NHTSA's fuel efficiency program. We are finalizing as proposed the new transmission- and other powertrain-related definitions in 40 CFR 1036.801 since the powertrain test procedures are now in 40 CFR part 1036, but note that we are also retaining the same definitions in 40 CFR 1037.801.

We proposed to remove Appendix C to part 1036, which contains the default engine fuel maps that are used by 40 CFR 1036.540. In this final action, we are retaining Appendix C, consistent with our decision to retain 40 CFR 1036.540 and the other provisions needed by NHTSA for their fuel efficiency program.

b. 40 CFR Part 1037—Emission Standards and Compliance Provisions for Heavy-Duty Vehicles

40 CFR part 1037 contains regulations related to the final action titled ''Control of Emissions from New Heavy-Duty Motor Vehicles.'' 40 CFR part 1037 continues to include criteria pollutant emission standards that apply for all HD vehicles, and evaporative and refueling emission standards that apply for certain HD vehicles, but we are removing GHG emission standards, consistent with the proposal. 40 CFR part 1037 is divided into nine subparts with five appendices. Subpart A defines the applicability of part 1037 and gives an overview of regulatory requirements. Subpart B describes the emission standards and other requirements that must be met to certify vehicles under this part. Subpart C describes how to apply for a certificate of conformity. Subpart D and E address testing of production and in-use vehicles, respectively. Subpart F describes how to test vehicles and perform emission modeling for vehicles subject to the CO_2 emission standards. Subpart G, along with 40 CFR part 1068, describe requirements, prohibitions, and other provisions that apply to manufacturers, owners, operators, rebuilders, and all others. Subpart H describes how manufacturers can optionally generate and use emission credits to certify vehicles. Subpart I includes definitions and other reference material. Finally, Appendix A, B, and D include test cycles, Appendix C presents emission control identifiers for emissions labels, and Appendix E presents power take-off utility factors.

This preamble subsection includes an overview of the regulations related to the HD vehicle program we are removing or revising. In general, we are amending 40 CFR part 1037 to remove all GHG emission standards (*i.e.,* CO_2 and HFC standards for vehicles), references to such standards, and certain related provisions without revising provisions necessary to support criteria pollutant standards, including

[218] GEM Phase 2, Version 4.0 is incorporated by reference in 40 CFR 1036.545. *See also* 40 CFR 1036.810.

evaporative and refueling emission standards. As described in section VII.C.2 of this preamble, after considering comments, we are retaining provisions to which NHTSA specifically refers in their fuel efficiency regulations of 49 CFR part 535. In this preamble subsection, we describe the amendments to revise the GHG-related provisions from 40 CFR part 1037, which include some amendments needed to retain the efficacy of the criteria pollutant emission standards or clarify when a provision is retained specifically for NHTSA's fuel efficiency program. Table 12 provides a summary of the regulations we are removing or amending in 40 CFR part 1037 or have retained specifically for NHTSA's fuel efficiency program.

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Table 12: Summary of changes to heavy-duty highway vehicle regulations under 40 CFR part 1037

40 CFR Part 1037	Sections removed as proposed	Amended sections	Provisions proposed to be deleted but retained for NHTSA programs[a]
Subpart A—Overview and Applicability		1037.1, 1037.5, 1037.15	
Subpart B—Emission Standards and Related Requirements	1037.105, 1037.106	1037.101, 1037.102, 1037.115, 1037.120, 1037.125, 1037.135	1037.140, 1037.150
Subpart C—Certifying Vehicle Families		1037.201, 1037.205	1037.225, 1037.230, 1037.231[b], 1037.232, 1037.235, 1037.241, 1037.250
Subpart D— Testing Production Vehicles and Engines			1037.301, 1037.305, 1037.315, 1037.320
Subpart E—In-Use Testing			1037.401
Subpart F—Test and Modeling Procedures			1037.501, 1037.510, 1037.520, 1037.525, 1037.527, 1037.528, 1037.530, 1037.532, 1037.534, 1037.540, 1037.551, 1037.555, 1037.560, 1037.565, 1037.570
Subpart G—Special Compliance Provisions	1037.645, 1037.665, 1037.670	1037.635, 1037.655	1037.601, 1037.605, 1037.610, 1037.615, 1037.620, 1037.621, 1037.622, 1037.630, 1037.631, 1037.640, 1037.660,
Subpart H—Averaging, Banking, and Trading for Certification	1037.705, 1037.710, 1037.715, 1037.720, 1037.750	1037.701	1037.725, 1037.730, 1037.735, 1037.740, 1037.745, 1037.755
Subpart I—Definitions and Other Reference Information			1037.801, 1037.805, 1037.810, 1037.825
Appendices			Appendices A, B, C, D, E

[a] Many of these provisions are retained with revisions to clarify that they only apply for the NHTSA fuel efficiency program.

[b] We are moving 40 CFR 1037.231 to a new 40 CFR 1036.231 as proposed.

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In 40 CFR part 1037, subpart A, we retained and did not reopen the existing applicability of 40 CFR part 1037. Specifically, as described in existing 40 CFR 1037.1, the part continues to apply for BEVs, fuel cell electric vehicles (FCEVs), and vehicles fueled by conventional and alternative fuels. We added clarification in a new 40 CFR 1037.1(c) noting that the test procedure and compliance elements that previously applied to GHG emission standards, now only apply to implement NHTSA's HD fuel efficiency program in 49 CFR part 535. We note that the revised 40 CFR part 1037 continues to contain provisions that apply to HD vehicles under NHTSA's fuel efficiency program; however, it applies for fewer vehicles under the EPA's criteria pollutant program. Without EPA GHG standards, there are no vehicle-level emission standards for vehicles (including glider vehicles) with engines certified to other parts. Under this final action, the only HD vehicles that would continue to require a vehicle-level certificate of conformity from the EPA are those with no installed propulsion engine, such as BEVs and FCEVs, certifying to the criteria pollutant standards of 40 CFR 1037.102. Tailpipe emissions of criteria pollutants from BEVs and FCEVs would continue to be deemed to be zero with no testing

requirements, but the EPA will require that BEV and FCEV manufacturers apply for a certificate of conformity to meet the requirements of CAA section 202(a).

In 40 CFR part 1037, subpart B, we are removing the MY 2014 and later HD vehicle CO_2 emission standards promulgated in HD GHG Phase 1, Phase 2, and Phase 3, which included the vocational vehicle standards in 40 CFR 1037.105 and the tractor standards in 40 CFR 1037.106. While we are removing GHG standards and related requirements, we retained and did not reopen criteria pollutant exhaust emission standards in 40 CFR 1037.102 and the evaporative and refueling emission standards in 40 CFR 1037.103.

We proposed to revise 40 CFR 1037.102(a) to describe how vehicles can be deemed to meet the criteria pollutant exhaust emission standards without testing under 40 CFR part 1037. Commenters raised concerns with the proposed approach to adopt new vehicle family definitions citing an associated need for new labeling, tracking systems, and reporting systems that would require additional time to implement. The commenters requested to keep today's vehicle family definitions, as they are required by NHTSA. After considering these comments, we note that the EPA did not intend for the new vehicle family definitions to increase burden on certifying manufacturers. Since vehicles with a propulsion engine are already covered under EPA engine certificates for criteria pollutants, we do not need to require a separate vehicle certificate for criteria pollutants. Therefore, we are retaining the current language in 40 CFR 1037.102(a) and (b) such that only vehicles without a propulsion engine will continue to be subject to the criteria pollutant standards in 40 CFR part 1037.

In the HD GHG Phase 2 rulemaking, we adopted PM emission standards that apply for APUs installed on new tractors. Since PM emissions are criteria pollutant emissions, we retained and did not reopen the PM emission standards for APUs but proposed to migrate the standards from 40 CFR 1037.106(g) to a new 40 CFR 1037.102(c) because we proposed to remove 40 CFR 1037.106. We are finalizing our proposed migration from 40 CFR 1037.106 and are modifying as proposed 40 CFR 1039.699(a) and (n) to refer to the new 40 CFR 1037.102 instead of 40 CFR 1037.106.

Also in 40 CFR part 1037, subpart B, we are amending 40 CFR 1037.115 to remove the HFC emission (*i.e.,* air conditioning leakage) standards and the battery durability monitor requirements. We are revising as proposed the list of components covered under 40 CFR 1037.120(c). Under this final action, we are removing many HD vehicle GHG-reducing technologies but emission-related warranty would continue to apply for fuel cell stacks, RESS, and other components used with BEVs or FCEVs certified to the EPA's criteria pollutant standards or evaporative and refueling emission controls on vehicles subject to the EPA's evaporative and refueling standards. We are finalizing as proposed the removal of warranty requirements from 40 CFR part 1037 for RESS and other components used in *hybrid* vehicles. We note that manufacturers certifying hybrids to the EPA's criteria pollutant program would be doing so under the engine standards of part 1036 and would warrant the RESS and other components from those systems under 40 CFR part 1036. We did not reopen or propose to remove the warranty requirements for hybrid system components in 40 CFR part 1036.

We acknowledge commenters' suggestion that warranty should not apply for vehicles with no propulsion engine and no tailpipe emissions; however, these components are covered under the EPA's criteria pollutant program and the related warranty comments are out of scope for this action. We did not reopen the requirement that the basic emission-related warranty applies for fuel cell stacks and RESS as they continue to qualify as an emission-related component related to criteria pollutant emission standards. Therefore, we are retaining these provisions for the final action. Similarly, we retained and did not reopen the emission control components covering a vehicle's evaporative and refueling emissions.

Under this final action, we are finalizing a revision to replace the content of existing maintenance provisions of 40 CFR 1037.125 with a single sentence requiring manufacturers to provide written instructions for properly maintaining the emission control system.[219] In the labeling provisions of 40 CFR 1037.135(c) we are removing as proposed paragraphs (c)(6) and (7) that relate to identifying the EPA-specific emission control system and fuel sulfur levels on the label, respectively. We proposed to remove 40 CFR 1037.140 and 1037.150, which included the vehicle classifications and interim provisions related directly to NHTSA's HD vehicle fuel efficiency program. In this final action, we are retaining 40 CFR 1037.140 with revisions to remove reference to the EPA's standards and we are retaining the NHTSA-referenced paragraphs of 40 CFR 1037.150 to assist in the continued implementation of NHTSA's program.

In 40 CFR part 1037, subpart C, we proposed to remove 40 CFR 1037.201(g) that describes confirmatory testing; however, in this final action, we are retaining paragraph (g) for NHTSA's fuel efficiency program. We proposed to remove several provisions in 40 CFR 1037.205, which defines what manufacturers would include in their application for certification, because they would no longer be needed for GHG certification. However, in this final action we are instead revising 40 CFR 1037.205 to reflect the information that is required for NHTSA's fuel efficiency program.

We are retaining for NHTSA the existing 40 CFR 1037.225 and 1037.230 with minor revisions to remove reference to GHG and CO_2 standards. After considering comments, we are not finalizing the streamlined vehicle families we proposed for 40 CFR 1037.230 to avoid additional burden for manufacturers certifying to NHTSA's fuel consumption standards using the original vehicle families. We are finalizing as proposed the migration of the powertrain families provision from 40 CFR 1037.231 to the HD engine regulations under a new 40 CFR 1036.231. We are retaining 40 CFR 1037.231 but replacing the content of that section with a reference to the new location of the provision in 40 CFR 1036.231. We proposed to remove 40 CFR 1037.232 and 1037.241 and revise 40 CFR 1037.235 and 1037.250, but are retaining them for NHTSA in this final action, with targeted revisions to remove references to GHG and CO_2 standards.

We proposed to remove 40 CFR part 1037, subparts D and E in their entirety because they describe the testing of production and in-use vehicles to demonstrate compliance with the EPA's HD CO_2 emission standards. However, we are retaining these provisions in this final action for NHTSA's fuel efficiency program. While the EPA would not be administering any production or in-use testing for GHG emissions, NHTSA references 40 CFR 1037.301 through 1037.320 which include audit procedures for inputs to the GEM, tractor aerodynamic testing, powertrain testing, and axle and transmission testing, and also references 40 CFR 1037.401 for in-use testing provisions.

[219] We are not aware of any scheduled maintenance for evaporative and refueling emission control components, or BEV or FCEV components, but if there was then the maintenance provisions of 40 CFR 1037.125 would apply.

We proposed to remove 40 CFR part 1037, subpart F, in its entirety because it included the testing and modeling provisions necessary to certify HD vehicles to the CO_2 emission standards. The provisions in 40 CFR 1037.501 through 1037.570 include procedures for vehicle-based duty cycles for measuring CO_2 emissions, aerodynamic testing, powertrain component testing, testing with hybrid power take-off units, and the use of GEM. We are retaining all of 40 CFR part 1037, subpart F because these test procedures are referred to by NHTSA in 49 CFR part 535. We are retaining the existing text for most sections of 40 CFR part 1037, subpart F, but we are finalizing some targeted revisions to 40 CFR 1037.501, 1037.520, 1037.540, 1037.551, and 1037.555 to replace references to CO_2 standards with references to NHTSA's fuel consumptions standards. In 40 CFR 1037.560, 1037.565, and 1037.570, we are removing references to ''critical emission-related maintenance'' which only applies for the EPA. Since the NHTSA regulations currently refer to 40 CFR 1037.550, which the EPA removed in a previous rule when the powertrain test procedure was migrated to 40 CFR 1036.545 (89 FR 29616 April 22, 2024), we are restoring 40 CFR 1037.550 for NHTSA with a single sentence that directs readers to the correct 40 CFR 1036.545 for the powertrain test procedure.

We proposed to remove several sections of 40 CFR part 1037, subpart G, relating to special compliance provisions for the HD vehicle GHG emission standards. However, we are retaining all of the provisions required for the implementation of NHTSA's fuel efficiency program in 49 CFR part 535. These sections include provisions related to off-cycle technologies, advanced technologies, special purpose tractors, variable vehicle speed limiters, and idle reduction technologies. We are removing as proposed 1037.645, 1037.665, and 1037.670, which are not referenced by NHTSA.

We received a comment on 40 CFR 1037.605, in 40 CFR part 1037, subpart G, which allows manufacturers to use nonroad-certified engines in certain specialty highway vehicles. While we proposed to remove the vehicle labeling requirements in 40 CFR 1037.605(d), we did not propose any changes to paragraphs (a) through (c), which specify how the provisions apply for vehicle manufacturers using this allowance. The existing provisions apply for up to 200 all-terrain vehicles with specific axles, amphibious vehicles, and low speed vehicles. Through MY 2027, the provisions also apply for up to 1,000 vehicles with a hybrid powertrain where the engine provides energy only for the RESS. The commenter suggested that the EPA extend the hybrid provision beyond MY 2027 to allow the manufacturer to make a small number of hybrid fire trucks per year. The commenter cited compliance challenges associated with obtaining a highway-certified hybrid and that the existing hybrid sunset date was based on an expected increasing prevalence of HD hybrid powertrains, which is not occurring. As noted, we did not propose changes to the general provisions of 40 CFR 1037.605, and, therefore, this request is outside of the scope of this action. We may consider changes to this provision in a future rulemaking.

We proposed to remove 40 CFR part 1037, subpart H in its entirety. The provisions of 40 CFR 1037.701 through 1037.750 describe the averaging, banking, and trading of CO_2 emission credits, along with associated recordkeeping and reporting requirements. We are retaining the regulatory provisions that are required by NHTSA for implementation of the fuel efficiency program. These include 40 CFR 1037.725, 1037.730, 1037.735, 1037.740, 1037.745, and 1037.755. We are removing as proposed 40 CFR 1037.705, 1037.710, 1037.715, 1037.720, and 1037.750. Throughout subpart H, we replace references to CO_2 standards with references to NHTSA's fuel consumption standards, replace the term ''emission credits'' with a more generic ''credits'' term. Since the NHTSA regulations refer to 40 CFR 1037.745, we are retaining that section but are replacing the content with a sentence that points the reader to the equivalent credit deficit provision for NHTSA's fuel consumption credits under 49 CFR 535.7.

We proposed several revisions in 40 CFR part 1037, subpart I, to remove the GHG-specific definitions from 40 CFR 1037.801, and symbols, abbreviations, and acronyms from 40 CFR 1037.805. We also proposed to remove 40 CFR 1037.810, which includes materials incorporated by reference to support testing to demonstrate compliance with the HD vehicle GHG standards. This includes, but is not limited to, the GEM model and test procedures for measuring the rolling resistance of tires, tire revolutions per mile, and aerodynamics using coastdown, wind tunnel, and computational fluid dynamics. We are, however, retaining nearly all of subpart I in 40 CFR part 1037 because they are required to support NHTSA's 49 CFR part 535 regulations. We are removing the definition of ''Phase 3'' and revising the definitions of ''Phase 1'' and ''Phase 2'' to replace references to EPA standards with NHTSA's fuel consumption standards. As noted in section VII.C.2 of this preamble, we are also revising the definition of ''we (us, our)'' to include NHTSA for any regulations we are retaining related to fuel consumption standards. In Table 1 to paragraph (a) of 40 CFR 1037.805, we are removing the chemical species methane and nitrous oxide, which are GHG emissions used only by EPA regulations. In 40 CFR 1037.810, we are updating as needed references to regulatory sections or paragraphs that have been removed or changed in this final action.

Lastly, we proposed to remove all appendices to 40 CFR part 1037. Appendices A, B, and D include the test cycles related to HD vehicle GHG standards. Appendix C includes the emission control identifiers for GHG emission labels. Appendix E includes the power take-off unit utility factors applied in GHG-specific test procedures. We are retaining all of the existing appendices in 40 CFR part 1037 because they are required to support NHTSA's 49 CFR part 535 regulations.

c. Relationship Between the EPA's GHG and NHTSA's Fuel Efficiency Medium- and Heavy-Duty Programs

The current certification and compliance process as relevant for NHTSA is as follows, separately for HD engines and HD vehicles:

1. Manufacturers submit fuel consumption data to the EPA using the EPA's electronic certification system following EPA test procedures included in 40 CFR parts 1036 and 1037;

2. The EPA issues certificates of conformity to the manufacturers;

3. Before and during the MY, the EPA sends the fuel consumption data and associated information to NHTSA;

4. After the MY, the EPA analyzes end-of-year reports submitted to the EPA by manufacturers for compliance and shares the fuel consumption data with NHTSA; and

5. NHTSA manages its compliance process related to the fuel consumption standards.

We proposed to remove 40 CFR 1036.755 and 1037.755, which describe the information the EPA provides to the Department of Transportation related to HD engine and vehicle fuel consumption. We noted that NHTSA's reporting and recordkeeping regulation in 49 CFR 535.8(a)(6) directs manufacturers to submit information to the EPA. 49 CFR 535.8(a)(6) also provides direction to manufacturers in instances where the EPA does not have an electronic pathway to receive the

information, to send it through an electronic portal identified by NHTSA, through the NHTSA CAFE database, or to send hardcopy documents to the address provided in the regulations. We requested comment on the time required to transition from manufacturers supplying data to the EPA to supplying the data directly to NHTSA.

Manufacturers and other commenters suggested that the EPA retain some or all of its GHG regulations until NHTSA is able to revise 49 CFR part 535 to independently implement their fuel efficiency program. After considering comments, we are removing as proposed the EPA GHG *standards* in 40 CFR 1036.108, 1037.105, and 1037.106 and other provisions in 40 CFR parts 1036 and 1037 that only apply for the EPA. However, to ensure NHTSA's fuel efficiency program remains implementable in the near-term, we are retaining the EPA regulations in 40 CFR parts 1036 and 1037 that NHTSA references, including the provisions where manufacturers submit data to the EPA.

Therefore, much of the current certification and compliance process outlined above will remain the same. At this time, the EPA intends to continue to maintain its Engines and Vehicles Compliance Information System (EV–CIS) and manufacturers will continue to have an EPA Designated Compliance Officer for submitting information regarding NHTSA's fuel efficiency program. However, we note that the EPA would not grant approvals related to special compliance provisions, issue EPA certificates of conformity for GHG emissions, or analyze end of year reports for compliance with the GHG emission standards. Furthermore, the EPA will perform confirmatory testing, in-use testing, or selective enforcement audits only in relation to the EPA criteria pollutant program. We note that vehicle manufacturers will continue to have access to the GEM Phase 2, Version 4.0 that is incorporated by reference in 40 CFR 1037.810 and currently available on the EPA's website. If NHTSA updates their regulations and is prepared to accept the manufacturers' data and information directly, then the EPA would consider a separate rulemaking to remove the remaining provisions related to the NHTSA fuel efficiency program, including the EPA's data collection responsibilities.

VIII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 14094: Modernizing Regulatory Review

This is an economically significant regulatory action that was submitted to OMB for review. Any changes made have been documented in the docket. The EPA has prepared an RIA for this action to project impacts as required by E.O. 12866, and it can be found in the docket.[220]

As we stated in the proposal, the EPA has not relied upon any aspect of the draft RIA or this final RIA as justification for this rulemaking. Some commenters suggested that the benefit-cost assessments provided in the draft RIA do not justify repealing the prior standards. However, the EPA is repealing the GHG emission standards for LD vehicles, MD vehicles, HD vehicles, and HD engines consistent with the discussion of legal authority in this preamble, and the EPA is not relying upon the CAA section 202(a) factors for standard-setting in this final action. For this final action, we have conducted benefit-cost assessments pursuant to E.O. 12866, but we recognize that there are costs and benefits that we are currently unable to fully quantify and monetize.

Commenters also stated that the EPA should have included an assessment of air quality and climate impacts from removing the motor vehicle and engine GHG standards. For this final action, the EPA performed modeling to estimate changes in criteria pollutants, air toxics, and GHG emissions. The projected emissions changes can be found in a memorandum in the docket for this action.[221] The EPA also performed climate impacts modeling for this final action, which is documented in a memorandum in the docket for this action.[222]

The analyses provided in the RIA have been revised since the rule was proposed to reflect a number of considerations, including some elements highlighted by commenters. The analyses rely on updated versions of the models used to analyze the impacts of the proposal, which were based on the models and tools used to estimate impacts of the light- and medium-duty, and the heavy-duty rules finalized by the EPA in 2024.[223] A number of the updates made to the analysis, including in response to comments, are discussed below. For more information on updates to the analyses, see the RIA. For more information on the comments we received on the analysis in the proposal, as well as our responses, see the Response to Comments document. In addition to the changes noted in the following paragraphs, we updated the costs and benefits from 2022 dollars to 2024 dollars.

We received comments that the approach used in the EPA's OMEGA modeling of GHG standards for the proposed rule did not appropriately capture removing all GHG standards for LD and MD vehicles. Commenters stated that instead of extending the MY 2026 GHG standards into MYs 2027 and beyond, a more appropriate modeling approach would be to model no GHG standards at all, and to allow the OMEGA model to apply less emissions control technology to vehicles in each MY than in the prior MY (backsliding). For the analysis of this final action, we revised the OMEGA modeling assumptions to simulate the removal of all GHG standards for LD and MD vehicles, and revised the OMEGA model's run settings to allow backsliding.

Some commenters raised concerns that the 2024 GHG Emission Standards Rules relied on IRA tax credits and noted that Congress subsequently eliminated or modified these tax credits in the OBBB. We agree that our modeling should reflect the actions signed into law in the OBBB. For the proposal, our modeling assumed all pertinent tax credits were removed. For this final analysis, we revised our analyses to align with the OBBB by removing the credits for purchasing (26 U.S.C. 30D) and leasing (26 U.S.C. 45W) LD and MD BEVs; removing the vehicle purchase tax credits (26 U.S.C. 45W) for HD BEVs and HD FCEVs; removing the tax credit for electric vehicle supply equipment (EVSE) installation (26 U.S.C. 30C) for HD BEVs; and adjusting the phase-out of the advanced manufacturing production credit (26 U.S.C. 45X).

[220] ''Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act: Regulatory Impact Analysis.'' EPA–420–R–26–002. February 2026.

[221] See Memorandum to Docket EPA–HQ–OAR–2025–0194. ''Projected Criteria, Air Toxics, and GHG Emissions Impacts for the ''Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act'' Final Rule.''

[222] See Memorandum to Docket EPA–HQ–OAR–2025–0194. ''Temperature, CO_2 Concentration, and Sea Level Rise Impacts of Greenhouse Gas Emissions from U.S. Motor Vehicles.''

[223] See ''Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles: Regulatory Impact Analysis'', EPA–420–R–24–004, March 2024; and ''Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles: Phase 3: Regulatory Impact Analysis, EPA–420–R–24–06, March 2024.

We received comments suggesting that the Agency's baseline assumptions for future HD EV market penetration were inflated due to California's Advanced Clean Truck (ACT) regulation. Congress disapproved the EPA's waiver for the ACT rule under the CRA. We agree with the commenters that our modeling should reflect Congress' decision regarding the EPA waiver for the ACT regulation and therefore we have completely removed California's ACT regulation from the modeling for the final action analysis.

We received conflicting comments related to consumer interest in EVs. Some stated that EV market share is and will be lower in the future than the EPA estimated in the 2024 GHG Emission Standards Rules and in the proposal. The main reasons cited by commenters were the passage of the OBBB and subsequent removal of IRA purchase and leasing tax credits leading to higher cost for consumers, the CRA resolution nullifying California's CAA preemption waiver for the Advanced Clean Cars (ACC) II regulation leading to decreased demand, and slower charging infrastructure development than estimated in the 2024 GHG Emission Standards Rules. On the other hand, some commenters stated that consumer demand for EVs is strong and growing, that states continue to provide incentives for EV purchases, and that there are continued strong investments in EV charging networks. After consideration of the comments, our assessment is that there is a reduced consumer interest in purchasing EVs overall. Therefore, we lowered the BEV acceptance parameter values in our modeling of this final action from those presented in the proposal.

Some commenters criticized the EPA's analysis in the DRIA for including a scenario that they characterized as using arbitrarily low fuel prices, citing the scenario with gasoline prices set at $1 and $0.25 per gallon less than the Energy Information Administration's (EIA) Annual Energy Outlook (AEO) 2023 Reference case for gasoline and diesel, respectively. Commenters stated that EIA's AEO 2025 projections included an Alternative Transportation case that reflects many of the changes that are occurring in the transportation sector, including the removal of California's ACT, the EPA's 2024 GHG Emission Standards Rules, and NHTSA's 2024 final rule for CAFE standards for MYs 2027–2032, as well as assuming a slower growth for IRA credit eligibility than assumed in the AEO 2025 Reference case. We agree that the Alternative Transportation case energy prices are appropriate to use in our modeling for the case where the standards are removed, and we included it in our modeling for the final action. We also have revised the low gasoline and diesel price scenario; instead of using a $1 or $0.25 per gallon across-the-board decrease, we use prices from the Low Oil Price case presented in AEO 2025. In summary, the modeling we conducted for the final action includes future gasoline, diesel, electricity, and hydrogen prices that reflect EIA's AEO 2025 projections of the Reference, Alternative Transportation, and Low Oil Price cases.

In the RIA, the EPA presents results from four scenarios using the same analytical methods the EPA used in the 2024 GHG Emission Standards Rules that project the costs and benefits from removing the GHG standards for LD, MD and HD vehicles and HD engines. The results of these scenarios are summarized in Table 13 and Table 14. Except as noted this section VIII.A, and as discussed in the RIA, the models, assumptions and inputs are the same as those used in the 2024 RIAs.

The first scenario (A1) includes the revisions noted above, including the use of AEO 2025 Reference case fuel prices for the modeling of the no action case where the GHG standards remain in place, and the AEO 2025 Alternative Transportation fuel prices for modeling the action case where the GHG standards are removed. Recognizing the uncertainties related to projecting future gasoline and diesel prices, the second scenario (A2) considers the impacts under lower fuel prices, and uses AEO 2025's Low Oil Price case.

In the NPRM, the EPA presented two scenarios accounting for only the first two and a half years of fuel savings in estimating the net monetized impact of removing the GHG emission standards. Commenters suggested the Agency's adjustment was arbitrary and unsupported. Some commenters stated that the savings that accrue after the first two and a half years are a real-world benefit to consumers and society and therefore should be included in the benefit-cost assessment. Other commenters stated that the EPA should account for more than the first two and a half years of fuel savings but should not account for the full lifetime of fuel savings. The Agency also received comments that the approach of only including the first two and a half years of fuel savings was specifically not appropriate to apply to HD vehicles because they are for-profit businesses that account for fuel and maintenance savings when making purchasing decisions. For the final action, we continue to present results representing both a full lifetime of fuel savings (scenarios A1 and A2) and only the first two and a half years of fuel savings. The third (A3) and fourth (A4) scenarios build on the first and second scenarios respectively, accounting for only the first two and a half years of fuel savings in estimating the net monetized impacts of this action. The EPA believes the presented results provide reasonable bounds for the impact of fuel savings on the net monetized impacts of this action. Table 13 and Table 14 show the net present value of the monetized savings, costs, and net savings of the four scenarios presented at 7 and 3 percent discount rates, respectively.

*Table 13: Monetized Savings, Costs, and Net Savings at 7 Percent Net Present Value (billions of 2024 dollars)**

	Scenario A1 AEO 2025 Reference & Alternative Transportation case energy prices	**Scenario A2** AEO 2025 Low Oil Price case energy prices	**Scenario A3** AEO 2025 Reference & Alternative Transportation case energy prices, 2.5-year fuel cost valuation	**Scenario A4** AEO 2025 Low Oil Price case energy prices, 2.5-year fuel cost valuation
Savings	$850	$870	$850	$870
Costs	$760	$550	$240	$200
Net Savings	$89	$320	$600	$680

*Results may not sum due to rounding.

*Table 14: Monetized Savings, Costs and Net Savings at 3 Percent Net Present Value (billions of 2024 dollars)**

	Scenario A1 AEO 2025 Reference & Alternative Transportation case energy prices	**Scenario A2** AEO 2025 Low Oil Price case energy prices	**Scenario A3** AEO 2025 Reference & Alternative Transportation case energy prices, 2.5-year fuel cost valuation	**Scenario A4** AEO 2025 Low Oil Price case energy prices, 2.5-year fuel cost valuation
Savings	$1,290	$1,340	$1,290	$1,340
Costs	$1,470	$1,090	$500	$420
Net Savings	($180)	$250	$790	$920

*Results may not sum due to rounding.

In Tables 15 and 16 we provide the estimated cost savings per vehicle at a seven percent net present value and a three percent net present value. As shown in the tables, the EPA's modeling projects this rule to result in about 469 million new combined LD, MD, and HD vehicle sales over the 2027 to 2055 time period under Scenarios A1 and A3, and about 472 million new combined LD, MD, and HD vehicle sales under Scenarios A2 and A4. With the estimated $730 billion reduction in vehicle technology cost at a seven percent discount rate, we estimate this action will result in an average cost reduction of $1,550 per vehicle under Scenarios A1 and A3. Under Scenarios A2 and A4 at a seven percent discount rate, the reduction in vehicle technology cost of about $750 billion are estimated to result in an average cost reduction of $1,600 per vehicle. With the estimated $1.09 trillion reduction in vehicle technology cost at a three percent discount rate for Scenarios A1 and A3, we estimate this action will result in an average cost reduction of $2,330 per vehicle. Under Scenarios A2 and A4 at a seven percent discount rate, the reduction in vehicle technology cost of about $1.14 trillion at a three percent discount rate are estimated to result in an average cost reduction of $2,420 per vehicle.

*Table 15: Monetized Savings per vehicle at 7 Percent Net Present Value (2024 dollars)**

	Scenario A1 AEO 2025 Reference & Alternative Transportation case energy prices	**Scenario A2** AEO 2025 Low Oil Price case energy prices	**Scenario A3** AEO 2025 Reference & Alternative Transportation case energy prices, 2.5-year fuel cost valuation	**Scenario A4** AEO 2025 Low Oil Price case energy prices, 2.5-year fuel cost valuation
Vehicle Technology Cost	$730 billion	$750 billion	$730 billion	$750 billion
Total New Vehicles from 2027 – 2055	469 million	472 million	469 million	472 million
Total Savings per Vehicle	$1,550	$1,600	$1,550	$1,600

*Results may not sum due to rounding.

*Table 16:Monetized Savings per vehicle at 3 Percent Net Present Value (2024 dollars)**

	Scenario A1 AEO 2025 Reference & Alternative Transportation case energy prices	**Scenario A2** AEO 2025 Low Oil Price case energy prices	**Scenario A3** AEO 2025 Reference & Alternative Transportation case energy prices, 2.5-year fuel cost valuation	**Scenario A4** AEO 2025 Low Oil Price case energy prices, 2.5-year fuel cost valuation
Vehicle Technology Cost	$1,090 billion	$1,140 billion	$1,090 billion	$1,140 billion
Total New Vehicles from 2027 – 2055	469 million	472 million	469 million	472 million
Total Savings per Vehicle	$2,330	$2,420	$2,330	$2,420

*Results may not sum due to rounding.

Table 17 provides the GHG emission impacts in calendar year (CY) 2055 by emission source due to this action. For motor vehicles, total GHG emissions increase by 410 million metric tons (MMT) in carbon dioxide equivalent (CO_2e). Table 18 provides the cumulative GHG emissions impact from CY 2027 through CY 2055. The total GHG emissions are estimated to increase by 8,300 MMT CO_2e.

Table 17: Impact on emissions by source in CY 2055

Pollutant	**Vehicles**	**Electric Generating Units**	**Refineries**	**Total**
Total GHG (CO_2e, MMT)	440	-39	15	410

* Values show two significant digits; positive values reflect an increase in emissions while negative values reflect decreases.

Table 18: Impact on net GHG emissions by type of emission

	Methane (CH_4)	Nitrous Oxide (N_2O)	Carbon Dioxide (CO_2)	Total GHG (CO_2e)
Total (in MMT)	0.90	0.38	8,200	8,300

* Values show two significant digits; positive values reflect an increase in emissions while negative values reflect decreases.

The EPA discussed air pollutants not being directly impacted by this rule (*i.e.,* criteria pollutants and hazardous air pollutants) within other documents within the docket. The EPA is obligated to ensure the public is not misled regarding the level of scientific understanding and the implications of that science when developing policies and regulations. Historically, however, the EPA's analytical practices often provided the public with false precision and confidence regarding the monetized impacts of fine particulate matter ($PM_{2.5}$) and ozone than the underlying science could fully support, especially as overall emissions have significantly decreased and impacts have become more uncertain. The EPA's use of benefit per ton (BPT) monetized values introduces additional uncertainty. Although intended as a screening tool when full-form photochemical modeling was not feasible, the BPT approach reduces complex spatial and atmospheric relationships into an average value per ton, which magnifies uncertainty in the resulting monetized estimates. Examples of uncertainties include but are not limited to epidemiological uncertainty (*e.g.,* concentration-response functions); economic factors (*e.g.,* discount rates, income growth, willingness-to-pay to avoid mortality risk); and methodological assumptions (*e.g.,* health thresholds, linear relationships, spatial relationships).

Despite these uncertainties, the EPA historically provided point estimates instead of just ranges or only quantifying emissions, which leads the public to believe the Agency has a better understanding of the monetized impacts of exposure to $PM_{2.5}$ and ozone than it does in reality. Therefore, to rectify this error, the EPA is no longer monetizing benefits from $PM_{2.5}$ and ozone but will continue to quantify the emissions until the Agency is confident enough in the modeling to properly monetize those impacts.

B. Executive Order 14192: Unleashing Prosperity Through Deregulation

This action is an E.O. 14192 deregulatory action. For E.O. 14192 regulatory accounting, the estimated present value and annualized value of the cost savings of this action are $769 billion and $54 billion, respectively (7 percent discount rate, 2024 dollars, 2024 present value year, perpetuity time horizon).[224] OMB's guidance on implementing E.O. 14192 (M–25–20) requires that estimates of costs or cost savings cover the full duration of the expected effects of the action. In some cases, that may require projecting costs or cost savings beyond the standard analytic time horizon. For this action, the EPA extrapolates the stream of cost savings based on the final year of the modeling as a proxy for the long-run effects of this action on the vehicle fleet. A summary of the projected cost savings can be found in the RIA.

C. Paperwork Reduction Act (PRA)

The information collection activities in this action have been submitted for approval OMB under the PRA. The Information Collection Requests (ICR) that the EPA prepared have been assigned numbers as indicated below. You can find a copy of the Supporting Statements in the docket for this action, and they are briefly summarized here.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in Title 40 of the CFR are listed in 40 CFR part 9. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final action.

1. 2024 LD and MD Multi-Pollutant Emission Standards Rule

The ICR document prepared by the EPA for removal of the light- and medium-duty vehicle GHG requirements has been assigned EPA ICR 2750.03, revising EPA ICR 2750.02 (OMB 2060–0764). You can find a copy of the ICR in the docket for this action and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The EPA is removing all regulations that require light- and medium-duty vehicle manufacturers to measure, report, or comply with standards for GHG emissions. Information collected to assure compliance with those requirements is no longer needed under this final action. All other requirements covered by 2750.02 remain in effect.

Respondents/affected entities: Light- and medium-duty vehicle manufacturers, alternative fuel converters, and independent commercial importers.

Respondent's obligation to respond: This action relieves manufacturers of the burden to provide certain information to the EPA as part of their annual MY vehicle certification under CAA section 208(a), which is required prior to entering vehicles into commerce. Participation in some programs is voluntary; but once a manufacturer has elected to participate, it must submit the required information.

Estimated number of respondents: 35 affected entities.

Frequency of response: Annually or on occasion, depending on the type of response.

Revised total estimated burden: 138,443 hours (per year) for remaining regulatory requirements covered by this ICR. Burden is defined at 5 CFR 1320.3(b).

Revised total estimated cost: $26.3 million per year for remaining regulatory requirements covered by this ICR, which includes an estimated $14.2 million annualized capital or operation and maintenance costs.

2. 2024 HD GHG Emission Standards Rule

The ICR document prepared by the EPA for removal of the 2024 HD GHG Emission Standards Rule requirements has been assigned EPA ICR 2734.03, revising EPA ICR 2734.02 (OMB 2060–0753). You can find a copy of the ICR in the docket for this action and it is briefly summarized here. The information collection requirements are

[224] The supporting documentation on how these values were estimates can be found in the Vehicle Rule FRM E.O. 14192 Workbook.xlsx file found in the docket for this action.

not enforceable until OMB approves them.

The EPA is removing all regulations that require HD motor vehicle and HD motor vehicle engine manufacturers to measure, report, or comply with the 2024 HD GHG Emission Standards Rule standards. Information collected to assure compliance with those requirements is no longer needed under this final action.

Respondents/affected entities: Manufacturers of HD onroad vehicles.

Respondent's obligation to respond: This action relieves manufacturers of the burden to provide certain information to the EPA as part of their annual MY engine and vehicle certification under CAA section 203(a), which is required prior to entering vehicles into commerce.

Estimated number of respondents: 77 affected entities.

Frequency of response: Originally expected to be one-time burden; now, no requirement to report.

Revised total estimated burden: 0 hours. Burden is defined at 5 CFR 1320.03(b).

Revised total estimated cost: $0.

3. Nonroad Compression-Ignition Engines and On-Highway Heavy-Duty Engines, Supporting Statement for Information Collection Request (March 2023 Revision)

We are not acting on the proposed changes to this ICR document to ensure this ICR will continue to cover the information collection necessary to implement NHTSA's MD and HD fuel efficiency program. The proposed changes to the ICR document can be found at EPA ICR 1684.22, revising EPA ICR 1684.21 (OMB 2060–0287).

The EPA is not acting on these revisions as they are no longer needed. As explained elsewhere in this preamble, in this final action we are not changing elements of the regulations that are necessary for programs unrelated to the GHG emission standards, including emission standards for criteria pollutants. We also are retaining most of the regulatory provisions cited by NHTSA for the administration of their fuel efficiency standards included in 49 CFR part 535. This includes the provisions that require manufacturers to submit their compliance data and information to the EPA and we will then issue a report to NHTSA with the information. However, we note that the EPA would no longer issue EPA certificates of conformity for GHG emissions.

D. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the EPA concludes that the impact of concern for this action is any significant adverse economic impact on small entities, and that the Agency is certifying that this action will not have a significant economic impact on a substantial number of small entities because the action relieves regulatory burden on the small entities subject to the action.

The regulated entities that are subject to the regulations we are removing in this action are engine and vehicle manufacturers, alternative fuel converters, and independent commercial importers subject to GHG emission standards for vehicles. The Agency is certifying that this action will not have a significant economic impact on a substantial number of small entities because the action will relieve regulatory burden on all entities, including all small entities, subject to the current rules. This action removes portions of the regulations of the standard-setting parts directly related to GHG emission standards and compliance provisions for implementing the EPA's GHG engine and vehicle programs. We do not anticipate that there will be any significant adverse economic impact on directly regulated small entities as a result of these revisions. We have therefore concluded that this action will relieve regulatory burden for all directly regulated small entities. The EPA provides additional information on the RFA in chapter 7 of the RIA and in the Response to Comments for this final action.

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million (adjusted annually for inflation) or more (in 1995 dollars) as described in UMRA, 2 U.S.C. 1531–38, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or Tribal governments, and relieves duties with respect to the private sector.

F. Executive Order 13132: Federalism

This action does not have federalism implications as specified in E.O. 13132. It does not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications as specified in E.O. 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, Nov. 9, 2000). It does not have substantial direct effects on Tribal governments, on the relationship between the Federal government and Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes, as specified in E.O. 13175. Thus, E.O. 13175 does not apply to this action.

However, consistent with the EPA Policy on Consultation with Indian Tribes, the EPA initiated a Tribal consultation and coordination process after proposing this action by sending a ''Notification of Consultation and Coordination'' letter, dated July 29, 2025, to all 574 Federally recognized Tribes. The letter invited Tribal leaders and designated consultation representatives to participate in the Tribal consultation and coordination process. The Nez Perce Nation, Confederated Tribes of Grand Ronde, Snoqualmie Tribe, and Pueblo of San Felipe requested to consult with the EPA. The EPA consulted with officials of these Tribes to permit meaningful and timely input during the development of this action. A summary of that consultation is provided in the Response to Comments document for this final action.

H. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

E.O. 13045 directs Federal agencies to include an evaluation of the health and safety effects of the planned regulation on children in Federal health and safety standards and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives. This action is subject to the E.O. because it is an economically significant regulatory action under E.O. 12866, and the EPA believes the environmental health or safety risks may have a disproportionate effect on children, although as explained in the preamble eliminating all GHG emissions from all vehicles would have a *de minimis* impact on public health or welfare. The 2021 Policy on Children's Health also applies to this action.[225]

[225] U.S. Environmental Protection Agency. (2021). 2021 Policy on Children's Health: *https://www.epa.gov/system/files/documents/2021-10/2021-policy-on-childrens-health.pdf.*

Although the GHG emissions at issue in this rulemaking do not have direct impacts on human health, we acknowledge the possibility that this action could impact emissions of criteria pollutants and air toxics. Children are not expected to experience greater ambient concentrations of air pollutants than the general population. Additionally, as discussed in the preamble, there are safety benefits from this final action that would benefit children as they are more susceptible to grievous injuries from less safe motor vehicles.

We note that, as explained above, this action would not impact separate emission standards for criteria pollutants by the EPA or separate standards set by NHTSA. At this time, the EPA does not believe that the action would have a material adverse impact on the health of individuals with respect to non-GHG air pollutants, including on children, because the EPA anticipates that the impacts of repealing GHG emission regulations would have only marginal and incidental impacts on the emission of non-GHG air pollutants. Potential health impacts of such air pollutants will continue to be controlled through direct emissions limits and several other programs that target regional and national air quality, including the NAAQS program.

I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action, which is a significant regulatory action under E.O. 12866, would have a significant effect on the supply, distribution or use of energy. The EPA has prepared a Statement of Energy Effects for this action as follows.

This action removes the GHG emission standards and related compliance provisions for light-, medium-, and heavy-duty engines and vehicles. This action will result in fewer electric vehicles and more ICE vehicles produced, as discussed in the RIA, and therefore an estimated increase in the consumption of petroleum and an estimated reduction in the consumption of electricity.

J. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This action involves technical standards. However, the changes to the regulation include removing GHG emission standards and the corresponding measurement and compliance procedures, some of which also involve removing existing references to voluntary consensus standards and other technical standards. This action does not include any new requirements or new references to technical standards.

The following standards appear in the amendatory text of this document and were previously approved for the locations in which they appear: 13 CCR 1968.2, 13 CCR 1971.1, ASTM D1945, SAE J1711 FEB2023, SAE J1979–2, GEM version 2.0.1, GEM Phase 2, Version 3.0, GEM Phase 2, Version 3.5.1, GEM Phase 2, Version 4.0, GEM HIL model 3.8.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action meets the criteria set forth in 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 85

Confidential business information, Greenhouse gases, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research warranties.

40 CFR Part 86

Environmental protection, Administrative practice and procedure, Confidential business information, Incorporation by reference, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements.

40 CFR Part 600

Environmental protection, Administrative practice and procedure, Electric power, Fuel economy, Greenhouse gases, Incorporation by reference, Labeling, Reporting and recordkeeping requirements.

40 CFR Part 1036

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Greenhouse gases, Incorporation by reference, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Warranties.

40 CFR Part 1037

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Incorporation by reference, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Warranties.

40 CFR Part 1039

Administrative practice and procedure, Air pollution control, Confidential business information, Imports, Labeling, Penalties, Reporting and recordkeeping requirements, Warranties.

Lee Zeldin,

Administrator.

For the reasons set out in the preamble, we are amending title 40, chapter I of the Code of Federal Regulations as set forth below.

PART 85—CONTROL OF AIR POLLUTION FROM MOBILE SOURCES

■ 1. The authority citation for part 85 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

§ 85.525 [Amended]

■ 2. Amend § 85.525 by removing and reserving paragraph (b).

■ 3. Amend § 85.1515 by revising paragraph (d) to read as follows:

§ 85.1515 Emission standards and test procedures applicable to imported nonconforming motor vehicles and motor vehicle engines.

* * * * *

(d) An ICI may not certify using nonconformance penalties.

§ 85.1803 [Amended]

■ 4. Amend § 85.1803 by removing paragraph (e).

§ 85.1805 [Amended]

■ 5. Amend § 85.1805 by removing and reserving paragraph (b).

■ 6. Amend § 86.1902 by removing and reserving paragraph (b)(2) and revising paragraph (d). The revision reads as follows:

§ 85.1902 Definitions.

* * * * *

(d) *Voluntary emissions recall* means a repair, adjustment, or modification program voluntarily initiated and conducted by a manufacturer to remedy any emission-related defect for which direct notification of vehicle or engine owners has been provided.

* * * * *

■ 7. Amend § 85.2103 by revising paragraph (d)(1)(v) and removing paragraph (d)(3). The revision reads as follows:

§ 85.2103 Emission warranty.

* * * * *

(d) * * *

(1) * * *

(v) Batteries serving as a Renewable Energy Storage System for electric vehicles and plug-in hybrid electric vehicles, along with all components needed to charge the system, store energy, and transmit power to move the

vehicle. This paragraph (d)(1)(v) is optional before model year 2027 for light-duty vehicles and light-duty trucks at or below 6,000 pounds GVWR. This paragraph (d)(1)(v) is optional for vehicles above 6,000 pounds GVWR until they are first certified to Tier 4 NMOG+NO_X bin standards under 40 CFR 86.1811–27(b), not later than model year 2031.

* * * * *

PART 86—CONTROL OF EMISSIONS FROM NEW AND IN–USE HIGHWAY VEHICLES AND ENGINES

■ 8. The authority citation for part 86 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

§ 86.1 [Amended]

■ 9. Amend § 86.1 by removing and reserving paragraphs (c)(2) and (3) and (f)(3), (17), (21), and (22) and removing paragraph (h).

■ 10. Amend § 86.007–11 by revising paragraphs (g)(1) and (6) to read as follows:

§ 86.007–11 Emission standards and supplemental requirements for 2007 and later model year diesel heavy-duty engines and vehicles.

* * * * *

(g) * * *

(1) The engines must be of a configuration that is identical to one that is certified under 40 CFR part 1039, and must be certified with a Family Emission Limit for PM of 0.020 g/kW-hr using the same duty cycles that apply under 40 CFR part 1039.

* * * * *

(6) Engines certified under this paragraph (g) may not generate or use emission credits under this part or under 40 CFR part 1039.

* * * * *

■ 11. Amend § 86.008–10 by revising paragraph (g)(6) to read as follows:

§ 86.008–10 Emission standards for 2008 and later model year Otto-cycle heavy-duty engines and vehicles.

* * * * *

(g) * * *

(6) Engines certified under this paragraph (g) may not generate or use emission credits under this part.

* * * * *

■ 12. Amend § 86.1801–12 by:

■ a. Removing and reserving paragraph (a)(2)(ii)(B);

■ b. Revising paragraphs (a)(3), (b), and (i); and

■ c. Removing paragraphs (j) and (k).

The revisions read as follows:

§ 86.1801–12 Applicability.

(a) * * *

(3) The provisions of this subpart do not apply to heavy-duty vehicles above 14,000 pounds GVWR (see § 86.016–1 and 40 CFR parts 1036 and 1037), except as follows:

(i) Heavy-duty vehicles above 14,000 pounds GVWR and at or below 19,500 pounds GVWR may be optionally certified to the exhaust emission standards in this subpart if they are properly included in a test group with similar vehicles at or below 14,000 pounds GVWR. Emission standards apply to these vehicles as if they were Class 3 medium-duty vehicles.

(ii) [Reserved]

(iii) Evaporative and refueling emission standards apply for heavy-duty vehicles above 14,000 pounds GVWR as specified in 40 CFR 1037.103.

(4) If you optionally certify vehicles to standards under this subpart, those vehicles are subject to all the regulatory requirements as if the standards were mandatory.

(b) *Relationship to 40 CFR parts 1036 and 1037.* If any heavy-duty vehicle is not subject to standards and certification requirements under this subpart, the vehicle and its installed engine are instead subject to standards and certification requirements under 40 CFR parts 1036 and 1037, as applicable. If you optionally certify engines or vehicles to standards under 40 CFR part 1036 or 40 CFR part 1037, respectively, those engines or vehicles are subject to all the regulatory requirements in 40 CFR parts 1036 and 1037 as if they were mandatory.

* * * * *

(i) *Types of pollutants.* Criteria pollutant standards apply for NO_X, NMOG, HC, formaldehyde, PM, and CO, including exhaust, evaporative, and refueling emission standards. These pollutants are sometimes described collectively as ''criteria pollutants'' because they are either criteria pollutants under the Clean Air Act or precursors to the criteria pollutants ozone and PM.

■ 13. Amend § 86.1803–01 by:

■ a. Removing the definitions of ''AC1'', ''AC2'', ''Air Conditioning Idle Test'', ''Base level'', ''Base tire'', ''Base vehicle'', ''Combined CO_2'', ''Combined CREE'', and ''Configuration'';

■ b. Revising the definition of ''Defeat device'';

■ c. Removing and reserving paragraph (1) of the definition of ''Emergency vehicle'';

■ d. Revising the definition of ''Engine code'';

■ e. Removing the definition of ''Footprint'', ''Full size pickup truck'', ''Mild hybrid electric vehicle'', ''Strong hybrid electric vehicle'', ''Subconfiguration'', ''Track width'', and ''Transmission class''; and

■ f. Adding a definition of ''Work factor'' in alphabetical order.

The revisions and addition read as follows:

§ 86.1803–01 Definitions.

* * * * *

Defeat device means an auxiliary emission control device (AECD) that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless:

(1) Such conditions are substantially included in driving cycles specified in this subpart or the fuel economy test procedures in 40 CFR part 600;

(2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident;

(3) The AECD does not go beyond the requirements of engine starting; or

(4) The AECD applies only for emergency vehicles and the need is justified in terms of preventing the vehicle from losing speed, torque, or power due to abnormal conditions of the emission control system, or in terms of preventing such abnormal conditions from occurring, during operation related to emergency response. Examples of such abnormal conditions may include excessive exhaust backpressure from an overloaded particulate trap, and running out of diesel exhaust fluid for engines that rely on urea-based selective catalytic reduction.

* * * * *

Engine code means a unique combination within a test group of displacement, fuel injection (or carburetor) calibration, choke calibration, distributor calibration, auxiliary emission control devices, and other engine and emission control system components specified by the Administrator. For electric vehicles, engine code means a unique combination of manufacturer, electric traction motor, motor configuration, motor controller, and energy storage device.

* * * * *

Work factor, WF, means the characteristic value representing a vehicle's work potential, calculated to the nearest pound using the following equation:

$$WF = 0.75 \times (GVWR - Curb\ Weight + xwd) + 0.25 \times (GCWR - GVWR)$$

Where:

xwd = 500 pounds if the vehicle has four-wheel drive or all-wheel drive; xwd = 0 pounds for all other vehicles.

* * * * *

■ 14. Amend § 86.1805–12 by revising paragraph (a) to read as follows:

§ 86.1805–12 Useful life.

(a) Except as permitted under paragraph (b) of this section or required under paragraphs (c) and (d) of this section, the full useful life for all LDVs and LLDTs is a period of use of 10 years or 120,000 miles, whichever occurs first. The full useful life for all HLDTs, MDPVs, and complete heavy-duty vehicles is a period of 11 years or 120,000 miles, whichever occurs first. These full useful life values apply to all exhaust, evaporative and refueling emission requirements except for standards which are specified to only be applicable at the time of certification.

* * * * *

■ 15. Revise § 86.1805–17 to read as follows:

§ 86.1805–17 Useful life.

(a) *General provisions.* The useful life values specified in this section apply for all exhaust, evaporative, refueling, and OBD emission requirements described in this subpart, except for standards that are specified to apply only at certification. Useful life values are specified as a given number of calendar years or miles of driving, whichever comes first.

(b) [Reserved]

(c) *Cold temperature emission standards.* The cold temperature NMHC emission standards in § 86.1811–17 apply for a useful life of 10 years or 120,000 miles for LDV and LLDT, and 11 years or 120,000 miles for HLDT and HDV. The cold temperature CO emission standards in § 86.1811–17 apply for a useful life of 5 years or 50,000 miles.

(d) *Criteria pollutants.* The useful life provisions of this paragraph (d) apply for all emission standards not covered by paragraph (c) of this section. This paragraph (d) applies for the cold temperature emission standards in § 86.1811–27(c). Except as specified in paragraph (f) of this section and in § § 86.1811, 86.1813, and 86.1816, the useful life for LDT2, HLDT, MDPV, and HDV is 15 years or 150,000 miles. The useful life for LDV and LDT1 is 10 years or 120,000 miles. Manufacturers may optionally certify LDV and LDT1 to a useful life of 15 years or 150,000 miles, in which case the longer useful life would apply for all the standards and requirements covered by this paragraph (d).

(e) *Intermediate useful life.* Where exhaust emission standards are specified for an intermediate useful life, these standards apply for five years or 50,000 miles.

■ 16. Amend § 86.1806–27 by adding paragraphs (a)(9) through (13) to read as follows:

§ 86.1806–27 Onboard diagnostics.

* * * * *

(a) * * *

(9) The definition of ''Active Off-Cycle Credit Technology'' in 13 CCR 1968.2(c) does not apply.

(10) The vehicle operations and control strategies standardization requirements in 13 CCR 1968.2 (g)(6.3), (6.4), (6.5), (6.8), (6.9), (6.10), and (6.11) do not apply.

(11) The data reporting and storage requirements in 13 CCR 1968.2(h)(6.1) related to the standardization requirements in 13 CCR 1968.2(g)(8.1) do not apply.

(12) The certification documentation requirement related to ''Active Off-Cycle Credit Technologies'' in 13 CCR 1968.2(i)(2.28) does not apply.

(13) The monitoring system demonstration requirements in 13 CCR 1968.2(h)(5.3.1)(D) and (5.3.2)(A)(iii) related to CO_2 emission data does not apply.

* * * * *

§ 86.1807–01 [Amended]

■ 17. Amend § 86.1807–01 By Removing And Reserving Paragraph (A)(3)(IV).

■ 18. Amend § 86.1809–12 by revising paragraph (d)(1) to read as follows:

§ 86.1809–12 Prohibition of defeat devices.

* * * * *

(d) * * *

(1) The manufacturer must show to EPA's satisfaction that the vehicle design does not incorporate strategies that unnecessarily reduce emission control effectiveness exhibited over the driving cycles specified in this subpart or the fuel economy test procedures in 40 CFR part 600 when the vehicle is operated under conditions that may reasonably be expected to be encountered in normal operation and use.

* * * * *

■ 19. Amend § 86.1810–09 by revising paragraph (f)(2) to read as follows:

§ 86.1810–09 General standards; increase in emissions; unsafe condition; waivers.

* * * * *

(f) * * *

(2) For vehicles that comply with the cold temperature NMHC standards described in § 86.1811–10(g), manufacturers must submit an engineering evaluation indicating that common calibration approaches are utilized at high altitudes (except when there are specific high altitude calibration needs to deviate from low altitude emission control practices). Any deviation from low altitude emission control practices must be included in the auxiliary emission control device (AECD) descriptions submitted at certification. Any AECD specific to high altitude must require engineering emission data for EPA evaluation to quantify any emission impact and validity of the AECD.

* * * * *

■ 20. Amend § 86.1810–17 by revising paragraph (j) to read as follows:

§ 86.1810–17 General requirements.

* * * * *

(j) Small-volume manufacturers that modify a vehicle already certified by a different company may recertify that vehicle under this subpart S based on the vehicle supplier's compliance with fleet average standards for criteria exhaust emissions and evaporative emissions as follows:

(1) The recertifying manufacturer must certify the vehicle at bin levels and family emission limits that are the same as or more stringent than the corresponding bin levels and family emission limits for the vehicle supplier.

(2) The recertifying manufacturer must meet all the standards and requirements described in this subpart S, except for the fleet average standards for criteria exhaust emissions and evaporative emissions.

(3) The vehicle supplier must send the small-volume manufacturer a written statement accepting responsibility to include the subject vehicles in the vehicle supplier's exhaust and evaporative fleet average calculations in §§ 86.1860–17 and 86.1864–10.

(4) The small-volume manufacturer must describe in the application for certification how the two companies are working together to demonstrate compliance for the subject vehicles. The application must include the statement from the vehicle supplier described in paragraph (j)(3) of this section.

(5) The vehicle supplier must include a statement that the vehicle supplier is including the small volume manufacturer's sales volume and emissions levels in the vehicle supplier's fleet average reports under §§ 86.1860–17 and 86.1864–10.

* * * * *

■ 21. Amend § 86.1811–17 by revising paragraph (a) to read as follows:

§ 86.1811–17 Exhaust emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles.

(a) *Applicability and general provisions.* This section describes exhaust emission standards that apply for model year 2017 and later light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles. MDPVs are subject to all the same emission standards and certification provisions that apply to LDT4. Some of the provisions of this section also apply to heavy-duty vehicles as specified in § 86.1816. See § 86.1813 for evaporative and refueling emission standards. This section may apply to vehicles from model years earlier than 2017 as specified in paragraph (b)(11) of this section.

* * * * *

§ 86.1811–27 [AMENDED]

■ 22. Amend § 86.1811–27 by removing paragraph (a)(4).

§ 86.1815–27 [Removed]

■ 23. Remove § 86.1815–27.

■ 24. Amend § 86.1816–18 by revising paragraph (a) to read as follows:

§ 86.1816–18 Emission standards for heavy-duty vehicles.

(a) *Applicability and general provisions.* This section describes Tier 3 exhaust emission standards for complete heavy-duty vehicles. These standards are optional for incomplete heavy-duty vehicles and for heavy-duty vehicles above 14,000 pounds GVWR as described in § 86.1801. See § 86.1813 for evaporative and refueling emission standards. This section starts to apply in model year 2018, except that the provisions may apply to vehicles before model year 2018 as specified in paragraph (b)(11) of this section. This section applies for model year 2027 and later vehicles only as specified in § 86.1811–27. Separate requirements apply for MDPV as specified in § 86.1811. See subpart A of this part for requirements that apply for incomplete heavy-duty vehicles and for heavy-duty engines certified independent of the chassis. The following general provisions apply:

(1) Test all vehicles as described in this section using a chassis dynamometer; establish appropriate load settings based on adjusted loaded vehicle weight (see § 86.1803).

(2) Some provisions apply differently depending on the vehicle's power-to-weight ratio. Determine a vehicle's power-to-weight ratio by dividing the engine's rated power by the vehicle's GVWR (in hp/pound). For purposes of this section, if a test group includes multiple vehicle configurations, use the vehicle with the highest power-to-weight ratio to characterize the test group.

(3) Use E10 test fuel as required in § 86.113, except as specified in this section.

(4) Measure emissions from hybrid electric vehicles (including plug-in hybrid electric vehicles) as described in 40 CFR part 1066, subpart F, except that these procedures do not apply for plug-in hybrid electric vehicles during charge-depleting operation.

* * * * *

§ § 86.1818–12 And 86.1819–14 [Removed]

■ 25. Remove §§ 86.1818–12 And 86.1819–14.

■ 26. Amend § 86.1822–01 by revising paragraph (b) to read as follows:

§ 86.1822–-01 Durability data vehicle selection.

* * * * *

(b) The manufacturer may select, using good engineering judgment, an equivalent or worst-case vehicle configuration in lieu of testing the vehicle selected in paragraph (a) of this section. Carryover data satisfying the provisions of § 86.1839–01 may also be used in lieu of testing the vehicle configuration selected in paragraph (a) of this section.

§ 86.1823–08 [Amended]

■ 27. Amend § 86.1823–08 by removing and reserving paragraph (M).

■ 28. Amend § 86.1827–01 by revising paragraph (a)(5) to read as follows:

§ 86.1827–01 Test group determination.

* * * * *

(a) * * *

(5) Subject to the same emission standards, or FEL in the case of cold temperature NMHC or NMOG+NO_X standards, except that a manufacturer may request to group vehicles into the same test group as vehicles subject to more stringent standards, so long as all the vehicles within the test group are certified to the most stringent standards applicable to any vehicle within that test group. For example, manufacturers may include medium-duty vehicles at or below 22,000 pounds GCWR in the same test group with medium-duty vehicles above 22,000 pounds GCWR, but all vehicles included in the test group are then subject to the off-cycle emission standards and testing requirements described in § 86.1811–27(e). Light-duty trucks and light-duty vehicles may be included in the same test group if all vehicles in the test group are subject to the same criteria exhaust emission standards.

* * * * *

■ 29. Amend § 86.1828–01 by revising paragraph (e) to read as follows:

§ 86.1828–01 Emission data vehicle selection.

* * * * *

(e) *Alternative vehicle configurations.* The manufacturer may use good engineering judgment to select an equivalent or worst-case vehicle configuration in lieu of testing the vehicle selected in paragraphs (a) through (c) of this section. Carryover data satisfying the provisions of § 86.1839 may also be used in lieu of testing the vehicle configuration selected in paragraphs (a) through (c) of this section.

* * * * *

■ 30. Amend § 86.1829–15 by:

■ a. Removing and reserving paragraph (a)(2).

■ b. Revising paragraph (d)(3); and

■ c. Removing and reserving paragraph (d)(6).

The revisions read as follows:

§ 86.1829–15 Durability and emission testing requirements; waivers.

* * * * *

(d) * * *

(3) Manufacturers may omit PM measurements for fuel economy testing conducted in addition to the testing needed to demonstrate compliance with the PM emission standards.

* * * * *

■ 31. Amend § 86.1830–01 by revising paragraphs (a)(3) and (c)(2) to read as follows:

§ 86.1830–01 Acceptance of vehicles for emission testing.

(a) * * *

(3) Test vehicles must have air conditioning installed and operational if that vehicle configuration is available with air conditioning. Optional equipment must be installed or represented on test vehicles according to the provisions of § 86.1832–01.

* * * * *

(c) * * *

(2) Within a durability group, the manufacturer may alter any emission data vehicle (or other vehicles such as current or previous model year emission data vehicles, running change vehicles, fuel economy data vehicles, and development vehicles) in lieu of building a new test vehicle providing that the modification will not impact the representativeness of the vehicle's test results. Manufacturers shall use good engineering judgment in making

such determinations. Development vehicles which were used to develop the calibration selected for emission data testing may not be used as the EDV for that vehicle configuration. Vehicles from outside the durability group may be altered with advance approval of the Administrator.

* * * * *

■ 32. Amend § 86.1835–01 by revising paragraphs (a)(4), (b)(3), and (c) to read as follows:

§ 86.1835–01 Confirmatory certification testing.

(a) * * *

(4) Retesting for fuel economy may be conducted under the provisions of 40 CFR 600.008–08.

(b) * * *

(3) For light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles the manufacturer shall conduct a retest of the FTP or highway test if the difference between the fuel economy of the confirmatory test and the original manufacturer's test equals or exceeds three percent (or such lower percentage to be applied consistently to all manufacturer conducted confirmatory testing as requested by the manufacturer and approved by the Administrator).

(i) For use in the fuel economy program described in 40 CFR part 600, the manufacturer may, in lieu of conducting a retest, accept as official the lower of the original and confirmatory test fuel economy results.

(ii) The manufacturer shall conduct a second retest of the FTP or highway test if the fuel economy difference between the second confirmatory test and the original manufacturer test equals or exceeds three percent (or such lower percentage as requested by the manufacturer and approved by the Administrator) and the fuel economy difference between the second confirmatory test and the first confirmatory test equals or exceeds three percent (or such lower percentage as requested by the manufacturer and approved by the Administrator). In lieu of conducting a second retest, the manufacturer may accept as official (for use in the fuel economy program) the lowest fuel economy of the original test, the first confirmatory test, and the second confirmatory test fuel economy results.

(c) *Official test determination.* (1) Whenever the Administrator or the manufacturer conducts a confirmatory test segment on a test vehicle, the results of that test segment, unless subsequently invalidated by the Administrator, shall comprise the official data for that test segment for the vehicle at the prescribed test point and the manufacturer's original test data for that test segment for that prescribed test point shall not be used in determining compliance with emission standards.

(i) If the Administrator or the manufacturer conducts more than one passing, valid, confirmatory test, the results from the first passing, valid confirmatory test shall be considered official and used in determining compliance with emission standards.

(ii) Official test results for fuel economy are determined in accordance with the provisions of § 600.008–08 of this chapter.

(iii) The Administrator may stop a test after any evaporative test segment and use as official data any valid results obtained up to that point in the test, as described in subpart B of this part.

(2) Whenever the Administrator or the manufacturer does not conduct a confirmatory test on a test vehicle at a test point, the manufacturer's original test data will be accepted as the official data for that point.

(i) If the Administrator makes a determination based on testing under paragraph (a) of this section (or other appropriate correlation test data), that there is a lack of correlation between the manufacturer's test equipment or procedures and the test equipment or procedures used by the Administrator, no manufacturer's test data will be accepted for purposes of certification until the reasons for the lack of correlation are determined and the validity of the data is established by the manufacturer.

(ii) If the Administrator has reasonable basis to believe that any test data submitted by the manufacturer is not accurate or has been obtained in violation of any provisions of this subpart, the Administrator may refuse to accept that data as the official data pending retesting or submission of further information.

(iii) If the manufacturer conducts more than one test on an emission data vehicle in the same vehicle configuration (excluding confirmatory tests run under paragraph (b) of this section), the data from the last test in that series of tests on that vehicle, will constitute the official data.

* * * * *

§ 86.1838–01 [Amended]

■ 33. Amend § 86.1838–01 by removing and reserving paragraph (B)(1)(I)(B).

■ 34. Revise § 86.1839–01 to read as follows:

§ 86.1839–01 Carryover of certification data.

(a) In lieu of testing an emission-data or durability vehicle selected under § 86.1822, § 86.1828, or § 86.1829, and submitting data therefrom, a manufacturer may submit exhaust emission data, evaporative emission data and/or refueling emission data, as applicable, on a similar vehicle for which certification has been obtained or for which all applicable data required under § 86.1845 has previously been submitted. To be eligible for this provision, the manufacturer must use good engineering judgment and meet the following criteria:

(1) In the case of durability data, the manufacturer must determine that the previously generated durability data represent a worst case or equivalent rate of deterioration for all applicable emission constituents compared to the vehicle configuration selected for durability demonstration. Prior to certification, the Administrator may require the manufacturer to provide data showing that the distribution of catalyst temperatures of the selected durability vehicle configuration is effectively equivalent or lower than the distribution of catalyst temperatures of the vehicle configuration which is the source of the previously generated data.

(2) In the case of emission data, the manufacturer must determine that the previously generated emissions data represent a worst case or equivalent level of emissions for all applicable emission constituents compared to the vehicle configuration selected for emission compliance demonstration.

(b) In lieu of using newly aged hardware on an EDV as allowed under the provisions of § 86.1823–08(f)(2), a manufacturer may use similar hardware aged for an EDV previously submitted, provided that the manufacturer determines that the previously aged hardware represents a worst case or equivalent rate of deterioration for all applicable emission constituents for durability demonstration.

§ 86.1841–01 [Amended]

■ 35. Amend § 86.1841–01 by removing and reserving paragraph (A)(3).

■ 36. Amend § 86.1844–01 by:

■ a. Removing and reserving paragraph (d)(7)(iv);

■ b. Revising paragraph (d)(15);

■ c. Removing and reserving paragraphs (d)(19) and (20); and

■ d. Revising paragraphs (e)(1) and (3).

The revisions read as follows:

§ 86.1844–01 Information requirements: Application for certification and submittal of information upon request.

* * * * *

(d) * * *

(15) For vehicles with fuel-fired heaters, describe the control system

logic of the fuel-fired heater, including an evaluation of the conditions under which it can be operated and an evaluation of the possible operational modes and conditions under which evaporative emissions can exist. Use good engineering judgment to establish an estimated exhaust emission rate from the fuel-fired heater in grams per mile for each pollutant subject to a fleet average standard. Adjust fleet average compliance calculations in §§ 86.1861 and 86.1864 as appropriate to account for emissions from fuel-fired heaters. Describe the testing used to establish the exhaust emission rate.

* * * * *

(e) * * *

(1) Identify all emission-related components. Also identify software, AECDs, and other elements of design that are used to control criteria, exhaust or evaporative/refueling emissions. Identify the emission-related components by part number. Identify software by part number or other convention, as appropriate. Organize part numbers by engine code or other similar classification scheme.

* * * * *

(3) Identification and description of all vehicles covered by each certificate of conformity to be produced and sold within the U.S. The description must be sufficient to identify whether any given in-use vehicle is, or is not, covered by a given certificate of conformity, the test group and the evaporative/refueling family to which it belongs and the standards that are applicable to it, by matching readily observable vehicle characteristics and information given in the emission control information label (and other permanently attached labels) to indicators in the Part 1 Application. For example, the description must include any components or features that contribute to measured or demonstrated control of emissions for meeting criteria exhaust or evaporative/refueling standards under this subpart. In addition, the description must be sufficient to determine for each vehicle covered by the certificate, all appropriate test parameters and any special test procedures necessary to conduct an official certification exhaust or evaporative emission test as was required by this subpart to demonstrate compliance with applicable emission standards. The description shall include, but is not limited to, information such as model name, vehicle classification (light-duty vehicle, light-duty truck, or complete heavy-duty vehicle), sales area, engine displacement, engine code, transmission type, tire size and parameters necessary to conduct exhaust emission tests such as equivalent test weight, curb and gross vehicle weight, test horsepower (with and without air conditioning adjustment), coast down time, shift schedules, cooling fan configuration, etc. and evaporative tests such as canister working capacity, canister bed volume, and fuel temperature profile. Actual values must be provided for all parameters.

* * * * *

■ 37. Amend § 86.1845–04 by:
■ a. Revising paragraphs (b)(5)(i) and (c)(5)(i);
■ b. Removing and reserving paragraph (g); and
■ c. Revising paragraph (h)(6) introductory text.

The revisions read as follows:

§ 86.1845–04 Manufacturer in-use verification testing requirements.

* * * * *

(b) * * *

(5) *Testing.* (i) Each test vehicle of a test group shall be tested in accordance with the FTP and the US06 as described in subpart B of this part, when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart.

* * * * *

(c) * * *

(5) *Testing.* (i) Each test vehicle shall be tested in accordance with the FTP and the US06 as described in subpart B of this part when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart. One test vehicle from each test group shall be tested over the FTP at high altitude. The test vehicle tested at high altitude is not required to be one of the same test vehicles tested at low altitude. The test vehicle tested at high altitude is counted when determining the compliance with the requirements shown in Table S04–06 and Table S04–07 (tables 1 and 2 to paragraph (b)(3) of this section) or the expanded sample size as provided for in this paragraph (c).

* * * * *

(h) * * *

(6) Determine a reference CO_2 emission rate, $e_{CO2FTPFCL,}$ as described in 40 CFR 1036.530 or based on measured values from any chassis FTP driving cycles under 40 CFR part 1066, subpart I, that is used for reporting data from an emission data vehicle or a fuel economy data vehicle, as follows:

* * * * *

■ 38. Amend § 86.1846–01 by:
■ a. Revising paragraph (a); and
■ b. Removing and reserving paragraph (b)(2).

The revision reads as follows:

§ 86.1846–01 Manufacturer in-use confirmatory testing requirements.

(a) *General requirements.* (1) Manufacturers must test, or cause testing to be conducted, under this section when the emission levels shown by a test group sample from testing under § 86.1845 exceeds the criteria specified in paragraph (b) of this section. The testing required under this section applies separately to each test group and at each test point (low and high mileage) that meets the specified criteria. The testing requirements apply separately for each model year.

(2) The provisions of § 86.1845–04(a)(3) regarding fuel sulfur effects apply equally to testing under this section.

* * * * *

§ 86.1847–01 [Amended]

■ 39. Amend § 86.1847–01 by removing and reserving paragraph (G).

■ 40. Amend § 86.1848–10 by:
■ a. Revising paragraphs (c)(2) and (5); and
■ b. Removing paragraphs (c)(9) and (10).

The revisions read as follows:

§ 86.1848–10 Compliance with emission standards for the purpose of certification.

* * * * *

(c) * * *

(2) The manufacturer must comply with all certification and in-use emission standards contained in this subpart both during and after model year production.

* * * * *

(5) The manufacturer must meet the in-use testing and reporting requirements contained in §§ 86.1845, 86.1846, and 86.1847, as applicable.

* * * * *

■ 41. Amend § 86.1854–12 by revising paragraph (a)(2)(iv) to read as follows:

§ 86.1854–12 Prohibited acts.

(a) * * *

(2) * * *

(iv) For a person to fail to establish or maintain records as required under §§ 86.1844, 86.1862, and 86.1864 with regard to vehicles.

* * * * *

■ 42. Revise and republish § 86.1861–17 to read as follows:

§ 86.1861–17 How do the NMOG + NO_X and evaporative emission credit programs work?

You may use emission credits for purposes of certification to show compliance with the applicable fleet

average NMOG+NO_X standards from §thnsp;§ 86.1811 and 86.1816 and the fleet average evaporative emission standards from § 86.1813 as described in 40 CFR part 1036, subpart H, with certain exceptions and clarifications as specified in this section. MDPVs are subject to the same provisions of this section that apply to LDT4.

(a) Calculate emission credits as described in this paragraph (a) instead of using the provisions of 40 CFR 1036.705. Calculate positive or negative emission credits relative to the applicable fleet average standard. Calculate positive emission credits if your fleet average level is below the standard. Calculate negative emission credits if your fleet average value is above the standard. Calculate credits separately for each applicable fleet average standard and calculate total credits for each averaging set as specified in paragraph (b) of this section. Convert units from mg/mile to g/mile as needed for performing calculations. Calculate emission credits using the following equation, rounded to the nearest whole number:

Equation 1 to Paragraph (a)

Emission credit = *Volume* · [*Fleet average standard* − *Fleet average value*]

Where:

Emission credit = The positive or negative credit for each discrete fleet average standard, in units of vehicle-grams per mile for NMOG+NO_X and vehicle-grams per test for evaporative emissions.

Volume = Sales volume in a given model year from the collection of test groups or evaporative families covered by the fleet average value, as described in § 86.1860.

(b) The following restrictions apply instead of those specified in 40 CFR 1036.740:

(1) Except as specified in paragraph (b)(2) of this section, emission credits may be exchanged only within an averaging set, as follows:

(i) HDV represent a separate averaging set with respect to all emission standards.

(ii) Except as specified in paragraph (b)(1)(iii) of this section, light-duty program vehicles represent a single averaging set with respect to all emission standards. Note that FTP and SFTP credits for Tier 3 vehicles are not interchangeable.

(iii) LDV and LDT1 certified to standards based on a useful life of 120,000 miles and 10 years together represent a single averaging set with respect to NMOG+NO_X emission standards. Note that FTP and SFTP credits for Tier 3 vehicles are not interchangeable.

(iv) The following separate averaging sets apply for evaporative emission standards:

(A) LDV and LDT1 together represent a single averaging set.

(B) LDT2 represents a single averaging set.

(C) HLDT represents a single averaging set.

(D) HDV represents a single averaging set.

(2) You may exchange evaporative emission credits across averaging sets as follows if you need additional credits to offset a deficit after the final year of maintaining deficit credits as allowed under paragraph (c) of this section:

(i) You may exchange LDV/LDT1 and LDT2 emission credits.

(ii) You may exchange HLDT and HDV emission credits.

(3) Except as specified in paragraph (b)(4) of this section, credits expire after five years. For example, credits you generate in model year 2018 may be used only through model year 2023.

(4) For the Tier 3 declining fleet average FTP and SFTP emission standards for NMOG+NO_X described in § 86.1811–17(b)(8), credits generated in model years 2017 through 2024 expire after eight years, or after model year 2030, whichever comes first; however, these credits may not be traded after five years. This extended credit life also applies for small-volume manufacturers generating credits under § 86.1811–17(h)(1) in model years 2022 through 2024. Note that the longer credit life does not apply for heavy-duty vehicles, for vehicles certified under the alternate phase-in described in § 86.1811–17(b)(9), or for vehicles generating early Tier 3 credits under § 86.1811–17(b)(11) in model year 2017.

(5) Tier 3 credits for NMOG+NO_X may be used to demonstrate compliance with Tier 4 standards without adjustment, except as specified in § 86.1811–27(b)(6)(ii).

(6) A manufacturer may generate NMOG+NO_X credits from model year 2027 through 2032 electric vehicles that qualify as MDPV and use those credits for certifying medium-duty vehicles, as follows:

(i) Calculate generated credits separately for qualifying vehicles. Calculate generated credits by multiplying the applicable standard for light-duty program vehicles by the sales volume of qualifying vehicles in a given model year.

(ii) Apply generated credits to eliminate any deficit for light-duty program vehicles before using them to certify medium-duty vehicles.

(iii) Apply the credit provisions of this section as specified, except that you may not buy or sell credits generated under this paragraph (b)(6).

(iv) Describe in annual credit reports how you are generating certain credit quantities under this paragraph (b)(6). Also describe in your end of year credit report how you will use those credits for certifying light-duty program vehicles or medium-duty vehicles in a given model year.

(c) The credit-deficit provisions 40 CFR 1036.745 apply to the NMOG+NO_X and evaporative emission standards for Tier 3 and Tier 4 vehicles. Credit-deficit provisions are not affected by the transition from Tier 3 to Tier 4 standards.

(d) The reporting and recordkeeping provisions of § 86.1862 apply instead of those specified in 40 CFR 1036.730 and 1036.735.

(e) The provisions of 40 CFR 1036.625 do not apply.

§§ 86.1865–12, 86.1866–12, 86.1867–12, and 86.1867–31 [Removed]

■ 43. Remove §§ 86.1865–12, 86.1866–12, 86.1867–12, and 86.1867–31.

■ 44. Amend § 86.1868–12 by:

■ a. Revising the introductory text and paragraph (c);

■ b. Removing and reserving paragraph (d); and

■ c. Revising paragraphs (g) introductory text and (g)(3) introductory text.

The revisions read as follows:

§ 86.1868–12 CO_2 credits for improving the efficiency of air conditioning systems.

The regulation at 40 CFR 600.510 describes how manufacturers may calculate fuel consumption improvement values based on improvements to air conditioning efficiency. This section describes how to calculate credits to determine the average fuel economy for comparing to the Corporate Average Fuel Economy standard. The provisions of this section do not apply for medium-duty vehicles. Credits shall be calculated according to this section for each air conditioning system that the manufacturer is using to generate credits. Manufacturers must validate credits under this section based on testing as described in paragraph (g) of this section. Starting in model year 2027, manufacturers may generate credits under this section only for vehicles propelled by internal combustion engines.

* * * * *

(c) The total efficiency credits generated by an air conditioning system shall be calculated in megagrams separately for passenger automobiles and light trucks according to the following formula:

Equation 1 to Paragraph (c)

$$Total\ Credits = \frac{Credit \cdot Production \cdot VLM}{1{,}000{,}000}$$

Where:

Credit = the air conditioning efficiency credit in grams per mile determined in paragraph (b) of this section. Starting in model year 2027, multiply the credit value for PHEV by (1–UF), where *UF* = the fleet utility factor established under 40 CFR 600.116–12(c)(1) or (c)(10)(iii) (weighted 55 percent city, 45 percent highway.

Production = The total number of passenger automobiles or light trucks, whichever is applicable, produced with the air conditioning system to which to the efficiency credit value from paragraph (b) of this section applies.

VLM = vehicle lifetime miles, which for passenger automobiles shall be 195,264 and for light trucks shall be 225,865.

* * * * *

(g) For AC17 validation testing and reporting requirements, manufacturers must validate air conditioning efficiency credits by using the AC17 Test Procedure in 40 CFR 1066.845 as follows:

* * * * *

(3) For the first model year for which an air conditioning system is expected to generate credits, the manufacturer must select for testing the projected highest-selling vehicle configuration within each combination of vehicle platform and air conditioning system (as those terms are defined in § 86.1803). The manufacturer must test at least one unique air conditioning system within each vehicle platform in a model year, unless all unique air conditioning systems within a vehicle platform have been previously tested. A unique air conditioning system design is a system with unique or substantially different component designs or types and/or system control strategies (*e.g.,* fixed-displacement vs. variable displacement compressors, orifice tube vs. thermostatic expansion valve, single vs. dual evaporator, etc.). In the first year of such testing, the tested vehicle configuration shall be the highest production vehicle configuration within each platform. In subsequent model years the manufacturer must test other unique air conditioning systems within the vehicle platform, proceeding from the highest production untested system until all unique air conditioning systems within the platform have been tested, or until the vehicle platform experiences a major redesign. Whenever a new unique air conditioning system is tested, the highest production vehicle configuration using that system shall be the vehicle selected for testing. Credits may continue to be generated by the air conditioning system installed in a vehicle platform provided that:

* * * * *

■ 45. Amend § 86.1869–12 by revising the introductory text and paragraphs (a), (b)(1) introductory text, (b)(2) introductory text, (b)(2)(v), (c) introductory text, and (e)(2)(i) to read as follows:

§ 86.1869–12 CO_2 credits for off-cycle CO_2 reducing technologies.

The regulation at 40 CFR 600.510 describes how manufacturers may calculate fuel consumption improvement values based on vehicle improvements that are not reflected in testing to demonstrate compliance with exhaust emission standards. This section describes how to calculate credits to determine the average fuel economy for comparing to the Corporate Average Fuel Economy standard through model year 2032. The provisions of this section do not apply for medium-duty vehicles. Manufacturers may no longer generate credits under this section starting in model year 2027 for vehicles deemed to have zero tailpipe emissions and in model year 2033 for all other vehicles. Manufacturers may no longer generate credits under paragraphs (c) and (d) of this section for any type of vehicle starting in model year 2027.

(a) Manufacturers may generate credits for CO_2-reducing technologies where the CO_2 reduction benefit of the technology is not adequately captured on the Federal Test Procedure and/or the Highway Fuel Economy Test such that the technology would not be otherwise installed for purposes of meeting Corporate Average Fuel Economy standards. These technologies must have a measurable, demonstrable, and verifiable real-world CO_2 reduction that occurs outside the conditions of the Federal Test Procedure and the Highway Fuel Economy Test. These optional credits are referred to as ''off-cycle'' credits. The technologies must not be integral or inherent to the basic vehicle design, such as engine, transmission, mass reduction, passive aerodynamic design, and tire technologies. Technologies installed for non-off-cycle emissions related reasons are also not eligible as they would be considered part of the baseline vehicle design. The technology must not be inherent to the design of occupant comfort and entertainment features except for technologies related to reducing passenger air conditioning demand and improving air conditioning system efficiency. Notwithstanding the provisions of this paragraph (a), off-cycle menu technologies included in paragraph (b) of this section remain eligible for credits. Off-cycle technologies used to generate emission credits are considered emission-related components subject to applicable requirements and must be demonstrated to be effective for the full useful life of the vehicle. Unless the manufacturer demonstrates that the technology is not subject to in-use deterioration, the manufacturer must account for the deterioration in their analysis. Durability evaluations of off-cycle technologies may occur at any time throughout a model year, provided that the results can be factored into the data provided in the model year report. Off-cycle credits may not be approved for crash-avoidance technologies, safety critical systems or systems affecting safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes. Off-cycle credits may not be earned for technologies installed on a motor vehicle to attain compliance with any vehicle safety standard or any regulation set forth in Title 49 of the Code of Federal Regulations. The manufacturer must use one of the three options specified in this section to establish off-cycle credits under this section.

(b) * * *

(1) The manufacturer may generate off-cycle credits for certain technologies as specified in this paragraph (b)(1). Technology definitions are in paragraph (b)(4) of this section. Calculated credit values shall be rounded to the nearest 0.1 grams/mile.

* * * * *

(2) The maximum allowable off-cycle credit for the combined passenger automobile and light truck fleet

attributable to use of the default credit values in paragraph (b)(1) of this section is specified in paragraph (b)(2)(v) of this section. If the total of the off-cycle credit values from paragraph (b)(1) of this section does not exceed the specified off-cycle credit cap for any passenger automobile or light truck in a manufacturer's fleet, then the total off-cycle credits may be calculated according to paragraph (f) of this section. If the total of the off-cycle credit values from paragraph (b)(1) of this section exceeds the specified off-cycle credit cap for any passenger automobile or light truck in a manufacturer's fleet, then the gram per mile decrease for the combined passenger automobile and light truck fleet must be determined according to paragraph (b)(2)(ii) of this section to determine whether the applicable limitation has been exceeded.

* * * * *

(v) The manufacturer's combined passenger automobile and light truck fleet average off-cycle credits attributable to use of the default credit values in paragraph (b)(1) of this section may not exceed the following specific values:

Model year	Off-cycle credit cap (g/mile)
(A) 2023–2026	15
(B) 2027–2030	10
(C) 2031	8.0
(D) 2032	6.0

* * * * *

(c) *Technology demonstration using EPA 5-cycle methodology.* To demonstrate an off-cycle technology and to determine off-cycle credits using the EPA 5-cycle methodology, the manufacturer shall determine the off-cycle city/highway combined carbon-related exhaust emissions benefit by using the EPA 5-cycle methodology described in 40 CFR part 600. This method may not be used for technologies that include elements (*e.g.,* driver-selectable systems) that require additional analyses, data collection, projections, or modeling, or other assessments to determine a national average benefit of the technology. Testing shall be performed on a representative vehicle, selected using good engineering judgment, for each model type for which the credit is being demonstrated. The emission benefit of a technology is determined by testing both with and without the off-cycle technology operating. If a specific technology is not expected to change emissions on one of the five test procedures, the manufacturer may submit an engineering analysis to the EPA that demonstrates that the technology has no effect. If EPA concurs with the analysis, then multiple tests are not required using that test procedure; instead, only one of that test procedure shall be required—either with or without the technology installed and operating—and that single value will be used for all of the 5-cycle weighting calculations. Multiple off-cycle technologies may be demonstrated on a test vehicle. The manufacturer shall conduct the following steps and submit all test data to the EPA.

* * * * *

(e) *Review and approval process for off-cycle credits*—(1) *Initial steps required.* (i) A manufacturer requesting off-cycle credits under the provisions of paragraph (c) of this section must conduct the testing and/or simulation described in that paragraph.

(ii) A manufacturer requesting off-cycle credits under the provisions of paragraph (d) of this section must develop a methodology for demonstrating and determining the benefit of the off-cycle technology, and carry out any necessary testing and analysis required to support that methodology.

(iii) A manufacturer requesting off-cycle credits under paragraphs (b), (c), or (d) of this section must conduct testing and/or prepare engineering analyses that demonstrate the in-use durability of the technology for the full useful life of the vehicle.

(2) *Data and information requirements.* The manufacturer seeking off-cycle credits must submit an application for off-cycle credits determined under paragraphs (c) and (d) of this section. The application must contain the following:

(i) A detailed description of the off-cycle technology and how it functions to improve fuel economy under conditions not represented on the FTP and HFET.

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

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

(iv) All testing and/or simulation data required under paragraph (c) or (d) of this section, as applicable, plus any other data the manufacturer has considered in the analysis.

(v) For credits under paragraph (d) of this section, a complete description of the methodology used to estimate the off-cycle benefit of the technology and all supporting data, including vehicle testing and in-use activity data.

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

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

(3) *EPA review of the off-cycle credit application.* Upon receipt of an application from a manufacturer, EPA will do the following:

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

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

(iii) For credits under paragraph (d) of this section, EPA will make the application available to the public for comment, as described in paragraph (d)(2) of this section, within 60 days of receiving a complete application. The public review period will be specified as 30 days, during which time the public may submit comments. Manufacturers may submit a written rebuttal of comments for EPA consideration or may revise their application in response to comments. A revised application should be submitted after the end of the public review period, and EPA will review the application as if it was a new application submitted under this paragraph (e)(3).

(4) *EPA decision.* (i) For credits under paragraph (c) of this section, EPA will notify the manufacturer of its decision within 60 days of receiving a complete application.

(ii) For credits under paragraph (d) of this section, EPA will notify the manufacturer of its decision after reviewing and evaluating the public comments. EPA will make the decision and rationale available to the public.

(iii) EPA will notify the manufacturer in writing of its decision to approve or deny the application, and will provide the reasons for the decision. EPA will make the decision and rationale available to the public.

* * * * *

§ 86.1870–12 [Removed]

■ 46. Remove § 86.1870–12.

PART 600—FUEL ECONOMY AND GREENHOUSE GAS EXHAUST EMISSIONS OF MOTOR VEHICLES

■ 47. The authority citation for part 600 continues to read as follows:

Authority: 49 U.S.C. 32901—23919Q, Pub. L. 109–58.

■ 48. Amend § 600.001 by revising paragraphs (a) and (c) to read as follows:

§ 600.001 General applicability.

(a) The provisions of this part apply to 2008 and later model year automobiles that are not medium duty passenger vehicles ($MDPV_{FE}$), and to 2011 and later model year automobiles including $MDPV_{FE}$. The test procedures in subpart B of this part also describe how manufacturers can test larger vehicles to meet fuel consumption standards under 49 CFR part 535.

* * * * *

(c) Unless stated otherwise, references to fuel economy or fuel economy data in this part shall also be interpreted to mean the related exhaust emissions of CO_2, HC, and CO, and where applicable for alternative fuel vehicles, CH_3OH, C_2H_5OH, C_2H_4O, HCHO, NMHC and CH_4.

* * * * *

■ 49. Amend § 600.002 by:
■ a. Revising the definitions of ''Carbon-related exhaust emissions (CREE)'' and ''Engine code'';
■ b. Removing the definition of ''Footprint''; and
■ c. Revising the definitions of ''Medium-duty passenger vehicle ($MDPV_{FE}$)'', ''Subconfiguration'', and ''Vehicle configuration''.

The revisions read as follows:

§ 600.002 Definitions.

* * * * *

Carbon-related exhaust emissions (CREE) means the summation of the carbon-containing constituents of the exhaust emissions, with each constituent adjusted by a coefficient representing the carbon weight fraction of each constituent relative to the CO_2 carbon weight fraction, as specified in § 600.113.

* * * * *

Engine code means one of the following:

(1) For LDV, LDT, and $MDPV_{FE}$, *engine code* means a unique combination, within a test group (as defined in § 86.1803 of this chapter), of displacement, fuel injection (or carburetion or other fuel delivery system), calibration, distributor calibration, choke calibration, auxiliary emission control devices, and other engine and emission control system components specified by the Administrator. For electric vehicles, *engine code* means a unique combination of manufacturer, electric traction motor, motor configuration, motor controller, and energy storage device.

(2) For MDV, *engine code* means the combination of both ''engine code'' and ''basic engine'' as defined for light-duty vehicles in this section.

* * * * *

Medium-duty passenger vehicle ($MDPV_{FE}$) means any motor vehicle rated at more than 8,500 pounds GVWR and less than 10,000 pounds GVWR that is designed primarily to transport passengers, but does not include a vehicle that—

(1) Is an ''incomplete truck,'' meaning any truck which does not have the primary load carrying device or container attached when it is first sold as a vehicle; or

(2) Has a seating capacity of more than 12 persons; or

(3) Is designed for more than 9 persons in seating rearward of the driver's seat; or

(4) Is equipped with an open cargo area (for example, a pick-up truck box or bed) of 72.0 inches in interior length or more. A covered box not readily accessible from the passenger compartment will be considered an open cargo area for purposes of this definition. (See paragraph (1) of the definition of medium-duty passenger vehicle at 40 CFR 86.1803–01).

* * * * *

Subconfiguration means one of the following:

(1) For LDV, LDT, and $MDPV_{FE}$, *subconfiguration* means a unique combination within a vehicle configuration of equivalent test weight, road-load horsepower, and any other operational characteristics or parameters which the Administrator determines may significantly affect fuel economy or CO_2 emissions within a vehicle configuration.

(2) For MDV, *subconfiguration* means a unique combination within a vehicle configuration of equivalent test weight, road-load horsepower, and any other operational characteristics or parameters that may significantly affect CO_2 emissions within a vehicle configuration. Note that equivalent test weight is based on a vehicle's Adjusted Loaded Vehicle Weight (rounded to the nearest 500-pound increment for values above 14,000 pounds); see 40 CFR 1066.805.

* * * * *

Vehicle configuration means one of the following:

(1) For LDV, LDT, and $MDPV_{FE}$, *vehicle configuration* means a unique combination of basic engine, engine code, inertia weight class, transmission configuration, and axle ratio within a base level.

(2) For MDV, vehicle configuration means a subclassification within a test group based on a unique combination of basic engine, engine code, transmission type and gear ratios, final drive ratio, and other parameters we designate.

* * * * *

■ 50. Amend § 600.006 by revising paragraphs (c)(5), (e), and (g)(3)(ii) to read as follows:

§ 600.006 Data and information requirements for fuel economy data vehicles.

* * * * *

(c) * * *

(5) Starting with the 2012 model year, the data submitted according to paragraphs (c)(1) through (4) of this section shall include total HC, CO, CO_2, and, where applicable for alternative fuel vehicles, CH_3OH, C_2H_5OH, C_2H_4O, HCHO, NMHC and CH_4.

* * * * *

(e) In lieu of submitting actual data from a test vehicle, a manufacturer may provide fuel economy and CO_2 emission values derived from a previously tested vehicle, where the fuel economy and CO_2 emissions are expected to be equivalent (or less fuel-efficient and with higher CO_2 emissions). Additionally, in lieu of submitting actual data from a test vehicle, a manufacturer may provide fuel economy and CO_2 emission values derived from an analytical expression, *e.g.,* regression analysis. In order for fuel economy and CO_2 emission values derived from analytical methods to be accepted, the expression (form and coefficients) must have been approved by the Administrator.

* * * * *

(g) * * *

(3) * * *

(ii)(A) The manufacturer shall adjust all CO_2 test data generated by vehicles with engine-drive system combinations with more than 6,200 miles by using the following equation:

$$ADJ_{4,000mi} = TEST[0.979 + 5.25 \cdot 10^{-6} \cdot (mi)]$$

Where:

$ADJ_{4,000mi}$ = CO_2 emission data adjusted to 4,000-mile test point.

TEST = Tested emissions value of CO_2 in grams per mile.

mi = System miles accumulated at the start of the test rounded to the nearest whole mile.

(B) Emissions test values and results used and determined in the calculations in this paragraph (g)(3)(ii) shall be rounded in accordance with § 86.1837 of this chapter as applicable. Round results to the nearest gram per mile.

* * * * *

■ 51. Amend § 600.007 by revising paragraphs (b)(5) and (6), (c), and (f) introductory text to read as follows:

§ 600.007 Vehicle acceptability.

* * * * *

(b) * * *

(5) The calibration information submitted under § 600.006(b) must be representative of the vehicle configuration for which the fuel economy and CO_2 emission data were submitted.

(6) Any vehicle tested for fuel economy or CO_2 emissions must be representative of a vehicle which the manufacturer intends to produce under the provisions of a certificate of conformity.

* * * * *

(c) If, based on review of the information submitted under § 600.006(b), the Administrator determines that a fuel economy data vehicle meets the requirements of this section, the fuel economy data vehicle will be judged to be acceptable and fuel economy data from that fuel economy data vehicle will be reviewed pursuant to § 600.008.

* * * * *

(f) All vehicles used to generate fuel economy data, and for which emission standards apply, must be covered by a certificate of conformity under part 86 of this chapter before:

* * * * *

■ 52. Amend § 600.008 by revising the section heading and paragraph (a)(1)(ii) to read as follows:

§ 600.008 Review of fuel economy and CO_2 emission data, testing by the Administrator.

(a) * * *

(1) * * *

(ii) The evaluations, testing, and test data described in this section pertaining to fuel economy shall also be performed for CO_2 emissions, except that CO_2 emissions shall be arithmetically averaged instead of harmonically averaged, and in cases where the manufacturer selects the lowest of several fuel economy results to represent the vehicle, the manufacturer shall select the CO_2 emission value from the test results associated with the lowest selected fuel economy results.

* * * * *

■ 53. Amend § 600.010 by revising paragraphs (c)(1)(ii) and (d) to read as follows:

§ 600.010 Vehicle test requirements and minimum data requirements.

* * * * *

(c) * * *

(1) * * *

(ii)(A) FTP and HFET data from the highest projected model year sales subconfiguration within the highest projected model year sales vehicle configuration for each base level, and

(B) If required under § 600.115, for 2011 and later model year vehicles, US06, SC03 and cold temperature FTP data from the highest projected model year sales subconfiguration within the highest projected model year sales vehicle configuration for each base level. Manufacturers may optionally generate this data for any 2008 through 2010 model years and 2011 and later model year vehicles, if not otherwise required.

* * * * *

(d) *Minimum data requirements for the manufacturer's average fuel economy.* For the purpose of calculating the manufacturer's average fuel economy under § 600.510, the manufacturer shall submit FTP (city) and HFET (highway) test data representing at least 90 percent of the manufacturer's actual model year production, by vehicle configuration, for each category identified for calculation under § 600.510–12(a)(1).

Subpart B—Fuel Economy and Exhaust Emission Test Procedures

■ 54. Revise the heading of subpart B as set forth above.

■ 55. Amend § 600.101 by:

■ a. Revising paragraph (a)(2); and

■ b. Removing and reserving paragraph (b)(2).

The revision reads as follows:

§ 600.101 Testing overview.

* * * * *

(a) * * *

(2) Calculate fuel economy values for vehicle subconfigurations, configurations, base levels, and model types as described in §§ 600.206 and 600.208. Calculate fleet average values for fuel economy as described in § 600.510. Note that § 600.510(c) describes how to use CREE to determine fuel consumption improvement values for specific cases.

* * * * *

■ 56. Amend § 600.111–08 by revising paragraph (h) to read as follows:

§ 600.111–08 Test procedures.

* * * * *

(h) *Special test procedures.* We may allow or require you to use procedures other than those specified in this section as described in 40 CFR 1066.10(c). For example, special test procedures may be used for advanced technology vehicles, including, but not limited to fuel cell vehicles, hybrid electric vehicles using hydraulic energy storage, and vehicles equipped with hydrogen internal combustion engines. Additionally, we may conduct fuel economy and exhaust emission testing using the special test procedures approved for a specific vehicle.

■ 57. Amend § 600.113–12 by:

■ a. Revising the section heading, introductory text, and paragraph (g);

■ b. Removing and reserving paragraphs (h)(2), (i)(2), (j)(2), (k)(2), (l)(2), (m)(2);

■ c. Revising paragraph (n);

■ d. Removing and reserving paragraph (o)(2); and

■ e. Revising paragraph (p).

The revisions read as follows:

§ 600.113–12 Fuel economy and CO_2 emission calculations for FTP, HFET, US06, SC03 and cold temperature FTP tests.

The Administrator will use the calculation procedure set forth in this section for all official EPA testing of vehicles fueled with gasoline, diesel, alcohol-based or natural gas fuel. The calculations of the weighted fuel economy values require input of the weighted grams/mile values for total hydrocarbons (HC), carbon monoxide (CO), and carbon dioxide (CO_2); and, additionally for methanol-fueled automobiles, methanol (CH_3OH) and formaldehyde (HCHO); and, additionally for ethanol-fueled automobiles, methanol (CH_3OH), ethanol (C_2H_5OH), acetaldehyde (C_2H_4O), and formaldehyde (HCHO); and additionally for natural gas-fueled vehicles, non-methane hydrocarbons (NMHC) and methane (CH_4). Emissions shall be determined for the FTP, HFET, US06, SC03, and cold temperature FTP tests. Additionally, the specific gravity, carbon weight fraction and net heating value of the test fuel must be determined. The FTP, HFET, US06, SC03, and cold temperature FTP fuel economy values shall be calculated as specified in this section. An example fuel economy calculation appears in appendix II to this part.

* * * * *

(g) Calculate separate FTP, highway, US06, SC03 and Cold temperature FTP fuel economy values from the grams/mile values for total HC, CO, CO_2 and, where applicable, CH_3OH, C_2H_5OH, C_2H_4O, HCHO, NMHC, N_2O, and CH_4, and the test fuel's specific gravity, carbon weight fraction, net heating

value, and additionally for natural gas, the test fuel's composition.

(1) *Emission values for fuel economy calculations.* The emission values (obtained per paragraph (a) through (e) of this section, as applicable) used in the calculations of fuel economy in this section shall be rounded in accordance with § 86.1837 of this chapter. The CO_2 values (obtained per this section, as applicable) used in each calculation of fuel economy in this section shall be rounded to the nearest gram/mile.

(2) [Reserved]

(3) The specific gravity and the carbon mass fraction (obtained per paragraph (f) of this section) shall be recorded using three places to the right of the decimal point. Net heat of combustion shall be recorded using three places to the right of the decimal point if expressed in MJ/kg, or the nearest whole number if expressed in Btu/lb.

* * * * *

(n) Manufacturers may use a value of 0 grams CO_2 per mile to represent the emissions of electric vehicles and the electric operation of plug-in hybrid electric vehicles derived from electricity generated from sources that are not onboard the vehicle.

* * * * *

(p) Equations for fuels other than those specified in this section may be used with advance EPA approval. Alternate calculation methods for fuel economy may be used in lieu of the methods described in this section if shown to yield equivalent or superior results and if approved in advance by the Administrator.

■ 58. Amend § 600.114–12 by revising the section heading and introductory text to read as follows:

§ 600.114–12 Vehicle-specific 5-cycle fuel economy CO_2 emission calculations.

Paragraphs (a) through (f) of this section apply to data used for fuel economy labeling under subpart D of this part. Paragraphs (d) through (f) of this section are used to calculate 5-cycle carbon-related exhaust emission values for the purpose of determining optional credits for CO_2-reducing technologies under § 86.1869–12 of this chapter and to calculate 5-cycle CO_2 values for the purpose of fuel economy labeling under subpart D of this part.

* * * * *

■ 59. Amend § 600.116–12 by revising paragraphs (a)(11)(iii)(E), (c) introductory text, (c)(1), (c)(2), (c)(5), and (c)(6)(iii) to read as follows:

§ 600.116–12 Special procedures related to electric vehicles and hybrid electric vehicles.

(a) * * *

(11) * * *

(iii) * * *

(E) A description of each test group and vehicle configuration that will use the 5-cycle adjustment factor, including the battery capacity of the vehicle used to generate the 5-cycle adjustment factor and the battery capacity of all the vehicle configurations to which it will be applied.

* * * * *

(c) Determine performance values for hybrid electric vehicles that have plug-in capability as specified in §§ 600.210 and 600.311 using the procedures of SAE J1711 (incorporated by reference, see § 600.011), with the following clarifications and modifications:

(1) Calculate fuel economy values representing combined operation during charge-depleting and charge-sustaining operation using the following utility factors, except as otherwise specified in this paragraph (c):

TABLE 1 TO PARAGRAPH (c)(1)—FLEET UTILITY FACTORS FOR URBAN "CITY" DRIVING

Schedule range for UDDS phases, miles	Cumulative UF	Sequential UF
3.59	0.125	0.125
7.45	0.243	0.117
11.04	0.338	0.095
14.90	0.426	0.088
18.49	0.497	0.071
22.35	0.563	0.066
25.94	0.616	0.053
29.80	0.666	0.049
33.39	0.705	0.040
37.25	0.742	0.037
40.84	0.772	0.030
44.70	0.800	0.028
48.29	0.822	0.022
52.15	0.843	0.021
55.74	0.859	0.017
59.60	0.875	0.016
63.19	0.888	0.013
67.05	0.900	0.012
70.64	0.909	0.010

TABLE 2 TO PARAGRAPH (c)(1)—FLEET UTILITY FACTORS FOR HIGHWAY DRIVING

Schedule range for HFET, miles	Cumulative UF	Sequential UF
10.3	0.123	0.123
20.6	0.240	0.117
30.9	0.345	0.105
41.2	0.437	0.092
51.5	0.516	0.079
61.8	0.583	0.067
72.1	0.639	0.056

(2) Determine fuel economy values to demonstrate compliance with CAFE standards as follows:

(i) For vehicles that are not dual fueled automobiles, determine fuel economy using the utility factors specified in paragraph (c)(1) of this section. Do not use the petroleum-equivalence factors described in 10 CFR 474.3.

(ii) Except as described in paragraph (c)(2)(iii) of this section, determine fuel economy for dual fueled automobiles from the following equation, separately for city and highway driving:

Equation 2 to Paragraph (c)(2)(ii)

$$MPGe_{CAFE} = \frac{1}{\left(\frac{0.5}{MPG_{gas}} + \frac{0.5}{MPG_{elec}}\right)}$$

Where:

MPG_{gas} = The miles per gallon measured while operating on gasoline during charge-sustaining operation as determined using the procedures of SAE J1711.

$MPGe_{elec}$ = The miles per gallon equivalent measured while operating on electricity. Calculate this value by dividing the equivalent all-electric range determined from the equation in § 86.1866–12(b)(2)(ii) by the corresponding measured Watt-hours of energy consumed; apply the appropriate petroleum-equivalence factor from 10 CFR 474.3 to convert Watt-hours to gallons equivalent. Note that if vehicles use no gasoline during charge-depleting operation, $MPGe_{elec}$ is the same as the charge-depleting fuel economy specified in SAE J1711.

(iii) For 2016 and later model year dual fueled automobiles, you may determine fuel economy based on the following equation, separately for city and highway driving:

Equation 3 to Paragraph (c)(2)(iii)

$$MPGe_{CAFE} = \frac{1}{\left(\frac{UF}{MPG_{elec}} + \frac{(1-UF)}{MPGe_{gas}}\right)}$$

Where:

UF = The appropriate utility factor for city or highway driving specified in paragraph (c)(1) of this section.

* * * * *

(5) Instead of the utility factors specified in paragraphs (c)(1) through (3) of this section, calculate utility factors using the following equation for vehicles whose maximum speed is less than the maximum speed specified in the driving schedule, where the vehicle's maximum speed is determined, to the nearest 0.1 mph, from observing the highest speed over the first duty cycle (FTP, HFET, etc.):

Equation 4 to Paragraph (c)(5)

$$UF_i = 1 - \left[\exp\left(-\sum_{j=1}^{k}\left(\left(\frac{d_i}{ND}\right)^j \times C_j\right)\right)\right] - \sum_{i=1}^{n} UF_{i-1}$$

Where:

UF_i = the utility factor for phase i. Let $UF_0 = 0$.

j = a counter to identify the appropriate term in the summation (with terms numbered consecutively).

k = the number of terms in the equation (see Table 5 of this section).

d_i = the distance driven in phase i.

ND = the normalized distance. Use $ND = 399$ for all types of driving, and for both CAFE fleet values and multi-day individual values for labeling.

C_j = the coefficient for term j from the following table:

TABLE 5 TO PARAGRAPH (c)(5)—CITY/HIGHWAY SPECIFIC UTILITY FACTOR COEFFICIENTS

j	Fleet values for CAFE		Multi-day individual values for labeling
	City	Highway	City or highway
1	14.86	4.8	13.1
2	2.965	13	−18.7
3	−84.05	−65	5.22
4	153.7	120	8.15
5	−43.59	−100.00	3.53
6	−96.94	31.00	−1.34
7	14.47	.....	−4.01
8	91.70	.....	−3.90
9	−46.36	.....	−1.15
10	.....	.....	3.88

n = the number of test phases (or bag measurements) before the vehicle reaches the end-of-test criterion.

(6) * * *

(iii) For charge-sustaining tests, we may approve alternate Net Energy Change/Fuel Ratio tolerances as specified in Appendix C of SAE J1711 to correct final fuel economy values and CO_2 emissions. For charge-sustaining tests, do not use alternate Net Energy Change/Fuel Ratio tolerances to correct emissions of criteria pollutants. Additionally, if we approve an alternate

End-of-Test criterion or Net Energy Change/Fuel Ratio tolerances for a specific vehicle, we may use the alternate criterion or tolerances for any testing we conduct on that vehicle.

* * * * *

■ 60. Amend § 600.117 by:
■ a. Revising paragraph (a)(1);
■ b. Removing and reserving paragraph (a)(5); and
■ c. Revising paragraphs (a)(6) and (b) to read as follows:

The revisions read as follows:

§ 600.117 Interim provisions.

(a) * * *

(1) Except as specified in paragraphs (a)(5) and (6) of this section, manufacturers must determine fuel economy values using E0 gasoline test fuel as specified in 40 CFR 86.113–04(a)(1), regardless of any testing with E10 test fuel specified in 40 CFR 1065.710(b) under paragraph (a)(2) of this section.

* * * * *

(6) Manufacturers may alternatively determine fuel economy values using E10 gasoline test fuel as specified in 40 CFR 1065.710(b). Calculate fuel economy using the equation specified in § 600.113–12(o)(1) based on measured CO_2 results without adjusting to account for fuel effects.

* * * * *

(b) For model years 2027 through 2029, manufacturers may determine fuel economy values using data with E0 test fuel from testing for earlier model years, subject to the carryover provisions of 40 CFR 86.1839 and § 600.006. Calculate fuel economy using the equation specified in § 600.113–12(h)(1) based on measured CO_2 results without adjusting to account for fuel effects.

* * * * *

■ 61. Amend § 600.206–12 by revising paragraphs (a) introductory text, (a)(4) introductory text, (b), and (c) to read as follows:

§ 600.206–12 Calculation and use of FTP-based and HFET-based fuel economy, CO_2 emissions, and carbon-related exhaust emission values for vehicle configurations.

(a) Fuel economy, CO_2 emissions, and carbon-related exhaust emissions values determined for each vehicle under § 600.113–12(a) and (b) and as approved in § 600.008(c), are used to determine FTP-based city, HFET-based highway, and combined FTP/Highway-based fuel economy, CO_2 emissions, and carbon-related exhaust emission values for each vehicle configuration for which data are available. Note that fuel economy for some alternative fuel vehicles may mean miles per gasoline gallon equivalent and/or miles per unit of fuel consumed. For example, electric vehicles will determine miles per kilowatt-hour in addition to miles per gasoline gallon equivalent, and fuel cell vehicles will determine miles per kilogram of hydrogen.

* * * * *

(4) For alcohol dual fuel automobiles and natural gas dual fuel automobiles the procedures of paragraphs (a)(1) or (2) of this section, as applicable, shall be used to calculate two separate sets of FTP-based city, HFET-based highway, and combined values for fuel economy, CO_2 emissions, and carbon-related exhaust emissions for each vehicle configuration.

* * * * *

(b) If only one equivalent petroleum-based fuel economy value exists for an electric vehicle configuration, that value, rounded to the nearest tenth of a mile per gallon, will comprise the petroleum-based fuel economy for that vehicle configuration.

(c) If more than one equivalent petroleum-based fuel economy value exists for an electric vehicle configuration, all values for that vehicle configuration are harmonically averaged and rounded to the nearest 0.0001 mile per gallon for that vehicle configuration.

■ 62. Amend § 600.207–12 by revising paragraphs (a)(1), (a)(4) introductory text, (b), and (c) to read as follows:

§ 600.207–12 Calculation and use of vehicle-specific 5-cycle-based fuel economy and CO_2 emission values for vehicle configurations.

(a) * * *

(1) If only one set of 5-cycle city and highway fuel economy and CO_2 emission values is accepted for a vehicle configuration, these values, where fuel economy is rounded to the nearest 0.0001 of a mile per gallon and the CO_2 emission value in grams per mile is rounded to the nearest tenth of a gram per mile, comprise the city and highway fuel economy and CO_2 emission values for that vehicle configuration. Note that the appropriate vehicle-specific CO_2 values for fuel economy labels based on 5-cycle testing with E10 test fuel are adjusted as described in § 600.114–12.

* * * * *

(4) For alcohol dual fuel automobiles and natural gas dual fuel automobiles, the procedures of paragraphs (a)(1) and (2) of this section shall be used to calculate two separate sets of 5-cycle city and highway fuel economy and CO_2 emission values for each vehicle configuration.

* * * * *

(b) If only one equivalent petroleum-based fuel economy value exists for an electric vehicle configuration, that value, rounded to the nearest tenth of a mile per gallon, will comprise the petroleum-based 5-cycle fuel economy for that vehicle configuration.

(c) If more than one equivalent petroleum-based 5-cycle fuel economy value exists for an electric vehicle configuration, all values for that vehicle configuration are harmonically averaged and rounded to the nearest 0.0001 mile per gallon for that vehicle configuration.

■ 63. Amend § 600.210–12 by revising paragraph (b) to read as follows:

§ 600.210–12 Calculation of fuel economy and CO_2 emission values for labeling.

* * * * *

(b) *Specific labels.* Except as specified in paragraphs (d) and (e) of this section, fuel economy and CO_2 emissions for specific labels may be determined by one of two methods. The first is based on vehicle-specific vehicle configuration 5-cycle data as determined in § 600.207. This method is available for all vehicles and is required for vehicles that do not qualify for the second method as described in § 600.115 (other than electric vehicles). The second method, the derived 5-cycle method, determines fuel economy and CO_2 emissions values from the FTP and HFET tests using equations that are derived from vehicle-specific 5-cycle vehicle configuration data, as determined in paragraph (b)(2) of this section. Manufacturers may voluntarily lower fuel economy values and raise CO_2 values if they determine that the label values from either method are not representative of the fuel economy or CO_2 emissions for that model type.

(1) *Vehicle-specific 5-cycle labels.* The city and highway vehicle configuration fuel economy determined in § 600.207, rounded to the nearest mpg, and the city and highway vehicle configuration CO_2 emissions determined in § 600.207, rounded to the nearest gram per mile, comprise the fuel economy and CO_2 emission values for specific fuel economy labels, or, alternatively;

(2) *Derived 5-cycle labels.* Specific city and highway label values from derived 5-cycle are determined according to the following method:

(i)(A) Determine the derived five-cycle city fuel economy of the vehicle configuration using the equation below and coefficients determined by the Administrator:

$$\text{Derived 5-cycle City Fuel Economy} = \frac{1}{(\text{City Intercept}) + \frac{(\text{City Slope})}{\text{Config FTP FE}}}$$

Where:

City Intercept = Intercept determined by the Administrator based on historic vehicle-specific 5-cycle city fuel economy data.

City Slope = Slope determined by the Administrator based on historic vehicle-specific 5-cycle city fuel economy data.

Config FTP FE = the vehicle configuration FTP-based city fuel economy determined under § 600.206, rounded to the nearest 0.0001 mpg.

(B) Determine the derived five-cycle city CO_2 emissions of the vehicle configuration using the equation below and coefficients determined by the Administrator:

Derived 5-cycle City CO_2 = City Intercept + City Slope · Config FTP CO_2

Where:

City Intercept = Intercept determined by the Administrator based on historic vehicle-specific 5-cycle city fuel economy data.

City Slope = Slope determined by the Administrator based on historic vehicle-specific 5-cycle city fuel economy data.

Config FTP CO_2 = the vehicle configuration FTP-based city CO_2 emissions determined under § 600.206, rounded to the nearest 0.1 grams per mile. Note that the appropriate Config FTP CO_2 input values for fuel economy labels based on testing with E10 test fuel are adjusted as referenced in § 600.206–12(a)(2)(iii).

(ii)(A) Determine the derived five-cycle highway fuel economy of the vehicle configuration using the equation below and coefficients determined by the Administrator:

$$\text{Derived 5-cycle Highway Fuel Economy} = \frac{1}{(\text{Highway Intercept}) + \frac{(\text{Highway Slope})}{\text{Config HFET FE}}}$$

Where:

Highway Intercept = Intercept determined by the Administrator based on historic vehicle-specific 5-cycle highway fuel economy data.

Highway Slope = Slope determined by the Administrator based on historic vehicle-specific 5-cycle highway fuel economy data.

Config HFET FE = the vehicle configuration highway fuel economy determined under § 600.206, rounded to the nearest tenth.

(B) Determine the derived five-cycle highway CO_2 emissions of the vehicle configuration using the equation below and coefficients determined by the Administrator:

Derived 5-cycle city Highway CO_2 = Highway Intercept + Highway Slope · Config HFET CO_2

Where:

Highway Intercept = Intercept determined by the Administrator based on historic vehicle-specific 5-cycle highway fuel economy data.

Highway Slope = Slope determined by the Administrator based on historic vehicle-specific 5-cycle highway fuel economy data.

Config HFET CO_2 = the vehicle configuration highway fuel economy determined under § 600.206, rounded to the nearest tenth. Note that the appropriate Config HFET CO_2 input values for fuel economy labels based on testing with E10 test fuel are adjusted as referenced in § 600.206–12(a)(2)(iii).

(iii) The slopes and intercepts of paragraph (a)(2)(iii) of this section apply.

(3) *Specific alternative fuel economy and CO_2emissions label values for dual fuel vehicles.* (i) Determine an alternative fuel label value for dual fuel vehicles, rounded to the nearest whole number, as follows:

(A) Specific city and highway fuel economy label values for dual fuel alcohol-based and natural gas vehicles when using the alternative fuel are separately determined by the following calculation:

$$\text{Derived FE}_{\text{alt}} = \text{FE}_{\text{alt}} \times \frac{5\ \text{cycle}_{\text{gas}}}{\text{FE}_{\text{gas}}}$$

Where:

FE_{alt} = The unrounded FTP-based vehicle configuration city or HFET-based vehicle configuration highway fuel economy from the alternative fuel, as determined in § 600.206.

5cycle FE_{gas} = The unrounded vehicle-specific or derived 5-cycle vehicle configuration city or highway fuel economy as determined in paragraph (b)(1) or (2) of this section.

FE_{gas} = The unrounded FTP-based city or HFET-based vehicle configuration highway fuel economy from gasoline, as determined in § 600.206.

(B) Specific city and highway CO_2 emission label values for dual fuel alcohol-based and natural gas vehicles when using the alternative fuel are separately determined by the following calculation:

$$\text{Derived CO2}_{\text{alt}} = \text{CO2}_{\text{alt}} \times \frac{5\ \text{cycle CO2}_{\text{gas}}}{\text{CO2}_{\text{gas}}}$$

Where:

$CO2_{alt}$ = The unrounded FTP-based vehicle configuration city or HFET-based vehicle configuration highway CO_2 emissions value from the alternative fuel, as determined in § 600.206.

5cycle $CO2_{gas}$ = The unrounded vehicle-specific or derived 5-cycle vehicle configuration city or highway CO_2 emissions value as determined in paragraph (b)(1) or (b)(2) of this section.

$CO2_{gas}$ = The unrounded FTP-based city or HFET-based vehicle configuration highway CO_2 emissions value from gasoline, as determined in § 600.206.

(ii) Optionally, if complete 5-cycle testing has been performed using the alternative fuel, the manufacturer may choose to use the alternative fuel label city or highway fuel economy and CO_2 emission values determined in § 600.207–12(a)(4)(ii), rounded to the nearest whole number.

(4) *Specific alternative fuel economy and CO_2 emissions label values for electric vehicles.* Determine FTP-based city and HFET-based highway fuel economy label values for electric vehicles as described in § 600.116. Determine these values by running the appropriate repeat test cycles. Convert W-hour/mile results to miles per kW-hr and miles per gasoline gallon equivalent. CO_2 label information is based on tailpipe emissions only, so CO_2 emissions from electric vehicles are assumed to be zero.

(5) *Specific alternate fuel economy and CO_2 emissions label values for fuel cell vehicles.* Determine FTP-based city and HFET-based highway fuel economy label values for fuel cell vehicles using procedures specified by the Administrator. Convert kilograms of hydrogen/mile results to miles per kilogram of hydrogen and miles per gasoline gallon equivalent. CO_2 label information is based on tailpipe emissions only, so CO_2 emissions from fuel cell vehicles are assumed to be zero.

* * * * *

Subpart F—Procedures for Determining Manufacturer's Average Fuel Economy

■ 64. Revise the heading of subpart F as set forth above.

■ 65. Amend § 600.507–12 by revising paragraphs (a) introductory text, (b), and (d) to read as follows:

§ 600.507–12 Running change data requirements.

(a) Except as specified in paragraph (d) of this section, the manufacturer shall submit additional running change fuel economy data as specified in paragraph (b) of this section for any running change approved or implemented under § 86.1842 of this chapter, which:

* * * * *

(b)(1) The additional running change fuel economy data requirement in paragraph (a) of this section will be determined based on the sales of the vehicle configurations in the created or affected base level(s) as updated at the time of running change approval.

(2) Within each newly created base level as specified in paragraph (a)(1) of this section, the manufacturer shall submit data from the highest projected total model year sales subconfiguration within the highest projected total model year sales vehicle configuration in the base level.

(3) Within each base level affected by a running change as specified in paragraph (a)(2) of this section, fuel economy data shall be submitted for the vehicle configuration created or affected by the running change which has the highest total model year projected sales. The test vehicle shall be of the subconfiguration created by the running change which has the highest projected total model year sales within the applicable vehicle configuration.

* * * * *

(d) For those model types created under § 600.208–12(a)(2), the manufacturer shall submit fuel economy data for each subconfiguration added by a running change.

■ 66. Revise § 600.509–12 to read as follows:

§ 600.509–12 Voluntary submission of additional data.

(a) The manufacturer may optionally submit data in addition to the data required by the Administrator.

(b) Additional fuel economy data may be submitted by the manufacturer for any vehicle configuration which is to be tested as required in § 600.507 or for which fuel economy data were previously submitted under paragraph (c) of this section.

(c) Within a base level, additional fuel economy data may be submitted by the manufacturer for any vehicle configuration which is not required to be tested by § 600.507.

■ 67. Amend § 600.510–12 by:

■ a. Revising the section heading;

■ b. Removing and reserving paragraph (a)(2);

■ c. Revising paragraphs (b) and (g)(1) introductory text; and

■ d. Removing paragraphs (i), (j), and (k).

The revisions read as follows:

§ 600.510–12 Calculation of average fuel economy.

* * * * *

(b) For the purpose of calculating average fuel economy under paragraph (c) of this section:

(1) All fuel economy data submitted in accordance with § 600.006(e) or § 600.512(c) shall be used.

(2) The combined city/highway fuel economy values will be calculated for each model type in accordance with § 600.208, with the following exceptions:

(i) Separate fuel economy values will be calculated for model types and base levels associated with car lines for each category of passenger automobiles and light trucks as determined by the Secretary of Transportation pursuant to paragraph (a)(1) of this section.

(ii) Total model year production data, as required by this subpart, will be used instead of sales projections.

(iii) The fuel economy value will be rounded to the nearest 0.1 mpg; and

(iv) At the manufacturer's option, those vehicle configurations that are self-compensating to altitude changes may be separated by sales into high-altitude sales categories and low-altitude sales categories. These separate sales categories may then be treated (only for the purpose of this section) as separate vehicle configurations in accordance with the procedure of § 600.208–12(a)(4)(ii).

(3) The fuel economy values for each vehicle configuration are the combined fuel economy calculated according to § 600.206–12(a)(3), with the following exceptions:

(i) Separate fuel economy values will be calculated for vehicle configurations associated with car lines for each category of passenger automobiles and light trucks as determined by the Secretary of Transportation pursuant to paragraph (a)(1) of this section; and

(ii) Total model year production data, as required by this subpart will be used instead of sales projections.

* * * * *

(g)(1) Dual fuel automobiles must provide equal or greater energy efficiency while operating on the alternative fuel as while operating on gasoline or diesel fuel to obtain the CAFE credit determined in paragraphs (c)(2)(iv) and (v) of this section. The following equation must hold true:

* * * * *

■ 68. Amend § 600.512–12 by:

■ a. Revising paragraph (a) introductory text;

■ b. Removing and reserving paragraphs (a)(2), (c)(1)(ii), and (c)(2)(ii);

■ c. Revising paragraph (c)(3);

■ d. Removing and reserving paragraphs (c)(4)(ii) and (c)(5)(ii); and
■ e. Removing paragraph (c)(11).
The revisions read as follows:

§ 600.512–12 Model year report.

(a) For each model year, the manufacturer shall submit to the Administrator a report, known as the model year report, containing all information necessary for the calculation of the manufacturer's average fuel economy.
* * * * *
(c) * * *
(3)(i) For manufacturers calculating air conditioning efficiency credits in support of fuel consumption improvement values under § 600.510(c), a description of the air conditioning system and the total credits earned for each averaging set, model year, and region, as applicable.
(ii) Any additional fuel economy data submitted by the manufacturer under § 600.509;
* * * * *

§ 600.514–12 [Removed]

■ 69. Remove § 600.514–12.

PART 1036—CONTROL OF EMISSIONS FROM NEW AND IN-USE HEAVY-DUTY HIGHWAY ENGINES

■ 70. The authority citation for part 1036 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 71. Amend § 1036.1 by revising paragraph (a) introductory text and adding paragraph (e) to read as follows:

§ 1036.1 Applicability.

(a) Except as specified in § 1036.5, the provisions of this part apply for engines that will be installed in heavy-duty vehicles (including glider vehicles). Heavy-duty engines produced before December 20, 2026 are subject to exhaust emission standards for NO_X, HC, PM, and CO, and related provisions under 40 CFR part 86, subpart A and subpart N, instead of this part, except as follows:
* * * * *
(e) This part establishes criteria pollutant standards as described in § 1036.101. This part does not establish standards for CO_2 or other greenhouse gas emissions, but it includes certification and testing provisions related to CO_2 emissions to support the fuel consumption standards for heavy-duty engines adopted by the Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) under 49 CFR part 535.

■ 72. Amend § 1036.5 by:
■ a. Revising paragraph (a); and
■ b. Removing paragraph (e).
The revision reads as follows:

§ 1036.5 Excluded engines.

(a) The provisions of this part do not apply to engines used in medium-duty passenger vehicles or other heavy-duty vehicles that are subject to regulation under 40 CFR part 86, subpart S, except as specified in 40 CFR part 86, subpart S. For example, this exclusion applies for engines used in incomplete vehicles or high-GCWR vehicles certified to vehicle-based standards as described in 40 CFR 86.1801–12.
* * * * *

■ 73. Amend § 1036.15 by revising paragraph (b) to read as follows:

§ 1036.15 Other applicable regulations.
* * * * *
(b) Part 1037 of this chapter describes emission standards and other requirements for heavy-duty vehicles, whether or not they use engines certified under this part.
* * * * *

■ 74. Amend § 1036.101 by revising paragraph (a) to read as follows:

§ 1036.101 Overview of exhaust emission standards.

(a) You must show that engines meet the criteria pollutant standards for NO_X, HC, PM, and CO as described in § 1036.104. These pollutants are sometimes described collectively as ''criteria pollutants'' because they are either criteria pollutants under the Clean Air Act or precursors to the criteria pollutants ozone and PM.
* * * * *

§ 1036.108 [Removed]

■ 75. Remove § 1036.108.

■ 76. Amend § 1036.110 by adding paragraphs (b)(14) through (18) to read as follows:

§ 1036.110 Onboard diagnostics.
* * * * *
(b) * * *
(14) The definition of ''Active Technology'' in 13 CCR 1971.1(c) does not apply.
(15) The standardization requirements in 13 CCR 1971.1(h)(5.4) do not apply.
(16) The data storage requirements in 13 CCR 1971.1(h)(6.1) related to the standardization requirements in 13 CCR 1971.1(h)(5.4) do not apply.
(17) The certification documentation requirement related to ''Active Technology'' in 13 CCR 1971.1(j)(2.32) does not apply.
(18) The monitoring system demonstration requirements in 13 CCR 1971.1(i)(4.3.2)(C) related to CO_2 emission data does not apply.
* * * * *

■ 77. Amend § 1036.115 by revising paragraph (b) to read as follows:

§ 1036.115 Other requirements.
* * * * *
(b) *Fuel mapping.* Fuel mapping for your engine in support of NHTSA's fuel consumption standards are described in § 1036.505(b).
* * * * *

■ 78. Amend § 1036.130 by revising paragraph (b)(5) to read as follows:

§ 1036.130 Installation instructions for vehicle manufacturers.
* * * * *
(b) * * *
(5) Describe how your certification is limited for any type of application. For example, if you certify engines only for use in emergency vehicles, you must make clear that the engine may only be installed in emergency vehicles.
* * * * *

■ 79. Amend § 1036.135 by revising paragraph (c)(9) to read as follows:

§ 1036.135 Labeling.
* * * * *
(c) * * *
(9) Identify any limitations on your certification. For example, if you certify engines with one or more approved AECDs for emergency vehicle applications under § 1036.115(h)(4), include the statement: ''THIS ENGINE IS FOR INSTALLATION IN EMERGENCY VEHICLES ONLY''.
* * * * *

■ 80. Revise and republish § 1036.150 to read as follows:

§ 1036.150 Interim provisions.

The provisions in this section apply instead of other provisions in this part. This section describes when these interim provisions expire, if applicable.
(a) *Transitional ABT credits for NO_X emissions.* You may generate NO_X credits from model year 2026 and earlier engines and use those as transitional credits for model year 2027 and later engines using any of the following methods:
(1) *Discounted credits.* Generate discounted credits by certifying any model year 2022 through 2026 engine family to meet all the requirements that apply under 40 CFR part 86, subpart A. Calculate discounted credits for certifying engines in model years 2027 through 2029 as described in § 1036.705 relative to a NO_X emission standard of 200 mg/hp·hr and multiply the result by 0.6. You may not use discounted credits

for certifying model year 2030 and later engines.

(2) *Partial credits.* Generate partial credits by certifying any model year 2024 through 2026 compression-ignition engine family as described in this paragraph (a)(2). You may not use partial credits for certifying model year 2033 and later engines. Certify engines for partial credits to meet all the requirements that apply under 40 CFR part 86, subpart A, with the following adjustments:

(i) Calculate credits as described in § 1036.705 relative to a NO_X emission standard of 200 mg/hp·hr using the appropriate useful life mileage from 40 CFR 86.004–2. Your declared NO_X family emission limit applies for the FTP and SET duty cycles.

(ii) Engines must meet a NO_X standard when tested over the Low Load Cycle as described in § 1036.514. Engines must also meet an off-cycle NO_X standard as specified in § 1036.104(a)(3). Calculate the NO_X family emission limits for the Low Load Cycle and for off-cycle testing as described in § 1036.104(c)(3) with Std_{FTPNO_X} set to 35 mg/hp·hr and $Std_{[cycle]NO_X}$ set to the values specified in § 1036.104(a)(1) or (3), respectively. No standard applies for HC, PM, and CO emissions for the Low Load Cycle or for off-cycle testing, but you must record measured values for those pollutants and include those measured values where you report NO_X emission results.

(iii) For engines selected for in-use testing, we may specify that you perform testing as described in 40 CFR part 86, subpart T, or as described in subpart E of this part.

(iv) Add the statement ''Partial credit'' to the emission control information label.

(3) *Full credits.* Generate full credits by certifying any model year 2024 through 2026 engine family to meet all the requirements that apply under this part. Calculate credits as described in § 1036.705 relative to a NO_X emission standard of 200 mg/hp·hr. You may not use full credits for certifying model year 2033 and later engines.

(4) *2026 service class pull-ahead credits.* Generate credits from diesel-fueled engines under this paragraph (a)(4) by certifying all your model year 2026 diesel-fueled Heavy HDE to meet all the requirements that apply under this part, with a NO_X family emission limit for FTP testing at or below 50 mg/hp·hr. Calculate credits as described in § 1036.705 relative to a NO_X emission standard of 200 mg/hp·hr. You may use credits generated under this paragraph (a)(4) through model year 2034, but not for later model years. Credits generated by Heavy HDE may be used for certifying Medium HDE after applying a 10 percent discount (multiply credits by 0.9). Engine families using credits generated under this paragraph (a)(4) are subject to a NO_X FEL cap of 50 mg/hp·hr for FTP testing.

(b) [Reserved]

(c) *Engine cycle classification.* Through model year 2020, engines meeting the definition of spark-ignition, but regulated as compression-ignition engines under § 1036.140, must be certified to the requirements applicable to compression-ignition engines under this part. Such engines are deemed to be compression-ignition engines for purposes of this part. Similarly, through model year 2020, engines meeting the definition of compression-ignition, but regulated as Otto-cycle under 40 CFR part 86 must be certified to the requirements applicable to spark-ignition engines under this part. Such engines are deemed to be spark-ignition engines for purposes of this part. See § 1036.140 for provisions that apply for model year 2021 and later.

(d) *Small manufacturers.* The fuel consumption standards under 49 CFR part 535 apply on a delayed schedule for manufacturers meeting the small business criteria specified in 13 CFR 121.201. Apply the small business criteria for NAICS code 336310 for engine manufacturers with respect to gasoline-fueled engines and 333618 for engine manufacturers with respect to other engines; the employee limits apply to the total number employees together for affiliated companies. Qualifying small manufacturers are not subject to the fuel consumption standards for engines with a date of manufacture on or after November 14, 2011, but before January 1, 2022. In addition, qualifying small manufacturers producing engines that run on any fuel other than gasoline, E85, or diesel fuel may delay complying with every later fuel consumption standard under 49 CFR part 535 by one model year; however, small manufacturers may generate credits only by certifying all their engine families within a given averaging set to standards that apply for the current model year. Note that engines not yet subject to standards must nevertheless supply fuel maps to vehicle manufacturers as described in paragraph (n) of this section. Note also that engines produced by small manufacturers are subject to criteria pollutant standards.

(e) [Reserved]

(f) *Testing exemption for hydrogen engines.* Tailpipe HC, and CO emissions from engines fueled with neat hydrogen are deemed to comply with the applicable standard. Testing for HC or CO is optional under this part for these engines.

(g)–(j) [Reserved]

(k) *Limited production volume allowance under ABT.* You may produce a limited number of Heavy HDE that continue to meet the standards that applied under 40 CFR 86.007–11 in model years 2027 through 2029. The maximum number of engines you may produce under this limited production allowance is 5 percent of the annual average of your actual production volume of Heavy HDE in model years 2023–2025 for calculating emission credits under § 1036.705. Engine certification under this paragraph (k) is subject to the following conditions and requirements:

(1) Engines must meet all the standards and other requirements that apply under 40 CFR part 86 for model year 2026. Engine must be certified in separate engine families that qualify for carryover certification as described in § 1036.235(d).

(2) The NO_X FEL must be at or below 200 mg/hp·hr. Calculate negative credits as described in § 1036.705 by comparing the NO_X FEL to the FTP emission standard specified in § 1036.104(a)(1), with a value for useful life of 650,000 miles. Meet the credit reporting and recordkeeping requirements in §§ 1036.730 and 1036.735.

(3) Label the engine as described in 40 CFR 86.095–35, but include the following alternate compliance statement: ''THIS ENGINE CONFORMS TO U.S. EPA REGULATIONS FOR MODEL YEAR 2026 ENGINES UNDER 40 CFR 1036.150(k).''

(l) [Reserved]

(m) *Infrequent regeneration.* For model year 2020 and earlier, you may invalidate any test interval with respect to CO_2 measurements if an infrequent regeneration event occurs during the test interval. Note that § 1036.580 specifies how to apply infrequent regeneration adjustment factors for later model years.

(n) *Supplying fuel maps.* Engine manufacturers not yet subject to fuel consumption standards under 49 CFR part 535 in model year 2021 must supply vehicle manufacturers with fuel maps (or powertrain test results) as described in § 1036.130 for those engines.

(o) *Engines used in glider vehicles.* For purposes of recertifying a used engine for installation in a glider vehicle, we may allow you to include in an existing certified engine family those engines you modify (or otherwise demonstrate) to be identical to engines already covered by the certificate. We

would base such an approval on our review of any appropriate documentation. These engines must have emission control information labels that accurately describe their status.

(p) [Reserved]

(q) *Confirmatory and in-use testing of fuel maps defined in § 1036.505(b).* For model years 2021 and later, where the results from Eq. 1036.235–1 for a confirmatory or in-use test are at or below 2.0%, we will not replace the manufacturer's fuel maps.

(r) *Fuel maps for the transition to updated GEM.* (1) You may use fuel maps from model year 2023 and earlier engines for certifying model year 2024 and later engines using carryover provisions in § 1036.235(d).

(2) Compliance testing will be based on the GEM version you used to generate fuel maps for certification. For example, if you perform a selective enforcement audit with respect to fuel maps, use the same GEM version that you used to generate fuel maps for certification. Similarly, we will use the same GEM version that you used to generate fuel maps for certification if we perform confirmatory testing with one of your engine families.

(s) *Fuel consumption compliance testing.* Select duty cycles and measure emissions to demonstrate compliance with the fuel consumption standards under 49 CFR part 535 before model year 2027 as follows:

(1) For model years 2016 through 2020, measure emissions using the FTP duty cycle specified in § 1036.512 and the SET duty cycle specified in 40 CFR 86.1362, as applicable.

(2) The following provisions apply for model years 2021 through 2026:

(i) [Reserved]

(ii) You may demonstrate compliance with SET-based fuel consumption standards using the SET duty cycle specified in 40 CFR 86.1362 if you collect emissions with continuous sampling. Integrate the test results by mode to establish separate emission rates for each mode (including the transition following each mode, as applicable). Apply the CO_2 weighting factors specified in 40 CFR 86.1362 to calculate a composite emission result.

(t) *Model year 2027 compliance date.* The following provisions describe when this part 1036 starts to apply for model year 2027 engines:

(1) *Split model year.* Model year 2027 engines you produce before December 20, 2026 are subject to the criteria standards and related provisions in 40 CFR part 86, subpart A, as described in § 1036.1(a). Model year 2027 engines you produce on or after December 20, 2026 are subject to all the provisions of this part.

(2) *Optional early compliance.* You may optionally certify model year 2027 engines you produce before December 20, 2026 to all the provisions of this part.

(3) *Certification.* If you certify any model year 2027 engines to 40 CFR part 86, subpart A, under paragraph (t)(1) of this section, certify the engine family by dividing the model year into two partial model years. The first portion of the model year starts when it would normally start and ends when you no longer produce engines meeting standards under 40 CFR part 86, subpart A, on or before December 20, 2026. The second portion of the model year starts when you begin producing engines meeting standards under this part 1036, and ends on the day your model year would normally end. The following additional provisions apply for model year 2027 if you split the model year as described in this paragraph (t):

(i) You may generate emission credits only with engines that are certified under this part 1036.

(ii) In your production report under § 1036.250(a), identify production volumes separately for the two parts of the model year.

(iii) OBD testing demonstrations apply singularly for the full model year.

(u) *Crankcase emissions.* The provisions of 40 CFR 86.007–11(c) for crankcase emissions continue to apply through model year 2026.

(v) *OBD communication protocol.* We may approve the alternative communication protocol specified in SAE J1979–2 (incorporated by reference, see § 1036.810) if the protocol is approved by the California Air Resources Board. The alternative protocol would apply instead of SAE J1939 and SAE J1979 as specified in 40 CFR 86.010–18(k)(1). Engines designed to comply with SAE J1979–2 must meet the freeze-frame requirements in § 1036.110(b)(8) and in 13 CCR 1971.1(h)(4.3.2) (incorporated by reference, see § 1036.810). This paragraph (v) also applies for model year 2026 and earlier engines.

(w) [Reserved]

(x) *Powertrain testing for criteria pollutants.* You may apply the powertrain testing provisions of § 1036.101(b) for demonstrating compliance with criteria pollutant emission standards in 40 CFR part 86 before model year 2027.

(y) *NO_X compliance allowance for in-use testing.* A NO_X compliance allowance of 15 mg/hp·hr applies for any in-use testing of Medium HDE and Heavy HDE as described in subpart E of this part. Add the compliance allowance to the NO_X standard that applies for each duty cycle and for off-cycle testing, with both field testing and laboratory testing. The NO_X compliance allowance does not apply for the bin 1 off-cycle standard. As an example, for manufacturer-run field-testing of a Heavy HDE, add the 15 mg/hp·hr compliance allowance and the 5 mg/hp·hr accuracy margin from § 1036.420 to the 58 mg/hp·hr bin 2 off-cycle standard to calculate a 78 mg/hp·hr NO_X standard.

(z) *Alternate family pass criteria for in-use testing.* The following family pass criteria apply for manufacturer-run in-use testing instead of the pass criteria described in § 1036.425 for model years 2027 and 2028:

(1) Start by measuring emissions from five engines using the procedures described in subpart E of this part and § 1036.530. If four or five engines comply fully with the off-cycle bin standards, the engine family passes and you may stop testing.

(2) If exactly two of the engines tested under paragraph (z)(1) of this section do not comply fully with the off-cycle bin standards, test five more engines. If these additional engines all comply fully with the off-cycle bin standards, the engine family passes and you may stop testing.

(3) If three or more engines tested under paragraphs (z)(1) and (2) of this section do not comply fully with the off-cycle bin standards, test a total of at least 10 but not more than 15 engines. Calculate the arithmetic mean of the bin emissions from all the engine tests as specified in § 1036.530(g) for each pollutant. If the mean values are at or below the off-cycle bin standards, the engine family passes. If the mean value for any pollutant is above an off-cycle bin standard, the engine family fails.

■ 81. Amend § 1036.205 by:

■ a. Revising paragraphs (b) introductory text, (l), (m), (o)(2), and (t); and

■ b. Removing paragraph (aa).

The revisions read as follows:

§ 1036.205 Requirements for an application for certification.

* * * * *

(b) Explain how the emission control system operates. Describe in detail all system components for controlling greenhouse gas and criteria pollutant emissions, including all auxiliary emission control devices (AECDs) and all fuel-system components you will install on any production or test engine. Identify the part number of each component you describe. For this paragraph (b), treat as separate AECDs

any devices that modulate or activate differently from each other. Include all the following:

* * * * *

(l) Identify the duty-cycle emission standards from § 1036.104(a) and (b) that apply for the engine family. Also identify FELs and FCLs as follows:

(1) Identify the NO_X FEL over the FTP for the engine family.

(2) Identify the CO_2 FCLs for the engine family. The actual U.S.-directed production volume of configurations that are at or below the FCL must be at least one percent of your actual (not projected) U.S.-directed production volume for the engine family. Identify configurations within the family that have emission rates at or below the FCL and meet the one percent requirement. For example, if your U.S.-directed production volume for the engine family is 10,583 and the U.S.-directed production volume for the tested rating is 75 engines, then you can comply with this provision by setting your FCL so that one more rating with a U.S.-directed production volume of at least 31 engines meets the FCL. Where applicable, also identify other testable configurations required under § 1036.230(f)(2)(ii).

(m) Identify the engine family's deterioration factors and describe how you developed them (see § 1036.240). Present any test data you used for this. For engines designed to discharge crankcase emissions to the ambient atmosphere, use the deterioration factors for crankcase emission to determine deteriorated crankcase emission levels of NO_X, HC, PM, and CO as specified in § 1036.240(e).

* * * * *

(o) * * *

(2) Identify the value of $e_{CO2FTPFCL}$ from § 1036.235(b). Show emission figures before and after applying deterioration factors for each engine. In addition to the composite results, show individual measurements for cold-start testing and hot-start testing over the transient test cycle.

* * * * *

(t) State whether your certification is limited for certain engines. For example, you might certify engines only for use in emergency vehicles or in vehicles with hybrid powertrains. If this is the case, describe how you will prevent use of these engines in vehicles for which they are not certified.

* * * * *

■ 82. Amend § 1036.230 by revising paragraphs (f) introductory text, and (f)(1) and (5) to read as follows:

§ 1036.230 Selecting engine families.

* * * * *

(f) The following additional provisions apply with respect to demonstrating compliance with the fuel consumption standards of 49 CFR 535.5:

(1) Use the same engine families you use for criteria pollutants. You may subdivide an engine family into subfamilies that have a different FCL for CO_2 emissions. These subfamilies do not apply for demonstrating compliance with criteria standards in § 1036.104.

* * * * *

(5) Except as described in this paragraph (f), engine configurations within an engine family must use equivalent controls. Unless we approve it, you may not produce nontested configurations without the same control hardware included on the tested configuration.

* * * * *

■ 83. Add § 1036.231 to subpart C to read as follows:

§ 1036.231 Powertrain families.

(a) If you choose to perform powertrain testing as specified in § 1036.545, use good engineering judgment to divide your product line into powertrain families that are expected to have similar criteria emissions throughout the useful life as described in this section. Your powertrain family is limited to a single model year.

(b) Except as specified in paragraph (c) of this section, group powertrains in the same powertrain family if they share all the following attributes:

(1) Have the same engine design aspects as specified in § 1036.230.

(2) [Reserved]

(3) Number of clutches.

(4) Type of clutch (*e.g.,* wet or dry).

(5) Presence and location of a fluid coupling such as a torque converter.

(6) Gear configuration, as follows:

(i) Planetary (*e.g.,* simple, compound, meshed-planet, stepped-planet, multi-stage).

(ii) Countershaft (*e.g.,* single, double, triple).

(iii) Continuously variable (*e.g.,* pulley, magnetic, toroidal).

(7) Number of available forward gears, and transmission gear ratio for each available forward gear, if applicable. Count forward gears as being available only if the vehicle has the hardware and software to allow operation in those gears.

(8) Transmission oil sump configuration (*e.g.,* conventional or dry).

(9) The power transfer configuration of any hybrid technology (*e.g.,* series or parallel).

(10) The type of any RESS (*e.g.,* hydraulic accumulator, Lithium-ion battery pack, ultracapacitor bank).

(c) For powertrains that share all the attributes described in paragraph (b) of this section, divide them further into separate powertrain families based on common calibration attributes. Group powertrains in the same powertrain family to the extent that powertrain test results and corresponding emission levels are expected to be similar throughout the useful life.

(d) You may subdivide a group of powertrains with shared attributes under paragraph (b) of this section into different powertrain families.

(e) In unusual circumstances, you may group powertrains into the same powertrain family even if they do not have shared attributes under in paragraph (b) of this section if you show that their emission characteristics throughout the useful life will be similar.

(f) If you include the axle when performing powertrain testing for the family, you must limit the family to include only those axles represented by the test results. You may include multiple axle ratios in the family if you test with the axle expected to produce the highest emission results.

■ 84. Amend § 1036.235 by revising the introductory text and paragraphs (a), (b), and (c)(5) introductory text to read as follows:

§ 1036.235 Testing requirements for certification.

This section describes the emission testing you must perform to show compliance with the emission standards in § 1036.104 or fuel consumption standards under 49 CFR part 535.

(a) Select and configure one or two emission-data engines from each engine family as follows:

(1) You may use one engine for criteria pollutant testing and a different engine for fuel consumption testing, or you may use the same engine for all testing.

(2) For criteria pollutant emission testing, select the engine configuration with the highest volume of fuel injected per cylinder per combustion cycle at the point of maximum torque—unless good engineering judgment indicates that a different engine configuration is more likely to exceed (or have emissions nearer to) an applicable emission standard or FEL. If two or more engines have the same fueling rate at maximum torque, select the one with the highest fueling rate at rated speed. In making this selection, consider all factors expected to affect emission-control performance and compliance with the

standards, including emission levels of all exhaust constituents, especially NO_X and PM. To the extent we allow it for establishing deterioration factors, select for testing those engine components or subsystems whose deterioration best represents the deterioration of in-use engines.

(3) For fuel consumption testing, the standards of this part apply only with respect to emissions measured from the tested configuration and other configurations identified in § 1036.205(l)(2). Note that configurations identified in § 1036.205(l)(2) are considered to be ''tested configurations'' whether or not you test them for certification. However, you must apply the same (or equivalent) emission controls to all other engine configurations in the engine family. In other contexts, the tested configuration is sometimes referred to as the ''parent configuration'', although the terms are not synonymous.

(4) In the case of powertrain testing under § 1036.545, select a test engine, test hybrid components, test axle and test transmission as applicable, by considering the whole range of vehicle models covered by the powertrain family. If the powertrain has more than one transmission calibration, for example economy vs. performance, you may weight the results from the powertrain testing in § 1036.545 by the percentage of vehicles in the family by prior model year for each configuration. This can be done, for example, through the use of survey data or based on the previous model year's sales volume. Weight the results of $M_{\text{fuel[cycle],}}$ $_{\text{fnpowertrain}}/v_{\text{powertrain,}}$ and $W_{\text{[cycle]}}$ from table 5 to paragraph (o)(8)(i) of § 1036.545 according to the percentage of vehicles in the family that use each transmission calibration.

(b) Test your emission-data engines using the procedures and equipment specified in subpart F of this part. In the case of dual-fuel and flexible-fuel engines, measure emissions when operating with each type of fuel for which you intend to certify the engine.

(1) For criteria pollutant emission testing, measure NO_X, PM, CO, and NMHC emissions using each duty cycle specified in § 1036.104. Note that off-cycle testing depends on determining the value of $e_{\text{CO2FTPFCL}}$ from § 1036.530.

(2) For fuel consumption testing, measure CO_2 emissions; the following provisions apply regarding test cycles for demonstrating compliance with tractor and vocational fuel consumption standards:

(i) For tractors, you must measure CO_2 emissions using the SET duty cycle specified in § 1036.510, taking into account the interim provisions in § 1036.150(s).

(ii) For vocational applications, you must measure CO_2 emissions using the appropriate FTP transient duty cycle, including cold-start and hot-start testing as specified in § 1036.512.

(iii) For engine families that include both tractor and vocational use, you may submit CO_2 emission data and specify FCLs for both SET and FTP transient duty cycles.

(iv) Some of your engines tested for use in tractors may also be used in vocational vehicles, and some of your engines tested for use in vocational may be used in tractors. However, you may not knowingly circumvent the intent of this part by testing engines designed for tractors or vocational vehicles (and rarely used in the other application) to the wrong cycle.

(c) * * *

(5) For fuel consumption testing, we may use our emission test results for steady-state, idle, cycle-average and powertrain fuel maps defined in § 1036.505(b) as the official emission results. We will not replace individual points from your fuel map.

* * * * *

§ 1036.241 [Removed]

■ 85. Remove § 1036.241.

■ 86. Amend § 1036.301 by revising the section heading to read as follows:

§ 1036.301 Selective enforcement audits.

* * * * *

■ 87. Amend § 1036.501 by revising paragraph (a) to read as follows:

§ 1036.501 General testing provisions.

(a) Use the equipment and procedures specified in this subpart and 40 CFR part 1065 to determine whether engines meet the emission standards in § 1036.104 or fuel consumption standards under 49 CFR part 535.

* * * * *

■ 88. Add § 1036.503 to subpart F to read as follows:

§ 1036.503 Engine data and information to support vehicle certification for NHTSA.

See § 1036.505 for engine data and information required to support vehicle certification.

■ 89. Amend § 1036.505 by revising the introductory text and paragraph (a) to read as follows:

§ 1036.505 Engine data and information to support vehicle certification.

You must give vehicle manufacturers information as follows so they can certify their vehicles to fuel consumption standards under 49 CFR part 535:

(a) Identify engine make, model, fuel type, combustion type, engine family name, calibration identification, and engine displacement. Also identify whether the engines will be used in tractors, vocational vehicles, or both. When certifying vehicles with GEM, for any fuel type not identified in table 1 to paragraph (b)(4) of § 1036.550, identify the fuel type as diesel fuel for engines subject to compression-ignition standards, and as gasoline for engines subject to spark-ignition standards.

* * * * *

■ 90. Amend § 1036.510 by revising paragraphs (b)(2) introductory text and (b)(2)(vii) and (viii) to read as follows:

§ 1036.510 Supplemental Emission Test.

* * * * *

(b) * * *

(2) Test hybrid powertrains as described in § 1036.545, except as specified in this paragraph (b)(2). Do not compensate the duty cycle for the distance driven as described in § 1036.545(g)(4). For hybrid engines, select the transmission model parameters as described in § 1036.510(b)(2)(viii), . Disregard duty cycles in § 1036.545(j). For cycles that begin with idle, leave the transmission in neutral or park for the full initial idle segment. Place the transmission into drive no earlier than 5 seconds before the first nonzero vehicle speed setpoint. For SET testing only, place the transmission into park or neutral when the cycle reaches the final idle segment. Use the following vehicle parameters instead of those in § 1036.545 to define the vehicle model in § 1036.545(a)(3):

* * * * *

(vii) Select a combination of drive axle ratio, k_a, and a tire radius, *r,* that represents the worst-case combination of top gear ratio, drive axle ratio, and tire size for CO_2 emissions expected for vehicles in which the hybrid engine or hybrid powertrain will be installed. This is typically the highest axle ratio and smallest tire radius. Disregard configurations or settings corresponding to a maximum vehicle speed below 60 mi/hr in selecting a drive axle ratio and tire radius, unless you can demonstrate that in-use vehicles will not exceed that speed. You may request preliminary approval for selected drive axle ratio and tire radius consistent with the provisions of § 1036.210. If the hybrid engine or hybrid powertrain is used exclusively in vehicles not capable of reaching 60 mi/hr, you may request that we approve an alternate test cycle and cycle-validation criteria as described in 40 CFR 1066.425(b)(5). Note that hybrid engines rely on a specified transmission

that is different for each duty cycle; the transmission's top gear ratio therefore depends on the duty cycle, which will in turn change the selection of the drive axle ratio and tire size. For example, § 1036.520 prescribes a different top gear ratio than this paragraph (b)(2).

(viii) If you are certifying a hybrid engine, use a default transmission efficiency of 0.95 and create the vehicle model along with its default transmission shift strategy as described in § 1036.545(a)(3)(ii). Specify the transmission type as Automatic Transmission for all engines and for all duty cycles, except that the transmission type is Automated Manual Transmission for Heavy HDE operating over the SET duty cycle. For automatic transmissions set neutral idle to ''Y'' in the vehicle file. Select gear ratios for each gear as shown in the following table:

TABLE 1 TO PARAGRAPH (b)(2)(viii) OF § 1036.510—GEM HIL INPUT FOR GEAR RATIO

Gear No.	Spark-ignition HDE, Light HDE, and Medium HDE—all duty cycles	Heavy HDE—LLC and FTP duty cycles	Heavy HDE—SET duty cycle
1	3.10	3.51	12.8
2	1.81	1.91	9.25
3	1.41	1.43	6.76
4	1.00	1.00	4.90
5	0.71	0.74	3.58
6	0.61	0.64	2.61
7	.....	.....	1.89
8	.....	.....	1.38
9	.....	.....	1.00
10	.....	.....	0.73
Lockup Gear	3	3	.....

* * * * *

■ 91. Amend § 1036.512 by revising paragraphs (b)(2)(iv) and (e) to read as follows:

§ 1036.512 Federal Test Procedure.

* * * * *

(b) * * *

(2) * * *

(iv) For plug-in hybrid powertrains, test over the FTP in both charge-sustaining and charge-depleting operation for criteria pollutant determination.

* * * * *

(e) Determine CO_2 emissions for plug-in hybrid engines and powertrains using the emissions results for all the transient duty cycle test intervals described in either paragraph (b) or (c) of appendix B to this part for both charge-depleting and charge-sustaining operation from paragraph (d)(2) of this section. Calculate the utility factor weighted composite mass of emissions from the charge-depleting and charge-sustaining test results, $e_{UF[emission]comp}$, as described in § 1036.510(e), replacing occurrences of ''SET'' with ''transient test interval''. Note this results in composite FTP CO_2 emission results for plug-in hybrid engines and powertrains without the use of the cold-start and hot-start test interval weighting factors in Eq. 1036.512–1.

* * * * *

■ 92. Amend § 1036.514 by revising paragraph (b)(4) to read as follows:

§ 1036.514 Low Load Cycle.

* * * * *

(b) * * *

(4) Adjust procedures in this section as described in § 1036.510(d) for plug-in hybrid powertrains, replacing ''SET'' with ''LLC''. Note that the LLC is therefore the preconditioning duty cycle for plug-in hybrid powertrains.

* * * * *

■ 93. Amend § 1036.520 by revising paragraph (b)(1) to read as follows:

§ 1036.520 Determining power and vehicle speed values for powertrain testing.

* * * * *

(b) * * *

(1) Use vehicle parameters, other than power, as specified in § 1036.510(b)(2). Use the applicable automatic transmission as specified in § 1036.510(b)(2)(viii).

* * * * *

■ 94. Amend § 1036.535 by:

■ a. Revising the introductory text; and

■ b. Removing and reserving paragraph (f).

The revision reads as follows:

§ 1036.535 Determining steady-state engine fuel maps and fuel consumption at idle.

The procedures in this section describe how to determine an engine's steady-state fuel map and fuel consumption at idle for model year 2021 and later vehicles; these procedures apply as described in § 1036.505. Vehicle manufacturers may need these values to demonstrate compliance with standards under 49 CFR part 535.

* * * * *

■ 95. Amend § 1036.540 by:

■ a. Revising paragraph (a) introductory text; and

■ b. Removing and reserving paragraph (b)(1).

The revision reads as follows:

§ 1036.540 Determining cycle-average engine fuel maps.

(a) *Overview.* This section describes how to determine an engine's cycle-average fuel maps for model year 2021 and later vehicles. Vehicle manufacturers may need cycle-average fuel maps for transient duty cycles, highway cruise cycles, or both to demonstrate compliance with standards under 49 CFR part 535. Generate cycle-average engine fuel maps as follows:

* * * * *

■ 96. Amend § 1036.545 by:

■ a. Revising the introductory text;

■ b. Removing and reserving paragraph (a)(1);

■ c. Revising paragraph (d); and

■ d. Removing paragraph (p).

The revisions read as follows:

§ 1036.545 Powertrain testing.

This section describes the procedure to measure fuel consumption and create engine fuel maps by testing a powertrain that includes an engine coupled with a transmission, drive axle, and hybrid components or any assembly with one or more of those hardware elements. Engine fuel maps are part of demonstrating compliance with standards under 49 CFR part 535; the powertrain test procedure in this section is one option for generating this fuel-mapping information as described in § 1036.505. Additionally, this powertrain test procedure is one option

for certifying hybrid powertrains to the engine standards in § 1036.104.

* * * * *

(d) *Powertrain break in.* Break in the powertrain as a complete system using the engine break-in procedure in 40 CFR 1065.405(c), or take the following steps to break in the engine, axle assembly, and transmission separately, as applicable:

(1) Break in the engine according to 40 CFR 1065.405(c).

(2) Break in the axle assembly using good engineering judgment. Maintain gear oil temperature at or below 100 °C throughout the break-in period.

(3) Break in the transmission using good engineering judgment. Maintain transmission oil temperature at (87 to 93) °C for automatic transmissions and transmissions having more than two friction clutches, and at (77 to 83) °C for all other transmissions. You may ask us to approve a different range of transmission oil temperatures if you have data showing that it better represents in-use operation.

* * * * *

■ 97. Amend § 1036.550 by revising the section heading and introductory text to read as follows:

§ 1036.550 Calculating CO_2 emission rates.

This section describes how to calculate official emission results for CO_2.

* * * * *

■ 98. Amend § 1036.580 by revising the introductory text and paragraph (c) to read as follows:

§ 1036.580 Infrequently regenerating aftertreatment devices.

For engines using aftertreatment technology with infrequent regeneration events that may occur during testing, take one of the following approaches to account for the emission impact of regeneration:

* * * * *

(c) You may choose to make no adjustments to measured emission results if you determine that regeneration does not significantly affect emission levels for an engine family (or configuration) or if it is not practical to identify when regeneration occurs. You may omit adjustment factors under this paragraph (c) for individual pollutants under this paragraph (c) as appropriate. If you choose not to make adjustments under paragraph (a) or (b) of this section, your engines must meet emission standards for all testing, without regard to regeneration.

* * * * *

■ 99. Amend § 1036.605 by revising paragraphs (b) and (g) to read as follows:

§ 1036.605 Alternate emission standards for engines used in specialty vehicles.

* * * * *

(b) Compression-ignition engines must be of a configuration that is identical to one that is certified under 40 CFR part 1039, and must be certified with a family emission limit for PM of 0.020 g/kW-hr using the same duty cycles that apply under 40 CFR part 1039.

* * * * *

(g) Engines certified under this section may not generate or use emission credits under this part or under 40 CFR part 1039.

■ 100. Amend § 1036.610 by revising the section heading to read as follows:

§ 1036.610 Off-cycle technology credits.

* * * * *

■ 101. Amend § 1036.620 by:

■ a. Revising the section h·eading, introductory text, and paragraph (a); and

■ b. Removing and reserving paragraphs (d) and (e).

The revisions read as follows:

§ 1036.620 Alternate standards based on model year 2011 compression-ignition engines.

For model years 2014 through 2016, you may certify your compression-ignition engines to alternate fuel consumption standards as described in this section. However, you may not certify engines to these alternate standards if they are part of an averaging set in which you carry a balance of banked credits. For purposes of this section, you are deemed to carry credits in an averaging set if you carry credits from advanced technology that are allowed to be used in that averaging set.

(a) The standards of this section are determined from the measured emission rate of the engine of the applicable baseline 2011 engine family or families as described in paragraphs (b) and (c) of this section. Calculate the CO_2 emission rate of the baseline engine using the same equations used for showing compliance with the otherwise applicable fuel consumption standard. The alternate emission rate for light and medium heavy-duty vocational-certified engines (using the transient cycle) is equal to the baseline emission rate multiplied by 0.975. The alternate emission rate for tractor-certified engines (using the SET duty cycle) and all other Heavy HDE is equal to the baseline emission rate multiplied by 0.970. The in-use FEL for these engines is equal to the alternate standard multiplied by 1.03.

* * * * *

§ 1036.625 [Removed]

■ 102. Remove § 1036.625.

■ 103. Revise and republish § 1036.630 to read as follows:

§ 1036.630 Measurement of CO_2 emissions for powertrain testing.

For engines included in powertrain families under § 1036.231, you may choose to include the corresponding engine emissions in your engine families under this part instead of (or in addition to) the otherwise applicable engine fuel maps.

(a) If you choose to certify powertrain fuel maps in an engine family for fuel consumption standards, the declared values for powertrain testing become the standards that apply for selective enforcement audits and in-use testing. We may require that you provide to us the engine cycle (not normalized) corresponding to a given powertrain for each of the specified duty cycles.

(b) If you choose to certify only fuel map values for an engine family for fuel consumption standards and to not certify values over powertrain cycles under § 1036.545, we will not presume you are responsible for value over the powertrain cycles. However, where we determine that you are responsible in whole or in part for the emission exceedance in such cases, we may require that you participate in any recall of the affected vehicles.

(c) If you split an engine family into subfamilies based on different fuel-mapping procedures as described in § 1036.230(f)(2), the fuel-mapping procedures you identify for certifying each subfamily also apply for selective enforcement audits and in-use testing.

§ 1036.635 [Removed]

■ 104. Remove § 1036.635.

■ 105. Amend § 1036.701 by:

■ a. Revising paragraph (a); and

■ b. Removing and reserving paragraphs (h) through (j).

The revisions read as follows:

§ 1036.701 General provisions.

(a) You may average, bank, and trade (ABT) emission credits for purposes of certification as described in this subpart and in subpart B of this part to show compliance with the standards of §§ 1036.104. Participation in this program is voluntary. Note that certification to NO_X standards in § 1036.104 is based on a family emission limit (FEL) the NHTSA fuel efficiency program under 49 CFR part 535 is based on a Family Certification Level (FCL).

This part refers to ''FEL/FCL'' to simultaneously refer to FELs for NO_X and FCLs for NHTSA. Note also that subpart B of this part requires you to assign an FCL to all engine families, whether or not they participate in the ABT provisions of this subpart.

* * * * *

■ 106. Revise § 1036.705 to read as follows:

§ 1036.705 Generating and calculating emission credits.

(a) The provisions of this section apply for calculating NO_X emission credits.

(b) For each participating family, calculate positive or negative emission credits relative to the otherwise applicable emission standard. Calculate positive emission credits for a family that has an FEL below the standard. Calculate negative emission credits for a family that has an FEL above the standard. Sum your positive and negative credits for the model year before rounding. Calculate emission credits to the nearest megagram (Mg) for each family using the following equation:

$$Emission\ credits\ (\text{Mg}) = (Std - FL) \cdot CF \cdot Volume \cdot UL \cdot c \quad \text{Eq. 1036.705–1}$$

Where:

Std = the emission standard, in (mg NO_X)/hp·hr that applies under subpart B of this part for engines not participating in the ABT program of this subpart (the ''otherwise applicable standard'').

FL = the engine family's FEL, in mg/hp·hr, rounded to the same number of decimal places as the emission standard.

CF = a transient cycle conversion factor (hp·hr/mile), calculated by dividing the total (integrated) horsepower-hour over the applicable duty cycle by 6.3 miles for engines subject to spark-ignition standards and 6.5 miles for engines subject to compression-ignition standards. This represents the average work performed over the duty cycle.

Volume = the number of engines eligible to participate in the averaging, banking, and trading program within the given engine family during the model year, as described in paragraph (c) of this section.

UL = the useful life for the standard that applies for a given primary intended service class, in miles.

$c = 10^{-9}$.

Example for model year 2028 Heavy HDE generating NO_X credits:

Std = 35 mg/hp·hr
FEL = 20 mg/hp·hr
CF = 9.78 hp·hr/mile
Volume = 15,342
UL = 650,000 miles
$c = 10^{-9}$
$Emission\ credits = (35 - 20) \cdot 9.78 \cdot 15{,}342 \cdot 650{,}000 \cdot 10^{-9}$
Emission credits = 1,463 Mg

(c) Compliance with the requirements of this subpart is determined at the end of the model year by calculating emission credits based on actual production volumes, excluding the following engines:

(1) Engines that you do not certify to the standards of this part because they are permanently exempted under subpart G of this part or under 40 CFR part 1068.

(2) Exported engines.

(3) Engines not subject to the requirements of this part, such as those excluded under § 1036.5.

(4) Engines certified to state emission standards that are different than the emission standards referenced in this section, and intended for sale in a state that has adopted those emission standards.

(5) Any other engines if we indicate elsewhere in this part that they are not to be included in the calculations of this subpart.

■ 107. Amend § 1036.710 by revising paragraph (b) to read as follows:

§ 1036.710 Averaging.

* * * * *

(b) You may certify one or more engine families to an FEL/FCL above the applicable standard, subject to any applicable FEL caps and other the provisions in subpart B of this part, if you show in your application for certification that your projected balance of all emission-credit transactions in that model year is greater than or equal to zero, or that a negative balance is allowed under § 1036.745 for NHTSA's fuel efficiency program.

* * * * *

■ 108. Amend § 1036.720 by revising paragraph (c) to read as follows:

§ 1036.720 Trading.

* * * * *

(c) If a negative emission credit balance results from a transaction, both the buyer and seller are liable, except in cases we deem to involve fraud. See § 1036.255(e) for cases involving fraud. We may void the certificates of all engine families participating in a trade that results in a manufacturer having a negative balance of emission credits. See § 1036.745 for NHTSA's fuel efficiency program.

■ 109. Amend § 1036.725 by revising paragraph (b)(1) to read as follows:

§ 1036.725 Required information for certification.

* * * * *

(b) * * *

(1) A statement that, to the best of your belief, you will not have a negative balance of emission credits for any averaging set when all emission credits are calculated at the end of the year. For NHTSA's fuel efficiency program, you may include a statement that you will have a negative balance of emission credits for one or more averaging sets, but that it is allowed under § 1036.745.

* * * * *

■ 110. Amend § 1036.730 by revising paragraphs (c)(1) and (f)(1) to read as follows:

§ 1036.730 ABT reports.

* * * * *

(c) * * *

(1) Show that your net balance of emission credits from all your participating engine families in each averaging set in the applicable model year is not negative, except as allowed under § 1036.745 for NHTSA's fuel efficiency program. Your credit tracking must account for the limitation on credit life under § 1036.740(d).

* * * * *

(f) * * *

(1) If you notify us by the deadline for submitting the final report that errors mistakenly decreased your balance of emission credits, you may correct the errors and recalculate the balance of emission credits.

* * * * *

■ 111. Amend § 1036.740 by:
■ a. Removing and reserving paragraphs (b) and (c); and
■ b. Revising paragraph (d).

The revision reads as follows:

§ 1036.740 Restrictions for using emission credits.

* * * * *

(d) *Credit life.* NO_X credits may be used only for five model years after the year in which they are generated. For example, credits you generate in model year 2027 may be used to demonstrate compliance with emission standards only through model year 2032.

* * * * *

■ 112. Revise § 1036.745 to read as follows:

§ 1036.745 End-of-year credit deficits.

See 49 CFR 535.7 for provisions related to credit deficits for NHTSA's fuel consumption credits.

■ 113. Amend § 1036.750 by revising paragraph (b) to read as follows:

§ 1036.750 Consequences for noncompliance.

* * * * *

(b) You may certify your engine family to an FEL above an applicable standard based on a projection that you will have enough emission credits to offset the deficit for the engine family.

* * * * *

■ 114. Revise § 1036.755 to read as follows:

§ 1036.755 Information provided to the Department of Transportation.

After receipt of each manufacturer's final report as specified in § 1036.730 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 engine 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.

■ 115. Revise and republish § 1036.801 to read as follows:

§ 1036.801 Definitions.

The following definitions apply to this part. The definitions apply to all subparts unless we note otherwise. All undefined terms have the meaning the Act gives to them. The definitions follow:

Act means the Clean Air Act, as amended, 42 U.S.C. 7401–7671q.

Adjustable parameter has the meaning given in 40 CFR 1068.50.

Advanced technology means technology certified under 40 CFR 86.1819–14(k)(7), § 1036.615, or 40 CFR 1037.615.

Aftertreatment means relating to a catalytic converter, particulate filter, or any other system, component, or technology mounted downstream of the exhaust valve (or exhaust port) whose design function is to decrease emissions in the engine exhaust before it is exhausted to the environment. Exhaust gas recirculation (EGR) and turbochargers are not aftertreatment.

Aircraft means any vehicle capable of sustained air travel more than 100 feet above the ground.

Alcohol-fueled engine means an engine that is designed to run using an alcohol fuel. For purposes of this definition, alcohol fuels do not include fuels with a nominal alcohol content below 25 percent by volume.

Automated manual transmission (AMT) means a transmission that operates mechanically similar to a manual transmission, except that an automated clutch actuator controlled by the onboard computer disengages and engages the drivetrain instead of a human driver. An automated manual transmission does not include a torque converter or a clutch pedal controllable by the driver.

Automatic transmission (AT) means a transmission with a torque converter (or equivalent) that uses computerize or other internal controls to shift gears in response to a single driver input for controlling vehicle speed. Note that automatic manual transmissions are not automatic transmissions because they do not include torque converters.

Auxiliary emission control device means any element of design that senses temperature, motive speed, engine speed (r/min), transmission gear, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.

Averaging set has the meaning given in § 1036.740.

Axle ratio or Drive axle ratio (k_a) means the dimensionless number representing the angular speed of the transmission output shaft divided by the angular speed of the drive axle.

Calibration means the set of specifications and tolerances specific to a particular design, version, or application of a component or assembly capable of functionally describing its operation over its working range.

Carbon-containing fuel has the meaning given in 40 CFR 1065.1001.

Carryover means relating to certification based on emission data generated from an earlier model year as described in § 1036.235(d).

Certification means relating to the process of obtaining a certificate of conformity for an engine family that complies with the emission standards and requirements in this part.

Certified emission level means the highest deteriorated emission level in an engine family for a given pollutant from the applicable transient or steady-state testing, rounded to the same number of decimal places as the applicable standard.

Charge-depleting has the meaning given in 40 CFR 1066.1001.

Charge-sustaining has the meaning given in 40 CFR 1066.1001.

Complete vehicle means a vehicle meeting the definition of complete vehicle in 40 CFR 1037.801 when it is first sold as a vehicle. For example, where a vehicle manufacturer sells an incomplete vehicle to a secondary vehicle manufacturer, the vehicle is not a complete vehicle under this part, even after its final assembly.

Compression-ignition means relating to a type of reciprocating, internal-combustion engine that is not a spark-ignition engine. Note that § 1036.1 also deems gas turbine engines and other engines to be compression-ignition engines.

Crankcase emissions means airborne substances emitted to the atmosphere from any part of the engine crankcase's ventilation or lubrication systems. The crankcase is the housing for the crankshaft and other related internal parts.

Critical emission-related component has the meaning given in 40 CFR 1068.30.

Defeat device has the meaning given in § 1036.115(h).

Designated Compliance Officer means one of the following:

(1) For engines subject to compression-ignition standards, *Designated Compliance Officer* means Director, Diesel Engine Compliance Center, U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; *complianceinfo@epa.gov; www.epa.gov/ve-certification.*

(2) For engines subject to spark-ignition standards, *Designated Compliance Officer* means Director, Gasoline Engine Compliance Center, U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; *complianceinfo@epa.gov; www.epa.gov/ve-certification.*

Deteriorated emission level means the emission level that results from applying the appropriate deterioration factor to the official emission result of the emission-data engine. Note that where no deterioration factor applies, references in this part to the *deteriorated emission level* mean the official emission result.

Deterioration factor means the relationship between emissions at the end of useful life (or point of highest emissions if it occurs before the end of useful life) and emissions at the low-hour/low-mileage point, expressed in one of the following ways:

(1) For multiplicative deterioration factors, the ratio of emissions at the end of useful life (or point of highest emissions) to emissions at the low-hour point.

(2) For additive deterioration factors, the difference between emissions at the end of useful life (or point of highest emissions) and emissions at the low-hour point.

Diesel exhaust fluid (DEF) means a liquid reducing agent (other than the engine fuel) used in conjunction with selective catalytic reduction to reduce NO_X emissions. *Diesel exhaust fluid* is generally understood to be an aqueous solution of urea conforming to the specifications of ISO 22241.

Drive idle means idle operation during which the vehicle operator

remains in the vehicle cab, as evidenced by engaging the brake or clutch pedals, or by other indicators we approve.

Dual-fuel means relating to an engine designed for operation on two different types of fuel but not on a continuous mixture of those fuels (see § 1036.601(d)). For purposes of this part, such an engine remains a dual-fuel engine even if it is designed for operation on three or more different fuels.

Electronic control module (ECM) means an engine's electronic device that uses data from engine sensors to control engine parameters.

Emergency vehicle means a vehicle that meets one of the following criteria:

(1) It is an ambulance or a fire truck.

(2) It is a vehicle that we have determined will likely be used in emergency situations where emission control function or malfunction may cause a significant risk to human life. For example, we would consider a truck that is certain to be retrofitted with a slip-on firefighting module to become an emergency vehicle, even though it was not initially designed to be a fire truck. Also, a mobile command center that is unable to manually regenerate its DPF while on duty could be an emergency vehicle. In making this determination, we may consider any factor that has an effect on the totality of the actual risk to human life. For example, we may consider how frequently a vehicle will be used in emergency situations or how likely it is that the emission controls will cause a significant risk to human life when the vehicle is used in emergency situations. We would not consider the truck in the example above to be an emergency vehicle if there is merely a possibility (rather than a certainty) that it will be retrofitted with a slip-on firefighting module.

Emission control system means any device, system, or element of design that controls or reduces the emissions of regulated pollutants from an engine.

Emission-data engine means an engine that is tested for certification. This includes engines tested to establish deterioration factors.

Emission-related component has the meaning given in 40 CFR part 1068, appendix A.

Emission-related maintenance means maintenance that substantially affects emissions or is likely to substantially affect emission deterioration.

Engine configuration means a unique combination of engine hardware and calibration (related to the emission standards) within an engine family, which would include hybrid components for engines certified as hybrid engines and hybrid powertrains. Engines within a single engine configuration differ only with respect to normal production variability or factors unrelated to compliance with emission standards.

Engine family has the meaning given in § 1036.230.

Excluded means relating to engines that are not subject to some or all of the requirements of this part as follows:

(1) An engine that has been determined not to be a heavy-duty engine is excluded from this part.

(2) Certain heavy-duty engines are excluded from the requirements of this part under § 1036.5.

(3) Specific regulatory provisions of this part may exclude a heavy-duty engine generally subject to this part from one or more specific standards or requirements of this part.

Exempted has the meaning given in 40 CFR 1068.30.

Exhaust gas recirculation means a technology that reduces emissions by routing exhaust gases that had been exhausted from the combustion chamber(s) back into the engine to be mixed with incoming air before or during combustion. The use of valve timing to increase the amount of residual exhaust gas in the combustion chamber(s) that is mixed with incoming air before or during combustion is not considered exhaust gas recirculation for the purposes of this part.

Family certification level (FCL) means a CO_2 emission level declared by the manufacturer that is at or above emission results for all emission-data engines.

Family emission limit (FEL) means one of the following:

(1) For NO_X emissions, *family emission limit* means a NO_X emission level declared by the manufacturer to serve in place of an otherwise applicable emission standard under the ABT program in subpart H of this part. The FEL serves as the emission standard for the engine family with respect to all required testing.

(2) For NHTSA's fuel efficiency program under 49 CFR part 535, *family emission limit* means a fuel consumption level that serves as the standard that applies for testing individual certified engines. The CO_2 FEL is equal to the CO_2 FCL multiplied by 1.03 and rounded to the same number of decimal places as the standard.

Federal Test Procedure (FTP) means the applicable transient duty cycle described in § 1036.512 designed to measure exhaust emissions during urban driving.

Final drive ratio (k_d) means the dimensionless number representing the angular speed of the transmission input shaft divided by the angular speed of the drive axle when the vehicle is operating in its highest available gear. The *final drive ratio* is the transmission gear ratio (in the highest available gear) multiplied by the drive axle ratio.

Flexible-fuel means relating to an engine designed for operation on any mixture of two or more different types of fuels (see § 1036.601(d)).

Fuel type means a general category of fuels such as diesel fuel, gasoline, or natural gas. There can be multiple grades within a single fuel type, such as premium gasoline, regular gasoline, or gasoline with 10 percent ethanol.

Gear ratio or Transmission gear ratio (k_g) means the dimensionless number representing the angular speed of the transmission's input shaft divided by the angular speed of the transmission's output shaft when the transmission is operating in a specific gear.

Good engineering judgment has the meaning given in 40 CFR 1068.30. See 40 CFR 1068.5 for the administrative process we use to evaluate good engineering judgment.

Greenhouse gas Emissions Model (GEM) means the GEM simulation tool described in 40 CFR 1037.520. Note that an updated version of GEM applies starting in model year 2021.

Gross vehicle weight rating (GVWR) means the value specified by the vehicle manufacturer as the maximum design loaded weight of a single vehicle, consistent with good engineering judgment.

Heavy-duty engine means any engine which the engine manufacturer could reasonably expect to be used for motive power in a heavy-duty vehicle. For purposes of this definition in this part, the term ''engine'' includes internal combustion engines and other devices that convert chemical fuel into motive power. For example, a gas turbine used in a heavy-duty vehicle is a heavy-duty engine.

Heavy-duty vehicle means any motor vehicle above 8,500 pounds GVWR. An incomplete vehicle is also a heavy-duty vehicle if it has a curb weight above 6,000 pounds or a basic vehicle frontal area greater than 45 square feet. *Curb weight* and *basic vehicle frontal area* have the meaning given in 40 CFR 86.1803–01.

Hybrid means relating to an engine or powertrain that includes a Rechargeable Energy Storage System. Hybrid engines store and recover energy in a way that is integral to the engine or otherwise upstream of the vehicle's transmission. Examples of hybrid engines include

engines with hybrid components connected to the front end of the engine (P0), connected to the crankshaft before the clutch (P1), or connected between the clutch and the transmission where the clutch upstream of the hybrid feature is in addition to the transmission clutch or clutches (P2). Engine-based systems that recover kinetic energy to power an electric heater in the aftertreatment are themselves not sufficient to qualify as a hybrid engine. The provisions in this part that apply for hybrid powertrains apply equally for hybrid engines, except as specified. Note that certain provisions in this part treat hybrid powertrains intended for vehicles that include regenerative braking different than those intended for vehicles that do not include regenerative braking. The definition of hybrid includes plug-in hybrid electric powertrains.

Hydrocarbon (HC) has the meaning given in 40 CFR 1065.1001.

Identification number means a unique specification (for example, a model number/serial number combination) that allows someone to distinguish a particular engine from other similar engines.

Incomplete vehicle means a vehicle meeting the definition of incomplete vehicle in 40 CFR 1037.801 when it is first sold (or otherwise delivered to another entity) as a vehicle.

Innovative technology means technology certified under § 1036.610 (also described as ''off-cycle technology'').

Liquefied petroleum gas (LPG) means a liquid hydrocarbon fuel that is stored under pressure and is composed primarily of nonmethane compounds that are gases at atmospheric conditions. Note that, although this commercial term includes the word ''petroleum'', LPG is not considered to be a petroleum fuel under the definitions of this section.

Low-hour means relating to an engine that has stabilized emissions and represents the undeteriorated emission level. This would generally involve less than 300 hours of operation for engines with NO_X aftertreatment and 125 hours of operation for other engines.

Manual transmission (MT) means a transmission that requires the driver to shift the gears and manually engage and disengage the clutch.

Manufacture means the physical and engineering process of designing, constructing, and/or assembling a heavy-duty engine or a heavy-duty vehicle.

Manufacturer has the meaning given in 40 CFR 1068.30.

Medium-duty passenger vehicle has the meaning given in 40 CFR 86.1803.

Model year means the manufacturer's annual new model production period, except as restricted under this definition. It must include January 1 of the calendar year for which the model year is named, may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year. Manufacturers may not adjust model years to circumvent or delay compliance with emission standards or to avoid the obligation to certify annually.

Motorcoach means a heavy-duty vehicle designed for carrying 30 or more passengers over long distances. Such vehicles are characterized by row seating, rest rooms, and large luggage compartments, and facilities for stowing carry-on luggage.

Motor vehicle has the meaning given in 40 CFR 85.1703.

Natural gas means a fuel whose primary constituent is methane.

Neat has the meaning given in 40 CFR 1065.1001.

New motor vehicle engine has the meaning given in the Act. This generally means a motor vehicle engine meeting any of the following:

(1) A motor vehicle engine for which the ultimate purchaser has never received the equitable or legal title is a *new motor vehicle engine.* This kind of engine might commonly be thought of as ''brand new'' although a *new motor vehicle engine* may include previously used parts. Under this definition, the engine is new from the time it is produced until the ultimate purchaser receives the title or places it into service, whichever comes first.

(2) An imported motor vehicle engine is a *new motor vehicle engine* if it was originally built on or after January 1, 1970.

(3) Any motor vehicle engine installed in a new motor vehicle.

Noncompliant engine means an engine that was originally covered by a certificate of conformity, but is not in the certified configuration or otherwise does not comply with the conditions of the certificate.

Nonconforming engine means an engine not covered by a certificate of conformity that would otherwise be subject to emission standards.

Nonmethane hydrocarbon (NMHC) means the sum of all hydrocarbon species except methane, as measured according to 40 CFR part 1065.

Nonmethane hydrocarbon equivalent (NMHCE) has the meaning given in 40 CFR 1065.1001.

Nonmethane nonethane hydrocarbon equivalent (NMNEHC) has the meaning given in 40 CFR 1065.1001.

Off-cycle technology means technology certified under § 1036.610 (also described as ''innovative technology'').

Official emission result means the measured emission rate for an emission-data engine on a given duty cycle before the application of any deterioration factor, but after the applicability of any required regeneration or other adjustment factors.

Owners manual means a document or collection of documents prepared by the engine or vehicle manufacturer for the owner or operator to describe appropriate engine maintenance, applicable warranties, and any other information related to operating or keeping the engine. The owners manual is typically provided to the ultimate purchaser at the time of sale. The owners manual may be in paper or electronic format.

Oxides of nitrogen has the meaning given in 40 CFR 1065.1001.

Percent has the meaning given in 40 CFR 1065.1001. Note that this means percentages identified in this part are assumed to be infinitely precise without regard to the number of significant figures. For example, one percent of 1,493 is 14.93.

Placed into service means put into initial use for its intended purpose, excluding incidental use by the manufacturer or a dealer.

Preliminary approval means approval granted by an authorized EPA representative prior to submission of an application for certification, consistent with the provisions of § 1036.210.

Primary intended service class has the meaning given in § 1036.140.

Rechargeable Energy Storage System (RESS) has the meaning given in 40 CFR 1065.1001.

Relating to as used in this section means relating to something in a specific, direct manner. This expression is used in this section only to define terms as adjectives and not to broaden the meaning of the terms.

Revoke has the meaning given in 40 CFR 1068.30.

Round has the meaning given in 40 CFR 1065.1001.

Sample means the collection of engines selected from the population of an engine family for emission testing. This may include testing for certification, production-line testing, or in-use testing.

Scheduled maintenance means adjusting, removing, disassembling, cleaning, or replacing components or systems periodically to keep a part or

system from failing, malfunctioning, or wearing prematurely.

Small manufacturer means a manufacturer meeting the criteria specified in 13 CFR 121.201. The employee and revenue limits apply to the total number of employees and total revenue together for all affiliated companies (as defined in 40 CFR 1068.30). Note that manufacturers with low production volumes may or may not be ''small manufacturers''.

Spark-ignition means relating to a gasoline-fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark-ignition engines usually use a throttle to regulate intake air flow to control power during normal operation.

Stop-start means a vehicle technology that automatically turns the engine off when the vehicle is stopped.

Steady-state has the meaning given in 40 CFR 1065.1001. This includes idle testing where engine speed and load are held at a finite set of nominally constant values.

Suspend has the meaning given in 40 CFR 1068.30.

Test engine means an engine in a sample.

Tractor means a vehicle meeting the definition of ''tractor'' in 40 CFR 1037.801, but not classified as a ''vocational tractor'' under 40 CFR 1037.630, or relating to such a vehicle.

Ultimate purchaser means, with respect to any new engine or vehicle, the first person who in good faith purchases such new engine or vehicle for purposes other than resale.

United States has the meaning given in 40 CFR 1068.30.

Upcoming model year means for an engine family the model year after the one currently in production.

U.S.-directed production volume means the number of engines, subject to the requirements of this part, produced by a manufacturer for which the manufacturer has a reasonable assurance that sale was or will be made to ultimate purchasers in the United States.

Vehicle has the meaning given in 40 CFR 1037.801.

Vocational vehicle means a vehicle meeting the definition of ''vocational'' vehicle in 40 CFR 1037.801.

Void has the meaning given in 40 CFR 1068.30.

We (us, our) means the Administrator of the Environmental Protection Agency and any authorized representatives for issues related to criteria pollutant standards. In the case of testing, compliance, and approvals related to fuel consumption standards, ''we (us, our)'' includes the Administrator of the National Highway Traffic Safety Administration (NHTSA) and any authorized representatives.

§ 1036.805 [Amended]

■ 116. Amend § 1036.805 in table 1 to paragraph (a) by removing the entries for ''CH_4'' and ''N_2O''.

■ 117. Amend § 1036.815 by revising paragraph (b) to read as follows:

§ 1036.815 Confidential information.

* * * * *

(b) Emission data or information that is publicly available cannot be treated as confidential business information as described in 40 CFR 1068.11. Data that vehicle manufacturers need for demonstrating compliance with standards, including fuel-consumption data as described in §§ 1036.535 and 1036.545, also qualify as emission data for purposes of confidentiality determinations.

PART 1037—CONTROL OF EMISSIONS FROM NEW HEAVY-DUTY MOTOR VEHICLES

■ 118. The authority citation for part 1037 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 119. Amend § 1037.1 by adding paragraph (c) to read as follows:

§ 1037.1 Applicability.

* * * * *

(c) This part establishes criteria pollutant and evaporative and refueling standards as described in § 1037.101. This part does not establish standards for CO_2 or other greenhouse gas emissions, but it includes certification and testing provisions related to CO_2 emissions to support the fuel consumption standards for heavy-duty vehicles adopted by the Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) under 49 CFR part 535.

§ 1037.5 [Amended]

■ 120. Amend § 1037.5 by removing and reserving paragraphs (c) and (d).

■ 121. Amend § 1037.15 by revising paragraph (a) to read as follows:

§ 1037.15 Do any other regulation parts apply to me?

(a) Parts 1065 and 1066 of this chapter describe procedures and equipment specifications for testing engines and vehicles to measure exhaust emissions. Subpart F of this part 1037 describes how to apply the testing provisions of 40 CFR parts 1065 and 1066.

* * * * *

§ 1037.101 [Amended]

■ 122. Amend § 1037.101 by removing and reserving paragraphs (a)(2) and (b)(2).

■ 123. Amend § 1037.102 by revising the section heading and adding paragraph (c) to read as follows:

§ 1037.102 Criteria pollutant exhaust emission standards—NO_x, HC, PM, and CO.

* * * * *

(c) Starting in model year 2024, auxiliary power units installed on new tractors, including tractors that are glider vehicles or tractors with no installed propulsion engine, must be certified to the PM emission standard specified in 40 CFR 1039.699. For model years 2021 through 2023, the APU engine must be certified under 40 CFR part 1039 with a deteriorated emission level for PM at or below 0.15 g/kW-hr. Selling, offering for sale, or introducing or delivering into commerce in the United States or importing into the United States a new tractor subject to this standard is a violation of 40 CFR 1068.101(a)(1) unless the auxiliary power unit has a valid certificate of conformity and the required label showing that it meets the PM standard specified in 40 CFR 1039.699 as described in this paragraph (c).

§§ 1037.105 and 1037.106 [Removed]

■ 124. Remove §§ 1037.105 and 1037.106.

§ 1037.115 [Amended]

■ 125. Amend § 1037.115 by removing paragraphs (e) and (f).

■ 126. Revise and republish § 1037.120 to read as follows:

§ 1037.120 Emission-related warranty requirements.

(a) *General requirements.* You must warrant to the ultimate purchaser and each subsequent purchaser that each new vehicle, including all parts of its emission control system, meets two conditions:

(1) It is designed, built, and equipped so it conforms at the time of sale to the ultimate purchaser with the requirements of this part.

(2) It is free from defects in materials and workmanship that cause the vehicle to fail to conform to the requirements of this part during the applicable warranty period.

(b) *Warranty period.* (1) Your emission-related warranty must be valid for at least:

(i) 5 years or 50,000 miles for Light HDV.

(ii) 5 years or 100,000 miles for heavy-duty vehicles above 19,500 pounds GVWR.

(2) You may offer an emission-related warranty more generous than we require. The emission-related warranty for the vehicle may not be shorter than any basic mechanical warranty you provide to that owner without charge for the vehicle. Similarly, the emission-related warranty for any component may not be shorter than any warranty you provide to that owner without charge for that component. This means that your warranty for a given vehicle may not treat emission-related and nonemission-related defects differently for any component. The warranty period begins when the vehicle is placed into service.

(c) *Components covered.* The emission-related warranty covers fuel cell stacks, RESS, and other components used with battery electric vehicles and fuel cell electric vehicles. The emission-related warranty covers all components whose failure would increase a vehicle's evaporative and refueling emissions (for vehicles subject to evaporative and refueling emission standards). The emission-related warranty covers components that are part of your certified configuration even if another company produces the component.

(d) *Limited applicability.* You may deny warranty claims under this section if the operator caused the problem through improper maintenance or use, as described in 40 CFR 1068.115.

(e) *Owners manual.* Describe in the owners manual the emission-related warranty provisions from this section that apply to the vehicle.

■ 127. Revise § 1037.125 to read as follows:

§ 1037.125 Maintenance instructions and allowable maintenance.

Give the ultimate purchaser of each new vehicle written instructions for properly maintaining and using the emission control system.

§ 1037.135 [Amended]

■ 128. Amend § 1037.135 by removing and reserving paragraphs (c)(6) and (7).

■ 129. Amend § 1037.140 by revising paragraphs (g) introductory text and (g)(6) and (7) to read as follows:

§ 1037.140 Classifying vehicles and determining vehicle parameters.

* * * * *

(g) The provisions of this part relating to NHTSA's fuel efficiency program under 49 CFR part 535 apply to specific vehicle service classes as follows:

* * * * *

(6) In certain circumstances, you may certify vehicles to standards that apply for a different vehicle service class. If you optionally certify vehicles to different standards, those vehicles are subject to all the regulatory requirements as if the standards were mandatory.

(7) Custom chassis vehicles are subject to the following vehicle service classes instead of the other provisions in this section:

(i) School buses and motor homes are considered ''Medium HDV''.

(ii) All other custom-chassis are considered ''Heavy HDV''.

* * * * *

■ 130. Revise and republish § 1037.150 to read as follows:

§ 1037.150 Interim provisions.

The provisions in this section apply instead of other provisions in this part.

(a) *Incentives for early introduction.* The provisions of this paragraph (a) apply with respect to vehicles produced in model years before 2014. Manufacturers may voluntarily certify in model year 2013 (or earlier model years for electric vehicles) to the fuel consumption standards of 49 CFR part 535.

(1) This paragraph (a)(1) applies for regulatory subcategories subject to the standards of 49 CFR part 535. Except as specified in paragraph (a)(3) of this section, to generate early credits under this paragraph (a)(1) for any vehicles other than electric vehicles, you must certify your entire U.S.-directed production volume within the regulatory subcategory to the standards of 49 CFR part 535. Except as specified in paragraph (a)(4) of this section, if some vehicle families within a regulatory subcategory are certified after the start of the model year, you may generate credits only for production that occurs after all families are certified. For example, if you produce three vehicle families in an averaging set and you receive your certificates for those families on January 4, 2013, March 15, 2013, and April 24, 2013, you may not generate credits for model year 2013 production in any of the families that occurs before April 24, 2013. Calculate credits relative to the standard that would apply in model year 2014 using the equations in subpart H of this part. You may bank credits equal to the surplus credits you generate under this paragraph (a) multiplied by 1.50. For example, if you have 1.0 Mg of surplus credits for model year 2013, you may bank 1.5 Mg of credits. Credit deficits for an averaging set prior to model year 2014 do not carry over to model year 2014. These credits may be used to show compliance with the standards of this part for 2014 and later model years. We recommend that you notify us of your intent to use this paragraph (a)(1) before submitting your applications.

(2) [Reserved]

(3) You may generate credits for the number of additional SmartWay designated tractors (relative to your 2012 production), provided you do not generate credits for those vehicles under paragraph (a)(1) of this section. Calculate credits for each regulatory subcategory relative to the standard that would apply in model year 2014 using the equations in subpart H of this part. Use a production volume equal to the number of designated model year 2013 SmartWay tractors minus the number of designated model year 2012 SmartWay tractors. You may bank credits equal to the surplus credits you generate under this paragraph (a)(3) multiplied by 1.50. Your 2012 and 2013 model years must be equivalent in length.

(4) This paragraph (a)(4) applies where you do not receive your final certificate in a regulatory subcategory within 30 days of submitting your final application for that subcategory. Calculate your credits for all production that occurs 30 days or more after you submit your final application for the subcategory.

(b) *Phase 1 coastdown procedures.* For tractors subject to Phase 1 standards, the default method for measuring drag area (C_dA) is the coastdown procedure specified in 40 CFR part 1066, subpart D. This includes preparing the tractor and the standard trailer with wheels meeting specifications of § 1037.528(b) and submitting information related to your coastdown testing under § 1037.528(h).

(c) *Small manufacturers.* The following provisions apply for qualifying small manufacturers:

(1) The fuel consumption standards under 49 CFR part 535 are optional for small manufacturers producing vehicles with a date of manufacture before January 1, 2022. In addition, small manufacturers producing vehicles that run on any fuel other than gasoline, E85, or diesel fuel may delay complying with every later standard under this part by one model year.

(2) Qualifying manufacturers must notify the Designated Compliance Officer each model year before introducing excluded vehicles into U.S. commerce. This notification must include a description of the manufacturer's qualification as a small business under 13 CFR 121.201.

(3) Small manufacturers may meet Phase 1 standards instead of Phase 2 standards in the first year Phase 2 standards apply to them if they voluntarily comply with the Phase 1 standards for the full preceding year.

Specifically, small manufacturers may certify their model year 2022 vehicles to the Phase 1 fuel consumption standards under 49 CFR part 535 if they certify all the vehicles from their annual production volume included in emission credit calculations for the Phase 1 standards starting on or before January 1, 2021.

(4) See paragraphs (r), (t), (u), and (w) of this section for additional allowances for small manufacturers.

(d)–(f) [Reserved]

(g) *Compliance date.* Compliance with the standards of this part was optional prior to January 1, 2014. This means that if your 2014 model year begins before January 1, 2014, you may certify for a partial model year that begins on January 1, 2014, and ends on the day your model year would normally end.

(h) *Off-road vehicle exemption.* (1) Vocational vehicles with a date of manufacture before January 1, 2021, automatically qualify for an exemption under § 1037.631 if the tires installed on the vehicle have a maximum speed rating at or below 55 miles per hour.

(2) In unusual circumstances, vehicle manufacturers may ask us to exempt vehicles under § 1037.631 based on other criteria that are equivalent to those specified in § 1037.631(a); however, we will normally not grant relief in cases where the vehicle manufacturer has credits or can otherwise comply with applicable standards. Request approval for an exemption under this paragraph (h) before you produce the subject vehicles.

(i) *Limited carryover from Phase 1 to Phase 2.* The provisions for carryover data in § 1037.235(d) do not allow you to use aerodynamic test results from Phase 1 to support a compliance demonstration for Phase 2 certification.

(j) *Limited prohibition related to early model year engines.* The provisions of this paragraph (j) apply only for vehicles that have a date of manufacture before January 1, 2018. See § 1037.635 for related provisions that apply in later model years. The prohibition in § 1037.601 against introducing into U.S. commerce a vehicle containing an engine not certified to the standards applicable for the calendar year of installation does not apply for vehicles using model year 2014 or 2015 spark-ignition engines, or any model year 2013 or earlier engines.

(k) *Verifying drag areas from in-use tractors.* This paragraph (k) applies for tractors instead of § 1037.401(b) through model year 2020. We may measure the drag area of your vehicles after they have been placed into service. To account for measurement variability, your vehicle is deemed to conform to the regulations of this part with respect to aerodynamic performance if we measure its drag area to be at or below the maximum drag area allowed for the bin above the bin to which you certified (for example, Bin II if you certified the vehicle to Bin III), unless we determine that you knowingly produced the vehicle to have a higher drag area than is allowed for the bin to which it was certified.

(l) [Reserved]

(m) *Loose engine sales.* Manufacturers may certify certain spark-ignition engines along with chassis-certified heavy-duty vehicles where they are identical to engines used in those vehicles as described in 40 CFR 86.1819–14(k)(8). Vehicles in which those engines are installed are subject to standards under 49 CFR part 535.

(n) *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 vehicles in 2020 and 2021:

(1) If you install model year 2020 or earlier engines in your vehicles in calendar year 2020, include all those Phase 1 vehicles in your production and ABT reports related to model year 2020 compliance, although we may require you identify these separately from vehicles produced in calendar year 2019.

(2) If you install model year 2020 engines in your vehicles in calendar year 2021, submit production and ABT reports for those Phase 1 vehicles separate from the reports you submit for Phase 2 vehicles with model year 2021 engines.

(o)–(p) [Reserved]

(q) *Vehicle families for advanced and off-cycle technologies.* Apply the following provisions for grouping vehicles into families if you use off-cycle technologies under § 1037.610 or advanced technologies under § 1037.615:

(1) For Phase 1 vehicles, create separate vehicle families for vehicles that contain advanced or off-cycle technologies; group those vehicles together in a vehicle family if they use the same advanced or off-cycle technologies.

(2) For Phase 2 vehicles, create separate vehicle subfamilies for vehicles that contain advanced or off-cycle technologies; group those vehicles together in a vehicle subfamily if they use the same advanced or off-cycle technologies.

(r) *Conversion to mid-roof and high-roof configurations.* Secondary vehicle manufacturers that qualify as small manufacturers may convert low- and mid-roof tractors to mid- and high-roof configurations without recertification for the purpose of building a custom sleeper tractor or converting it to run on natural gas, as follows:

(1) The original low- or mid-roof tractor must be covered by a valid certificate of conformity.

(2) The modifications may not increase the frontal area of the tractor beyond the frontal area of the equivalent mid- or high-roof tractor with the corresponding standard trailer. Note that these dimensions have a tolerance of ±2 inches. Use good engineering judgment to achieve aerodynamic performance similar to or better than the certifying manufacturer's corresponding mid- or high-roof tractor.

(3) [Reserved]

(4) We may require that you submit annual production reports as described in § 1037.250.

(5) Modifications made under this paragraph (r) do not violate 40 CFR 1068.101(b)(1).

(s) *Confirmatory testing for $F_{alt\text{-}aero}$.* If we conduct coastdown testing to verify your $F_{\text{alt-aero}}$ value for Phase 2 and later tractors, we will make our determination using the principles of SEA testing in § 1037.305. We will not replace your $F_{\text{alt-aero}}$ value if the tractor passes. If your tractor fails, we will generate a replacement value of $F_{\text{alt-aero}}$ based on at least one C_dA value and corresponding effective yaw angle, ψ_{eff}, from a minimum of 100 valid runs using the procedures of § 1037.528(h). Note that we intend to minimize the differences between our test conditions and those of the manufacturer by testing at similar times of the year where possible and the same location where possible and when appropriate.

(t) *Glider kits and glider vehicles.* (1) Glider vehicles conforming to the requirements in this paragraph (t)(1) are exempt from the Phase 1 emission standards of this part 1037 prior to January 1, 2021. Engines in such vehicles (including vehicles produced after January 1, 2021) remain subject to the requirements of 40 CFR part 86 applicable for the engines' original model year, but not subject to the Phase 1 or Phase 2 standards of 40 CFR part 1036 unless they were originally manufactured in model year 2014 or later.

(i) You are eligible for the exemption in this paragraph (t)(1) if you are a small manufacturer and you sold one or more glider vehicles in 2014 under the provisions of paragraph (c) of this section. You do not qualify if you only produced glider vehicles for your own use. You must notify us of your plans to use this exemption before you

introduce exempt vehicles into U.S. commerce. In your notification, you must identify your annual U.S.-directed production volume (and sales, if different) of such vehicles for calendar years 2010 through 2014. Vehicles you produce before notifying us are not exempt under this section.

(ii) In a given calendar year, you may produce up to 300 exempt vehicles under this section, or up to the highest annual production volume you identify in this paragraph (t)(1), whichever is less.

(iii) Identify the number of exempt vehicles you produced under this exemption for the preceding calendar year in your annual report under § 1037.250.

(iv) Include the appropriate statement on the label required under § 1037.135, as follows:

(A) For Phase 1 vehicles, ''THIS VEHICLE AND ITS ENGINE ARE EXEMPT UNDER 40 CFR 1037.150(t)(1).''

(B) For Phase 2 vehicles, ''THE ENGINE IN THIS VEHICLE IS EXEMPT UNDER 40 CFR 1037.150(t)(1).''

(v) If you produce your glider vehicle by installing remanufactured or previously used components in a glider kit produced by another manufacturer, you must provide the following to the glider kit manufacturer prior to obtaining the glider kit:

(A) Your name, the name of your company, and contact information.

(B) A signed statement that you are a qualifying small manufacturer and that your production will not exceed the production limits of this paragraph (t)(1). This statement is deemed to be a submission to EPA, and we may require the glider kit manufacturer to provide a copy to us at any time.

(vi) The exemption in this paragraph (t)(1) is valid for a given vehicle and engine only if you meet all the requirements and conditions of this paragraph (t)(1) that apply with respect to that vehicle and engine. Introducing such a vehicle into U.S. commerce without meeting all applicable requirements and conditions violates 40 CFR 1068.101(a)(1).

(vii) Companies that are not small manufacturers may sell uncertified incomplete vehicles without engines to small manufacturers for the purpose of producing exempt vehicles under this paragraph (t)(1), subject to the provisions of § 1037.622. However, such companies must take reasonable steps to ensure that their incomplete vehicles will be used in conformance with the requirements of this part.

(2) Glider vehicles produced using engines certified to model year 2010 or later standards for all pollutants are subject to the same provisions that apply to vehicles using engines within their useful life in § 1037.635.

(3) For calendar year 2017, you may produce a limited number of glider kits and/or glider vehicles subject to the requirements applicable to model year 2016 glider vehicles, instead of the requirements of § 1037.635. The limit applies to your combined 2017 production of glider kits and glider vehicles and is equal to your highest annual production of glider kits and glider vehicles for any year from 2010 to 2014. Any glider kits or glider vehicles produced beyond this cap are subject to the provisions of § 1037.635. Count any glider kits and glider vehicles you produce under paragraph (t)(1) of this section as part of your production with respect to this paragraph (t)(3).

(u) *Transition to Phase 2 standards.* The following provisions allow for enhanced generation and use of emission credits from Phase 1 vehicles for meeting the Phase 2 standards:

(1) For vocational Light HDV and vocational Medium HDV, credits you generate in model years 2018 through 2021 may be used through model year 2027, instead of being limited to a five-year credit life as specified in § 1037.740(c). For Class 8 vocational vehicles with Medium HDE, we will approve your request to generate these credits in and use these credits for the Medium HDV averaging set if you show that these vehicles would qualify as Medium HDV under the Phase 2 program as described in § 1037.140(g)(4).

(2) You may use the off-cycle provisions of § 1037.610 to apply technologies to Phase 1 vehicles as follows:

(i) You may apply an improvement factor of 0.988 for vehicles with automatic tire inflation systems on all axles.

(ii) For vocational vehicles with automatic engine shutdown systems that conform with § 1037.660, you may apply an improvement factor of 0.95.

(iii) For vocational vehicles with stop-start systems that conform with § 1037.660, you may apply an improvement factor of 0.92.

(iv) For vocational vehicles with neutral-idle systems conforming with § 1037.660, you may apply an improvement factor of 0.98. You may adjust this improvement factor if we approve a partial reduction under § 1037.660(a)(2); for example, if your design reduces fuel consumption by half as much as shifting to neutral, you may apply an improvement factor of 0.99.

(3) Small manufacturers may generate credits for natural gas-fueled vocational vehicles as follows:

(i) Small manufacturers may certify their vehicles instead of relying on the exemption of paragraph (c) of this section. The provisions of this part apply for such vehicles, except as specified in this paragraph (u)(3).

(ii) Use GEM version 2.0.1 to determine a fuel consumption level for your vehicle, then multiply this value by the engine's Family Certification Level for CO_2 and divide by the engine's applicable fuel consumption standard.

(4) Phase 1 vocational vehicle credits that small manufacturers generate may be used through model year 2027.

(v) [Reserved]

(w) *Custom-chassis standards for small manufacturers.* The following provisions apply uniquely to qualifying small manufacturers under the custom-chassis standards of § 1037.105(h):

(1) You may use emission credits generated under § 1037.105(d), including banked or traded credits from any averaging set. Such credits remain subject to other limitations that apply under subpart H of this part.

(2) You may produce up to 200 drayage tractors in a given model year to the standards described in § 1037.105(h) for ''other buses''. The limit in this paragraph (w)(2) applies with respect to vehicles produced by you and your affiliated companies. Treat these drayage tractors as being in their own averaging set.

(x) *Transition to updated GEM.* (1) Vehicle manufacturers may demonstrate compliance with Phase 2 greenhouse gas standards in model years 2021 through 2023 using GEM Phase 2, Version 3.0, Version 3.5.1, or Version 4.0 (all incorporated by reference, see § 1037.810). Manufacturers may change to a different version of GEM for model years 2022 and 2023 for a given vehicle family after initially submitting an application for certification; such a change must be documented as an amendment under § 1037.225. Manufacturers may submit an end-of-year report for model year 2021 using any of the three regulatory versions of GEM, but only for demonstrating compliance with the custom-chassis standards in § 1037.105(h); such a change must be documented in the report submitted under § 1037.730. Once a manufacturer certifies a vehicle family based on GEM Version 4.0, it may not revert back to using GEM Phase 2, Version 3.0 or Version 3.5.1 for that vehicle family in any model year.

(2) Vehicle manufacturers may certify for model years 2021 through 2023 based on fuel maps from engines or

powertrains that were created using GEM Phase 2, Version 3.0, Version 3.5.1, or Version 4.0 (all incorporated by reference, see § 1037.810). Vehicle manufacturers may alternatively certify in those years based on fuel maps from powertrains that were created using GEM Phase 2, Version 3.0, GEM HIL model 3.8, or GEM Phase 2, Version 4.0 (all incorporated by reference, see § 1037.810). Vehicle manufacturers may continue to certify vehicles in later model years using fuel maps generated with earlier versions of GEM for model year 2024 and later vehicle families that qualify for using carryover provisions in § 1037.235(d).

(y) [Reserved]

(z) *Constraints for vocational regulatory subcategories.* The following provisions apply to determinations of vocational regulatory subcategories as described in § 1037.140:

(1) Select the Regional regulatory subcategory for coach buses and motor homes.

(2) You may not select the Urban regulatory subcategory for any vehicle with a manual or single-clutch automated manual transmission.

(3) Starting in model year 2024, you must select the Regional regulatory subcategory for any vehicle with a manual transmission.

(4) You may select the Multi-purpose regulatory subcategory for any vocational vehicle, except as specified in paragraph (v)(1) of this section.

(5) You may select the Urban regulatory subcategory for a hybrid vehicle equipped with regenerative braking, unless it is equipped with a manual transmission.

(6) You may select the Urban regulatory subcategory for any vehicle with a hydrokinetic torque converter paired with an automatic transmission, or a continuously variable automatic transmission, or a dual-clutch transmission with no more than two consecutive forward gears between which it is normal for both clutches to be momentarily disengaged.

(aa) *Warranty for components used with battery electric vehicles and fuel cell electric vehicles.* The emission-related warranty requirements in § 1037.120 are optional for fuel cell stacks, RESS, and other components used with battery electric vehicles and fuel cell electric vehicles before model year 2027.

■ 131. Amend § 1037.201 by revising paragraph (i) to read as follows:

§ 1037.201 General requirements for obtaining a certificate of conformity.

* * * * *

(i) Vehicles and installed engines must meet exhaust, evaporative, and refueling emission standards and certification requirements as described in §§ 1037.102 and 1037.103, as applicable. Include the information described in 40 CFR part 86, subpart S, or 40 CFR 1036.205 in your application for certification in addition to what we specify in § 1037.205 so we can issue a single certificate of conformity for all the requirements that apply for your vehicle and the installed engine.

■ 132. Amend § 1037.205 by:

■ a. Revising paragraph (b) introductory text and (b)(8);

■ b. Removing and reserving paragraphs (c) and (q); and

■ c. Revising paragraph (t).

The revisions read as follows:

§ 1037.205 What must I include in my application?

* * * * *

(b) Explain how the emission control system operates. As applicable, describe in detail all system components for controlling emissions, including all auxiliary emission control devices (AECDs) and all fuel-system components you will install on any production vehicle. For any vehicle using RESS (such as fuel cell electric vehicles and battery electric vehicles), describe in detail all components needed to charge the system, store energy, and transmit power to move the vehicle. Identify the part number of each component you describe. For this paragraph (b), treat as separate AECDs any devices that modulate or activate differently from each other. Also describe your modeling inputs as described in § 1037.520, with the following additional information if it applies for your vehicles:

* * * * *

(8) If you install auxiliary power units in tractors under § 1037.102(c), identify the family name associated with the engine's certification under 40 CFR part 1039. Starting in model year 2024, also identify the family name associated with the auxiliary power unit's certification to the standards of 40 CFR 1039.699.

* * * * *

(t) Include the information required by other subparts of this part.

* * * * *

■ 133. Amend § 1037.230 by revising paragraphs (a) introductory text, (b), and (d)(2) introductory text to read as follows:

§ 1037.230 Vehicle families, sub-families, and configurations.

(a) Divide your product line into families of vehicles based on regulatory subcategories as specified in this section. Subcategories are specified using terms defined in § 1037.801. Your vehicle family is limited to a single model year.

* * * * *

(b) If the vehicles in your family are being certified to more than one FEL, subdivide your vehicle families into subfamilies that include vehicles with identical FELs. Note that you may add subfamilies at any time during the model year.

* * * * *

(d) * * *

(2) For a Phase 2 or later vehicle model that includes a range of GVWR values that straddle weight classes, you may include all the vehicles in the same vehicle family if you certify the vehicle family to the numerically lower fuel consumption standard from the affected service classes. Vehicles that are optionally certified to a more stringent standard under this paragraph (d)(2) are subject to useful-life and all other provisions corresponding to the weight class with the numerically lower fuel consumption standard. For a Phase 2 or later tractor model that includes a range of roof heights that straddle subcategories, you may include all the vehicles in the same vehicle family if you certify the vehicle family to the appropriate subcategory as follows:

* * * * *

■ 134. Revise § 1037.231 to read as follows:

§ 1037.231 Powertrain families.

See 40 CFR 1036.231 for provisions describing how to divide your product line into powertrain families.

■ 135. Amend § 1037.235 by revising the introductory text to read as follows:

§ 1037.235 Testing requirements for certification.

This section describes the emission testing you must perform to show compliance with NHTSA's fuel efficiency program under 49 CFR part 535, and to determine any input values from § 1037.520 that involve measured quantities.

* * * * *

■ 136. Revise § 1037.241 to read as follows:

§ 1037.241 Demonstrating compliance with fuel consumption standards.

(a) Compliance determinations for purposes of certification depend on whether or not you participate in the ABT program in subpart H of this part.

(1) If none of your vehicle families generate or use credits in a given model year, each of your vehicle families is

considered in compliance if all vehicle configurations in the family have modeled CO_2 emission rates from § 1037.520 that are at or below the applicable standards. A vehicle family is deemed not to comply if any vehicle configuration in the family has a modeled fuel consumption value that is above the applicable standard.

(2) If you generate or use credits with one or more vehicle families in a given model year, your vehicle families within an averaging set are considered in compliance if the sum of positive and negative credits for all vehicle configurations in those vehicle families lead to a zero balance or a positive balance of credits, except as allowed by § 1037.745 for NHTSA's fuel efficiency program. Note that the FEL is considered to be the applicable emission standard for an individual configuration.

(b) We may require you to provide an engineering analysis showing that the performance of your controls will not deteriorate during the useful life with proper maintenance. If we determine that your controls are likely to deteriorate during the useful life, we may require you to develop and apply deterioration factors consistent with good engineering judgment. Where the highest useful life fuel consumption occurs between the end of useful life and at the low-hour test point, base deterioration factors for the vehicles on the difference between (or ratio of) the point at which the highest fuel consumption occurs and the low-hour test point.

■ 137. Amend § 1037.501 by revising the introductory text and paragraphs (a), (b), (d)(2), and (f) to read as follows:

§ 1037.501 General testing and modeling provisions.

This subpart specifies how to perform testing and modeling required elsewhere in this part for demonstrating compliance with fuel consumption standards under 49 CFR part 535.

(a) Except as specified in subpart B of this part, you must demonstrate that you meet the applicable standards using modeling as described in § 1037.520. This modeling depends on several measured values as described in this subpart. 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 40 CFR 1036.545.

(b) Where testing is required, use equipment and procedures as described in 40 CFR part 1065 and part 1066. Measure CO_2 emissions as specified in 40 CFR part 1065 and part 1066. Use the applicable duty cycles specified in § 1037.510.

* * * * *

(d) * * *

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

* * * * *

(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 the standards.

* * * * *

■ 138. Amend § 1037.520 by revising the section heading and introductory text to read as follows:

§ 1037.520 Modeling CO_2 emissions to show that vehicles comply with fuel consumption standards.

This section describes how to use the Greenhouse gas Emissions Model (GEM) to show compliance with NHTSA's fuel consumption standards under 49 CFR part 535. Use GEM version 2.0.1 to demonstrate compliance with Phase 1 standards; use GEM Phase 2, Version 4.0 to demonstrate compliance with Phase 2 standards (both incorporated by reference, see § 1037.810). Use good engineering judgment when demonstrating compliance using GEM.

* * * * *

■ 139. Amend § 1037.540 by revising the introductory text and paragraph (a)(1) to read as follows:

§ 1037.540 Special procedures for testing vehicles with hybrid power take-off.

This section describes optional procedures for quantifying the reduction in fuel consumption for vehicles as a result of running power take-off (PTO) devices with a hybrid energy delivery system. See 40 CFR 1036.545 for powertrain testing requirements that apply for drivetrain hybrid systems. The procedures are written to test the PTO by ensuring that the engine produces all of the energy with no net change in stored energy (charge-sustaining), and for plug-in hybrid electric vehicles, also allowing for drawing down the stored energy (charge-depleting). The full charge-sustaining test for the hybrid vehicle is from a fully charged rechargeable energy storage system (RESS) to a depleted RESS and then back to a fully charged RESS. You must include all hardware for the PTO system. You may ask us to modify the provisions of this section to allow testing hybrid vehicles that use a technology other than batteries for storing energy, consistent with good engineering judgment. For plug-in hybrid electric vehicles, use a utility factor to properly weight charge-sustaining and charge-depleting operation as described in paragraph (f)(3) of this section.

(a) * * *

(1) Select a vehicle with a hybrid energy delivery system to represent the range of PTO configurations that will be covered by the test data. If your test data will represent more than one PTO configuration, use good engineering judgment to select the configuration with the maximum number of PTO circuits that has the smallest potential reduction in fuel consumption.

* * * * *

■ 140. Add § 1037.550 to subpart F to read as follows:

§ 1037.550 Powertrain testing.

See 40 CFR 1036.545 for the powertrain test procedure.

■ 141. Amend § 1037.551 by revising paragraph (a) to read as follows:

§ 1037.551 Engine-based simulation of powertrain testing.

* * * * *

(a) Use the procedures of 40 CFR part 1065 to set up the engine, measure emissions, and record data. Measure individual parameters and emission constituents as described in this section. For hybrid powertrains, correct for the net energy change of the energy storage device as described in 40 CFR 1066.501(a)(3).

* * * * *

■ 142. Amend § 1037.555 by revising paragraph (c) to read as follows:

§ 1037.555 Special procedures for testing Phase 1 hybrid systems.

* * * * *

(c) Collect and measure emissions as described in 40 CFR part 1066. Calculate emission rates in grams per ton-mile without rounding. Determine values for *A, B, C,* and *M* for the vehicle being simulated as specified in 40 CFR part 1066. If you will apply an improvement factor or test results to multiple vehicle configurations, use values of *A, B, C, M,* k_a, and *r* that represent the vehicle configuration with the smallest potential reduction in greenhouse gas emissions as a result of the hybrid capability.

* * * * *

■ 143. Amend § 1037.560 by revising paragraph (b)(4) to read as follows:

§ 1037.560 Axle efficiency test.

* * * * *

(b) * * *

(4) Add gear oil according to the axle manufacturer's instructions. If the axle manufacturer specifies multiple gear oils, select the one with the highest viscosity at operating temperature. You may use a lower-viscosity gear oil if we approve it. Fill the gear oil to a level that represents in-use operation. You may use an external gear oil conditioning system, as long as it does not affect measured values.

* * * * *

■ 144. Amend § 1037.565 by revising paragraph (b)(3) to read as follows:

§ 1037.565 Transmission efficiency test.

* * * * *

(b) * * *

(3) Add transmission oil according to the transmission manufacturer's instructions. If the transmission manufacturer specifies multiple transmission oils, select the one with the highest viscosity at operating temperature. You may use a lower-viscosity transmission oil if we approve it. Fill the transmission oil to a level that represents in-use operation. You may use an external transmission oil conditioning system, as long as it does not affect measured values.

* * * * *

■ 145. Amend § 1037.570 by revising paragraph (a)(4)(i) to read as follows:

§ 1037.570 Procedures to characterize torque converters.

* * * * *

(a) * * *

(4) * * *

(i) If the torque converter manufacturer specifies multiple transmission oils, select the one with the highest viscosity at operating temperature. You may use a lower-viscosity transmission oil if we approve it.

* * * * *

■ 146. Amend § 1037.605 by revising paragraph (d) to read as follows:

§ 1037.605 Installing engines certified to alternate standards for specialty vehicles.

* * * * *

(d) *Vehicle standards.* The Vehicle standards apply as follows for these vehicles:

(1) Vehicles qualifying under this section are subject to evaporative emission standards as specified in § 1037.103, but are exempt from the other requirements of this part, except as specified in this section and in § 1037.601.

(2) Hybrid vehicles may need to use GEM in conjunction with powertrain testing to demonstrate compliance with fuel consumption standards.

■ 147. Amend § 1037.610 by revising paragraphs (a) and (d)(1) to read as follows:

§ 1037.610 Vehicles with off-cycle technologies.

(a) You may ask us to apply the provisions of this section for fuel consumption reductions resulting from vehicle technologies that were not in common use with heavy-duty vehicles before model year 2010 that are not reflected in GEM. While you are not required to prove that such technologies were not in common use with heavy-duty vehicles before model year 2010, we will not approve your request if we determine that they do not qualify. These may be described as off-cycle or innovative technologies. You may apply these provisions for fuel consumption reductions reflected in the specified test procedures if they are not reflected in GEM, except as allowed under paragraph (g) of this section. We will apply these provisions only for technologies that will result in measurable, demonstrable, and verifiable real-world fuel consumption reductions.

* * * * *

(d) * * *

(1) A detailed description of the off-cycle technology and how it functions to reduce fuel consumption under conditions not represented on the duty cycles required for certification.

* * * * *

■ 148. Amend § 1037.615 by:

■ a. Revising paragraphs (a), (b)(4), and (d);

■ b. Removing and reserving paragraph (f); and

■ c. Revising paragraph (g).

The revisions read as follows:

§ 1037.615 Advanced technologies.

(a) This section describes how to calculate emission credits for advanced technologies. You may calculate Phase 1 advanced technology credits through model year 2020 for hybrid vehicles with regenerative braking, vehicles equipped with Rankine-cycle engines, battery electric vehicles, and fuel cell electric vehicles. You may calculate Phase 2 advanced technology credits through model year 2026 for plug-in hybrid electric vehicles, battery electric vehicles, and fuel cell electric vehicles. You may not generate credits for Phase 1 engine technologies for which the engines generate CO_2 credits under 40 CFR part 1036.

(b) * * *

* * * * *

(d) For Phase 2 plug-in hybrid electric vehicles and for fuel cells powered by any fuel other than hydrogen, calculate credits using an FEL based on measurements from powertrain testing. Phase 2 advanced technology credits do not apply for hybrid vehicles that have no plug-in capability.

* * * * *

(g) As specified in subpart H of this part, advanced-technology credits generated from Phase 1 vehicles under this section may be used under this part outside of the averaging set in which they were generated. Advanced-technology credits generated from Phase 2 and later vehicles are subject to the averaging-set restrictions that apply to other credits.

(h) You may certify using both provisions of this section and the off-cycle technology provisions of § 1037.610, provided you do not double count benefits.

■ 149. Amend § 1037.620 by revising paragraphs (a)(2) and (e) to read as follows:

§ 1037.620 Responsibilities for multiple manufacturers.

* * * * *

(a) * * *

(2) We will apply the requirements of subparts C and D of this part to the manufacturer that certifies the vehicle. Other manufacturers are required to comply with the requirements of subparts C and D of this part only when notified by us. In our notification, we will specify a reasonable time period in which you need to comply with the requirements identified in the notice. See § 1037.601 for the applicability of 40 CFR part 1068 to these other manufacturers and remanufacturers.

* * * * *

(e) We may require component manufacturers to provide information or take other actions. For example, we may require component manufacturers to test components they produce.

■ 150. Amend § 1037.622 by:

■ a. Revising the introductory text and paragraph (a)(2); and

■ b. Removing and reserving paragraph (d)(5).

The revisions read as follows:

§ 1037.622 Shipment of partially complete vehicles to secondary vehicle manufacturers.

This section specifies how manufacturers may introduce partially complete vehicles into U.S. commerce (or in the case of certain custom vehicles, introduce complete vehicles into U.S. commerce for modification by a small manufacturer). The provisions of this section are intended to accommodate normal business practices without compromising the effectiveness

of certified emission controls. You may not use the provisions of this section to circumvent the intent of this part.

(a) * * *

(2) *Uncertified vehicles that will be certified by secondary vehicle manufacturers.* Manufacturers may introduce into U.S. commerce partially complete vehicles for which they do not hold the required certificate of conformity only as allowed by paragraph (b) of this section; however, the requirements of this section do not apply for tractors or vocational vehicles with a date of manufacture before January 1, 2022, that are produced by a secondary vehicle manufacturer if they are excluded under § 1037.5.

* * * * *

■ 151. Amend § 1037.631 by revising the introductory text and paragraph (a) introductory text to read as follows:

§ 1037.631 Exemption for vocational vehicles intended for off-road use.

This section provides an exemption from the fuel consumption standards under 49 CFR part 535 for certain vocational vehicles (including certain vocational tractors) that are intended to be used extensively in off-road environments such as forests, oil fields, and construction sites. This section does not exempt engines used in vocational vehicles from the standards of 40 CFR part 86 or part 1036. Note that you may not include these exempted vehicles in any credit calculations.

(a) *Qualifying criteria.* Vocational vehicles intended for off-road use are exempt without request, subject to the provisions of this section, if they are primarily designed to perform work off-road (such as in oil fields, mining, forests, or construction sites), and they meet at least one of the criteria of paragraph (a)(1) of this section and at least one of the criteria of paragraph (a)(2) of this section. See § 1037.105(h) for alternate Phase 2 standards that apply for vehicles meeting only one of these sets of criteria.

* * * * *

■ 152. Amend § 1037.635 by:

■ a. Revising paragraphs (a) and (b) introductory text; and

■ b. Removing and reserving paragraph (b)(1).

The revisions read as follows:

§ 1037.635 Glider kits and glider vehicles.

* * * * *

(a) Vehicles produced from glider kits and other glider vehicles are subject to the same standards as other new vehicles. Note that this requirement for the vehicle generally applies even if the engine meets the criteria of paragraph (c)(1) of this section. For engines originally produced before 2017, if you are unable to obtain a fuel map for an engine you may ask to use a default map, consistent with good engineering judgment.

(b) Section 1037.601(a)(1) disallows the introduction into U.S. commerce of a new vehicle (including a vehicle assembled from a glider kit) unless it has an engine that is certified to the applicable standards in 40 CFR parts 86 and 1036. Except as specified otherwise in this part, the standards apply for engines used in glider vehicles as follows:

* * * * *

§ 1037.645 [Removed]

■ 153. Remove § 1037.645.

■ 154. Amend § 1037.655 by revising paragraph (a) to read as follows:

§ 1037.655 Post-useful life vehicle modifications.

(a) *General.* This section specifies vehicle modifications that may occur in certain circumstances after a vehicle reaches the end of its regulatory useful life. We may require a higher burden of proof with respect to modifications that occur within the useful life period, and the specific examples presented here do not necessarily apply within the useful life. This section also does not apply with respect to engine modifications or recalibrations.

* * * * *

§§ 1037.665 and 1037.670 [Removed]

■ 155. Remove §§ 1037.665 and 1037.670.

■ 156. Revise § 1037.701 to read as follows:

§ 1037.701 General provisions.

(a) You may average, bank, and trade credits as described in 49 CFR part 535. Participation in this program is voluntary.

(b) The definitions of subpart I of this part apply to this subpart in addition to the following definitions:

(1) *Actual credits* means credits you have generated that we have verified by reviewing your final report.

(2) *Averaging set* means a set of vehicles in which credits may be exchanged. Note that an averaging set may comprise more than one regulatory subcategory. See § 1037.740.

(3) *Broker* means any entity that facilitates a trade of credits between a buyer and seller.

(4) *Buyer* means the entity that receives credits as a result of a trade.

(5) *Reserved credits* means credits you have generated that we have not yet verified by reviewing your final report.

(6) *Seller* means the entity that provides credits during a trade.

(7) *Standard* means the standard that applies under subpart B of this part for vehicles not participating in the ABT program of this subpart.

(8) *Trade* means to exchange credits, either as a buyer or seller.

(c) Credits may be exchanged only within an averaging set, except as specified in § 1037.740.

(d) You may not use credits generated under this subpart to offset any emissions that exceed an FEL or standard.

(e) You may use either of the following approaches to retire or forego credits:

(1) You may trade credits generated from any number of your vehicles to the vehicle purchasers or other parties to retire the credits. Identify any such credits in the reports described in § 1037.730. Vehicles must comply with the applicable FELs even if you donate or sell the corresponding credits under this paragraph (e). Those credits may no longer be used by anyone to demonstrate compliance with any standards.

(2) You may certify a family using an FEL below the standard as described in this part and choose not to generate credits for that family. If you do this, you do not need to calculate credits for those families and you do not need to submit or keep the associated records described in this subpart for that family.

(f) Credits may be used in the model year they are generated. Where allowed, surplus credits may be banked for future model years. Surplus credits may sometimes be used for past model years, as described in § 1037.745. You may not apply banked or traded credits in a given model year until you have used all available credits through averaging to resolve credit balances for that model year.

(g) You may increase or decrease an FEL during the model year by amending your application for certification under § 1037.225. The new FEL may apply only to vehicles you have not already introduced into commerce.

§§ 1037.705,1037.710, 1037.715, and 1037.720 [Removed]

■ 157. Remove §§ 1037.705, 1037.710, 1037.715, and 1037.720.

■ 158. Revise § 1037.725 to read as follows:

§ 1037.725 Required information for certification.

(a) You must declare your intent to use the provisions of this subpart for each vehicle family that will be certified using the ABT program before

production. You must also declare the FELs you select for the vehicle family or subfamily for each pollutant for which you are using the ABT program. Your FELs must comply with the specifications of subpart B of this part. FELs must be expressed to the same number of decimal places as the applicable standards.

(b) Your declaration must include the following information:

(1) A statement that, to the best of your belief, you will not have a negative balance of credits for any averaging set when all credits are calculated at the end of the year; or a statement that you will have a negative balance of credits for one or more averaging sets but that it is allowed under § 1037.745 for NHTSA's fuel efficiency program.

(2) Calculations of projected credits (positive or negative) based on projected U.S.-directed production volumes. We may require you to include similar calculations from your other vehicle families to project your net credit balances for the model year. If you project negative credits for a family or subfamily, state the source of positive credits you expect to use to offset the negative credits.

■ 159. Revise and republish § 1037.730 to read as follows:

§ 1037.730 ABT reports.

(a) If you certify any vehicle families using the ABT provisions of this subpart, send us a final report by September 30 following the end of the model year.

(b) Your report must include the following information for each vehicle family participating in the ABT program:

(1) Vehicle-family and subfamily designations, and averaging set.

(2) The regulatory subcategory and standards that would otherwise apply to the vehicle family.

(3) The FEL. If you change the FEL after the start of production, identify the date that you started using the new FEL and/or give the vehicle identification number for the first vehicle covered by the new FEL. In this case, identify each applicable FEL and calculate the positive or negative credits as specified in § 1037.225.

(4) The projected and actual production volumes for the model year for calculating credits. If you changed an FEL during the model year, identify the actual production volume associated with each FEL.

(5) Useful life.

(6) Calculated positive or negative credits for the whole vehicle family. Identify any credits that you traded, as described in paragraph (d)(1) of this section.

(7) If you have a negative credit balance for the averaging set in the given model year, specify whether the vehicle family (or certain subfamilies with the vehicle family) have a credit deficit for the year. Consider for example, a manufacturer with three vehicle families (''A'', ''B'', and ''C'') in a given averaging set. If family A generates enough credits to offset the negative credits of family B but not enough to also offset the negative credits of family C (and the manufacturer has no banked credits in the averaging set), the manufacturer may designate families A and B as having no deficit for the model year, provided it designates family C as having a deficit for the model year.

(c) Your report must include the following additional information:

(1) Show that your net balance of credits from all your participating vehicle families in each averaging set in the applicable model year is not negative, except as allowed under § 1037.745 for NHTSA's fuel efficiency program. Your credit tracking must account for the limitation on credit life under § 1037.740(c).

(2) State whether you will retain any credits for banking. If you choose to retire credits that would otherwise be eligible for banking, identify the families that generated the credits, including the number of credits from each family.

(3) State that the report's contents are accurate.

(4) Identify the technologies that make up the certified configuration associated with each vehicle identification number. You may identify this as a range of identification numbers for vehicles involving a single, identical certified configuration.

(d) If you trade credits, you must send us a report within 90 days after the transaction, as follows:

(1) As the seller, you must include the following information in your report:

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

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

(iii) The averaging set corresponding to the vehicle families that generated credits for the trade, including the number of credits from each averaging set.

(2) As the buyer, you must include the following information in your report:

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

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

(iii) How you intend to use the credits, including the number of credits you intend to apply for each averaging set.

(e) Send your reports electronically to the Designated Compliance Officer using an approved information format. If you want to use a different format, send us a written request with justification for a waiver.

(f) Correct errors in your report as follows:

(1) If you notify us by the deadline for submitting the final report that errors mistakenly decreased your balance of credits, you may correct the errors and recalculate the balance of credits. If you notify us that errors mistakenly decreased your balance of credits after the deadline for submitting the final report, you may correct the errors and recalculate the balance of credits after applying a 10 percent discount to the credit correction, but only if you notify us within 24 months after the deadline for submitting the final report. If you report a negative balance of credits, we may disallow corrections under this paragraph (f)(1).

(2) If you or we determine any time that errors mistakenly increased your balance of credits, you must correct the errors and recalculate the balance of credits.

■ 160. Amend § 1037.735 by revising paragraphs (b) and (e) to read as follows:

§ 1037.735 Recordkeeping.

* * * * *

(b) Keep the records required by this section for at least eight years after the due date for the final report. You may not use credits for any vehicles if you do not keep all the records required under this section. You must therefore keep these records to continue to bank valid credits.

* * * * *

(e) We may require you to keep additional records or to send us relevant information not required by this section.

■ 161. Revise § 1037.740 to read as follows:

§ 1037.740 Restrictions for using credits.

The following restrictions apply for using credits.

(a) *Averaging sets.* Credits may be exchanged only within an averaging set. The following principal averaging sets apply for vehicles certified to the standards of this part involving credits as described in this subpart:

(1) Light HDV.

(2) Medium HDV.

(3) Heavy HDV.

(4) Note that other separate averaging sets also apply for credits not related to

this part. Separate averaging sets also apply for engines under 40 CFR part 1036, including engines used in vehicles subject to this subpart.

(b) [Reserved]

(c) *Credit life.* Banked credits may be used only for five model years after the year in which they are generated.

(d) *Other restrictions.* Other sections of this part specify additional restrictions for using credits under certain special provisions.

■ 162. Revise § 1037.745 to read as follows:

§ 1037.745 End-of-year credit deficits.

See 49 CFR 535.7 for provisions related to credit deficits for NHTSA's fuel consumption credits.

§ 1037.750 [Removed]

■ 163. Remove § 1037.750.

■ 164. Amend § 1037.801 by:

■ a. Revising the definitions of ''Model year'', ''Phase 1'', and ''Phase 2'';

■ b. Removing the definitions of ''Phase 3'' and ''State of certified energy (SOCE)'';

■ c. Revising the definition of ''Tractor'';

■ d. Removing the definition of ''Usable battery energy (UBE)''; and

■ e. Revising the definitions of ''Vocational vehicle'' and ''We (us, our)''.

The revisions read as follows:

§ 1037.801 Definitions.

* * * * *

Model year means one of the following for compliance with this part. Note that manufacturers may have other model year designations for the same vehicle for compliance with other requirements or for other purposes:

(1) For vehicles with a date of manufacture on or after January 1, 2021, *model year* means the manufacturer's annual new model production period based on the vehicle's date of manufacture, where the model year is the calendar year corresponding to the date of manufacture, except as follows:

(i) The vehicle's model year may be designated as the year before the calendar year corresponding to the date of manufacture if the engine's model year is also from an earlier year. You may ask us to extend your prior model year certificate to include such vehicles. Note that § 1037.601(a)(2) limits the extent to which vehicle manufacturers may install engines built in earlier calendar years.

(ii) The vehicle's model year may be designated as the year after the calendar year corresponding to the vehicle's date of manufacture. For example, a manufacturer may produce a new vehicle by installing the engine in December 2023 and designating it as a model year 2024 vehicle.

(2) For vehicles with a date of manufacture before January 1, 2021, *model year* means the manufacturer's annual new model production period, except as restricted under this definition and 40 CFR part 85, subpart X. It must include January 1 of the calendar year for which the model year is named, may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year. The model year may be set to match the calendar year corresponding to the date of manufacture.

(i) The manufacturer who holds the certificate of conformity for the vehicle must assign the model year based on the date when its manufacturing operations are completed relative to its annual model year period. In unusual circumstances where completion of your assembly is delayed, we may allow you to assign a model year one year earlier, provided it does not affect which regulatory requirements will apply.

(ii) Unless a vehicle is being shipped to a secondary vehicle manufacturer that will hold the certificate of conformity, the model year must be assigned prior to introduction of the vehicle into U.S. commerce. The certifying manufacturer must redesignate the model year if it does not complete its manufacturing operations within the originally identified model year. A vehicle introduced into U.S. commerce without a model year is deemed to have a model year equal to the calendar year of its introduction into U.S. commerce unless the certifying manufacturer assigns a later date.

* * * * *

Phase 1 means relating to the Phase 1 fuel consumption standards.

Phase 2 means relating to the Phase 2 fuel consumption standards.

* * * * *

Tractor means a truck designed primarily for drawing other motor vehicles and not so constructed as to carry a load other than a part of the weight of the vehicle and the load so drawn. This includes most heavy-duty vehicles specifically designed for the primary purpose of pulling trailers, but does not include vehicles designed to carry other loads. For purposes of this definition ''other loads'' would not include loads carried in the cab, sleeper compartment, or toolboxes. Examples of vehicles that are similar to tractors but that are not *tractors* under this part include dromedary tractors, automobile haulers, straight trucks with trailers hitches, and tow trucks. Note that the provisions of this part that apply for tractors do not apply for tractors that are classified as vocational tractors under § 1037.630.

* * * * *

Vocational vehicle means a heavy-duty vehicle at or below 26,000 pounds GVWR that is not subject to standards under 40 CFR part 86, subpart S, or a heavy-duty vehicle above 26,000 pounds GVWR that is not a tractor.

* * * * *

We (us, our) means the Administrator of the Environmental Protection Agency and any authorized representatives for issues related to criteria pollutant standards. In the case of testing, compliance, and approvals related to fuel consumption standards, ''we (us, our)'' includes the Administrator of the National Highway Traffic Safety Administration (NHTSA) and any authorized representatives.

§ 1037.805 [Amended]

■ 165. Amend § 1037.805 by removing ''CH_4'' and ''N_2O'' from table 1 to paragraph (a).

■ 166. Amend § 1037.810 by revising paragraphs (c)(3) and (6) to read as follows:

§ 1037.810 Incorporation by reference.

* * * * *

(c) * * *

(3) SAE J1263 MAR2010, Road Load Measurement and Dynamometer Simulation Using Coastdown Techniques, Revised March 2010, (''SAE J1263''); IBR approved for § 1037.528 introductory text, (a), (b), (c), (e), and (h).

* * * * *

(6) SAE J2263 MAY2020, (R) Road Load Measurement Using Onboard Anemometry and Coastdown Techniques, Revised May 2020, (''SAE J2263''); IBR approved for § 1037.528 introductory text, (a), (b), (d), and (f).

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PART 1039—CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES

■ 167. The authority citation for part 1039 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 168. Amend § 1039.699 by revising paragraphs (a) and (n) to read as follows:

§ 1039.699 Emission standards and certification requirements for auxiliary power units for highway tractors.

(a) This section describes emission standards and certification requirements for auxiliary power units (APU) installed on highway tractors subject to

standards under 40 CFR 1037.102 starting in model year 2024.

* * * * *

(n) If a highway tractor manufacturer violates 40 CFR 1037.102 by installing an APU from you that is not properly certified and labeled, you are presumed to have caused the violation (see 40 CFR 1068.101(c)).

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